VA/DoD CLINICAL PRACTICE GUIDELINE FOR MANAGEMENT OF POST-TRAUMATIC STRESS

Department of Veterans Affairs

Department of Defense

Prepared by:

The Management of Post-Traumatic Stress Working Group

With support from:

The Office of Quality and Performance, VA, Washington, DC

&

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QUALIFYING STATEMENTS

The Department of Veterans Affairs (VA) and The Department of Defense (DoD) guidelines are based on the best information available at the time of publication. They are designed to provide information and assist in decision-making. They are not intended to define a standard of care and should not be construed as one. Also, they should not be interpreted as prescribing an exclusive course of management.

Variations in practice will inevitably and appropriately occur when providers take into account the needs of individual patients, available resources, and limitations unique to an institution or type of practice. Every healthcare professional making use of these guidelines is responsible for evaluating the appropriateness of applying them in any particular clinical situation.

Version 2.0 – 2010

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INTRODUCTION

This update of the Clinical Practice Guideline for the Management of Post-Traumatic Stress was developed under the auspices of the Veterans Health Administration (VHA) and the Department of Defense (DoD) pursuant to directives from the Department of Veterans Affairs (VA). VHA and DoD define clinical practice guidelines as:

> *"Recommendations for the performance or exclusion of specific procedures or services derived through a rigorous methodological approach that includes:*
>
> - *Determination of appropriate criteria such as effectiveness, efficacy, population benefit, or patient satisfaction; and, Literature review to determine the strength of the evidence in relation to these criteria."*

This 2010 VA/DoD Post-Traumatic Stress guideline update builds on the 2004 VA/DoD *Clinical Practice Guideline for the Management of Post-Traumatic Stress.* The 2004 Post-Traumatic Stress Guideline was the first effort to bring evidence-based practice to clinicians providing care to trauma survivors and patients with stress disorders in VA and DoD. The development of the Guideline originated with recognition of the need to diagnose and treat Post-Traumatic Stress among the military and veteran population. The Guideline presented evidence-based recommendations that were thoroughly evaluated by practicing clinicians and reviewed by clinical experts from the VHA and DoD.

Algorithms:

The VA/DoD also utilized an algorithmic approach for the 2004 Guideline for the Management Post-Traumatic Stress. This guideline update has also been developed using an algorithmic approach to guide the clinician in determining care and the sequencing of the interventions on a patient specific basis. The clinical algorithm incorporates the information presented in the guideline in a format which maximally facilitates clinical decision-making. The use of the algorithmic format was chosen because such a format improves data collection, facilitates diagnostic and therapeutic decision-making, and changes in patterns of resource use. However, *this should not prevent providers from using their own clinical expertise in the care of an individual patient.* Guideline recommendations are intended to support clinical decision-making and should never replace sound clinical judgment.

During the past 6 years a number of well-designed randomized controlled trials of pharmacological and psychotherapeutic interventions for post-traumatic stress have been conducted. Therefore, the goal of this update is to integrate the results of this research and update the recommendations of the original guideline to reflect the current knowledge of effective treatment intervention. As in the original guideline, this update will explore the most important research areas of intervention to prevent the development of PTSD in persons who have developed stress reaction symptoms after exposure to trauma.

Target Population:

This guideline applies to adult patients with traumatic stress reaction treated in any VA or DoD clinical setting.

Audiences:

The guideline is relevant to all healthcare professionals providing or directing treatment services to patients with traumatic stress at any VA/DoD healthcare setting.

Post-Traumatic Stress:

Post-traumatic stress consists of a spectrum of traumatic stress disorders, hence this Clinical Practice Guideline for the Management of Post-traumatic Stress. These disorders can be arranged along a temporal

axis from Acute Stress Reaction, to Acute Stress Disorder, Acute PTSD, and Chronic PTSD. Each of these may be associated with serious mental and physical comorbidities. Some survivors will experience only a part of this spectrum while others will progress through the entire range.

Acute stress reaction (ASR), which in military settings is often labeled as a **Combat and Operational Stress Reaction** (COSR), reflects acute reactions to a high stress or combat related event. ASR can present with a broad group of physical, mental and emotional symptoms and signs (e.g., depression, fatigue, anxiety, decreased concentration/memory, hyperarousal and others) that have not resolved within 4 days after the event, and after ruling out other disorders.

Acute stress disorder (ASD) occurs when the individual has experienced trauma(s) as described above, has symptoms lasting more than 2 days, but less than one month after exposure to the trauma (may progress to PTSD if symptoms last >1 month) and exhibits at least three out of five dissociative symptoms.

Post-traumatic stress disorder (PTSD) is a clinically significant condition with symptoms continuing more than 1 month after exposure to a trauma that has caused significant distress or impairment in social, occupational, or other important areas of functioning. Patients with PTSD may exhibit persistent re-experiencing of the traumatic event(s), persistent avoidance of stimuli associated with the trauma, numbing of general responsiveness (not present before the trauma), and persistent symptoms of increased arousal (not present before the trauma). PTSD can also have a delayed onset which is described as a clinically significant presentation of symptoms (causing significant distress or impairment in social, occupational, or other important areas of functioning) at least 6 months after exposure to trauma.

PTSD is further sub-divided into Acute PTSD (symptoms lasting more than one month, but less than three months after exposure to trauma) and Chronic PTSD (symptoms lasting more than three months after exposure to trauma). PTSD can appear as *Simple* (presenting with common symptoms of PTSD), or *Complicated by other co-occurring conditions* (persistent difficulties in interpersonal relations, mood, chronic pain, sleep disturbances, somatization and profound identity problems), or psychiatric disorders (meeting DSM criteria for another disorder such as substance abuse, depression, or anxiety disorder).

OEF/OIF veterans and service members who have sustained a concussion (mild-TBI) in the combat environment are at significantly greater risk of PTSD. Moreover, the diagnosis of either condition may be complicated by the fact that PTSD is associated with generalized health symptoms including neurocognitive impairment and the other symptoms considered in the persistent postconcussion syndrome definition.

Evidence-based practices to prevent and treat PTSD include screening, cognitive behavioral therapies, and medications. There are many new strategies involving enhancement of cognitive fitness and psychological resilience to reduce the detrimental impact of trauma. In terms of screening; evidence suggests that identifying PTSD early, and quickly referring people to treatment, can shorten their suffering and lessen the severity of their functional impairment. Several types of cognitive behavioral therapies, counseling, and medications have been shown to be effective in treating PTSD.

The VA and DoD Health care systems have undergone significant changes in the past 10-15 years that is transforming the two into an integrated system that provides high quality care. In response to the increased demands for services to treat OEF/OIF veterans with PTSD, these systems have invested resources in expanding outreach activities enhancing the availability and timeliness of specialized PTSD services. Nevertheless, access to care is still unacceptably variable and service members continue to face barriers to seeking care such as stigma and access difficulties (e.g., difficulty scheduling or getting to appointments).

Post-Traumatic Stress in VA population:

The numbers of veterans seeking and receiving treatment for post-traumatic stress in general, and PTSD in particular, continues to increase. In a follow-up to a study by Dohrenwend et al. (2006) 9.1% of Vietnam veterans sampled still suffered from symptoms of PTSD in 1990. During a five year span (2004-2008) the number of unique veterans seeking help for PTSD in the VA system increased from 274,000 to 442,000. Also, according to a review of several studies investigating the prevalence of PTSD in U.S Veterans of the first Persian Gulf War, the Board on Population Health and Public Health Practice at the National Academies of Science (2008) reported that PCL based prevalence of PTSD in a sample of 11,441 veterans

was 12.1%. This review also cited evidence that ten years after the 1990 Gulf War 6.2% of a sample of veterans still suffered from PTSD.

The number of Iraq and Afghanistan veterans separated from service and seen in U.S. Veteran's Administration health care facilities and diagnosed with PTSD was reported by Seal and colleagues (2007). Of the 103,788 Veterans included in this record review, the overall prevalence of PTSD was 13%, higher than any other mental health diagnostic category reported by these authors'. The VA's Uniform Services Handbook sets standards for mental health care across VA facilities and is intended to both, improve quality of care, and also facilitate implementation of evidence-based practice. The combination of improved diagnostic and treatment techniques for all stress related disorders, the needs of veterans from past wars as far back as Vietnam, the co-morbid conditions many veterans experience in addition to PTSD (chronic medical conditions, SUD), and the on-going nature of the current wars in Iraq and Afghanistan with improved survival rates and increased rates of PTSD and comorbid conditions have the obvious effect of exponentially increasing the necessity of services/programs throughout the VA system to effectively address the needs of veterans.

Post-Traumatic Stress in DoD population:

A number of studies have been conducted to estimate the prevalence and incidence of PTSD in military personnel during the Iraq and Afghanistan wars. These studies have shown high consistency in rates, when grouped according to study type (e.g., studies involving Army or Marine combat infantry units versus studies involving samples of the deploying population at large, including personnel from support units or services not involved in direct combat).

One of the first and most cited epidemiological surveys to provide estimates of PTSD prevalence in military personnel who served in Afghanistan or Iraq was published by Hoge et al. (2004). The prevalence of PTSD 3 months post-deployment among infantry soldiers and Marines who returned from high intensity combat in Iraq was 12.9% and 12.2% respectively (n = 894 soldiers, 815 Marines) based on a stringent definition for PTSD supported in a study by Terhakopian et al. (2008) (PCL score of at least 50 combined with DSM criteria). By comparison the rate among soldiers who had deployed to Afghanistan, where there was very low intensity combat at that time, was 6.2%, and the baseline rate in a group of soldiers before deployment was 5%. This study also highlighted the impact that stigma and barriers to care have on willingness to receive help. Less than half of soldiers in need of mental health services received care, and many reported concerns that they would be treated differently by peers or leaders if they sought care.

In a subsequent survey involving active and National Guard brigade combat teams (infantry), rates of 15% were documented 3 months post-deployment, and rose to 17-25% 12 months post-deployment using the same definitions as in the 2004 article (Thomas J, et al., 2010 Arch Gen Psychiatry).

In-theater assessments of personnel in ground combat units have been conducted on nearly an annual basis in Iraq and several times in Afghanistan since the start of the wars (Army Mental Health Advisory Team Assessments –MHATs). These studies have found rates of acute stress or PTSD (based on the PCL $\geq$50 points) of 10-20%, with a strong correlation to combat frequency and intensity. Rates in units exposed to minimal combat are similar to baseline rates in the population (5%) and there is a linear increase up to 25% in units involved in the highest intensity combat. The Afghanistan theater showed lower rates earlier in the war (7% in 2005), but this increased to levels comparable with Iraq in 2007 and subsequently due to increased combat intensity.

In addition to studies based on infantry samples, there have been a number of studies based on post-deployment health assessments, health care utilization records, and random samples of military or veteran populations, including those not engaged in direct combat (Hoge, Auchterlonie, Milliken, 2006; Milliken, Auchterlonie, Hoge 2007; Rand Corporation 2008; Smith, Ryan, Wingard, Slymen, Sallis, & Kritz-Silverstein, 2008; Fear NT, et al., 2010; and others). General population samples that do not focus specifically on combat units have resulted in lower rates than reported in infantry samples, but estimates approach infantry samples when analyses are restricted to Army or Marine personnel with combat experience. While most studies have focused on point prevalence of PTSD, one study has looked at the three-year incidence in a large representative population sample (Smith, Ryan, Wingard, et al., 2008). The cumulative incidence was 9% in Army personnel who had experienced combat, which would equate to a prevalence of approximately 12%, including those excluded for PTSD at baseline. Overall, baseline pre-

deployment rates in military samples have ranged from 3-6%, comparable to civilian rates reported in the National Comorbidity study (Kessler et al., 2009); and post-deployment rates have ranged from 6-20%. The strongest predictor of increased prevalence post-deployment has been combat frequency and intensity. There are also many other types of traumatic experience that service members encounter, both in their professional military occupations and in their pre-military or off-duty time, including exposure to accidents, assault, rape, natural disasters, and other experiences.

Outcome Measures:

The Working Group (WG) agreed on the following health related outcomes for management of post-traumatic stress:

- Improvement in quality of life (social and occupational functioning)
- Reduce morbidity/mortality
- Improvement over long term
- Patient Satisfaction
- Comorbidity
- Improvement of symptoms

Guideline Goals:

The most important goal of the VA/DoD Clinical Practice Guideline for the Management of Post-Traumatic Stress is to provide a scientific evidence-base for practice evaluations and interventions. The guideline was developed to assist facilities to implement processes of care that are evidence-based and designed to achieve maximum functionality and independence as well as improve patient and family quality of life. Related specifics include;

- To identify the critical decision points in management of patients with post traumatic stress disorder
- To allow flexibility so that local policies or procedures, such as those regarding referrals to, or consultation with, specialty care (mental health care), can be accommodated
- To decrease the development of complications and comorbidity
- To improve patient outcomes, i.e., reduce symptoms, decrease comorbidity, increase functional status and enhance the quality of life

Development Process:

The development process of this guideline follows a systematic approach described in "Guideline-for-Guidelines," an internal working document of the VA/DoD Evidence-Based Practice Working Group that requires an ongoing review of the work in progress. Appendix A clearly describes the guideline development process followed for this guideline.

The Offices of Quality and Performance and Patient Care Service of the VA, in collaboration with the network Clinical Managers, and the Medical Center Command of the DoD identified clinical leaders to champion the guideline development process. During a preplanning conference call, the clinical leaders defined the scope of the guideline and identified a group of clinical experts from the VA and DoD that formed the Guideline Development Working Group.

At the start of the update process, the clinical leaders, guideline panel members, outside experts, and experts in the field of guideline and algorithm development were consulted to determine which aspects of the 2004 guideline required updating. These consultations resulted in the following recommendations that guided the update efforts: (1) update any recommendations from the original guideline likely to be effected by new research findings; (2) provide information and recommendations on health systems changes relevant to management of post-traumatic stress (3) address content areas and models of treatment for which little data existed during the development of the original guideline; and (4) review the performance and lessons learned since the implementation of the original guideline

Review of Literature and Evidence:

Recommendations for the performance or inclusion of specific procedures or services in this guideline were derived through a rigorous methodological approach that included the following:

- Determining appropriate criteria such as effectiveness, efficacy, population benefit, or patient satisfaction
- Performing a comprehensive literature search and selection of relevant studies from January 2002 to August, 2009 to identify the best available evidence and ensure maximum coverage of studies at the top of the hierarchy of study types
- Reviewing the selected studies to determine the strength of the evidence in relation to these criteria
- Formulating the recommendations and grading the level of evidence supporting each recommendation

This 2010 update builds on the 2004 version of the guideline and incorporates information from the following existing evidence-based guidelines/reports identified by the Working Group as appropriate seed documents:

- ISTSS (2009), Effective Treatments for PTSD: Practice Guidelines from the International Society for Traumatic Stress Studies. Foa EB, Keane TM, Friedman MJ. Cohen J (Eds) 2009. New York: Guilford Press.
- IOM (2007), Institute of Medicine (IOM). 2008. Treatment of posttraumatic stress disorder: An assessment of the evidence. Washington, DC: The National Academies Press.
- APA (2009), Practice Guideline for the Treatment of Patients with Acute Stress Disorder and Posttraumatic Stress Disorder: Guideline Watch, March 2009

Literature searches were conducted covering the period from January 2002 through August, 2009 that combined terms for post-traumatic stress, acute stress reaction (ASR), acute stress disorder (ASD), acute post-traumatic stress disorder, and chronic post-traumatic stress disorder. Electronic searches were supplemented by reference lists and additional citations suggested by experts. The identified and selected studies on those issues were critically analyzed, and evidence was graded using a standardized format. The evidence rating system for this document is based on the system used by the U.S. Preventive Services Task Force (USPSTF, 2007).

If evidence exists, the discussion following the recommendations for each annotation includes an evidence table identifying the studies that have been considered, the quality of the evidence, and the rating of the strength of the recommendation [SR]. The Strength of Recommendation, based on the level of the evidence and graded using the USPSTF rating system (see Table: Evidence Rating System), is presented in brackets following each guideline recommendation.

Evidence Rating System

SR	
A	A strong recommendation that clinicians provide the intervention to eligible patients. Good evidence was found that the intervention improves important health outcomes and concludes that benefits substantially outweigh harm.
B	A recommendation that clinicians provide (the service) to eligible patients. At least fair evidence was found that the intervention improves health outcomes and concludes that benefits outweigh harm.
C	No recommendation for or against the routine provision of the intervention is made. At least fair evidence was found that the intervention can improve health outcomes, but concludes that the balance of benefits and harms is too close to justify a general recommendation.
D	Recommendation is made against routinely providing the intervention to asymptomatic patients. At least fair evidence was found that the intervention is ineffective or that harms outweigh benefits.
I	The conclusion is that the evidence is insufficient to recommend for or against routinely providing the intervention. Evidence that the intervention is effective is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

SR = Strength of recommendation

Where existing literature was ambiguous or conflicting, or where scientific data was lacking on an issue, recommendations are based on the clinical experience of the Working Group. Although several of the recommendations in this guideline are based on weak evidence, some of these recommendations are strongly recommended based on the experience and consensus of the clinical experts and researchers of the Working Group. Recommendations that are based on consensus of the Working Group include a discussion of the expert opinion on the given topic. No [SR] is presented for these recommendations. A complete bibliography of the references in this guideline can be found in Appendix E

This Guideline is the product of many months of diligent effort and consensus building among knowledgeable individuals from the VA, DoD, and a guideline facilitator from the private sector. An experienced moderator facilitated the multidisciplinary Working Group. The draft document was discussed in two face-to-face group meetings. The content and validity of each section was thoroughly reviewed in a series of conference calls. The final document is the product of those discussions and has been approved by all members of the Working Group.

The list of participants is included in Appendix D to the guideline.

Implementation:

The guideline and algorithms are designed to be adapted by individual facilities in consideration of local needs and resources. The algorithms serve as a guide that providers can use to determine best interventions and timing of care for their patients in order to optimize quality of care and clinical outcomes.

Although this guideline represents the state of the art practice on the date of its publication, medical practice is evolving and this evolution requires continuous updating of published information. New technology and more research will improve patient care in the future. The clinical practice guideline can assist in identifying priority areas for research and optimal allocation of resources. Future studies examining the results of clinical practice guidelines such as these may lead to the development of new practice-based evidence.

KEY POINTS ADDRESSED BY THIS GUIDELINE

1. Triage and management of acute traumatic stress
2. Routine primary care screening for trauma and related symptoms
3. Diagnosis of trauma syndromes and comorbidities
4. Evidence-based management of trauma related symptoms and functioning
5. Collaborative patient/provider decision making, education, and goal setting
6. Coordinated and sustained follow-up
7. Identification of major gaps in current knowledge
8. Outline for psychological care in ongoing military operations
9. Proactive strategies to promote resilience and prevent trauma related stress disorders
10. Standardized longitudinal care (DoD/VA, Primary Care/Mental Health)

OVERVIEW OF GUIDELINE UPDATE

This clinical practice guideline updates the 2004 version of the VA/DoD Guideline on Management of Post-traumatic Stress.

The Working Group (WG) developed a revised comprehensive clinical algorithm. The objective of the VA/DoD Working Group in developing this revision was to incorporate the accumulating experience in the field and information from the original guideline recommendations into a format that would maximally facilitate clinical decision-making. Randomized controlled trials and systematic reviews published in the past 5 years were identified and have been carefully appraised and included in the analysis of the evidence for this update. Promoting evidence-based treatment ultimately enhances and optimizes treatment outcomes, thus contributing to optimal care across institutional boundaries and promoting a smooth transition of care between the DOD and the VA health care systems.

The current revision incorporates the four Modules of the 2004 guideline into two modules focusing on acute stress reactions/acute stress disorder and PTSD. Where evidence suggests differences in the management of Acute Stress Reactions (ASR), Acute Stress Disorder (ASD), and Posttraumatic Stress Disorder (PTSD), specific treatment intervention recommendations are provided.

This effort drew heavily from the International Society for Traumatic Stress Studies clinical practice guideline (Foa et al., 2009). The VA/DoD Working Group reviewed this guideline and made the decision to adopt several of their evidence- based recommendations. Identified randomized controlled trials and systematic reviews published in the past 7 years have been carefully appraised and included in the analysis of the evidence for this update.

The first Module incorporates the assessment, diagnosis, and management of symptoms of **Acute Stress Reaction (ASR)** in the immediate period after exposure to trauma, the management of **Acute Stress Disorder (ASD**), and the effective early interventions to prevent progression of stress reactions to full PTSD.

Additional recommendations were added addressing specific issues that the WG considered to be of importance to patients in the healthcare systems of the VA and DoD. Hence, this VA/DoD updated version of the Post Traumatic Stress guideline includes evidence-based recommendations for routine primary care in non-combat environments and additional recommendations suggesting specific actions for assessment and management of **Combat and Operational Stress Reactions (COSR)**. These specific recommendations may better serve providers caring for service persons with symptoms among the active duty population.

Key recommendations for acute and early intervention include:

- Trials assessing the use of beta-blocker, propranolol, anxiolytic, anticonvulsant, or gabapentin showed no significant benefit over placebo on depressive or posttraumatic stress symptoms. Thus, the recommendations from the original guideline suggesting pharmacotherapy interventions to prevent PTSD have been removed.
- Brief early cognitive behavior therapy that includes exposure and cognitive processing components is strongly recommended, for symptomatic trauma survivors, as it has been shown to accelerate recovery and prevent progression to PTSD.
- Single session psychological debriefing, in individual or group formats, is not recommended.

Consensus based recommendations are added to the 2010 revision of the CPG regarding specific adjunct treatment intervention that target specific symptoms frequently seen in patient with acute stress reactions (beyond the core symptoms of ASD/PTSD). These include sleep disturbance, pain, and hyper-agitation. These consensus-based recommendations are aimed to help the primary care practitioners and others to provide brief symptom-focused treatment to help patients adhere to the core treatment. If there is no improvement in these symptoms, patients should be referred to specialty care for evaluation and treatment.

The second Module addresses the diagnosis and management of patients with **Post Traumatic Stress Disorder (PTSD)**. The WG revised the algorithm for this module in a patient-centered approach that emphasizes the decisions and interventions shown to be effective in treating PTSD, regardless of the treatment setting. This approach should allow the use of the guideline as a starting point for innovative plans that improve collaborative efforts and focus on key aspects of care. The recommendations outlined in this guideline should serve as a framework for the care that is provided in specialty mental health care settings and primary care. The optimal setting of care for the individual patient will depend on patient preferences, the level of expertise of the provider, and available resources.

Key recommendations for treatment of PTSD include;

- Patient and provider preferences should drive the selection of evidence-based psychotherapy and/or evidence-based pharmacotherapy as the first-line treatment
- Education provided to patients and their families should be one of the first steps of PTSD treatment and should continue throughout treatment
- First line psychotherapeutic treatments that have been shown to be comparatively effective for patients with PTSD include Exposure-based Therapy [ET],; Cognitive-based Therapy [CT],; Stress Inoculation Training [SIT], and Eye Movement Desensitization and Reprocessing [EMDR]
- First line pharmacotherapy includes the use of antidepressants, particularly serotonergic reuptake inhibitors that have been found to be effective in treating PTSD (i.e., SSRIs, for which fluoxetine, paroxetine or sertraline have the strongest support, or SNRIs, for which venlafaxine has the strongest support)
- There is evidence that treatment effect sizes and adherence to cognitive behavioral therapy (CBT) is similar whether the treatment is delivered via Tele-psychiatry or by traditional means.
- The revised guideline includes a section describing alternative modalities of adjunctive treatment for PTSD, in which the following recommendations are made:
  - Acupuncture may be considered as an efficacious and acceptable non-exposure treatment option for PTSD
  - Complementary Alternative Medicine (CAM) can be effective in eliciting a relaxation response and reducing physiological hyperarousal, but should not be considered evidence-based PTSD treatments. They may be useful as adjunctive modalities and may help foster engagement approaches have not been demonstrated to be effective and cannot be recommended. When patients decline standard mental health interventions, alternative approaches may foster engagement

The WG recognizes that PTSD is often accompanied by other psychiatric conditions. Such comorbidities require clinical attention at the point of diagnosis and throughout the process of treatment. Disorders of particular concern are **substance-use disorder**, **major depression**, and post-concussive symptoms attributed to **mild TBI**. The WG also recognizes the fact that most clinical trials excluded patients with comorbid psychiatric illnesses and no trials have been published that can provide guidance on how to manage PTSD complicated by comorbid illness. The revised guideline includes recommendations based on the experience and opinion of the experts providing suggestion for the approach to treatment of PTSD in the presence of comorbid psychiatric conditions.

Finally, clinicians following these updated guidelines should not limit themselves only to the approaches and techniques addressed in the guideline. All current treatments have limitations; either not all patients respond to them, patients drop out of treatment, or providers are not comfortable using a particular intervention. To promote the development of improved treatments, creative integration of combined treatments that are driven by sound evidence-based principles are encouraged in the field.

PTS GUIDELINE WORKING GROUP

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MODULE B: Management of Post-traumatic Disorde

CORE MODULE: ALGORITHM

CORE MODULE: ANNOTATIONS

1. PRIMARY PREVENTION

A. Education and Training Fostering Resilience

OBJECTIVE

Prepare individuals and groups for exposure to traumatic experiences in ways that minimize the likelihood of development of PTSD and other trauma-related problems.

BACKGROUND

Because exposure to traumatic stressors is part of the expected work experience of some occupations (e.g., military personnel and emergency services workers), it is sensible to make efforts to prepare individuals in these professions for their encounters with traumatic events. This preparation is not explicitly undertaken in most workplaces, with some exceptions (e.g., some military training environments). To date, research has not examined our capacity to prepare individuals or communities for trauma exposure. However, general principles of preparation can be outlined that are consistent with theoretical models of the development of PTSD, research on risk factors for development of PTSD, and emerging concepts of resilience and hardiness.

RECOMMENDATIONS

1. In high-risk occupations for which probability of trauma exposure is moderate or high, efforts should be undertaken to increase psychological resilience of workers to the negative effects of trauma exposure.

DISCUSSION

Although little is directly known about our capacity to prepare individuals or communities for trauma exposure, it is possible to identify principles of preparation that are consistent with empirical research on risk and resilience factors and with current theories of PTSD development. Such pre-trauma preparation can include attention to both the ability to cope during the trauma itself and to shaping the post-trauma environment so that it will foster post-trauma adaptation.

Some influential theories of PTSD posit that a process of classical fear conditioning can lead to development of chronic PTSD symptomatology. In this process, stimuli associated with the traumatic experience can elicit responses similar to those experienced during the trauma itself (e.g., intense anxiety). Other theories suggest that individuals who develop negative trauma-related beliefs (e.g., about personal guilt) will be more likely to experience continuing trauma reactions because such beliefs will maintain a sense of threat and personal incompetence. Research on risk factors for PTSD indicates that post-trauma social support and life stress affect the likelihood of development of the disorder. Protective factors have also been identified that mitigate the negative effects of stress. Research is beginning to delineate the psychological processes that moderate an individual's response to stress, and to explore training programs for increasing resilience to stress. Hardiness (Kobasa, Maddi, & Kahn, 1982) is one personality factor that has been demonstrated to buffer against traumatic stress and PTSD in military veterans (King et al., 1998; Bartone, 2000). Hardiness is characterized by three key attributes: ability to perceive *control* over life's events; ability to make strong *commitment* to

tasks; and ability to see stressful experiences as a *challenge* to be overcome. Training programs, personnel policies, and leadership strategies that promote hardiness may thereby increase an individual's ability to resist the negative effects of traumatic stress.

Such findings and theories are consistent with the following principles of preparation:

1. *Provide realistic training* that includes vicarious, simulated, or actual exposure to traumatic stimuli that may be encountered. Examples of application of this principle in military training include exposure to live weapons fire, survival training, or, for subgroups of military personnel, mock captivity training. This principle can be applied to many work roles; for example, those likely to be involved in body handling might be trained in mortuary environments. It is consistent with classical conditioning theories in that this can help reduce arousal or anxiety associated with particular traumatic stimuli.
2. *Strengthen perceived ability to cope* during the trauma and with the aftermath. Realistic training contributes to this goal. Instruction and practice in the use of a variety of coping skills (e.g., stress inoculation training, problem-solving, assertion, and cognitive restructuring) may be helpful in enabling workers to tolerate stressful work environments. In addition, individuals can be trained to cope with acute stress reactions that are common following trauma exposure. Such training experiences help to maximize expectations of mastery of traumatic situations and their physical and emotional sequelae. The training must include specific, practical actions to do to change the threatening or horrifying situation for the better. Without such positive action learning, "simulated" terrifying or horrifying situations and stimuli can induce feelings of helpless that make the training itself traumatizing.
3. *Create supportive interpersonal work environments* that are likely to provide significant social support during and after traumatic events. Efforts to build teams and establish group cohesion among work group members are important in this regard. Identification and training of peer stress management resource persons, and training and practice in the provision of peer social support may also be useful. Families are crucial in post-trauma support and can be given information about, and training in, ways of providing social support. Finally, competent, ethical leadership at all levels of the organization helps protect against traumatization.
4. *Develop and maintain adaptive beliefs* about the work role and traumatic experiences that may be encountered within it. Key beliefs will be related to realistic expectancies about the work environment, confidence in leadership, confidence in the meaningfulness or value of the work role, positive but realistic appraisals of own coping ability, and knowledge about the commonness and transitory nature of most acute stress reactions. It may be useful to identify and discuss negative beliefs that sometimes arise in the specific work environment, in order to "inoculate" against such beliefs.
5. *Develop workplace-specific comprehensive traumatic stress management programs.* Such programs can be a significant source of post-trauma support (e.g., via mental health professionals) that can minimize trauma-related problems among workers. It is important to take steps to increase awareness of such services and to de-stigmatize and reduce potential negative consequences of their use. For example, employees should be helped to understand that seeking help in confronting symptoms and problems early in their development is

likely to be more effective than avoiding them or keeping them secret from others, but that even long hidden or persisting PTSD can be treated.

Comprehensive preparation programs that target and integrate these principles and that are, themselves, integrated into existing unit/community support systems may be expected to be most helpful (Gist & Lubin, 1999).

EVIDENCE

	Evidence	Sources	LE	QE	SR
1	Foster resilience by preparing workers in high-risk occupations for trauma exposure.	Working Group Consensus	III	Poor	I

LE=Level of Evidence; QE = Quality of Evidence; SR =Strength of Recommendation (see Appendix A)

2. POPULATIONS AT-RISK FOR DEVELOPING PTSD

B. Person Exposed to Trauma

OBJECTIVE

Identify persons at risk for developing a traumatic stress disorder (PTSD) after trauma exposure.

BACKGROUND

Although exposure to trauma is common, several risk factors for the development of PTSD have been identified. Risk factors for developing PTSD can be grouped as characteristics related to the trauma itself, pre-trauma factors and post-trauma factors.

- *Trauma*-related risks include the nature, severity, and duration of the trauma exposure. For example, life-threatening traumas such as physical injury or rape pose a high risk of PTSD (Kilpatrick, 1989). A prior history of trauma exposure conveys a greater risk of PTSD from subsequent trauma (Breslau et al., 1999).
- *Pre-trauma* risk factors include adverse childhood, younger age, female gender (not in military cohorts), minority race, and low socioeconomic or educational status.
- *Post-trauma* risks include poor social support and life stress (Brewin et al., 2000). A greater risk for developing PTSD may be conveyed by post-trauma factors (e.g., lack of social support and additional life stress) than pre-trauma factors.

RECOMMENDATIONS

1. Persons exposed to trauma should be assessed for known risk factors for developing PTSD – both pre-trauma risks and post trauma risks.
2. The trauma type, nature, and severity should be assessed.
3. Assessment of existing social supports and ongoing stressors is important.
4. Patients with Acute Stress Disorder (ASD) warrant careful clinical attention, as they are at high-risk for developing PTSD.
5. Patients with persisting dissociative symptoms may also warrant careful clinical attention.

DISCUSSION

A meta-analysis of risk factors for PTSD of assessed studies of trauma-exposed adults reported that 14 different risk factors in the literature have a modest association with PTSD development (Brewin et al., 2000). Overall, factors such as gender, age at trauma, and race predicted PTSD in some populations, but not in others. Further, factors such as education, prior trauma, and childhood adversity predicted PTSD more consistently (Harvey & Bryant, 2000; Harvey & Bryant, 1998). However, this varies with the population and study methods. Prior psychiatric history, childhood abuse, and family psychiatric history have more consistent predictive effects. Factors operating during or after the trauma (e.g., trauma severity, lack of social support, and additional life stress) have somewhat stronger effects than pre-trauma factors. This finding is consistent with other studies that suggest poor social supports and ongoing life stress to be predictors of PTSD development. This may have clinical implications as early interventions that increase social support after trauma exposure may reduce the likelihood of PTSD (Litz et al., 2002).

The development of Acute Stress Disorder (ASD) at the time of the trauma is also a risk for developing PTSD (Classen et al., 1998). Numerous prospective cohort studies with various types of trauma exposure (e.g., violent assault and accidents) support that ASD is a predictor of later PTSD (Brewin et al., 1999; Bryant et al., 2000; Harvey & Bryant, 1998; Mellman et al., 2001). In these studies among persons with ASD, 40 to 80 percent did develop PTSD. Finally, most studies suggest an increased risk of PTSD development among individuals with peritraumatic dissociation (Birmes et al., 2001; Murray et al., 2002). Subsequent research indicates that it is the posttraumatic duration of dissociation, rather than peritraumatic occurrence of dissociation (Panasetis & Bryant, 2003), that predicts the development of PTSD.

EVIDENCE

	Evidence	Sources	LE	QE	SR
1	Assessment of persons exposed to trauma for risk factors for developing PTSD (pre-trauma and post-trauma risks).	Brewin et al., 2000	II	Good	B
2	Assessment of trauma type, nature and severity.	Brewin et al., 1999 Bryant et al., 2000 Harvey & Bryant, 2000 Mellman et al., 2001	II	Good	B
3	Assessment of existing social supports and ongoing stressors.	Litz et al., 2002	II	Good	B
4	Patients with dissociative symptoms or ASD warrant careful clinical attention due to a high risk for developing PTSD.	Birmes et al., 2001 Brewin et al., 1999 Bryant et al., 2000 Harvey & Bryant, 2000 Mellman et al., 2001 Murray et al., 2002	II	Good	B
5	Patients with dissociative symptoms warrant careful clinical attention	Brewin et al., 1999 Murray et al., 2002	II	Fair	C

LE – Level of Evidence QE = Quality of Evidence; SR = Strength of Recommendation (see Appendix A)

3. SECONDARY PREVENTION

C. Screen for PTSD Symptoms

OBJECTIVE

Identify possible cases of post-traumatic stress

BACKGROUND

Patients don't often self-identify as suffering with PTSD, and patients with unrecognized PTSD are often difficult to treat because of poor patient/provider rapport, anger and distrust, a focus on somatic symptoms, and other trauma-related problems. Research supports the utility of brief screening tools for identifying undiagnosed cases of PTSD. Identification of PTSD may help facilitate development of rapport, suggest treatment options, and potentially improve outcomes for these patients.

RECOMMENDATIONS

1. All new patients should be screened for symptoms of PTSD initially and then on an annual basis or more frequently if clinically indicated due to clinical suspicion, recent trauma exposure (e.g., major disaster), or history of PTSD.
2. Patients should be screened for symptoms of PTSD using paper and pencil or computer-based screening tools.
3. There is insufficient evidence to recommend one PTSD screening tool versus another. However, the following screening tools have been validated and should be considered for use. For example: (See Appendix C)
    - Primary Care PTSD Screen (PC-PTSD)
    - PTSD Brief Screen
    - Short Screening Scale for DSM IV PTSD
    - PTSD Checklist (PCL).
4. There is insufficient evidence to recommend special screening for members of any cultural or racial groups.

DISCUSSION

The benefit of screening is well established for diseases with high prevalence. In one study (Taubman et al., 2001) 23 percent of patients presenting in the primary care setting reported exposure to traumatic events and 39 percent of those met criteria for PTSD. Screening strategies should, however, balance efficacy with practical concerns (e.g., staffing, time constraints, and current clinical practices). Brevity, simplicity, and ease of implementation should encourage compliance with recommended screening. Care should be exercised in implementing screening in ways that avoid social stigmatization and adverse occupational effects of positive screens.

Brewin (2005) reviewed published screening instruments for civilian PTSD consisting of 30 items or fewer and that validated against structured clinical interviews. Thirteen instruments were identified meeting these criteria, all consisting of symptoms of traumatic stress. The review concluded that the performance of some currently available instruments is near to their maximal potential effectiveness, and that instruments with fewer items, simpler response scales, and simpler scoring methods perform as well as if not better than longer and more complex measures.

Screening Tools: *(See Appendix C)*

Primary Care PTSD Screen (PC-PTSD): This is a 4-item screen that was designed for use in primary care and other medical settings and is currently used to screen for PTSD in veterans at the VA. The screen includes an introductory sentence to cue respondents to traumatic events. The authors suggest that in most circumstances the results of the PC-PTSD should be considered "positive" if a patient answers "yes" to any 3 items. Those screening positive should then be assessed with a structured interview for PTSD. The screen does not include a list of potentially traumatic events (Prins et al., 2002, 2003). Internal consistency (KR2-=.79) and test-retest reliability (r. -.84) of the PC-PTSD was found as good (Prins et al., 1999). The operating characteristics of the screen suggest that the overall efficiency (i.e., optimal sensitivity and specificity =.87) is best when any two items are endorsed. The PC-PTSD screen has been validated in a military population (Bliese, et al.,) and has been used extensive in post-deployment screening efforts (Hoge, 2006)

PTSD Brief Screen (Leskin et al., 1999): The PTSD Brief Screen was developed using the rationally derived approach based on data from the National Comorbidity Survey. Construct validity has generally been adequate. The overall efficiency of this screen was good (.78), whereas the correlations were significantly lower or negative for other mental disorders indicating good construct validity.

PTSD Checklist (PCL): The PCL has been used extensively in military and civilian populations and there are numerous validation studies, including studies in military populations (Terhakopianet al., 2008).

Screening for Sexual Trauma:

Within the Veterans Health Administration, every new woman veteran must be screened for history of sexual trauma according to public law (see screening for sexual trauma at http://www.va.gov/publ/direc/health/direct/12000008.html).

The passage of Public Law (Pub. L.) 102-585, in 1992, authorized the Department of Veterans Affairs (VA) to include outreach and counseling services for women veterans who experienced incidents of sexual trauma while they served on active duty in the military. The law defines sexual trauma as sexual harassment, sexual assault, rape and other acts of violence. It further defines sexual harassment as repeated unsolicited verbal or physical contact of a sexual nature, which is threatening in nature. NOTE: This law was later amended by Pub. L. 103-452, which authorizes the VA to provide counseling to men as well as women. The Veterans Millennium Health Care Act, signed on November 30, 1999, has significant implications under Section 115, Counseling and Treatment for Veterans Who Have Experienced Sexual Trauma. Provisions of Pub. L. 106-117. Section 115 are to: (1) Expand the focus on sexual trauma beyond counseling and treatment, (2) Mandate that counseling and appropriate care and services will be provided, (3) Extend the period of the program to December 31, 2004, and (4) Require a formal mechanism be implemented to report on outreach activities.

Special Screening of any Cultural or Racial Groups:

Research has centered on three broadly defined groups, Hispanics, Blacks/African-Americans, and Whites/Caucasians in the attempt to answer two questions: first, are members of one or more groups more susceptible to developing PTSD? And second, are the symptoms shown by members of any group more severe or otherwise different from symptoms shown by other veterans with PTSD?

There are data to suggest that Blacks/African-Americans and Hispanics experience higher rates of PTSD than do Whites/Caucasians (Frueh et al., 1998; Ortega & Rosenheck, 2000). But, as Frueh and his colleagues note in a systematic review, "secondary analyses within the existing epidemiological studies suggest that differential rates of PTSD between racial groups may be a function of differential rates of traumatic stressors and other pre-existing conditions. This finding, in combination with the general paucity of empirical data and certain methodological limitations, significantly moderates the conclusions that should be reached from this body of literature." Studies in military samples have generally shown no or minimal race/ethnic differences in PTSD prevalence.

In terms of symptom severity and clinical course, the evidence is also mixed. Among the studies reviewed here, the following conclusions were reached:

- Two studies found Black/African-American veterans to be more severely affected than Hispanics or Whites/Caucasians (Frueh et al., 1996; Penk et al., 1989)
- The National Vietnam Veterans Readjustment Study (NVVRS) found higher PTSD prevalence among Hispanic veterans than among Whites or Blacks after controlling for combat exposure. (Kulka et al., 1993)
- One study found Hispanics to be more severely affected than Whites/Caucasians, but not to suffer from higher functional impairment levels than Whites (Ortega and Rosenheck, 2000)
- Three studies found no significant clinical differences between Black/African-American veterans and White/Caucasian veterans (Frueh et al., 1997; Rosenheck and Fontana, 1996; Trent et al., 2000)
- One review found no clinical differences among Hispanics, Blacks/African-Americans, and Whites/Caucasians (Frueh et al., 1998)
- One study found American-of-Japanese-Ancestry Vietnam Veterans had lower PTSD prevalence than Caucasians (Friedman et al.,(2004)

These results support Frueh et al. (1998) in their conclusion that: "despite the prevailing zeitgeist and clinical lore, the limited extant empirical evidence suggests that veterans of different races are more similar to each other than they are different when it comes to the clinical manifestation and response to treatment of combat-related PTSD and associated features."

EVIDENCE

	Recommendation	Sources	LE	QE	SR
1	Screening all patients for PTSD symptoms.	Breslau et al., 1999a Leskin & Westrup, 1999 Prins et al., 1999 Taubman et al., 2001	II-2	Fair	B
2	Frequency of PTSD screening	Working Group Consensus	III	Poor	I
3	Primary Care PTSD Screen PTSD Brief Screen Short Screening Scale for DSM IV PTSD Checklist (PCL)	Breslau et al., 1999a Leskin & Westrup, 1999 Prins et al., 1999 Terhakopian, et al 2008	II-2	Fair	B
4	Special screening for members of any cultural or racial groups.	Frueh et al., 1996, 1997, 1998 Ortega & Rosenheck, 2000 Penk et al., 1989 Rosenheck & Fontana, 1996 Trent et al., 2000 Friedman 2004	III	Poor	I

LE – Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation (see Appendix A)

D. Are Trauma Related Symptoms Present?

OBJECTIVE

Identify people exposed to trauma who are at risk for developing acute stress reactions (ASR), acute stress disorder (ASD), or Post-Traumatic Stress Disorder (PTSD).

BACKGROUND

Warning Signs of Trauma Related Stress (APA)

Individuals who have experienced a traumatic event often experience psychological stress reactions related to the incident. In most instances, these are common normal reactions to extreme situations. Individuals who feel they are unable to regain control of their lives or who experience the following symptoms for more than a month should consider seeking outside professional mental health assistance. Some symptoms to watch out for include:

- Recurring thoughts, mental images, or nightmares about the event
- Having trouble sleeping
- Changes in appetite
- Experiencing anxiety and fear, especially when exposed to events or situations reminiscent of the trauma
- Feeling on edge, being easily startled or becoming overly alert
- Feeling depressed, sad and having low energy
- Experiencing memory problems including difficulty in remembering aspects of the trauma
- Feeling "scattered" and unable to focus on work or daily activities
- Having difficulty making decisions
- Feeling irritable, easily agitated, or angry and resentful
- Feeling emotionally "numb," withdrawn, disconnected, or different from others
- Spontaneously crying, feeling a sense of despair and hopelessness
- Feeling extremely protective of, or fearful for, the safety of loved ones
- Not being able to face certain aspects of the trauma, and avoiding activities, places, or even people that remind you of the event

RECOMMENDATIONS

1. Individuals who are presumed to have symptoms of PTSD or who are positive for PTSD on the initial screening should receive a more detailed assessment of their symptoms.
2. Useful symptom-related information may include details such as time of onset, frequency, course, severity, level of distress, and degree of functional impairment.
3. The elapsed time since the exposure to trauma should be considered when assessing the risk of developing PTSD and determining the diagnosis appropriate intervention. The following definitions will help providers select the appropriate treatment algorithm:

Stress Related Disorders & Syndromes Definitions

Trauma

An extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate. According to DSM-IV-TM criteria, the person's response to the event must involve intense fear, helplessness, or horror. However, there is evidence that military personnel do not respond in the same way as civilian victims of traumatic events, and the A2 criteria for "fear, helpless, or horror" is being reconsidered in the proposed new DSM criteria (Adler, 2008).

Acute Stress Reactions (ASR)

Acute stress reaction is a transient condition that develops in response to a traumatic event. Onset of at least some signs and symptoms may be simultaneous with the trauma itself or within minutes of the traumatic event and may follow the trauma after an interval of hours or days. In most cases symptoms will disappear within days (even hours). Symptoms include a varying mixture of:

> Acute stress reactions include broad group of physical, mental and emotional signs and symptoms that result from heavy mental and emotional work during exposure to difficult potentially traumatic conditions
>
> Symptoms include depression, fatigue, anxiety, decreased concentration/memory, hyperarousal or any of the four categories of reactions (See Table CORE - 1) that have not resolved during 4 days after the event, after a rule-out of other disorders.

The traumatic events that can lead to an acute stress reaction are of similar severity to those involved in post-traumatic stress disorder.

Combat and Operational Stress Reactions (COSR) during an Ongoing Military Operation

COSR is the term used to describe an acute stress reaction in the combat environment and can include virtually any symptom and sign, including physical and neurological symptoms, resulting from exposure to extremely stressful events or combat experiences. It may result from exhaustion from cumulative effects of chronic sleep deprivation and extreme physical stress, or occur in response to specific combat traumatic experiences.

Acute Stress Disorder (ASD)

ASD refers to clinically significant (causing significant distress or impairment in social, occupational, or other important areas of functioning) symptoms >2 days, but <1 month after exposure to a trauma as defined above (may progress to PTSD if symptoms last >1 month). Criteria for diagnosis include:

- Exposure to trauma as defined above
- Either while experiencing or after experiencing the distressing event, the individual has at least three of the following dissociative symptoms:
- A subjective sense of numbing, detachment, and/or absence of emotional responsiveness.
- A reduction in awareness of his/her surroundings (e.g., "being in a daze").

- Derealization (the feeling that familiar surroundings or people are unreal or have become strange).
- Depersonalization (the feeling in an individual that (s)he is no longer him/herself. His/Her personality, body, external events, the whole world may be no longer appear real).
- Dissociative amnesia (i.e., the inability to recall an important aspect of the trauma).
- The traumatic event is persistently re-experienced in at least one of the following ways: recurrent images, thoughts, dreams, illusions, flashback episodes, or a sense of reliving the experience; or distress on exposure to reminders of the traumatic event.
- Marked avoidance of stimuli that arouse recollections of the trauma (e.g., thoughts, feelings, conversations, activities, places, people, sounds, smells, or others)
- Marked symptoms of anxiety or increased arousal (e.g., difficulty sleeping, irritability, poor concentration, hypervigilance, exaggerated startle response, and motor restlessness).

Post-Traumatic Stress Disorder (PTSD)

Clinically significant symptoms that are causing significant distress or impairment in social, occupational, or other important areas of functioning, and occur more than 1 month after exposure to a trauma. Symptoms may include:

The traumatic event is **persistently re-experienced** in one (or more) of the following ways:

- Recurrent and intrusive recollections of the event, including images, thoughts, or perceptions.
- Recurrent distressing dreams of the event.
- Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated).
- Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
- Physiologic reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

Persistent **avoidance** of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three or more of the following:

- Efforts to avoid thoughts, feeling, or conversations associated with the trauma.
- Efforts to avoid activities, places, or people that arouse recollections of the trauma.
- Inability to recall an important aspect of the trauma.
- Markedly diminished interest or participation in significant activities.
- Feeling of detachment or estrangement from others.
- Restricted range of affect (e.g., unable to have loving feelings).

- Sense of foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span).

Persistent symptoms of increased **arousal** (not present before the trauma) as indicated by at least two of the following:

- Difficulty falling or staying asleep
- Irritability or outbursts of anger
- Difficulty concentrating
- Hypervigilance
- Exaggerated startle response.

Acute PTSD

The above clinically significant symptoms continue to cause significant distress or impairment in social, occupational, or other important areas of functioning lasting >1 month, but <3 months after exposure to trauma.

Chronic PTSD

The above clinically significant symptoms cause significant distress or impairment in social, occupational, or other important areas of functioning lasting >3 months after exposure to trauma. Chronic PTSD is unlikely to improve without effective treatment.

- Some PTSD patients may exhibit persistent difficulties in interpersonal relations, mood, somatization and profound identity problems. Such presentation may be often associated with sustained or repeated trauma during childhood or adolescence (such as longstanding incest or physical abuse), but it may also be associated with sustained trauma in later life or may appear as a late consequence of chronic PTSD, even if the original traumatic stressor was a single event.
- Comorbid – also meeting DSM criteria for another disorder such as substance use disorder, major depression disorder, other anxiety disorder, and mTBI among military personal.

PTSD with Delayed Onset

Onset of the above clinically significant symptoms causing significant distress or impairment in social, occupational, or other important areas of functioning at least 6 months after exposure to trauma.

Figure A1. Stress Reaction Timeline.

Table CORE - 1 Common Signs Following Exposure to Trauma

Physical	Cognitive/Mental	Emotional	Behavioral
• Chills • Difficulty breathing • Dizziness • Elevated blood pressure • Fainting • Fatigue • Grinding teeth • Headaches • Muscle tremors • Nausea • Pain • Profuse sweating • Rapid heart rate • Shock symptoms • Thirst • Twitches • Visual difficulties • Vomiting • Weakness	• Blaming someone • Change in alertness • Confusion • Difficulty identifying familiar objects or people • Hyper-vigilance • Increased or decreased awareness of surroundings • Intrusive images • Loss of orientation to time, place, person • Memory problems • Nightmares • Poor abstract thinking • Poor attention • Poor concentration • Poor décision-making • Poor problem-solving	• Agitation • Anxiety • Apprehension • Denial • Depression • Emotional shock • Fear • Feeling overwhelmed • Grief • Guilt • Inappropriate emotional response • Irritability • Loss of emotional control	• Increased alcohol consumption • Antisocial acts • Change in activity • Change in communication • Change in sexual functioning • Change in speech pattern • Emotional outbursts • Erratic movements • Inability to rest • Change in appetite • Pacing • Startle reflex intensified • Suspiciousness • Social withdrawal

E. Educate about additional care if needed, provide contact information

OBJECTIVE

Provide normalization for survivors and responders whose reactions are not clinically significant

BACKGROUND

Trauma survivors and responders who are NOT experiencing signs or symptoms or who are experiencing few symptoms should receive education. It should emphasize that the observed reactions in the symptomatic survivors are common in the aftermath of trauma and do not signify personal inadequacy, health problems, mental illness, or other enduring negative consequences.

Contemporary approaches to early intervention following trauma exposure emphasize the importance of "normalization" of acute stress reactions. Survivors or responders who show distressing symptoms or disturbed behavior should be educated to understand that their reactions are common, normal responses to the extreme events. Such an approach follows from the common clinical observation that individuals experiencing acute stress reactions often interpret their reactions as signs of "personal weakness" or evidence that they are "going crazy," which increases their demoralization and distress. Normalization is undermined if survivors or responders who are not experiencing disruptive distress show a derogatory or punitive attitude to others who are.

Also, the persons with distress who most strongly deny or dissociate from their distress may be at increased risk for developing acute stress disorder (ASD) and subsequent PTSD. The education and normalization may therefore help them recognize how to protect themselves better, and to seek care early if symptoms do

interfere with their "self-control". Even those who go on to develop PTSD may benefit from an understanding that their symptoms do not represent "personal weakness" and that although their symptoms may be severe and painful, they are not losing control of their minds.

RECOMMENDATIONS

1. Pre- and post-trauma education should include helping the asymptomatic trauma survivor or responder understand that the acute stress reactions of other people are common and probably transient, and do not indicate personal failure or weakness, mental illness, or health problems.
2. Education should include sufficient review of the many ways that post-traumatic problems can present, including symptoms in the ASD/PTSD spectrum, behavioral problems with family and friends, occupational problems, and alcohol or other substance misuse/abuse.
3. Education should also include positive messages by identifying and encouraging positive ways of coping and describing simple strategies to resolve or cope with developing symptoms and problems, setting expectations for mastery and/or recovery.
4. Provide contact information should post traumatic symptoms emerge later.
5. Early psychotherapy intervention, or psychological debriefing is not beneficial for asymptomatic individuals and may be harmful [D]

DISCUSSION

Individuals who do not exhibit symptoms may have family members or close friends who are symptomatic. The clinician should educate them about their role in supporting their loved ones and emphasize that normalization is a concept that can incorporate helping asymptomatic survivors to:

- View other people's (and their own possible future) stress reactions as normal, common, and expectable responses to trauma
- Recognize that sometimes peoples' inadequate attempts to cope with their reactions are also within the range of "normal" for the strange situation
- See that it is natural for them to wonder how they're doing and to be surprised or upset by the intensity, duration, or uncontrollability of their reactions.

The evidence base for the utility of normalization is weak. Few studies have attempted to assess the degree of normalization of survivor attitudes and establish a relationship with PTSD and other outcomes. Also unstudied is whether reassurance of normality and likely recovery provided by co-survivor peers or helpers actually serves to promote normalization. Nonetheless, the concept of normalization is consistent with theories of the development and maintenance of PTSD and with research showing a relationship between negative reactions to symptoms and PTSD (Steil & Ehlers, 2000).

Recent literature in the area of trauma has highlighted the potential for interventions to exacerbate trauma reactions. Asymptomatic survivors should not be offered services that extend beyond delivery of Psychological First Aid and education. Psychotherapy intervention may actually cause harm in persons not experiencing symptoms of acute stress (Roberts et al., 2009). The general rule of "do no harm" should apply not only to professionals but volunteers alike.

524 EVIDENCE

	Recommendation	Sources	LE	QE	SR
1	Providing pre- and post-trauma education can help individuals to understand and cope with exposure experiences.	Working Group Consensus	III	Poor	I
2	Early psychological interventions for asymptomatic trauma survivors are NOT effective and may be harmful	Roberts 2009b	I	Good	D
	Psychological debriefings are not effective	See module I-1: Early Interventions			

525 *LE =Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation (see Appendix A)*
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1

MODULE A: ACUTE STRESS REACTION (ASR) and PREVENTION OF POST TRAUMATIC STRESS DISORDER (PTSD)

KEY POINTS

1. Provide for basic survival needs and comfort (e.g., liquids, food, shelter, clothing, heat/cooling).
2. Help survivors achieve restful and restorative sleep.
3. Preserve an interpersonal safety zone protecting basic personal space (e.g., privacy, quiet, personal effects).
4. Provide nonintrusive ordinary social contact (e.g., a "sounding board," judicious uses of humor, small talk about current events, silent companionship).
5. Address immediate physical health problems or exacerbations of prior illnesses.
6. Assist in locating and verifying the personal safety of separated loved ones/friends.
7. Reconnect survivors with loved ones, friends, trusted other persons (e.g., work mentors, health care, clergy).
8. Help survivors take practical steps to resume ordinary day-to-day life (e.g., daily routines or rituals).
9. Help survivors take practical steps to resolve pressing immediate problems caused by the disaster (e.g., loss of a functional vehicle, finance, housing).
10. Facilitate resumption of normal family, community, school, and work roles.
11. Provide opportunities for grieving for losses.
12. Help survivors reduce problematic tension or anxiety to manageable levels.
13. Support survivors' helpers through consultation and training about common stress reactions and stress management techniques.

Military Considerations

14. Preserve the fighting force.
15. Return the service member (SM) to functional status.
16. Maintain and enhance unit capabilities and readiness.

Military Clinical Objectives:

17. Prevent exacerbation of symptoms / mitigate symptoms of acute stress.
18. Prevent development of traumatic stress sequelae (e.g., ASD, PTSD, depressive disorders, anxiety disorders, and substance use disorders).
19. Keep SM with his/her unit and prevent unnecessary medical evacuation.

DISCUSSION

Screening and needs assessments for individuals, groups and populations are important for the provision of informed early intervention following a major incident

or traumatic event. Initial reactions following trauma are varied, complex, and unstable.

Although acute stress reaction (ASR) is not defined in the DSM-IV, there has long been recognition among mental health professionals that individuals who experience a traumatic event react in certain predictable ways. A key point in the World Health Organization definition (WHO, 1992) of ASR is the assertion that "the symptoms usually appear within minutes of the impact of the stressful stimulus or event, and disappear within 2-3 days (often within hours)." This view is echoed in a Guideline for Evidence-Based Early Psychological Intervention for Victims/Survivors of Mass Violence, released in 2002 by a collaborative group of Federal Departments and the American Red Cross: "a sensible working principle in the immediate post-incident phase is to expect normal recovery" (NIMH, 2002).

The authors of this guideline have formulated the recommendations discussed below for the management of persons with acute stress reactions (ASR) following a traumatic event. Most of the recommendations in this module are based on group consensus. When available, the evidence and supporting research are presented in evidence tables.

The approach to triage in the immediate response to traumatic exposure for service members with symptoms during Ongoing Military Operations may vary from the management of civilians exposed to traumatic events. Combat and Operational Stress Reactions (COSR) management is targeted to preserve the fighting force and return the service member (SM) to functional status. The annotations for this Module include, when appropriate, specific recommendations addressing the service members with COSR.

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MODULE A: ALGORITHM

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MODULE A: ANNOTATIONS

1. ASSESSMENT & TRIAGE

A. Trauma Exposure (within the past 30 days)

Acute Stress Reactions (ASR) are transient symptoms or problems that often develop in response to a traumatic event. Traumatic events are events that cause a person to fear that he/she may die or be seriously injured or harmed. These events also can be traumatic when the person witnesses them happening to others. Such events often create feelings of intense fear, helplessness, or horror for those who experience them. The traumatic events that can lead to an acute stress reaction are of similar severity to those involved in post-traumatic stress disorder (PTSD).

Combat or Operational Stress Reaction (COSR) is an acute stress reaction of service members during Ongoing Military Operations. COSR specifically refers to negative adaptation to high stress events and potentially traumatic event exposure. This reaction is not attributed to an identified medical/surgical condition requiring other urgent treatment (a service member can have COSR concurrent with minor wounds/illnesses).

Among the common types of traumatic events are:

- Combat in a war zone
- Ongoing military operations (including HA/DR]
- Rape, sexual or other physical assault
- Natural disaster (e.g., hurricanes, floods or fires)
- Child physical and/or sexual abuse
- Domestic violence (battering)
- Motor vehicle accidents (MVAs)
- Exposure to the sudden or unexpected death of others
- Sudden life-threatening physical illness (e.g., heart attack or cancer)
- Continuous or reoccurring exposure to traumatic event(s)

Events specific to COSR:

- Intense emotional demands (e.g., rescue personnel and caregivers searching for possibly dying survivors, or interacting with bereaved family members)
- Extreme fatigue, weather exposure, hunger, sleep deprivation
- Extended exposure to danger, loss, emotional/physical strain
- Exposure to environment hazards, such as toxic contamination (e.g., gas or fumes, chemicals, radioactivity)
- While COSR can result from a specific traumatic event, it generally emerges from cumulative exposure to multiple stressors.

Onset of at least some signs and symptoms may be simultaneous with the trauma itself or may follow the trauma after an interval of hours or days. Symptoms may include depression, fatigue, anxiety, decreased concentration/memory, irritability, agitation, and exaggerated startle response.

B. Assess briefly based on general appearance and behavior

OBJECTIVE

Identify individuals who may be at risk for endangering themselves or others due to emotional distress or functional incapacity.

BACKGROUND

Acute stress reactions (ASR) are transient symptoms or problems that often develop in response to a traumatic event. The symptoms of acute stress reaction begin within minutes of the traumatic event and disappear within days (even hours). Symptoms vary greatly, but can include a mixture of:

- Anxiety symptoms (e.g., sweating, increased heart rate, and flushing)
- An initial state of 'daze' - narrowing of attention
- Reduced levels of consciousness - disorientation
- Agitation or overactivity
- Depression
- Withdrawal

There are a number of possible reactions to a traumatic situation, which are considered within the "norm" for persons experiencing traumatic stress. These reactions are considered 'normal' in the sense of affecting most survivors, being socially acceptable, psychologically effective, and self-limited. In the early stage (the first 4 days after the trauma exposure), it is important not to classify these reactions as "symptoms" in the sense of being indicative of a mental disorder.

RECOMMENDATIONS

1. Identification of a patient with ASR symptoms is based on observation of behavior and function; there is insufficient evidence to recommend a specific screening tool.
2. Individuals exhibiting the following responses to trauma should be screened for ASR:
    a. Physical: exhaustion, hyperarousal, somatic complaints (GI, GU, MS, CV, Resp, NS), or symptoms of conversion disorder
    b. Emotional: anxiety, depression, guilt/hopelessness
    c. Cognitive/mental: amnestic or dissociative symptoms, hypervigilance, paranoia, intrusive re-experiencing
    d. Behavioral: avoidance, problematic substance use.
3. Individuals who experience ASR should receive a comprehensive assessment of their symptoms to include details about the time of onset, frequency, course, severity, level of distress, functional impairment, and other relevant information.
4. Assess for capability to perform routine functions.

Assessment specific to COSR:

5. Assess service member's function, to include:
    a. Any changes in productivity
    b. Co-worker or supervisor reports of recent changes in appearance, quality of work, or relationships

c. Any tardiness/unreliability, loss of motivation, or loss of interest
d. Forgetful or easily distracted
e. Screening for substance use

6. Document symptoms of COSR and obtain collateral information from unit leaders, coworkers or peers about stressors, function, medical history, and absence or impairment in operation or mission.
7. Consider the service member's role and functional capabilities and the complexity and importance of his/her job.

DISCUSSION

An acute stress reaction (ASR/COSR) may appear concurrent with other wounds or illnesses. Providers should confirm that the symptoms are not due to identified medical/surgical conditions requiring other urgent treatment. ASR does not require a specific traumatic event, and may result from cumulative exposure to multiple stressors.

In the aftermath of any extreme stressful event, most of those suffering from acute traumatic stress reactions will be easy to spot. Those who have been injured will be obvious. Among the uninjured there will also be many who look stunned, appear pale and faint, or can be seen to be shaking. Some of those who appear to be suffering from trauma may not even be the actual victims of the disaster, but witnesses or rescuers who may be deeply affected by what they are seeing. Some may not be immediately identifiable as traumatized because they may be highly active - looking for others or looking after others, organizing help and rescue. A percentage of these may, in the next days or weeks, develop post-traumatic stress disorder (PTSD).

Practitioners who are managing service members suffering from stress reactions or COSR should consider a variety of factors when deciding when a service member is ready to return to duty, considering type of job and level of responsibility:

- Service members in lower skilled jobs, such as truck drivers, food service personnel, and basic supply functions, can be expected to function effectively despite continuing anxiety. The cost of functional degradation of individuals in these roles is likely limited.
- Service members in higher risk or skilled jobs (e.g., artillery forward observers, combat controllers, physicians, and pilots) should not be returned to full duty unless or until the service member has resumed effective functioning.

Individuals in leadership positions should be required to demonstrate a higher level of reconstitution.

C. Unstable, Dangerous to Self or Others, or Need for Urgent Medical Attention

OBJECTIVE

Protect individuals who may be at risk for endangering themselves or others due to emotional distress or functional incapacity.

BACKGROUND

Emergency treatment, administered to an injured person before professional medical care is available, can be applied to stress reactions of the mind as well as to physical injuries of the body. Acute interventions can be envisioned as the mental health correlate of physical first aid, with the goal being to "stop the psychological bleeding". The first most important measure should be to eliminate (if possible) the source of the trauma, or to remove the victim from the traumatic, stressful environment. Once the patient is in a safe situation, the provider should attempt to reassure the patient, encourage a professional healing relationship, encourage a feeling of safety, and identify existing social supports. Establishing safety and assurance may enable people to get back on track, and maintain their pre-trauma stable condition.

RECOMMENDATIONS

1. Address acute medical/behavioral issues to preserve life and avoid further harm by:
    a. Providing appropriate medical/surgical care or referring to stabilize
    b. Avoiding use of prescribed medications, mood or mind-altering substances
    c. Preventing possible biological or chemical agent exposure
    d. Managing substance intoxication or withdrawal
    e. Stopping self-injury or mutilation
    f. Addressing inability to care for oneself
2. Arrange a safe, private, and comfortable environment for continuation of the evaluation:
    a. Assess danger to self or others (e.g., suicidal, homicidal behavior)
    b. Establish a working treatment alliance with the patient
    c. Maintain a supportive, non-blaming non-judgmental stance throughout the evaluation
    d. Assist with the removal of any ongoing exposure to stimuli associated with the traumatic event
    e. Minimize further traumas that may arise from the initial traumatic event
    f. Assess and optimize social supports
    g. Secure any weapons and explosives.
3. Legal mandates should be followed:
    a. Reporting of violence, assault
    b. Confidentiality for the patient
    c. Mandatory testing
    d. Attending to chain of evidence in criminal cases (e.g., rape, evaluation)

e. Involuntary Commitment procedures if needed

4. Carefully consider the following potential interventions to secure safety:
   a. Find safe accommodation and protect against further trauma
   b. Voluntary admission if suicidal
   c. Restraint/seclusion only if less restrictive measures are ineffective
   d. Provide medications managing specific symptoms as needed (e.g., sleep, pain)
5. Educate and "normalize" observed psychological reactions to the chain of command.
6. Evacuate to next level of care if unmanageable, if existing resources are unavailable, or if reaction is outside of the scope of expertise of the care provider.

DISCUSSION

Foa et al. (2000) rank "suicidality" among factors that will affect treatment decisions for PTSD. This factor must also be considered in the immediate post-trauma period: "self-destructive and impulsive behaviors, while not part of the core PTSD symptom complex, are recognized as associated features of this disorder that may profoundly affect clinical management. Therefore, the routine assessment of all patients presenting with acute stress symptoms after exposure to a traumatic stressor should include a careful evaluation of current suicidal ideation and past history of suicidal attempts. Risk factors for suicide should also be assessed, such as current depression and substance abuse. If significant suicidality is present, it must be addressed before any other treatment is initiated." Likewise, the patient must be assessed for any signs of violence toward others, or threat of violence in the home environment (e.g., ongoing battering) and any risk of violence should be an indication for immediate treatment.

While there is little research on these issues for acute stress reaction per se, the literature suggests some general trends for persons with PTSD that may inform clinical treatment of ASR. For example, individuals with subthreshold PTSD are at high risk for suicidal ideation (Marshall et al., 2001) and, for women, suicide attempts (Breslau, 2001; Ferrada-Noli et al., 1998; Kaslow et al., 2000; Prigerson et al., 1999). For young adults, aggressive symptoms may be predictive of suicidality in men and elevated symptoms of PTSD and/or depression may be more predictive in women (Prigerson et al., 1999). Some individuals with stress reactions could be at risk for violence toward others. This can be manifested through explosivity and anger problems and may predict risk for violent behavior.

Optimizing existing social supports is helpful in settings of acute stress and may decrease risk of suicidality in PTSD (Kotler et al., 2001). For example, higher social support for women who have experienced domestic violence may reduce risk of PTSD and other mental disorders (Coker et al., 2002).

D. Ensure Basic Physical Needs Are Met

OBJECTIVE

Ensure that trauma-exposed persons with acute stress symptoms have their basic needs met.

BACKGROUND

Trauma victims often have significant disruption to their routines for sleep, nutrition, exercise, access to finances, and health care. Their normal shelter, clothing, and other basic resources may be destroyed or inaccessible. These disruptions can be additionally traumatizing.

(See specific protocols for DoD specific services)

Early interventions should typically seek to address the needs of the individual person, with the aim of promoting normal recovery, resiliency, and personal growth and avoid additional harm. (See Table A - 1)

Individual persons who were exposed to trauma as members of a group/unit that existed prior to the trauma event (e.g., police units, firefighters or military units) may also benefit from interventions addressing the collective outcomes, such as social order and community or unit cohesion. Some of the acute interventions, such as psychoeducation, may be provided in a group format to maintain unit integrity and promote continuity with established relationship.

Table A - 1 Early Intervention after Exposure to Trauma (<4 days)

SR	Significant Benefit	Some Benefit	Unknown	No Benefit Potential Harm
C	--	Psychological First Aid	--	--
I	--	Provision of basic needs Psychoeducation, normalization Social, and spiritual support	--	--
D	--	--	--	Psychological debriefing

SR = Strength of recommendation (see Appendix A)

RECOMMENDATIONS

1. Acute intervention should ensure that the following needs are met:
    a. Safety/security/survival
    b. Food, hydration, clothing and shelter
    c. Sleep
    d. Medications (i.e., replace medications destroyed/lost)
    e. Education as to current status
    f. Communication with family, friends and community
    g. Protection from ongoing threats/toxins/harm. If indicated reduce use of alcohol, tobacco, caffeine and illicit psychoactive substances
2. Provide Psychological First Aid to include:
    a. Protect survivors from further harm
    b. Reduce physiological arousal

c. Mobilize support for those who are most distressed
d. Keep families together and facilitate reunion with loved ones
e. Provide information, foster communication and education
f. Use effective risk communication techniques.

Interventions Specific for Members of Pre-existing Group (e.g., COSR)

3. Treat according to member's prior role and not as a "patient"
4. Assure or provide the following, as needed:
    a. Reunion or ongoing contact with group/unit
    b. Promote continuity with established relationship (e.g., primary group)
    c. Respite from intense stress
    d. Comfortable environment (e.g., thermal comfort)
    e. Consider psychoeducation and discussion in a group format
    f. Assign job tasks and recreational activities that will restore focus and confidence and reinforce teamwork (limited duty)

DISCUSSION

Psychological first aid should be envisioned as the mental health correlate of physical first aid, with the goal being to "stop the bleeding." The patient should be removed from the traumatic situation. When the patient is in a safe situation the clinician should attempt to reassure the patient and encourage a feeling of safety.

In their Disaster Mental Health Response Handbook (Raphael, 2000) a group of PTSD experts propose three stages of care:

Protect:

Find ways to protect survivors from further harm and from further exposure to traumatic stimuli. If possible, create a "shelter" or safe haven for them, even if it is symbolic. The fewer traumatic stimuli people see, hear, smell, taste, or feel, the better off they will be.

Direct:

Kind and firm direction is needed and appreciated. Survivors may be stunned, in shock, or experiencing some degree of dissociation. When possible, direct ambulatory survivors:

1. Away from the site of destruction
2. Away from severely injured survivors
3. Away from continuing danger

Connect:

Survivors who are encountered will usually have lost connection to the world that was familiar to them. A supportive, compassionate, and nonjudgmental verbal or nonverbal exchange between you and survivors may help to give the experience of connection to the shared societal values of altruism and goodness. Help survivors connect:

- To loved ones
- To accurate information and appropriate resources
- To locations where they will be able to receive additional support

- To unit comrades and mission, fostering vertical and horizontal cohesion

Triage:

The majority of survivors experience normal stress reactions. However, some may require immediate crisis intervention to help manage intense feelings of panic or grief. Signs of panic are trembling, agitation, rambling speech, erratic behavior. Signs of intense grief may be loud wailing, rage, or catatonia. In such cases, attempt to quickly establish therapeutic rapport, ensure the survivor's safety, acknowledge and validate the survivor's experience, and offer empathy. Medication may be appropriate and necessary, if available.

Psychological First Aid

Psychological first aid was first coined in Raphael's book 'When Disaster Strikes: how individual and communities cope with catastrophe' (1986). It is included as part of the *Fundamental Criteria for First Aid* knowledge and skills that soldiers should be trained in order to save themselves or other soldiers in casualty situation. The FM 21-11 First Aid for Soldiers document (1991) includes the following:

> "The Psychological first aid is most needed at the first sign that a soldier cannot perform the mission because of emotional distress. Stress is inevitable in combat, in hostage and terrorist situations, and in civilian disasters, such as floods, hurricanes, tornadoes, and industrial and aircraft catastrophes. Most emotional reactions to such situations are temporary, and the person can still carry on with encouragement. Painful or disruptive symptoms may last for minutes, hours, or a few days. However, if the stress symptoms are seriously disabling, they may be psychologically contagious and endanger not only the emotionally upset individual but also the entire unit. Even when there is no immediate danger of physical injury, psychological harm may occur.

Psychological first aid really means assisting people with emotional distress whether it results from physical injury, disease, or excessive traumatic stress. Emotional distress is not always as visible as a wound, a broken leg, or a reaction to pain from physical damage. However, overexcitement, severe fear, excessive worry, deep depression, misdirected aggression, or irritability and anger are signs that stress has reached the point of interfering with effective coping.

Psychological first aid should go hand in hand with physical first aid. The discovery of a physical injury or cause for an inability to function does not rule out the possibility of a psychological injury (or vice versa). A physical injury and the circumstances surrounding it may actually cause an emotional injury that is potentially more serious than the physical injury; both injuries need treatment. The person suffering from pain, shock, fear of serious damage to his body, or fear of death does not respond well to joking, indifference, or fearful-tearful attention. Fear and anxiety may take as high a toll of the soldier's strength as does the loss of blood." (The Department of the Army; Washington, DC, 4 December 1991)

For extended discussion of dangerousness to self or others, see Module B – Annotation C – Assessment of Dangerousness.

Table A - 2 Key Elements of Psychological First Aid (PFA)

1. *Contact and Engagement* - Respond to contacts initiated by affected persons, or initiate contacts in a non-intrusive, compassionate, and helpful manner
2. *Safety and Comfort* - Enhance immediate and ongoing safety, and provide physical and emotional comfort
3. *Stabilization (if needed)* - Calm and orient emotionally overwhelmed or distraught survivors
4. *Information Gathering - Current Needs and Concerns* - Identify immediate needs and concerns, gather additional information, and tailor PFA interventions
5. *Practical Assistance* - Offer practical help to the survivor in addressing immediate needs and concerns
6. *Connection with Social Supports* - Help establish opportunities for brief or ongoing contacts with primary support persons or other sources of support, including family members, friends, and community helping resources
7. *Information on Coping* - Provide information (about stress reactions and coping) to reduce distress and promote adaptive functioning
8. *Linkage to Collaborative Services* - Link survivors with needed services and inform them about available services that may be needed in the future.

These core goals of PFA constitute the basic objectives of providing early assistance (e.g., within days or weeks following an event). The amount of time spent on each goal will vary from person to person, and with different circumstances according to need.

Complete document describing PFA components can be found at: http://www.vdh.state.va.us/EPR/pdf/PFA9-6-05Final.pdf

Specific Interventions for COSR:

Combat Operation Stress Control (COSC) utilizes the management principles of brevity, immediacy, contact, expectancy, proximity, and simplicity (BICEPS). These principles apply to all COSC interventions or activities throughout the theater, and are followed by COSC personnel in all BH/COSC elements. These principles may be applied differently based on a particular level of care and other factors pertaining to mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC).

The actions used for COSC (commonly referred to as the 6 R's) involve the following actions:

Reassure of normality (normalize the reaction)

Rest (respite from combat or break from work)

Replenish bodily needs (such as thermal comfort, water, food, hygiene, and sleep).

Restore confidence with purposeful activities and talk

Retain contact with fellow Soldiers and unit

Remind recognize emotion of reaction (specifically potentially life-threatening thoughts and behaviors).

E Person has Trauma Related Symptoms, Significant Impaired Function, or Diagnosis of ASD

Identify patients who have excessive post-traumatic stress symptoms or significant distress impaired function, or are diagnosed with ASD.

BACKGROUND

Since people who develop ASD are at greater risk of developing PTSD, they should be identified and offered treatment as soon as possible. Although ASD does not occur in all people who later develop PTSD, treatment should be considered for all acutely traumatized people with ASD, those with severe PTSD symptoms but do not meet ASD diagnostic criteria, as well as those with functional impairment because of acute physiological symptoms (e.g., hyper-arousal).

Some patients with an acute stress reaction may benefit from augmentation of the acute intervention and additional follow-up. Because people vary in their reaction and in the rate they recover from traumatic stress, some individuals may require more time or an adjustment of the treatment prior to improvement. Some want and feel a need to discuss the event, and some have no such need. Respect individual and cultural preferences in the attempt to meet their needs as much as possible. Allow for normal recovery, and monitor.

RECOMMENDATIONS

1. Acutely traumatized people who meet criteria for diagnosis of ASD, and those with significant levels of post-trauma symptoms after at least two weeks post-trauma, as well as those who are incapacitated by acute psychological or physical symptoms should receive further assessment and early intervention to prevent PTSD.

2. Trauma survivors, who present with symptoms that do not meet the diagnostic threshold for ASD, or those who recovered from the trauma and currently show no symptoms, should be monitored and may benefit from follow-up and provision of ongoing counseling or symptomatic treatment.
3. Service members with COSR who do not respond to initial supportive interventions may warrant referral or evacuation.

(See Module I-1: Early Intervention for prevention of PTSD).

DISCUSSION

Stress reactions produce biologic, psychological, and behavioral changes. Biologic alterations include disruptions in neurochemicals, sleep patterns, hyper-arousal, and somatic symptoms (e.g., pain, gastrointestinal symptoms). Psychological changes include: mood disturbances (e.g., emotional labiality, irritability, blunting, numbing) anxiety (e.g., increased worry, ruminations) and cognitive disturbances (e.g., memory impairment, confusion, and impaired task completion).

Not all individuals who are exposed to trauma or who have a COSR require a mental health referral. However, those service members who are deteriorating or are not responding to acute supportive interventions, need to be identified and evacuated to a more definitive level of care. Also, patients who have a high potential for dangerousness, or the development of symptoms suggestive of a stress related disorder (i.e., ASD) also need to be identified and referred to a facility that may provide appropriate mental health care.

Patients who do not respond to first line supportive interventions may warrant treatment augmentation or a mental health referral. Clear indications for a mental health referral include; a worsening of stress related symptoms, new onset of dangerousness or maladaptive coping to stress, exacerbation of comorbid psychiatric conditions, or deterioration in function. Because patients with new onset stressors, poor social supports, or inadequate coping skills may be at heightened risk to develop PTSD, a mental health referral is also indicated.

Acute Stress Disorder (ASD)

Different types of trauma can lead to ASD, from interpersonal assaultive violence, to accidents, to combat related trauma. As many as ninety percent of individuals who experience sexual assault, will have acute stress symptoms but not ASD (Breslau, 1996). Additionally, surveys from the OIF/OEF combat theaters indicate that ~10%-18% of deployed US combat forces experience trauma related stress symptoms (as measured with PCL cutoff score of 50+). Beliese (2009) states that to facilitate provision of physical needs, normalization, and psycho-education it may be prudent, when possible, to wait 24 to 48 hours before beginning medications.

Prior to DSM-IV (American Psychiatric Association, 1994), severe distress occurring in the month after a traumatic event was not regarded as a diagnosable clinical problem. Although this prevented the pathologizing of transient reactions, it hampered the identification of more severely traumatized individuals who might benefit from early interventions. To address this issue, DSM-IV introduced the diagnosis of acute stress disorder (ASD) to describe those acute reactions associated with an increased likelihood of developing chronic PTSD (See Table A - 3). A diagnosis of ASD is given when an individual experiences significantly distressing symptoms of reexperiencing, avoidance, and increased arousal within 4 weeks of the trauma. These symptoms must be present for at least two days before the diagnosis of ASD can be made. The DSM-IV diagnosis of ASD requires that the victim report at

least three of the following five symptoms labeled as indicators of dissociation: numbing, reduced awareness of surroundings, derealization, depersonalization, and dissociative amnesia. These requirements are based on evidence found in previous studies that dissociative symptoms at the time of (or shortly after) the traumatic event are predictive of the subsequent development of chronic PTSD (Bremner et al., 1992; Marmar et al., 1994; Koopman et al., 1994). Thus the fundamental differences between PTSD and ASD involve time elapsed since the trauma and the relative emphasis on dissociative symptoms in the ASD diagnosis.

Table A - 3 Diagnostic criteria for 308.3 Acute Stress Disorder (DSM-IV)

A. The person has been exposed to a traumatic event in which both of the following were present:
   - the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
   - the person's response involved intense fear, helplessness, or horror

B. Either while experiencing or after experiencing the distressing event, the individual has three (or more) of the following dissociative symptoms:
   - a subjective sense of numbing, detachment, or absence of emotional responsiveness
   - a reduction in awareness of his or her surroundings (e.g., "being in a daze")
   - derealization
   - depersonalization
   - dissociative amnesia (i.e., inability to recall an important aspect of the trauma)

C. The traumatic event is persistently reexperienced in at least one of the following ways: recurrent images, thoughts, dreams, illusions, flashback episodes, or a sense of reliving the experience; or distress on exposure to reminders of the traumatic event.

D. Marked avoidance of stimuli that arouse recollections of the trauma (e.g., thoughts, feelings, conversations, activities, places, and people).

E. Marked symptoms of anxiety or increased arousal (e.g., difficulty sleeping, irritability, poor concentration, hypervigilance, exaggerated startle response, motor restlessness).

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or impairs the individual's ability to pursue some necessary task, such as obtaining necessary assistance or mobilizing personal resources by telling family members about the traumatic experience.

G. The disturbance lasts for a minimum of 2 days and a maximum of 4 weeks and occurs within 4 weeks of the traumatic event.

H. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition, is not better accounted for by Brief Psychotic Disorder, and is not merely an exacerbation of a preexisting Axis I or Axis II disorder.

2. TREATMENT and FOLLOW-UP

F. Assess Medical and Functional Status

OBJECTIVE

Obtain complete history, physical examination, relevant laboratory tests, and assessment of functioning to determine course of treatment.

BACKGROUND

One of the key goals of ASR supportive care is to address immediate physical health problems and to assist the individual in beginning to return to a normal level of function. In order to do this, the clinician or caregiver must assess the individual's current state of health and functioning.

RECOMMENDATIONS

1. Medical status should be obtained for all persons presenting with symptoms to include:
    g. History, physical examination and a neurological examination
    h. Use of prescribed medications, mood or mind-altering substances, and possible biological or chemical agent exposure
    i. A minimal mental status examination (MMSE) to assess cognitive function
2. The history and physical examination findings should lead the provider to other assessments as clinically indicated. Assessment may include:
    j. Screen for toxicology if the symptom presentation indicates
    k. Radiological assessment of patients with focal neurological findings or possible head injury
    l. Appropriate laboratory studies to rule out medical disorders that may cause symptoms of acute stress reactions (e.g., complete blood count [CBC], chemistry profile, thyroid studies, HCG, EKG, EEG.)
3. A focused psychosocial assessment should be performed to include assessment of active stressors, losses, current social supports, and basic needs (e.g., housing, food, and financial resources).
4. A brief assessment of function should be completed to evaluate: 1) objectively impaired function based on general appearance and behavior; 2) subjectively impaired function; 3) baseline level of function (LOF) vs. current LOF; and 4) family and relationship functioning.

DISCUSSION

Whenever possible, providers should include assessment of any physical injuries, review of targeted H&P and laboratory results (if available), assessment of the individual's level of functioning and level of family and relationship functioning. Ideally, the current clinical picture should be compared to the individual's pre-trauma state, but often this may not be possible in the immediate aftermath of a traumatic event. Evaluation of the patient's level of function is warranted because evidence

has shown that functional impairment after trauma is a predictor for later development of PTSD (Norris et al., 2002).

G. Assess Pre-Existing Psychiatric and Medical Conditions

BACKGROUND

Circumstances brought about by a traumatic event may complicate any existing psychiatric conditions or may exacerbate pre-existing pathology.

RECOMMENDATIONS

1. Assess patients for pre-existing psychiatric conditions to identify high risk individuals and groups.
2. Assure access and adherence to medications the patient is currently taking.
3. Refer patients with pre-existing psychiatric conditions to mental health specialty when indicated, or emergency hospitalization if needed.

DISCUSSION

The NIMH (2002) guideline addresses the need to manage pre-existing psychiatric and medical conditions. The authors point to the "special needs of those who have experienced enduring mental health problems, those who are disabled and other high-risk groups who may be vulnerable and less able to cope with unfolding situations." They also call for additional attention to be paid to members of these groups in the immediate post-trauma period. However, they also emphasize "the presumption of clinically significant disorders in the early post-incident phase is inappropriate, except for individuals with preexisting conditions."

H Assess Risk Factors for Developing ASD/PTSD

BACKGROUND

Not all trauma survivors develop permanent stress disorders. Early identification of those at-risk for negative outcomes following trauma can facilitate prevention, referral, and treatment. Screening for those at greatest risk should address past and current psychiatric and substance use problems and treatment, prior trauma exposure, pre-injury psychosocial stressors, and existing social support.

RECOMMENDATIONS

1. Trauma survivors who exhibit symptoms or functional impairment should be screened for the following risk factors for developing ASD/PTSD:

Pre-traumatic factors

1. Ongoing life stress
2. Lack of social support
3. Age at time of trauma (school age youth, 40-60 years of age)
4. Pre-existing psychiatric disorders, or substance misuse
5. History of traumatic events (i.e. MVA)
6. History of post-traumatic stress disorder (PTSD)
7. Other pre-traumatic factors including: female gender, low socioeconomic status, lower level of education, lower level of intelligence, race (Hispanic, Japanese, other ethnic minority), reported abuse in childhood, report of other

previous traumatization, report of other adverse childhood factors, family history of psychiatric disorders, poor training or preparation for the traumatic event.

Peri-traumatic or trauma related factors

1. Severe trauma
2. Physical injury to self or other
3. Type of trauma (interpersonal traumas such as torture, rape or assault convey high risk of PTSD)
4. High perceived threat to life of self or others
5. Age at trauma (school age youth, 40-60 years of age)
6. Community (mass) trauma
7. Other peri-traumatic factors including: history of peri-traumatic dissociation and interpersonal trauma.

Post-traumatic factors

1. Ongoing life stress
2. Lack of positive social support
3. Bereavement or traumatic grief
4. Major loss of resources
5. Negative social support (shaming or blaming environment)
6. Other post-traumatic factors including: children at home and a distressed spouse.

DISCUSSION

Risk Factors for ASD

When evaluating risk factors for ASD, the clinician should keep in mind that ASD is no longer diagnosed later than four weeks after a traumatic event. Thus, not enough time will have passed following the trauma for many post-trauma factors to have had full impact on the course of symptoms.

Risk Factors for PTSD

When evaluating risk factors for developing PTSD, the clinician should keep in mind that PTSD is defined as occurring only after four weeks have elapsed following a traumatic event. PTSD symptoms, however, may not appear until a considerable time has passed, sometimes surfacing years later.

For further discussion of risk factors for PTSD - See Module B: Annotation F

Provide Education and Normalization / Expectancy of Recovery

BACKGROUND:

Education for trauma survivors and their families may help normalize common reactions to trauma, improve coping, enhance self-care, facilitate recognition of significant problems, and increase knowledge of, and access to, services. Individuals should be reassured about common reactions to traumatic experiences and advised regarding positive and problematic forms of coping with them.

Information about social support and stress management is particularly important. Opportunities to discuss emotional concerns in individual, family, or group meetings can enable survivors to reflect on what has happened. Education regarding indicators that initial acute reactions are failing to resolve will be important. Signs and symptoms of PTSD; anxiety, depression, substance use disorders, and other difficulties should be explained. Survivors will need information about financial, mental health, rehabilitation, legal, and other services available to them, as well as education about common obstacles to pursuing needed services.

RECOMMENDATION:

1. All survivors should be given educational information to help normalize common reactions to trauma, improve coping, enhance self-care, facilitate recognition of significant problems, and increase knowledge of and access to services. Such information can be delivered in many ways, including public media, community education activities, and written materials.

DISCUSSION:

Immediate post-trauma distress will remit naturally for many patients (Blanchard et al., 1995) and provision of mental health services may be unnecessary. Hypothetically, it is even possible that too much focus on mental health issues may be iatrogenic for some survivors, centering their attention on symptoms and problems and making attention and caring contingent on needing such help.

2. TREATMENT

J. Initiate Brief Intervention

OBJECTIVE

To lessen the physical, psychological, and behavioral morbidity associated with acute stress reaction (ASR), hasten the return to full function (duty), and reduce risk for development of ASD or PTSD following traumatic event.

BACKGROUND

It is likely that not all patients will require intervention immediately following a traumatic occurrence. Depending on the intensity and duration of the trauma, there will be people who will make it through unharmed. Often, if a person appears to be coping well and denies symptoms of ASD or PTSD, they may not need specialized care.

For people who show symptoms of ASD or PTSD (including symptoms of intrusive recollections, avoidance, numbing, and physiological hyperarousal when confronted with reminders of the trauma) brief acute intervention may be indicated.

Early intervention may need to assist the individual with anticipating problems in using their support system. This may be particularly important in light of the fact that the psychological aftermath of trauma may significantly disrupt a person's capacity to use others to cope with and manage post-traumatic symptoms and daily demands. Table A-4 summarizes the interventions and their potential benefit in the first month after exposure to the trauma.

Table A - 4 Early Intervention after Exposure to Trauma (4 to 30 days after exposure)

SR	Significant Benefit	Some Benefit	Unknown Benefit	No Benefit Potential Harm
A	Brief Cognitive Behavioral Therapy (4-5 sessions)			
B		Prazosin for nightmares	Imipramine	
C		Social, and spiritual support	Propranolol	
I		Provide basic Needs Psychoeducation, normalization	Benzodiazpines Sympatholytics Antidepressants Anticonvulsants Atypical Antipsychotics Chloral hydrate	
D			Psychological First Aid	Psychological debriefing Typical Antipsychotics Formal psychological interventions for asymptomatic survivors

SR = Strength of recommendation

RECOMMENDATIONS

1. The following treatment recommendations should apply for all acutely traumatized people who meet criteria for diagnosis of ASD, and for those with significant levels of post-trauma symptoms after at least two weeks post-trauma, as well as those who are incapacitated by acute psychological or physical symptoms.
2. Treatment should be provided after education, normalization, and Psychological First Aid has been provided, and basic needs following the trauma were made available.
3. There is insufficient evidence to recommend for or against the use of Psychological First Aid to address symptoms beyond 4 days following trauma. [I]
4. Recommend monitoring for development of PTSD using validated symptom measures (e.g., PTSD Checklist, other screening tools for ASD/PTSD.
5. Survivors who present symptoms that do not meet the diagnostic threshold of ASD or PTSD should be monitored and may benefit from follow-up and provision of ongoing counseling or symptomatic treatment.
6. **Psychotherapy:**

    m. Consider early brief intervention (4 to 5 sessions) of cognitive based therapy (CBT) that includes exposure based therapy, alone or combined with a component of cognitive re-structuring therapy for patients with significant early symptom levels, especially those meeting diagnostic criteria for ASD.[A]

    n. Early psychotherapy intervention for *asymptomatic* individuals is not beneficial and may be harmful. [D]

    o. Recommend against individual Psychological Debriefing as a viable means of reducing acute stress disorder (ASD) or progression to post-traumatic stress disorder (PTSD). [D]

    p. Recommend against group Psychological Debriefing as a viable means of reducing acute stress disorder (ASD) or progression to post-traumatic stress disorder. (Note: this is not a recommendation against Operational Debriefing) [D]

    q. Groups may be effective vehicles for providing trauma related education, training in coping skills, and increasing social support especially in the context of multiple group sessions.

    r. Group participation should be voluntary.

7. **Pharmacotherapy:**

    s. There is insufficient evidence to support a recommendation for use of a pharmacological agent to prevent the development of ASD or PTSD. [I]

DISCUSSION

For discussion of the supporting evidence and grading of the recommendations see Module I-1: Early Interventions to Prevention of PTSD

ASD Treatment

The relationship between ASD and PTSD was examined in three prospective studies. Classen and colleagues (1998) studied the acute stress reactions of bystanders to a mass shooting in an office building. They assessed 36 employees (bystanders) 8 days after the shooting. Between 7 and 10 months later, they reassessed 32 employees for post-traumatic stress symptoms and found that 33 percent of them met criteria for ASD and that meeting criteria for ASD was a strong predictor of PTSD (accounting for 19 percent of the variance) as well as intrusion (accounting for 53 percent of the variance) and avoidance (accounting for 45 percent of the variance).

In another prospective study, Harvey and Bryant (1998a) examined the relationship between ASD and PTSD in 92 motor vehicle accident survivors. From the twelve participants (13 percent) who met criteria for ASD within 2 to 26 days of the accident, 78 percent met criteria for PTSD 6 months later. Nineteen participants (21 percent) met some but not all of the criteria for ASD; of the 15 individuals available for follow-up, 9 (60 percent) met criteria for PTSD. From the 61 participants who did not meet the criteria for ASD; only 2 met criteria for PTSD. This study provides strong evidence of ASD being a predictor of PTSD. Nevertheless, Harvey and Bryant concluded that the current criteria for ASD might be too stringent for ASD to be used to predict the risk for PTSD. Bryant and Harvey (1998b) also examined the relationship between ASD and PTSD for a subset (n=79) of the motor vehicle accident survivors who suffered mild traumatic brain injury as a result of the accident. They were particularly interested in the utility of ASD as a predictor of PTSD in individuals with postconcussive symptoms that could overlap with ASD symptoms. Their results were similar to previously reported findings: 14 percent met criteria for ASD; 6 months after the event, 82 percent of those with ASD also met criteria for PTSD.

In another prospective study, Brewin and colleagues (1999) evaluated the use of ASD to predict PTSD in 157 survivors of violent assault. Participants were assessed for several ASD symptoms using items from the Post-traumatic Stress Disorder Symptoms Scale (Foe et al. 1993); additional items were generated to determine whether the event met the ASD criterion. Nineteen percent of participants met criteria for ASD and 20 percent met criteria for PTSD at 6-month follow-up. They found that meeting full criteria for ASD was a better predictor of PTSD than any of the symptom clusters. Eighty three percent of participants who met criteria for ASD were diagnosed with PTSD six months later.

Research suggests that relatively brief but specialized interventions may effectively prevent PTSD in some subgroups of trauma patients. Several controlled trials have suggested that brief (i.e., 4 to 5 sessions) cognitive-behavioral treatments, comprised of education, breathing training/relaxation, imaginal and *in vivo* exposure, and cognitive restructuring, delivered within weeks of the traumatic event, can often prevent PTSD in survivors of sexual and non-sexual assault (Foa et al., 1995) and MVAs and industrial accidents (Bryant et al., 1998a , 1999). Brief intervention with patients hospitalized for injury has been found to reduce alcohol consumption in those with existing alcohol problems (Gentilello et al., 1999). Controlled trials of brief early intervention services targeted at other important trauma sequelae (e.g., problems returning to work, depression, family problems, trauma recidivism, and bereavement-related problems) remain to be conducted, but it is likely that targeted interventions may be effective in these arenas for at least some survivors.

Two well-designed studies offer evidence that brief treatment interventions utilizing a combination of cognitive behavioral techniques may be effective in preventing PTSD

in a significant percentage of subjects. In a study of a brief treatment program for recent sexual and nonsexual assault victims who all met criteria for PTSD, Foa at al. (1995) compared repeated assessments *vs*. a Brief Prevention Program (BPP) (four sessions of trauma education, relaxation training, imaginal exposure, *in vivo* exposure, and cognitive restructuring). Two months posttrauma, only 10 percent of the BPP group met criteria for PTSD, whereas 70 percent of the repeated assessments group met criteria for PTSD. In a study of motor vehicle and industrial accident victims who met criteria for ASD, Bryant et al. (1998a) compared five sessions of nondirective supportive counseling (support, education, and problem-solving skills) *vs*. a brief cognitive-behavioral treatment (trauma education, progressive muscle relaxation, imaginal exposure, cognitive restructuring, and graded *in vivo* exposure to avoided situations). Immediately post-treatment, 8 percent in the CBT group met criteria for PTSD, versus 83 percent in the supportive counseling group. Six Months Post-Trauma, 17 percent in CBT met criteria for PTSD, versus 67 percent in supportive counseling. One important caveat to these interventions is that dropout rate was high, and the authors concluded that *those with more severe symptoms may need supportive counseling prior to more intensive cognitive behavioral interventions.*

In addition to targeted brief interventions, some trauma survivors may benefit from follow-up provision of ongoing counseling or treatment. Candidates for such treatment would include survivors with a history of previous traumatization (e.g., survivors of the current trauma who have a history of childhood physical or sexual abuse) or preexisting mental health problems.

EVIDENCE

	Recommendation	Sources	LE	QE	SR
1	Monitor patient with ASD for development of PTSD. (ASD predictor of PTSD).	Brewin et al. 1999 Bryant et al, 1998a & 1998 b	I	Good	A
2	Brief intervention of CBT (4 to 5 sessions).	Bryant et al., 1998a Foe et al, 1995 [See Module I-1: Brief early CBT]	I	Good	A

LE =Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation (see Appendix A)

K. Acute Symptom Management

BACKGROUN

Survivors of trauma may not complain directly of ASD symptoms such as re-experiencing or avoidance. Instead, they may complain of sleeping problem, pain or other somatic concerns. After addressing immediate needs and providing education and intervention, alleviating these symptoms will make it easier for survivors to cope and recover from their traumatic experience.

RECOMMENDATIONS

1. Specific symptoms treatment should be provided after education, normalization and basic needs are met.
2. Consider a short course of medication (less than 6 days) targeted for specific symptoms in patients post trauma
    a. Sleep disturbance/insomnia (e.g., hypnotics such as ambien, trazodone, benzodiazepines, and seroquel)

b. Management of pain (e.g., analgesics)

c. Irritation/excessive arousal/anger (e.g., benzodiazepines)

3. Provide non-pharmacologic intervention to address specific symptoms (e.g., relaxation, breathing techniques, avoiding caffeine) to address both general recovery and specific symptoms (sleep disturbance, pain, hyper-arousal or agitation).

For discussion of the supporting evidence of the recommendations see Module I-3: Management of Specific Symptoms

L. Facilitate Social and Spiritual Support

BACKGROUND

Social support will be critical for helping the individual cope after a trauma has occurred. It may be necessary to identify potential sources of support and facilitate support from others (e.g., partners, family, friends, work colleagues, and work supervisors).

The terms "religious" and "spiritual" are both used in the clinical literature to refer to beliefs and practices to which individuals may turn for support following a traumatic event.

Research on the relationship between religion and health has been hampered by the lack of consistent and adequate multidimensional measures of religiousness and spirituality (Idler et at., 2003). Examinations of research findings must take care to look at the particular dimensions of religiousness / spirituality being measured. Because the terms are so closely related, and because researchers in this area have not consistently differentiated between the two concepts, the reader should assume that in the discussion below religion/spirituality are referred to in the general sense and not in any specific terms.

RECOMMENDATIONS

1. Preserve an interpersonal safety zone protecting basic personal space (e.g., privacy, quiet, personal effects).
2. Reconnect with previously supportive relationships (family, friends, unit members)
3. Provide nonintrusive ordinary social contact (e.g., a "sounding board," judicious use of humor, small talk about current events, silent companionship). Provide opportunities for grieving for losses. (Providing space and opportunities for prayers, mantras, rites and rituals and end-of-life care as determined important by the patient).
4. Consider assessing for spiritual needs, and providing direct spiritual care or ensuring patient access to spiritual care when sought. [C]

DISCUSSION

Religion may provide a framework by which many survivors of trauma construct a meaningful account of their experience, and may be a useful focus for intervention with trauma survivors.

Religion seeking is an observed post-traumatic phenomenon:

There is a large body of anecdotal literature documenting the propensity of individuals to seek religious/spiritual comfort following a traumatic event. The terrorist attacks of September 11, 2001 provide a recent instance of this phenomenon. Meisenhelder (2002) notes "the events of September 11, 2001 triggered a widespread national response that was two-fold: a post-traumatic stress reaction and an increase in attendance in religious services and practices immediately following the tragic events." Schuster and his colleagues performed a nationwide phone survey of 569 adults within a week of the event (2001), and found that "forty-four percent of the adults reported one or more substantial stress symptoms; 91 percent had one or more symptoms to at least some degree. Respondents throughout the country reported stress syndromes. They coped by talking with others (98 percent), turning to religion (90 percent)."

Demonstrated benefits of the practice: religious/spiritual care:

Some longitudinal studies have found support for religious /spiritual practices extending longevity (Hummer et al., 1999; Strawbridge et al., 1997), and reducing the duration of depression (Koenig et al., 1998). However, others examining the overall literature have found it to be "weak and inconsistent" (Sloan, et al., 1999). Strawbridge and his colleagues (1998) used a large public health survey to investigate "associations between two forms of religiosity and depression as well as the extent to which religiosity buffers relationships between stressors and depression". The authors conclude that "religiosity may help those experiencing non-family stressors, but may worsen matters for those facing family crises."

Several possible pathways for positive physical / mental health benefits from religious/spiritual practice have been identified. These include; (1) reduction of behavioral risks through healthy religious lifestyles (e.g. less drinking or smoking) (2) expanded social support through involvement in spiritual communities, (3) enhancement of coping skills and helpful cognitive appraisals resulting in meaning-making, and (4) physiological mechanisms such as activation of the "relaxation response" through prayer or meditation.

Recent research on cognitive processes following traumatic events indicates that challenges to an individual's basic life assumptions may occur. These assumptions involve the security and meaningfulness of the world and the individual's sense of self-worth in relation to perception of the environment (Janoff-Bulman, 1979). Specifically, these assumptions are; (1) that one's environment is physically and psychologically safe, (2) that events are predictable, meaningful and fair, (3) that one's own sense of self-worth is positive in relation to experiences with other people and events (Hunter, 1996). The style and intensity of religious / spiritual appraisals and coping behaviors made in the aftermath of trauma may both reflect and influence the recovery trajectory and ultimate outcomes of traumatic events.

A recent meta-analytic study (Ano & Vasconcelles, 2005) of religious / spiritual coping with stressful events examined results from 49 studies meeting inclusion criteria from the 109 studies initially identified. In this study, Pargament's (1997) model of religious coping was used to distinguish between positive and negative uses of religion / spirituality to deal with life crises. Bivariate correlations between religious coping (positive and negative) measures and psychological adjustment (positive and negative) were averaged to obtain effect size estimates for findings for four key relationships; 1) positive religious coping and positive adjustment, 2) positive coping and negative adjustment, 3) negative coping and positive adjustment, and 4) negative coping and negative adjustment. The strongest

average effect size estimate (.33) was obtained for the 29 studies examining the relationship between positive coping and positive adjustment. The 22 studies of negative coping and negative adjustment produced a significant moderate effect size estimate of .22. Finally, from 38 studies examining correlations between positive coping and negative adjustment, a small, yet significant, effect size estimate of -.12 was obtained. Taken together, findings from the Ano & Vasconcelles (2005) meta-analysis show that both forms of religious coping are related to psychological adjustment to stress. Positive religious coping is related to both positive and negative forms of adjustment in the directions expected; whereas negative coping is only significantly related to negative adjustment.

A study of help-seeking military veterans found significant associations between negative religious coping, lack of forgiveness and worse mental health outcomes (PTSD and Depression) (Witvliet et al., 2004). Similarly, loss of religious faith was found to be associated with worse mental health outcomes (i.e. greater utilization of mental health services) among military veterans in treatment for PTSD (Fontana & Rosenheck, 2004). Most recently, in a study of religiously active trauma survivors positive relationships were found between a measure of positive religious coping, seeking spiritual support, and posttraumatic growth. In the same study a negative religious coping indicator, religious strain, was significantly related to posttraumatic symptoms (Harris, Erbes, Engdahl, Olsen, Winskowski & McMahill, 2008). Thus, there is some consistency in findings of a complex relationship between religious coping and psychological adjustment following stress.

An integrative review of the literature on spirituality and bereavement by Wortman & Park (2008) suggests that religion/spirituality has a mixed but generally positive relationship with adjustment to bereavement depending on the dimension measured. Making-meaning appeared to be an important pathway associating religion/spirituality with adjustment for several dimensions, including general religiousness, intrinsic religiousness, religious coping, and belief in the helpfulness of religion.

The role of the Chaplain:

Recent studies of healthcare systems indicate strong association between the degree to which patient emotional / spiritual needs are met and overall patient treatment satisfaction. Healthcare accrediting bodies are recommending that Chaplains/pastoral care teams work in close collaboration with medical care teams to provide patients with an in-depth spiritual care experience that results in emotional comfort and improved satisfaction (Clark et al., 2003).

The Chaplain may play an important role in helping individuals regain a sense that their basic life assumptions are true. Chaplains receive training in a wide variety of supportive techniques, and they stand ready to assist all individuals, including those who do not subscribe to an organized religion. Chaplains may provide assistance in one or more of the following ways:

- Organizing and mobilizing community action by;
- Providing education and consultation with advice for leaders
- Assisting in the mobilization of action plans and recovery processes
- Offering facilitation of adaptation and mastery in social change
- Assisting in the development of community networks
- Supporting the development of a positive recovery organization
- Serving as a source of communication

- Fostering Community Theater and art geared to encouraging working through and recovery from the trauma.

Providing space and opportunities for prayers, mantras, rites and rituals and end-of-life care as determined important by the patient is another significant contribution of the Chaplain. (Canda and Phaobtong, 1992; Lee, 1997).

EVIDENCE

	Recommendation	Sources	LE	QE	SR
1	Consider referral for religious/spiritual counseling as indicated for patient symptoms, consistent with available resources, and resonant with patient beliefs	Baldacchino and Draper, 2001 Bell Meisenhelder, 2002 Calhoun et al., 2000 Humphreys et al., 2001 Nixon et al., 1999 Strawbridge et al., 1998	III	Poor	I
2	Consider providing direct spiritual care or ensuring patient access to spiritual care	Bogia and Preston, 1985 Everly, 2000b	II	Fair	C

LE =Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation (see Appendix A)

3. RE-ASSESSMENT

M. Reassess Symptoms and Function

OBJECTIVE

Identify patients with persistent traumatic stress symptoms, related dysfunction, or additional treatment needs.

BACKGROUND

Clinical reassessment of response to the acute intervention is indicated to determine if there are persistent symptoms and, if necessary, to develop a follow-up plan.

Especially important are acute levels of traumatic stress symptoms, which predict chronic problems; for example, more than three-quarters of MVA patients diagnosed with ASD will have chronic PTSD at 6 months post-trauma (Bryant and Harvey, 2000).

In follow-up appointments, it will be important to screen for PTSD and other anxiety disorders, depression, alcohol and substance abuse, problems with return to work and other productive roles, adherence with medication regimens and other appointments, and potential for re-traumatization.

RECOMMENDATIONS

1. Assessment of the response to the acute intervention should include an evaluation for the following risk factors:
    a. Persistent or worsening traumatic stress symptoms (e.g., dissociation, panic, autonomic arousal, cognitive impairment)
    b. Significant functional impairments (e.g., role/work, relationships)
    c. Dangerousness (suicidal or violent ideation, plan and/or intent)
    d. Severe psychiatric comorbidity (e.g., psychotic spectrum disorder, substance use disorder or abuse)

e. Maladaptive coping strategies (e.g., pattern of impulsivity, social withdrawal, or other reactions under stress)

f. New or evolving psychosocial stressors

g. Poor social supports.

2. Follow-up after acute intervention to determine patient status should include:

a. Patient does not improve or status worsens – continue management of PTSD (See Module B) in consultation or referral to PTSD specialty care or mental health provider. Recommend involvement of the primary care provider in the treatment. Patients with multiple problems may benefit from a multi-disciplinary approach to include occupational therapy, spiritual counseling, recreation therapy, social work, psychology and/or psychiatry

b. Patient demonstrates partial improvement (e.g., less arousal, but no improvement in sleep) – consider augmentation or adjustment of the acute intervention and follow up within 2 weeks

c. Patient recovers from acute symptoms – provide education about acute stress reaction and contact information with instructions for available follow-up if needed

DISCUSSION

After initiating an acute intervention, it is crucial for providers to follow-up and assess for treatment response and for any new or additional risk factors. Studies of trauma exposed populations show that poor social supports and severe stress after the trauma may increase the risk of developing PTSD. Persons with stress reactions may respond with maladaptive coping styles or health risk behaviors, so an assessment of coping styles and health risk behaviors is warranted. Those patients who respond well to acute interventions can then be offered contact information for follow-up should they later become symptomatic.

4. FOLLOW-UP

N. Persistent (>1 Month) or Worsening Symptoms, Significant Functional Impairment or High Risk for Development of PTSD.

OBJECTIVE

Identify patients with PTSD or high risk for developing PTSD who may benefit from PTSD treatment.

BACKGROUND

A crucial goal of follow-up activities is referral, as necessary, for appropriate mental health services. In fact, referral, and subsequent delivery of more intensive interventions, will depend upon adequate implementation of screening. Screening, whether conducted in formal or informal ways, can best help determine who is in need of referral. But even if those who might benefit from mental health services are adequately identified, factors such as embarrassment, fear of stigmatization, practical barriers (e.g., distance from services), and cultural norms that do not support help-seeking may all limit motivation to seek help or pursue a referral. Those making referrals can directly discuss these attitudes about seeking help and attempt to preempt avoidance of needed services. Motivational interviewing techniques

(Rollnick et al., 1992) may help increase rates of referral acceptance.

RECOMMENDATIONS

1. Individuals who fail to respond to early interventions should be referred for PTSD treatment when they have:
    a. Worsening of stress-related symptoms
    b. High potential or new onset potential for dangerousness
    c. Development of ASD/PTSD
    d. Maladaptive coping with stress (e.g., social withdrawal, alcohol use)
    e. Exacerbation of pre-existing psychiatric conditions
    f. Deterioration in function
    g. New onset stressors
    h. Poor social supports
2. Primary Care provider should consider initiating therapy pending referral or if the patient is reluctant or unable to obtain specialty services.
3. Primary Care provider should continue evaluating and treating comorbid physical illnesses, addressing any other health concerns, as well as educating and validating the patient regarding his/her illness.

DISCUSSION

Not all individuals who are exposed to trauma or who have an Acute Stress Reaction (ASR) following trauma require a mental health referral. However, patients who are deteriorating or not responding to acute supportive interventions need to be identified and referred to mental health. Also, those patients who have a high potential for dangerousness or potential for the development of PTSD also need to be identified and referred to specialty care.

Some patients with an acute stress reaction who show partial improvement may benefit from augmentation of the acute intervention and additional follow-up. Because people recover from traumatic stress-related problems at different rates, some individuals may require more time, or an adjustment of the treatment, prior to improvement. For example, early in treatment, medications may be adjusted to target prominent symptoms.

Patients with partial PTSD exhibit clinically meaningful levels of functional impairment in association with their symptoms (Stein 1997). Functional impairment, rates of co-morbid disorders, and rates of suicidal ideation were shown to increase linearly with an increasing number of PTSD symptoms, and individuals with sub-threshold PTSD had increased suicidal ideation even after controlling for the presence of co-morbid major depressive disorder (Marshall, 2001).

Patients who do not respond to first line interventions may warrant treatment augmentation or a mental health referral. Clear indications for a mental health referral include: a worsening of stress related symptoms, new onset of dangerousness or maladaptive coping to stress, exacerbation of comorbid psychiatric conditions, or deterioration in function. Because patients with new onset stressors, poor social supports, or inadequate coping skills may be at heightened risk to develop PTSD, mental health referral is also indicated.

Primary Care providers who identify patients with possible PTSD should consider referral to a Mental Health, or PTSD clinic. This referral should be made in consultation with the patient, and with consideration of the patient's severity of problems and preferences.

Several treatment modalities can be initiated and monitored in the primary care setting (e.g. Pharmacotherapy, Supportive Counseling). Therefore, the Primary Care practitioner should consider initiating therapy pending referral. However, if the patient is reluctant or unable to obtain specialty services (see Module B) the Primary Care provider should continue evaluating and treating comorbid somatic illnesses, and addressing any other health concerns, as well as educating and validating the patient regarding his/her illness. If patients are referred to specialty care, it is vital that the Primary Care team (including the Health Care Integrator) stay actively involved in coordination with the Specialist, in the care of patients with PTSD.

Additional Points:

- Don't suggest or insinuate that physical or cognitive symptoms co-existing with ASD/PTSD are related to a "stress", "emotional", or "psychological" problem. Education patients about the physiological dysregulation associated with PTSD and how this can impact physical and cognitive functioning.
- Encourage referral to mental health via collaborative discussion, if indicated
- Educate patients about the physiological basis also of emotional and psychological symptoms in ASD/PTSD.
- Primary care providers should not hesitate to ask questions about trauma-related symptoms, but not delve into details of the traumatic experience itself unless there is the time and skill to manage resultant distress and adequately support the patient. Providers should be aware that narration of traumatic experiences may be associated with increased distress temporarily.
- Primary care providers should follow-up with patients about issues related to trauma in an ongoing way. Patients with initial sub-threshold presentation are at increased risk of developing PTSD.

O. Monitor and Follow-Up

BACKGROUND

Many trauma survivors experience some symptoms in the immediate aftermath of a traumatic event. In most instances these symptoms will eventually remit and do not require long-term follow-up. Those exposed to traumatic events and who manifest no or few symptoms after a period of time (approximately two months) do not require routine follow-up, but follow-up should be provided if requested.

RECOMMENDATIONS

1. Follow-up should be offered to individuals who request it, or those at high risk of developing adjustment difficulties following exposure to major incidents and disasters, including individuals who:
    a. Have acute stress disorder or other clinically-significant symptoms stemming from the trauma
    b. Are bereaved

c. Have a pre-existing psychiatric disorder

d. Require medical or surgical attention

e. Were exposed to a major incident or disaster that was particularly intense and of long duration.

DISCUSSION

For many types of trauma, experience indicates that relatively few survivors make use of available mental health services. This may be due to a lack of awareness of the availability of such services, low perceived need for them, lack of confidence in their utility or negative attitudes toward mental health care. Therefore, those planning follow-up and outreach services for survivors must consider how to reach trauma survivors to educate them about sources of help and market their services to the intended recipients (Excerpted from Raphael, 2000).

In the chaos of some kinds of traumatic events (e.g., natural disaster), it is important that workers systematically obtain detailed contact information to facilitate later follow-up and outreach. In addition, it is important that those providing outreach and follow-up efforts be opportunistic in accessing settings where survivors are congregating. Each contact with the system of formal and informal services available to survivors affords an opportunity to screen for risk and impairment and intervene appropriately. Settings providing opportunities for contact with survivors are diverse (e.g., remembrance ceremonies, self-help group activities, settings where legal and financial services are delivered, interactions with insurance companies). For survivors injured or made ill during the traumatic event, follow-up medical appointments represent opportunities for reassessment, referral, and treatment.

MODULE B: ALGORITHM

3

ANNOTATIONS

1. ASSESSMENT

A. Assessment of Trauma Exposure-Related Symptoms

BACKGROUND

Post-traumatic stress disorder (PTSD) is the development of characteristic and persistent symptoms along with difficulty functioning after exposure to a life-threatening experience or to an event that either involves a threat to life or serious injury. Symptoms of PTSD may diminish with the passage of time, or they may persist for many years. PTSD often occurs together with, or precedes other, psychiatric illnesses. Patients are most likely to present to primary care with unexplained somatic and/or psychological symptoms (e.g., sleep disturbance, night sweats, fatigue, and difficulty with memory or concentration). The common symptoms after exposure to trauma are included in Table B-1.

The symptoms required for the diagnosis of PTSD may be divided into 3 clusters and should be present for at least 1 month.

- **Intrusion or re-experiencing** - memories of the trauma or "flashbacks" that occur unexpectedly; these may include nightmares, intrusive mental images or extreme emotional distress and/or physiological reactivity on exposure to reminders of the traumatic event.
- **Avoidance** - avoiding people, places, thoughts, or activities that bring back memories of the trauma; this may involve feeling numb or emotionless, withdrawing from family and friends, or "self-medicating" by abusing alcohol or other drugs.
- **Hyperarousal** - feeling "on guard" or irritable, having sleep problems, having difficulty concentrating, feeling overly alert and being easily startled, having sudden outbursts of anger.

PTSD is frequently under-recognized and therefore, often goes untreated. In a general survey in Israel, 9 percent of patients in a primary care setting were found to have PTSD. Only 2 percent of the sample was recognized as having the disorder. Despite this lack of recognition, more than 80 percent of men and 92 percent of women with PTSD in this survey reported significant distress from the disorder. Even individuals with "subthreshold" symptoms who do not meet full diagnostic criteria for the disorder suffer from significant impairments, including increased suicidal ideation.

In some cases, providers may initially consider PTSD and use this guideline first, whereas in others it may be useful to follow the algorithms and recommendation of the DoD/VA guideline for Post Deployment, the VA/DoD guideline for medically unexplained symptoms or the VA/DoD guideline for Major Depressive Disorder (MDD). All these guidelines provide a link to this module when appropriate.

RECOMMENDATIONS

1. Patients who are presumed to have symptoms of PTSD or who are positive for PTSD on the initial screening should receive a thorough assessment of their symptoms to guide accurate diagnosis and appropriate clinical decision making.
2. Consider using well validated self-administered checklists to ensure systematic, standardized, and efficient review of the patient's symptoms and history of

trauma exposure. Routine ongoing use of these checklists may allow assessment of treatment response and patient progress. (see Appendix C: PCL-C)

3. Useful information may include details such as time of onset, frequency, course, severity, level of distress, functional impairment, and other relevant information.
4. Behavioral health clinicians should obtain a comprehensive diagnostic assessment that includes, but is not limited to, the symptoms that characterize PTSD. Structured psychiatric interviews, such as the Clinician-Administered PTSD scale (CAPS), may be considered.
5. The assessment should also include review of other salient symptoms (guilt, dissociation, derealization, depersonalization, reduction in awareness of surroundings) that may affect treatment planning and decision-making.

Table B - 1 Common Symptoms following Exposure to Trauma

Physical	Cognitive/Mental	Emotional	Behavioral
Chills Difficulty breathing Dizziness Elevated blood pressure Fainting Fatigue Grinding teeth Headaches Muscle tremors Nausea Pain Profuse sweating Rapid heart rate Shock symptoms Thirst Twitches Visual difficulties Vomiting Weakness	Blaming someone Change in alertness Confusion Difficulty identifying familiar objects or people Hyper-vigilance Increased or decreased awareness of surroundings Intrusive images Loss of orientation to time, place, person Memory problems Nightmares Poor abstract thinking Poor attention Poor concentration Poor decision-making Poor problem-solving	Agitation Anxiety Apprehension Denial Depression Emotional shock Fear Feeling overwhelmed Grief Guilt Inappropriate emotional response Irritability Loss of emotional control	Increased alcohol consumption Antisocial acts Change in activity Change in communication Change in sexual functioning Change in speech pattern Emotional outbursts Erratic movements Inability to rest Change in appetite Pacing Startle reflex intensified Suspiciousness Social withdrawal

DISCUSSION

Initial screening is discussed in the CORE module (See Core Module annotation C; and Appendix C: Screening Tools).

The DSM-IV (1994) describes three-symptom clusters characteristic of PTSD (reexperiencing, avoidance, and arousal) as follows:

The traumatic event is persistently **reexperienced** in one (or more) of the following ways:

- Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions
- Recurrent distressing dreams of the event
- Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur upon awakening or when intoxicated)

- Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
- Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

Persistent **avoidance** of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

- Efforts to avoid thoughts, feelings, or conversations associated with the trauma
- Efforts to avoid activities, places, or people that arouse recollections of the trauma
- Inability to recall an important aspect of the trauma
- Markedly diminished interest or participation in significant activities
- Feeling of detachment or estrangement from others
- Restricted range of affect (e.g., unable to have loving feelings)
- Sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

Persistent symptoms of increased **arousal** (not present before the trauma), as indicated by two (or more) of the following:

- Difficulty falling or staying asleep
- Irritability or outbursts of anger
- Difficulty concentrating
- Hypervigilance
- Exaggerated startle response

In the case that this syndrome originates in war experiences, the presumed cause presents itself as an exceptional event overcoming the individual's resources. The notion of war traumatization has been extended to other events such as catastrophes, physical attacks, rapes, child and wife battering, and sexual abuses. However, the events which cause PTSD are significantly more numerous. For example, it can be seen that medical events such as giving birth, miscarriage, heart attack, cancer, or hospitalization following resuscitation may give rise to PTSD. Further, people experiencing prolonged periods of distress may equally develop a post-traumatic syndrome without any one particular event having occurred to surpass their defenses.

EVIDENCE

	Recommendation	Sources	LE	QE	SR
1	Obtain thorough assessment of the symptoms	Lagomasino et al., 1999 Williams & Shepherd, 2000	III	Poor	I

LE=Level of Evidence; QE = Quality of Evidence; SR =Strength of Recommendation (see Appendix A)

B. Assessment of Trauma Exposure

BACKGROUND

Assessment should include a careful examination of the traumatic experience itself, including the nature of the event and the patient's involvement in it, the patient's emotional, physical, and behavior responses at time of traumatization, thoughts and feelings about those responses (e.g., what he or she did or did not do).

RECOMMENDATIONS

1. Assessment of the trauma exposure experience should include:
    a. History of exposure to traumatic event(s)
    b. Nature of the trauma
    c. Severity of the trauma
    d. Duration and frequency of the trauma
    e. Age at time of trauma
    f. Patient's reactions during and immediately following trauma exposure (e.g., helplessness, horror, and fear)
    g. Existence of multiple traumas
6. When assessing trauma exposure, the clinician must consider the patient's ability to tolerate the recounting of traumatic material, since it may increase distress and/or exacerbate PTSD symptoms.
7. The assessment should be performed cautiously, especially in situations where the trauma source is still present and the patient perceives himself or herself to be in danger.

DISCUSSION

The history also should include an assessment of prior stressful life events; coping skills; ego resources and self capacities; environmental and social resources; cognitive functioning; psychiatric history; medical, family, social, and occupational history; and cultural and religious background. This background is necessary to establish an appropriate treatment plan specific to the individual patient. For example, if the individual does not feel safe in his or her current living situation, issues concerning safety need to be addressed first. Or, if the individual has a history of childhood abuse and has learned to use dissociation to protect the self, treatment will need to focus on helping the trauma victim manage his or her tendency to dissociate under stress. The repeatedly traumatized individual may also need to work through earlier childhood traumas as well as the more recent traumatic event.

C. Assessment of Dangerousness to Self or Others

BACKGROUND

It is crucial to assess for safety and dangerousness in persons with PTSD, including current risk to self or others, as well as historical patterns of risk. Assessment of dangerousness needs to take place in a safe and secure environment and should begin with the building of rapport. If the patient has thoughts of self-harm, assess whether they have current intent and have had previous suicidal ideation, intent, or history of a suicide attempt.

RECOMMENDATION

1. All patients with PTSD should be assessed for safety and dangerousness including current risk to self or others, as well as historical patterns of risk:
    a. Suicidal or homicidal ideation, intent (plan), means (e.g., weapon, excess medications), history (e.g. violence or suicide attempts),

behaviors (e.g., aggression, impulsivity), comorbidities (substance abuse, medical conditions)

b. Family and social environment – including domestic or family violence, risks to the family

c. Ongoing health risks or risk-taking behavior

d. Medical/psychiatric comorbidities or unstable medical conditions

e. Potential to jeopardize mission in an operational environment

DISCUSSION

Any history of suicidal attempts or a family history of a completed or attempted suicide should be taken seriously. Pay careful attention to patients with behaviors that may signal dangerousness (e.g., agitation, threatening, intimidation, paranoia). Access to weapons or other means of harm should also be taken seriously. Assess for domestic or family violence, because these are elevated in those with PTSD. Assessment of medical, psychiatric, and social/environmental risks is also warranted.

Assessment of dangerousness can include questions such as:

- You sound like you've had a very difficult time recently. Has life ever seemed like its not worth living?
- Have you ever thought about acting on those feelings? Have you thought of how you would do this?
- Sometimes, when people get really upset or angry, they feel like doing harm to other people. Have you had any thoughts recently about harming others?
- How do you express your feelings?
- Are there times you are afraid to go home?

Dangerousness to Self

Suicidality - Persons with PTSD, including sub-threshold PTSD, are at high-risk for suicidal ideation (Marshall et al., 2001) and, for women, suicide attempts (Breslau, 2000; Ferrada-Noli et al., 1998; Kaslow et al., 2000; Prigerson & Slimack, 1999).

Suicidal behavior is best assessed with the following criteria: presence of active depression or psychosis, presence of substance abuse, past history of suicidal acts, formulation of plan, a stated intent to carry out the plan, feeling that the world would be better off if the patient were dead, availability of means for suicide (e.g., firearms and pills), disruption of an important personal relationship, and failure at an important personal endeavor (Simon, 1992). The presence of these factors often constitutes a psychiatric emergency and must always be taken seriously. Among young adults, aggressive symptoms may be predictive of suicidality in men and elevated symptoms of PTSD and/or depression may be more predictive in women (Prigerson & Slimack, 1999). Other predictors of completed suicide in general include history of suicide attempts, family history of suicide, and access to weapons, male gender and Caucasian race. Rates of suicidal ideation in treatment-seeking Vietnam veterans have been 70 to 80 percent (Kramer et al., 1994). Additionally, Vietnam veterans with diagnosed PTSD have an increased risk of death due to suicide as compared to those without PTSD (Bullman & Kang, 1994). Among veterans with PTSD, intensive combat-related guilt has been linked to suicidality (Hendin & Haas, 1991). These findings point to the need for greater clinical

attention to the role of guilt in the evaluation and treatment of suicidal veterans with PTSD.

Individuals with severe childhood trauma (e.g., sexual abuse) may present with complex PTSD symptoms and parasuicidal behaviors, (e.g., self mutilation, medication overdoses) (Roth et al., 1997). Further, limited cognitive coping styles in PTSD have been linked to a heightened suicide risk (Amir et al., 1999). Fostering competence and social support may reduce this risk (Kotler et al., 2001). Comorbid substance use disorders may increase the risk of suicidality. Additionally, persons with PTSD may also be at personal risk of danger through ongoing or future victimization in relationships (e.g. domestic violence/battering, or rape).

- Many war veterans suffer from post-traumatic stress disorder (PTSD), depression or both disorders (Tanielian 2008 RAND). The majority of US soldiers in Iraq were exposed to some kind of traumatic, combat-related situations, such as being attacked or ambushed (92%), seeing dead bodies (94.5%), being shot at (95%) and/or knowing someone who was seriously injured or killed (86.5%) (Hoge, 2004).
- In a nationally representative sample (N = 5877; age, 15-54) that compared the relationship between anxiety disorders and suicidal ideation or suicide attempts, PTSD was significantly associated with suicidal ideation (adjusted odds ratio = 2.79; $p < 0.01$) and suicide attempts (adjusted odds ratio = 2.67; $p < 0.01$). None of the other anxiety disorders were significantly associated with suicidal ideation or attempts (Sareen, 2005).
- Unlike the general population, older and younger veterans are more prone to suicide than are middle-aged veterans. (Zivin, 2007). Veterans with PTSD have been reported to have high levels of suicidal ideation and behaviors (Oquendo, 2005).
- Jakupcak (2009) found PTSD to be a risk factor for suicidal ideation in Iraq and Afghanistan War veteran. Veterans from OEF/OIF who screened positive for PTSD were more than 4 times as likely to endorse suicidal ideation relative to non-PTSD veterans. Among veterans who screened positive for PTSD (n = 202), the risk for suicidal ideation was 5.7 times greater in veterans who screened positive for two or more comorbid disorders relative to veterans with PTSD only.
- Patients with co-occurring disorders, such as depression and alcohol abuse or depression and posttraumatic stress disorder (PTSD), have been reported to be at much higher risk for suicide than patients with only 1 of these disorders.
- Male veterans with schizophrenia or schizoaffective disorder and comorbid PTSD were reported to have higher rates of suicidal ideation and suicidal behaviors compared to those without comorbid PTSD (Straus, 2006).
- In a large, nationally representative, longitudinal data set of depressed veterans whose causes of death have been definitively identified using linked National Death Index data, veterans who received a PTSD diagnosis had a lower rate of suicide than did veterans without PTSD (68.16 vs 90.66, respectively). The suicide rate was higher in the South than in the Northeast (88.93 vs 73.55, respectively) or central regions (88.93 vs 83.09, respectively, but slightly lower than rates in the West (88.93 vs 90.04, respectively). Veterans with a service-connected disability had a lower rate of suicide than those without a service-connected disability (70.06 vs 92.20) (Zivin, 2007).

Dangerousness to Others

Some individuals with PTSD may be at risk for violence toward others (Swanson et al., 2002). Explosivity, anger problems, and past history of violence are associated with an increased risk for violent behavior. Violence often emerges as a response to a perceived threat or marked frustration by the patient stemming from his or her inability to meet goals by nonviolent means. The specific factors that contribute to violent behavior may include psychiatric, medical, environmental and situational/social engagements. Often, it is a combination of these factors that precipitates and aggravates the potential for violence, which may quickly escalate to agitation or the carrying out of violent impulses. Whatever the cause, the following situations may serve as warning signs pointing towards a very real threat of violence:

- Ideation and/or intent to harm others
- Past history of violent behaviors
- Severely agitated, aggressive, threatening or hostile behaviors
- Actively psychotic presentation

Special attention to the risk of domestic violence is warranted. Careful attention to the home environment and relationships is essential. If there are children, an assessment of parenting skills, anger management, caregiver burden, and discipline style is crucial. Advising high-risk patients and their families on gun removal and safe storage practices has been recommended to decrease the risk of violence (Seng, 2002). PTSD is a predictor of violence in persons with severe mental illness (Swanson et al., 2002). Also, substance use disorders are highly comorbid in PTSD and can also predict violence. Immediate attention and intervention may be required in order to ward off the potential for escalation of agitation or violent impulses.

Health Risks

Persons with PTSD may have high rates of health risk behaviors, health problems, and medical conditions. Thus, an assessment of health and behavioral risks in individuals with PTSD is warranted. In addition to alcohol and drug use, persons with PTSD are at high-risk for cigarette smoking (Acierno et al., 1996). PTSD is a predictor of several HIV-risk behaviors as well as a risk factor for related blood-borne infections, such as hepatitis B and C (Hutton et al., 2001). Other potentially dangerous comorbid medical conditions are intoxication or withdrawal syndromes requiring medical detoxification (e.g., alcohol, benzodiazepine, barbiturates, and possibly opiates). Medical conditions that can present a danger to others include the risk of transmission of blood-borne pathogens such as HIV and HCV/HBV, thus risk assessment and serotesting is warranted.

Medical Conditions

Urgent conditions - Any condition immediately threatening to life, limb, eyesight, or requiring emergency medical care requires immediate attention.

Chronic diseases - PTSD has also been linked to cardiovascular disease, anemia, arthritis, asthma, back pain, diabetes, eczema, kidney disease, lung disease, ulcers, chronic pain, work absenteeism, and other generalized health problems (Weisberg et al., 2002; Hoge et al, 2007). One explanation for these problems may relate to the association of PTSD with dysregulation of neuroendocrine, and autonomic nervous system functions. Patients who have PTSD and other chronic medical diseases may find that PTSD worsens their medical conditions. Some

medical conditions, which can be acutely dangerous in the presence of PTSD, include bronchial asthma, peptic ulcer disease, GI bleed and malignant hypertension, (Davidson et al., 1991).

Psychiatric Conditions

Delirium - (also known as organic brain syndrome, organic psychosis, acute confusional state, acute brain syndrome and various other names) is a disorder of cognition and consciousness with abrupt onset that is frequently overlooked. This is common in the elderly and medically ill (Farrell & Ganzini, 1995).

Acute or marked psychosis - "Psychosis," in and of itself, is not a psychiatric disorder. Rather, psychosis is a symptom, which may present in a variety of conditions. Psychotic patients have an impaired sense of reality, which may manifest in several forms (hallucinations, delusions, mental confusion or disorganization). Acute psychosis represents a medical emergency.

Severe debilitating depression (e.g., catatonia, malnourishment, severe disability) - While many mild to moderate illnesses may not necessarily present situations mandating immediate attention, the presence of severe depressive symptoms may represent a medical emergency, even in the absence of suicidal ideation.

EVIDENCE:

	Recommendation	Sources	LE	QE	R
1	Assess for dangerousness including suicidal or homicidal ideation, intent, means, history, behaviors, and comorbidities	Breslau, 2000 Bullman & Kang, 1994 Ferrada-Noli et al., 1998 Kaslow et al., 2000 Marshall et al., 2001 Prigerson & Slimack, 1999 Swanson et al., 2002 Zivin, 2007	III II-2 III II-2 II II II II-2	Good	B
2	Assess family and social environment – including risks for family	Seng, 2002 Swanson, 2002	III II	Good	B
3	Assess ongoing health risks or risk-taking behaviors	Acierno et al., 1996 Hutton et al., 2001	II-2 II	Good	B
4	Assess medical or psychiatric comorbidities or unstable medical condition	Davidson et al., 1991 Farrell et al., 1995 Weisberg et al., 2002	II III III	Good	B
5	In operational environment, consider the potential to jeopardize the mission	Working Group Consensus	III	Poor	I

LE = Level of Evidence; QE = Quality of Evidence; SR= Recommendation ;(see Appendix A)

D. Obtain Medical History, Physical Examination/Laboratory Tests, and Psychosocial Assessment

OBJECTIVE

Obtain comprehensive patient data in order to reach a working diagnosis.

BACKGROUND

A wide range of medical conditions and treatments may result in abnormal behavior, and many medical disorders may produce or exacerbate psychiatric symptoms in

patients with pre-existing mental illness. Multiple studies indicate high rates of medical disease (24 to 50 percent) in patients presenting with psychiatric symptoms (Williams & Shepherd, 2000). Failure to detect and diagnose underlying medical disorders may result in significant and unnecessary morbidity and mortality (Lagomasino et al., 1999). The converse problem is far greater in primary care: patients present with somatic symptoms and have psychiatric disorders that have not been properly diagnosed or treated. In one study, 5 of 6 patients with a psychiatric diagnosis had a somatic presentation, and the primary care physician made the diagnosis only half the time, whereas for the 16% with a psychological complaint, the correct diagnosis was made 94% of the time. (Bridges et al., 1985) A standardized approach to medical evaluation including a thorough history, physical examination, laboratory evaluation, and occasionally other ancillary testing prevents the omission of important aspects of the evaluation (Williams & Shepherd, 2000).

RECOMMENDATIONS

1. All patients should have a thorough assessment of medical and psychiatric history, with particular attention paid to the following:
    a. Baseline functional status
    b. Baseline mental status
    c. Past medical history
    d. Medications: to include herbal & over-the-counter (OTC) drugs
    e. Past psychiatric history: to include prior treatment for mental health and substance use disorder, and past hospitalization for depression or suicidality
    f. Current life stressors
2. If trauma exposure is recent (<1 month) particular attention should be given to the following:
    a. Exposure to/Environment of trauma
    b. Ongoing traumatic event exposure
    c. Exposure, perhaps ongoing, to environmental toxins
    d. Ongoing perceived threat
3. All patients should have a thorough physical examination. On physical examination, particular attention should be paid to the neurological exam and stigmata of physical/sexual abuse, self-mutilation, or medical illness. Note distress caused by, or avoidance of, diagnostic tests/examination procedures.
4. All patients, particularly the elderly, should have a Mental Status Examination (MSE) to include assessment of the following:
    a. Appearance and behavior
    b. Language/speech
    c. Thought process (loose associations, ruminations, obsessions) and content (delusions, illusions and hallucinations)
    d. Mood (subjective)
    e. Affect (to include intensity, range, and appropriateness to situation and ideation)

f. Level of Consciousness (LOC)

g. Cognitive function

h. All patients should have routine laboratory tests as clinically indicated, such as TSH, Complete Metabolic Panel, Hepatitis, HIV, and HCG (for females). Also consider CBC, UA, Tox/EtoH panel and other tests.

i. Other assessments may be considered (radiology studies, ECG, and EEG), as clinically indicated.

j. All patients should have a narrative summary of psychosocial assessments to include work/school, family, relationships, housing, legal, financial, unit/community involvement, and recreation, as clinically appropriate.

DISCUSSION

Differential diagnosis is important given the many co-morbidities associated with PTSD including dementia, depression, substance abuse/withdrawal, bereavement, psychosis, bipolar disorder, seizure disorder, persistent post concussion syndrome, thyroid disease, neoplasm, somatoform-spectrum disorders (including irritable bowel, chronic fatigue, headaches, and non-cardiac chest pain), anxiety disorders, toxicosis, rheumatoid-collagen vascular disease, hypoxia, sleep apnea, closed head injury, CHF, and delirium.

Medical and Psychiatric History

The medical history may be obtained from the patient, family, friends, or coworkers or from official accounts of a traumatic event, and needs to include:

- Baseline functional/mental status
- Past medical history
- Exposure to/environment of trauma (severity, duration, ongoing risk, and individual vs. community exposure)
- Medications: to include herbal & OTC drugs
- Past psychiatric history to include: prior treatment, past hospitalization for depression or suicidality, and/or inability to function in usual life roles
- Substance use and misuse can cause, be caused by, and/or exacerbate PTSD. Use of screening tools (such as the AUDIT, MAST or DAST can improve detection of substance use disorders (see the VA/DoD Guideline for Substance Use Disorder)
- Family history of PTSD or psychiatric disorder
- Sleep/eating patterns
- Current life stressors
- Risk factors suggesting the need for a higher than usual index of suspicion - certain physiological and psychological conditions or life events may contribute to the development or exacerbation of PTSD symptoms (see Annotation F).

Physical Examination

A brief, screening physical examination may uncover endocrine, cardiac, cerebrovascular, or neurologic disease that may be exacerbating or causing symptoms. Particular attention should be given to a neurologic examination and stigmata of physical/sexual abuse, self-mutilation, or medical illness. Special note should also be made of distress caused by or avoidance of diagnostic tests or

examination procedures, since these reactions may be suggestive of prior physical or sexual abuse. Careful attention should also be given to complying with legal mandates for documentation, reporting, and collection of evidence.

Mental Status Examination (MSE)

Particularly in the elderly patient, a full Mental Status Examination (MSE) includes a cognitive screening assessment. The assessment may consist of using a standardized instrument such as the Folstein Mini-Mental State Examination (MMSE) (Crum RM, et al., 1993; Cummings JL, 1993; Folstein et al., 1975). If screening is suggestive of cognitive impairment and the patient is not delirious, then a laboratory evaluation to assess for reversible causes of dementia is appropriate. However, the PTSD assessment should be continued. If delirium is present, consider it an emergency and stabilize the patient before continuing with the PTSD assessment.

Level of Consciousness (LOC) should be assessed to rule out delirium. Abnormal tics or movements should be noted as well as dysarthria, dysprosody, aphasia, agraphia, and alexia, which may suggest underlying neurological disease. Sensory illusions may be seen in neurologic syndromes and intoxications (Lagomasino et al., 1999).

Consider seeking further evaluation and consultation from neuropsychology specialty in cases of suspected cognitive disorders.

Laboratory Evaluation

The history and physical examination findings should be used to direct a conservative laboratory evaluation. There is no test for PTSD, but PTSD is frequently co-morbid with substance use disorders, depression, and high-risk behaviors. Therefore, testing is directed toward detection of associated medical conditions and to rule out any contraindications to medical therapy. Appropriate laboratory studies include: TSH, Complete Metabolic Panel, Hepatitis, HIV, and HCG (for females). Also consider CBC, UA, Tox/EtoH Panel and other tests, as clinically indicated.

Other Evaluation

- Diagnostic imaging and neuropsychological testing are not a part of the standard evaluation for PTSD. Proceed with management while awaiting the completion of the laboratory evaluation.
- MRI/CT of the head may be indicated to rule out mass lesions, intracranial bleeding, hydrocephalus, or subdural hematomas (Lagomasino et al., 1999).
- ECG may rule out underlying cardiac abnormalities that preclude the use of medications, such as tricyclic antidepressants (Lagomasino et al., 1999).
- Consider EEG or other diagnostic testing, as indicated by history and physical exam.

Psychosocial Assessment

- Past psychiatric illness, treatment, or admission
- Past/ongoing problems with anxiety, impulsivity, mood changes, intense/unstable interpersonal relationships, suicidality, and hallucinations
- Recreational use of drugs/alcohol/tobacco/caffeine
- Social supports (family, friends, homelessness/housing, community, and financial status)
- Losses (bereavement, friend/family member injuries/death, occupation, and moral injury/betrayal)
- Occupational/educational/military history

- Legal issues
- Religious/spiritual history

Consider use of checklists to determine if psychosocial rehabilitation services are indicated in PTSD treatment (Foa et al., 2000). (See Module I-2: D. Psychosocial Rehabilitation Intervention)

EVIDENCE

	Recommendation	Sources	QE	QE	R
1	Obtain thorough history and physical	Lagomasino et al., 1999 Williams & Shepherd, 2000	III	Poor	I
2	Obtain appropriate laboratory evaluations	Lagomasino et al., 1999 Williams & Shepherd, 2000	III	Poor	I
3	Perform radiological assessment as indicated	Lagomasino et al., 1999	III	Poor	I
4	Obtain thorough psychosocial assessment	Lagomasino et al., 1999 Penk, 2009	III	Poor	I

LE = Level of Evidence; QE = Quality of Evidence; SR= Recommendation (see Appendix A)

E. Assessment of Functioning/Fitness for Duty

BACKGROUND

One of the key goals of care is to assist the individual in beginning to return to a normal level of functioning. The clinician must assess the individual's current level of family, relationship, work/school, and social functioning.

RECOMMENDATION

1. Assessment of global function should be obtained through use of standardized, targeted, and validated instruments designed to assess family/relationship, work/school, and/or social functioning.

DISCUSSION

Global Functional Assessment

Consider using instruments such as the GAF (American Psychiatric Association, 1994) or the SF-36 (McHorney, 1994) to assess global function. Such measures are useful for directing therapeutic interventions and monitoring response to treatment.

Narrative Functional Assessment

Functional assessment must be considered from the patient's point of view as well as from the clinician's point of view. A narrative account provides a more complete picture of the patient and his/her response to trauma. It allows for targeted social and behavioral interventions. Components of functional assessment should include: work/school, relationships, housing, legal, financial, unit/community involvement, and recreation.

Table B - 2 Components of Functional Assessment

Work	• Is the person unemployed or seeking employment? • If employed, any changes in productivity? • Have co-workers or supervisors commented on any recent changes in appearance, quality of work, or relationships? • Tardiness, loss of motivation, loss of interest? • Been more forgetful, easily distracted?

School	• Changes in grades? • Changes in relationships with friends? • Recent onset or increase in acting out behaviors? • Recent increase in disciplinary actions? • Increased social withdrawal? • Difficulties with concentration and short-term memory?
Family Relationships	• Negative changes in relationship with significant others? • Irritable or easily angered by family members? • Withdrawal of interest in or time spent with family? • Any violence within the family? • Parenting difficulties?
Recreation	• Changes in recreational interests? • Decreased activity level? • Poor motivation to care for self? • Sudden decrease in physical activity? • Anhedonia?
Housing	• Does the person have adequate housing? • Are there appropriate utilities and services (electricity, plumbing, other necessities of daily life)? • Is the housing situation stable?
Legal	• Are there outstanding warrants, restraining orders, or disciplinary actions? • Is the person regularly engaging in, or at risk to be involved in, illegal activity? • Is patient on probation or parole? • Is there family advocacy/ Dept. of Social Services (DSS) involvement?
Financial	• Does the patient have the funds for current necessities, including food, clothing, and shelter? • Is there a stable source of income? • Are there significant outstanding or past-due debts, alimony, child support? • Has the patient filed for bankruptcy? • Does the patient have access to healthcare and/or insurance?
Unit / Community Involvement	• Does the patient need to be put on profile, MEB, or limited duty? • Is patient functional and contributing in the unit environment? • Is there active/satisfying involvement in a community group or organization?

EVIDENCE

	Recommendation	Sources of Evidence	QE	QE	SR
1	Conduct Global Functional Assessment	Working Group Consensus	III	Poor	I
2	Conduct Narrative Functional Assessment	Working Group Consensus	III	Poor	I

LE = Level of Evidence; QE = Quality of Evidence; SR= Recommendation (see Appendix A)

F. Assessment of Risk/Protective Factors

BACKGROUND

Following a traumatic event, a majority of those exposed may experience post-traumatic stress responses. Of the population of persons who experience a traumatic event, only a subset will ultimately develop the disorder. After 9 to 12 months, 15 to 25 percent continue to be disturbed by these symptoms. This group with persistent symptoms may have a distinct combination of characteristics that determine the presence of these ongoing problems The presence of, and interplay among three groups of risk factors; biological factors (including genetics), the nature of the trauma, and the recovery environment (psychological and social support) work together to contribute to an individual's vulnerability or resilience to PTSD.

RECOMMENDATIONS

1. Patients should be assessed for risk factors for developing PTSD. Special attention should be given to post-traumatic factors (i.e., social support, ongoing stressors, and functional incapacity) that may be modified by intervention.
2. When evaluating risk factors for PTSD, the clinician should keep in mind that PTSD is defined as occurring only after four weeks have elapsed following a traumatic event. PTSD symptoms, however, may not appear until a considerable time has passed, sometimes surfacing years later.

DISCUSSION

Risk Factors for PTSD

Two major systematic reviews of predictors of PTSD have been published (Brewin *et al*, 2000; Ozer *et al*, 2003). The main outcome measure considered in the reviews was effect size calculated for the different factors. Effect sizes give an indication of the magnitude of the associations found.

Brewin and colleagues (2000) found that gender, psychiatric history, history of child abuse, and prior adversity play a role in the development of PTSD. Individually, the effect size of all the risk factors is modest, but factors operating during or after the trauma, such as level of trauma severity, lack of social support, and additional life stress have somewhat stronger effects than pre-traumatic factors (Brewin et al., 2000).

The review by Ozer *et al* (2003) focused on personal characteristics salient for psychological processing and functioning, and aspects of the traumatic event or its sequelae. Dissociation during the trauma, perceived support and perceived life threat were strongly associated with PTSD. Prior trauma and prior (in early childhood or in adult life) adjustment factors were identified among the pre-trauma factors. Prior trauma was more strongly related to PTSD when the traumatic experience involved non-combat interpersonal violence than when the traumatic experience resulted from combat or an accident. Perceived life threat was more associated when assessment was further away from the traumatic event and in non-combat interpersonal violence than in accidents. Perceived social support was also more significant in studies that assessed individuals further away from the time of the traumatic event. Family history of psychiatric disorders was more significant among survivors of non-combat interpersonal violence than when the traumatic experience was combat exposure.

The following characteristics have been reported in studies to be risk factors for the development of PTSD:

Pre-traumatic factors

- Ongoing life stress or demographics
- Lack of social support
- Age at time of trauma (school age youth, 40-60 years of age at highest risk)
- Pre-existing psychiatric disorder
- Female gender
- Low socioeconomic status, lower level of education, lower level of intelligence, race (Hispanic, Japanese, other Ethnic minority)
- Prior trauma exposure (reported abuse in childhood, report of other previous traumatization, report of other adverse childhood factors
- Family history of psychiatric disorders (Genetics)

Peri-traumatic or trauma-related factors

- Severe trauma
- Type of trauma (interpersonal traumas such as torture, rape or assault convey a high risk of PTSD)
- High perceived threat to life
- Age at trauma (School age youth, and 40-60 years of age)
- Community (mass) trauma
- Peri-traumatic dissociation

Post-traumatic factors

- Ongoing life stress
- Lack of positive social support
- Negative social support (e.g., negative reactions from others)
- Bereavement
- Major loss of resources
- Other post-traumatic factors including: children at home and distressed spouse

Pre-Traumatic Factors

Prior exposure to traumatic events is a risk indicator for chronic PTSD (Brewin et al., 2000; Ozer et al., 2003). In particular, a history of exposure to interpersonal violence, in childhood or adulthood, substantially increases the risk for chronic PTSD following exposure to any type of traumatic event (Breslau, 2002a; Brewin et al., 2000; Ozer et al., 2003). Green et al. (2000) surveyed 1,909 college-aged women and found that those who had experienced interpersonal trauma, and those who had experienced multiple traumas, exhibited elevated symptoms. Dougall et al. (2000) hypothesized that prior trauma history sensitizes victims to the new stressor, thus potentiating its impact. They argued that evaluating trauma history is essential for improving early intervention efforts.

Epidemiological studies have yielded higher rates of PTSD *in women* than in men in general populations, and there are also a number of gender differences in clinical presentation after trauma. Seedat and Stein (2000) studied a series of patients presenting with physical trauma after interpersonal violence and found that "women were more likely than men to have been previously assaulted, or to have sustained

injury by a relative or someone known to them, but less likely to have used substances at the time of the assault or to require emergency surgery". Although there is considerable evidence suggesting a gender difference in PTSD prevalence, it is unclear whether this difference may be related to a higher risk of traumas that result in increased risk (e.g. rape) or greater willingness to seek mental health care for PTSD among women. One analysis in military personnel suggested that women and men who are working in support units with similar level of combat exposure appear to have an equivalent risk of developing PTSD (Hoge et al., 2007), and further research is needed.

Pre-existing psychiatric problems are associated with more adverse responses to trauma (Norris et al., 2002; Breslau, 2002a), in a review of recent epidemiological studies, found that preexisting psychiatric disorder was one of 3 factors that had a predictable effect on the development of PTSD. Two recent meta-analyses of risk or predictive factors for PTSD have identified prior psychiatric history as a risk factor for the development of PTSD (Brewin et al., 2000; Ozer et al., 2003). A f*amily history* of psychiatric disorders may also contribute to a person's vulnerability to PTSD. Brewin and colleagues (2000) found that "factors such as psychiatric history, reported *childhood abuse*, and family psychiatric history … had more uniform predictive effects" than did other risk factors such as gender or age at trauma.

Genetics – Family history of any psychiatric disorders or possible genetic differences in regulating pre-synaptic uptake of serotonin (or other neurobiological mechanism) can increase risk. Genetic research has shown that, of the two variants of the gene regulating pre-synaptic uptake of serotonin, the long form appears to be associated with resilience and the short form with the vulnerability to stress events. Individuals who inherited the short form and were exposed to four of more stressful life events were much more likely to develop PTSD and depression and to attempt suicide (Koenen et al., 2009). Other genes that may confer vulnerability or resilience are currently under investigation. Twin studies have also indicated that there is a genetic vulnerability to PTSD. Twin research to date suggests that exposure to assaultive trauma is moderately heritable whereas exposure to non-assaultive trauma is not. PTSD symptoms are moderately heritable, and comorbidity of PTSD with other disorders may be partly due to shared genetic and environmental influences (Koenen, 2008, Afifi, 2010)

Peri-Traumatic Factors

Foy et al (1984) published one of the first formal studies to look at risk factors for PTSD and reported characteristics of trauma exposure to be of central importance. Numerous studies have since observed a dose-response relationship between trauma severity and PTSD. The more severe the trauma, the more likely the person experiencing it will develop PTSD. Armenian and colleagues (2000) found this to be true among disaster victims. Feehan et al. (2001) found higher PTSD rates among more severely-traumatized members of a general cohort.

With regards to type of trauma, interpersonal violence (rape, torture, physical assault) was found to be more likely to produce PTSD than more impersonal events (such as accidents or group trauma) Holbrook et al. (2001).

Situations where the trauma is potentially life-threatening also carry a high risk of PTSD: in a meta-analysis of 68 PTSD studies, Ozer et al. (2003) found "perceived life threat" to have a high risk value, and in Woods' study of abused women, the perceived threat of homicide played a role in the later development of PTSD. Holbrook et al. (2001) diagnosed 261 (32%) of 824 individuals as having PTSD 6 months after major physical trauma. Patients who were totally incapacitated,

experienced physical injury, or suffered major losses were also at higher risk for developing PTSD. Factors associated with a PTSD diagnosis included perceived threat to life, female gender, younger age and lower income.

Ozer et al. (2003) also found that dissociation at the time of the trauma is predictive of later development of PTSD. Demographic factors may also be predictive. Finnsdottir & Elklit (2002) found higher rates of PTSD among disaster victims who were young at the time of the trauma, and in a general group of psychiatric patients. Neria et al. (2002) found young age at trauma to be a risk factor for PTSD. Finally, biological factors may also be relevant to predicting PTSD. Shalev et al. (1998) measured the heart rate and blood pressure of eighty-six trauma survivors at the time of their presentation at a hospital emergency room, and concluded that "Elevated heart rate shortly after trauma is associated with the later development of PTSD." In a meta-analysis, Yehuda et al. (1998a) reported that studies "demonstrated increased heart rate and lower cortisol levels at the time of the traumatic event in those who have PTSD at a follow-up time compared to those who do not."

Post-Traumatic Factors

The post-trauma environment has been shown to be an important predictor of chronicity (Berwin, 2000). The experience of traumatization may have life-altering consequences in terms of social status, employment, and health, and continuing difficulties in these areas may contribute to the likelihood that a person will develop PTSD. Feehan et al. (2001) in interviews with 374 trauma survivors, found unemployment to be a risk factor. Likewise, in the meta-analysis performed by Norris et al. (2002) "resource loss" was cited as a risk for PTSD.

Impaired social support is a not-infrequent outcome of a traumatic experience. Armenian et al. (2000), Brewin et al. (2000), Gregurek et al. (2001), and Ozer et al. (2003) all reported that the loss of support from significant others can pose a risk for development of PTSD.

And finally, general ongoing life stress may also play a role. Brewin et al. (2000) reported "life stress" to be more predictive of PTSD development than pre-traumatic factors such as gender or age at trauma. Norris et al. (2002) found that, in disaster victims, "secondary stressors" increased the likelihood of adverse outcomes.

Some have suggested that secondary gain related to compensation may predict treatment outcome. Laffaye et al. (2008) found that initial levels of perceived support and stressors did not predict the course of chronic PTSD symptoms. Furthermore, the literature indicates that veterans who are seeking or have been awarded compensation participate in treatment at similar or higher rates than do their non-compensation-seeking counterparts. Veteran treatment outcome studies produced either null or mixed findings, with no consistent evidence that compensation-seeking predicts worse outcomes. Studies of motor vehicle accident survivors found no association between compensation status and course of recovery (Laffaye, 2007).

Risk Factors for PTSD in the military veterans

Friedman et al. (1994) concluded that, "the likelihood of developing chronic PTSD depends on premilitary and postmilitary factors in addition to features of the trauma itself. Premilitary factors include negative environmental factors in childhood, economic deprivation, family psychiatric history, age of entry into the military, premilitary educational attainment, and personality characteristics. Postmilitary

factors include social support and the veteran's coping skills. Among military personnel, there are three populations at risk for unique problems that may amplify the psychological impact of war-zone stress. They are women whose war-zone experiences may be complicated by sexual assault and harassment; . . . and those with war-related physical disabilities, whose PTSD and medical problems often exacerbate each other."

Among military service members, combat exposures are reported as the strongest predictors of subsequent PTSD (Berwin, 2000; Clancy 2006; Foy, 1987; Baker 1997; Smith 2008). The frequency and intensity of direct combat appears to be one of the strongest predictors of PTSD. A number of studies have found a strong dose response relationship of combat frequency and intensity to PTSD prevalence (e.g. Hoge, et Al., 2004; Dohrenwend Science 2006; MHAT6 report, Smith Millen Cohort Study 2008).

Studies of veterans have reported gender differences in PTSD risks: war-zone stressors appear preeminent for PTSD in men, post-trauma resilience-recovery variables more important for women (King et al., 1999).

Clancy et al., 2006 examined the effect of exposure before, during or after military service. Findings indicated that nonmilitary-related trauma was prevalent among the veterans sample (90%). Regression analyses for PTSD symptom severity revealed that age, greater combat exposure, and a history of physical assault after military service were significantly associated with more severe PTSD symptoms. Childhood physical abuse, adult sexual trauma, and a history of being physically assaulted during military service were also significantly associated with PTSD symptom severity.

Injury severity was a significant predictor of any mental health diagnosis and PTSD diagnosis. Gunshot wounds and diastolic blood pressure were significant predictors of any mental health diagnosis, but not PTSD. A study of a sample of 1,968 men (831 battle injuries and 1,137 nonbattle injuries) injured during Operation Iraqi Freedom (OIF) found, those that battle injuries compared with nonbattle injuries had a greater risk of PTSD and other mental health diagnosis, and there was a positive association with injury severity (MacGregor et al., 2009). Aggressive pain control after injury has shown, in one study, to reduce the incidence of PTSD. The study (Holbrook, 2010) found that the use of morphine during trauma care may reduce the risk of subsequent development of PTSD after serious injury.

One semi-prospective study, (Zohar, 2009) examined risk factors for the development of posttraumatic stress disorder following combat trauma by comparing a large sample of war veterans (Israeli Defense Force) who developed PTSD with a matched control group of veterans who did not. Neither behavioral assessment nor training was found to predict PTSD. The predictive factors that were found were essentially nonspecific, such as cognitive functioning, education, rank, and position during the trauma, with little effect from training. The author concluded that "… an armed force that uses universal recruitment, carefully structured predrafting psychological assessment of social and individual qualifications (including motivation) failed to identify increased risk factors for PTSD. However, nonspecific factors were found to be associated with an increased risk for PTSD. This study suggests that the focus of future research on risk factors for PTSD should incorporate other domains rather than behavioral assessment alone" (Zohar et al., 2009).

Phillips et al. (2010) identified risk factors for PTSD among military service members as related to their combat exposure. The threat of death, serious injury, and witnessing of injury or death are significant risk factors for screening positive for

postdeployment PTSD among male Marines as well as violence exposures prior to entering the Marine Corps, which are independent of future combat exposures. Prior assault was also found to increase vulnerability for, rather than resilience against, PTSD symptoms among military professionals in the Millennium Cohort Study of US military cohort deployed in the wars in Iraq and Afghanistan (Smith, 2008).

PTSD symptoms among service members deployed to Iraq or Afghanistan have been associated with lower rank, being unmarried, less formal education, and a history of childhood adversity (Smith 2008; Iversen 2008).

The intrapersonal characteristic of hardiness as well as postwar social support may be protective against developing PTSD. In contrast, negative life events in the postwar or trauma period are linked to PTSD (King et al., 1998).

There is evidence that a strong social support network, indicated by unit cohesion, is protective. A large social support network may diminish the association between stressful life events and PTSD symptoms (Schnurr et al., 2004; Benotsch et al., 2000 Brailey et al., 2007).

2. TRIAGE

G. Are There Clinically Significant Symptoms Suggestive Of PTSD?

BACKGROUND

In the primary care setting, providers often do not have time or resources to accomplish a detailed mental health intake evaluation, so it is important for them to be comfortable with the initial evaluation and management of stress-related disorders without having to be concerned with the fine details of DSM-IV and making a definite diagnosis. Providers who perform the initial evaluation of patient with suspected PTSD should recognize that a detailed recounting of the traumatic experience may cause further distress to the patient.

Please refer to Annotation A for a discussion of post-traumatic symptoms.

RECOMMENDATION

1. Providers should formulate a presumptive diagnosis of stress-related disorder consistent with the DSM IV criteria for PTSD.
2. Primary care providers should consider initiating treatment or referral based on a working diagnosis of stress-related disorder.
3. Patients with difficult or complicated presentation of the psychiatric component should be referred to PTSD specialty care for diagnosis and treatment.

DISCUSSION

Approximately 90 percent of patients with a mental health diagnosis are seen in primary care (Gebhart, 1996).

Many options are available to primary care providers to treat stress-related disorders and to relieve the burden of suffering for PTSD patients, including pharmacotherapy, supportive counseling, and referral. Because these interventions can be helpful in a variety of psychiatric disorders, it is not essential that a detailed diagnostic assessment be completed prior to treating the patient.

In addition, a detailed recounting of the traumatic experience may cause further distress to the patient and is not advisable unless a provider has been trained and is able to support the patient through this experience.

Table B - 3 Diagnostic criteria for Post-traumatic Stress Disorder (DSM-IV)

A. The person has been **exposed to a traumatic event** in which both of the following were present:
   1. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.
   2. The person's response involved intense fear, helplessness, or horror. Note: In children, this may be expressed instead by disorganized or agitated behavior.

B. The traumatic event is persistently **re-experienced** in one (or more) of the following ways:

   1. Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. Note: In young children, repetitive play may occur in which themes or aspects of the trauma are expressed
   2. Recurrent distressing dreams of the event. Note: In children, there may be frightening dreams without recognizable content
   3. Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated). Note: In young children, trauma-specific reenactment may occur
   4. Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
   5. Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

C. Persistent **avoidance** of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

   1. Efforts to avoid thoughts, feelings, or conversations associated with the trauma
   2. Efforts to avoid activities, places, or people that arouse recollections of the trauma
   3. Inability to recall an important aspect of the trauma
   4. Markedly diminished interest or participation in significant activities
   5. Feeling of detachment or estrangement from others
   6. Restricted range of affect (e.g., unable to have loving feelings)
   7. Sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span).

D. Persistent symptoms of increased **arousal** (not present before the trauma), as indicated by two (or more) of the following:

   1. Difficulty falling or staying asleep
   2. Irritability or outbursts of anger
   3. Difficulty concentrating
   4. Hypervigilance
   5. Exaggerated startle response.

E. Duration of the disturbance (symptoms in Criteria B, C, and D) is **more than 1 month**.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:

Acute: if duration of symptoms is less than 3 months
Chronic: if duration of symptoms is 3 months or more
With Delayed Onset: if onset of symptoms is at least 6 months after the stressor

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DSM-IV & DSM-IV-TR Cautionary Statement

- The specified diagnostic criteria for each mental disorder are offered as guidelines for making diagnoses, because it has been demonstrated that the use of such criteria enhances agreement among clinicians and investigators. The proper use of these criteria requires specialized clinical training that provides both a body of knowledge and clinical skills.
- These diagnostic criteria and the DSM-IV Classification of mental disorders reflect a consensus of current formulations of evolving knowledge in our field. They do not encompass, however, all the conditions for which people may be treated or that may be appropriate topics for research efforts.
- The purpose of DSM-IV is to provide clear descriptions of diagnostic categories in order to enable clinicians and investigators to diagnose, communicate about, study, and treat people with various mental disorders. It is to be understood that inclusion here, for clinical and research purposes, of a diagnostic category such as Pathological Gambling or Pedophilia does not imply that the condition meets legal or other nonmedical criteria for what constitutes mental disease, mental disorder, or mental disability. The clinical and scientific considerations involved in categorization of these conditions as mental disorders may not be wholly relevant to legal judgments, for example, that take into account such issues as individual responsibility, disability determination, and competency.

H. Assess for Co-Occurring Disorders

OBJECTIVE

Improve management of PTSD symptoms when they are complicated by the presence of a medical or psychiatric comorbidity.

BACKGROUND

Comorbid medical and psychiatric conditions are important to recognize, because they can modify clinical determinations of prognosis, patient or provider treatment priorities, selection of interventions, and the setting where PTSD care will be provided. Patients with PTSD have been found to frequently report physical symptoms, cognitive health concerns, and to utilize high levels of medical care services. Providers should also expect that 50 to 80 percent of patients with PTSD will have one or more coexisting mental health disorders. PTSD is strongly associated, among veterans from recent deployment (OEF/OIF), with generalized physical and cognitive health symptoms attributed to concussion/mild traumatic brain injury – mTBI.)

Because of the many potential etiologies of these symptoms, it is generally best to develop a collaborative care treatment strategy based in primary care, and address these health concerns simultaneously with PTSD symptoms. (See VA/DoD Clinical Practice Guideline for Post-Deployment Health). Management should focus on identifying and treating the symptoms that are causing the most impairment, regardless of the cause or diagnosis.

Some comorbid medical or psychiatric conditions may require early specialist consultation, in order to assist in determining treatment priorities. In some cases, these disorders may require stabilization before (or in concert with) initiation of PTSD treatment.

RECOMMENDATIONS

1. Providers should recognize that medical disorders/symptoms, mental health disorders, and psychosocial problems commonly coexist with PTSD and should screen for them during the evaluation and treatment of PTSD.
2. Because of the high prevalence of psychiatric comorbidities in the PTSD population, screening for depression and other psychiatric disorders is warranted (see also VA/DoD Clinical Practice Guidelines for the Management of Major Depressive Disorder [MDD] and for Bipolar Disorder).
3. Patterns of current and past use of substance by persons with trauma histories or PTSD should be routinely assessed to identify substance misuse or dependency (alcohol, nicotine, prescribed drugs, and illicit drugs) (see also VA/DoD Clinical Practice Guideline for Substance Use Disorders).
4. Pain (acute and chronic) and sleep disturbances should be assessed in all patients with PTSD.
5. Generalized physical and cognitive health symptoms - also attributed to concussion/mild traumatic brain injury (mTBI)) and many other causes - should be assessed and managed in patients with PTSD and co-occurring diagnosis of mTBI. (See also VA/DoD CPG for mild TBI and the CPG for Post-Deployment Health)
6. Associated high-risk behaviors (e.g., smoking, alcohol/drug abuse, unsafe weapon storage, dangerous driving, HIV and hepatitis risks) should be assessed in patients with PTSD.
7. Providers should consider the existence of comorbid conditions when deciding whether to treat patients in the primary care setting or refer them for specialty mental health care. (See Annotation J)
8. Patients with complicated co-morbidity may be referred to mental health or PTSD specialty care for evaluation and diagnosis. (see Annotation J)

DISCUSSION

Co-Occurring Conditions

Comorbid conditions and psychosocial problems of significant importance to treatment planning include:

***Medical Conditions**:* PTSD is associated with elevated rates of generalized physical and cognitive health concerns, which are thought to be mediated in part by neuroendocrine dysregulation and autonomic nervous system reactivity (Hoge et al., 2006,). These health conditions can include chronic headaches, chronic musculoskeletal pain, memory and attention problems, fatigue, dizziness, gastrointestinal symptoms, sleep dysfunction, hypertension, rapid heart rate (sometimes in association with panic symptoms), cardiovascular disease, impulsivity, anger, sexual problems, and a variety of other health complaints. These health concerns can sometimes cluster together, and may present as multisystem problems in the same manner as somatoform-spectrum or medically unexplained physical symptom (MUPS) conditions. These symptoms have been commonly described after all wars, overlap with numerous conditions, and often have more than one potential etiology (see DoD/VA Post-Deployment Health CPG). For example, service members or veterans who present to primary care with headaches, cognitive problems, fatigue, dizziness, and / or irritability may be experiencing these symptoms as a

result of chronic sleep deprivation, neuroendocrine/autonomic nervous system dysregulation associated with PTSD, residual effects of injuries during deployment (including concussions/mTBIs), chronic pain, medication side effects, depression, substance misuse, or other causes. For veterans of combat, their experiences may have involved the extremes of physiological stress contributing to long-term dysregulation of neuroendocrine and autonomic nervous systems.

It is important for clinicians to be aware of the high medical co-morbidity of PTSD, and the fact that physical health concerns (e.g. chronic pain, headaches) may make it more difficult to treat PTSD symptoms. Because of the many potential etiologies of these symptoms, it is generally best to develop a collaborative care treatment strategy based in primary care, and address these health concerns simultaneously with PTSD symptoms. (See also the VA/ DoD Guideline for Post-Deployment Health)

Some medical disorders may restrict PTSD treatment options (e.g., dementia limits psychotherapeutic options; cardiac conduction problems may limit some pharmacotherapeutic options; and disorders that restrict mobility may limit ability to attend weekly treatment sessions). It is generally best to maximize medical management of these conditions first and then focus on PTSD treatment.

mTBI – Providers should have specific awareness of traumatic brain injury (TBI), particularly concussion/mTBI, in the post deployment population because of the high prevalence (occurring in 10-20% of combat veterans) and high co-morbidity with PTSD. Concussions/mTBIs are common from sports injuries, motor vehicle accidents, military training (e.g. hand-to-hand combatives), and combat. Concussion/mTBI is distinct from moderate and severe TBI clinically and epidemiologically within a neurophysiological continuum, and the approach to care for these conditions is completely different (Hoge, et al., 2009). Persistent PCS include all of the same symptoms that veterans report after combat service, and overlap with the physical and cognitive health problems associated with PTSD. It is often difficult to precisely attribute symptoms to concussive events that occurred months or years earlier. Combat-related concussions (particularly those associated with loss of consciousness) are associated with an increased risk of PTSD, presumably because of the life-threatening context of the concussion (distinct from concussions occurring in non-life threatening situations, such as sports accidents, which are not associated with PTSD).

Substance Use Disorders*:* Patients with PTSD frequently use alcohol and other substances in maladaptive ways to cope with their symptoms. (Approximately 40 to 50 percent of PTSD patients treated in the VA have current substance use problems. Effective PTSD treatment is extremely difficult in the face of active substance use problems, unless substance use disorders are also treated. Most often, attempts to address substance problems should proceed concurrently with the direct management of PTSD. However, in cases when the substance use is severe, substance use may require initial treatment and stabilization before progressing to PTSD care (e.g., patient requires detoxification from opiates) (see Annotation J2 - Concurrent PTSD and Substance Abuse).

Psychiatric Disorders: In addition to substance use disorders, other commonly occurring mental disorders that co-exist with PTSD include: major depression, dysthymia, panic disorder, obsessive-compulsive disorder, and generalized anxiety disorder. Treatment of these disorders often occurs concurrently with therapy for PTSD, but on occasion they will take precedence. These disorders have evidence-based therapies that may pose additional effective treatment options. Comorbid disorders that are less common with PTSD, but not rare, include psychotic disorders

and bipolar disorder. Practitioners should be alert to comorbid eating disorders, such as bulimia, particularly in women.

Personality Disorders: Personality disorders are long-term problems of coping that begin in childhood or adolescence and are often associated with past abuse or neglect and recurrent relationship problems. These patterns often result in poor adherence to prescribed PTSD management and the primary care provider may require early assistance and advice from the mental health care provider.

Psychosocial Problems: Associated behavior problems and psychosocial deficits commonly present in patients with chronic PTSD include:

- Homelessness
- Suicidality
- Domestic violence or abuse
- Aggression, rage

	Recommendation	Sources	QE	QE	R
1	Screen for medical disorders/symptoms, mental disorders, and psychosocial problems that commonly coexist with PTSD during the evaluation and treatment of PTSD.	Working Group Consensus	III	Poor	I
2	Stabilize acute coexisting medical and/or psychiatric disorders prior to initiating PTSD treatment.	Working Group Consensus	III	Poor	I

I. Educate Patient and Family

OBJECTIVE

Help trauma survivors cope with ASD/PTSD by providing information that may help them manage their symptoms and benefit from treatment.

BACKGROUND

Education of the trauma survivor is a core component of all PTSD treatment. Survivors need to better understand what they are experiencing, how to cope with reactions or symptoms, and what happens in treatment. It is also helpful to provide this information to family members or to the patient's significant others so that they can more effectively support the patient's recovery.

RECOMMENDATIONS

1. Trauma survivors and their families should be educated about PTSD symptoms, other potential consequences of exposure to traumatic stress, practical ways of coping with traumatic stress symptoms, co-morbidity with other medical health concerns, and processes of recovery from PTSD, and the nature of treatments. [C]

DISCUSSION

PTSD education involves teaching the survivor to label, recognize, and understand PTSD symptoms (and other trauma-related problems) that he or she is experiencing. Education should include discussion of the adaptive nature of many of the symptoms,

which have to do with survival and the body's normal responses to threat. This is particularly important if PTSD occurred after exposure encountered in an occupational context, where the person was trained to respond to critical incidents (e.g., military, firefighter, police, and other first responders). Education should also provide simple advice regarding coping (such as sleep hygiene instruction), explain what can be done to facilitate recovery, and describe treatment options**.** Education can help make symptoms more understandable and predictable, decrease fear of symptoms, increase social support and lessen feelings of isolation, increase awareness of coping options and reduce maladaptive coping, and help survivors decide whether to seek treatment or learn how to better participate in treatment.

Education should be one of the first steps of PTSD treatment. It can help establish the credibility of the treatment provider, make treatment seem immediately helpful to the patient, and help prepare the patient for next steps in treatment. In fact, education should continue throughout PTSD treatment, sometimes in brief discussions when the patient has questions and sometimes more systematically as a formal activity. It can be delivered to individuals or to groups. Because patients with PTSD often have difficulties with concentration and memory, repetition of educational information and provision of written information are important.

The content of PTSD-related education can include the following topics:

Nature of PTSD symptoms: It is useful to help the survivor identify and label the reactions that he or she may be experiencing, recognize that emotional and physical reactions are expected after trauma, understand how the body's response to trauma includes many of the symptoms of PTSD, and understand that anxiety and distress are often "triggered" by reminders of the traumatic experience that can include sights, sounds, or smells associated with the trauma, physical sensations (e.g., heart pounding), or behaviors of other people.

Practical steps to cope with trauma-related problems: Survivors can also be educated about ways of coping with their PTSD symptoms in order to minimize their impact on functioning and quality of life. While education about coping is not a substitute for more systematic coping skills training, information on specific topics can be useful. Survivors can be helped to distinguish between positive and negative coping actions. Positive coping includes actions that help to reduce anxiety, lessen other distressing reactions and improve the situation; they include relaxation methods, physical exercise in moderation, talking to another person for support, positive distracting activities, and active participation in treatment. Negative coping methods may help to perpetuate problems and can include continual avoidance of thinking about the trauma, use of alcohol or drugs, social isolation, and aggressive or violent actions.

Nature of the recovery process and PTSD treatment: Survivors will sometimes have unrealistic or inaccurate expectations of recovery, and may benefit from understanding that recovery is an ongoing daily gradual process (i.e., it doesn't happen through sudden insight or "cure"), and that healing doesn't mean forgetting about the trauma or having no emotional pain when thinking about it. Education about what happens in treatment is also important. Treatment providers should explain and encourage discussion of treatment options, including evidence-based treatments. This can help build motivation to participate or persist in treatment.

Despite the fact that education is a component in all PTSD treatment, and the strong clinical consensus that exists as to the importance of education, there is little empirical evidence that it reduces PTSD symptoms. Education is a component of empirically-supported treatments, but has not been evaluated as a "stand alone" treatment (nor is it intended to be delivered in the absence of other treatment elements).

EVIDENCE

	Recommendation	Sources	QE	QE	R
1	Educate patients and family members regarding the trauma, its effects, ways of coping, and the treatment process.	Working Group Consensus	III	Poor	C

LE = Level of Evidence; QE = Quality of Evidence; SR= Recommendation (see Appendix A)

J. Determine Optimal Setting for Management of PTSD and Co-Occurring Disorders

J1. Management of PTSD with Comorbidity

BACKGROUND

When PTSD has been determined to be the primary target of intervention because it is significantly impairing a patient's functioning or causing a high level of distress, the patient's preferences and motivation, the co-occurrence of other conditions, and the capacity to provide the necessary services should be considered in determining the optimal setting for treatment and long-term management. The referral to specialty care may be considered in this context.

When there are co-occurring medical or psychiatric conditions, the clinician will need to determine the best strategy for prioritizing and treating multiple disorders. In general, these disorders should be treated concurrently with PTSD treatment, although there are exceptions, such as severe substance dependence that requires medical detoxification prior to other forms of treatment. One important decision point is whether PTSD and its psychiatric comorbidities should be treated in the primary care setting or referred to specialty mental health care.

REOMMENDATIONS

Consultation / Referral

1. PTSD and comorbid mental health conditions should be treated concurrently for all conditions through an integrated treatment approach, which considers patient preferences, provider experience, severity of the conditions, and the availability of resources.
2. Patients with PTSD and severe comorbid mental health conditions should be treated either through referral or in consultation with a provider experienced in treating the co-morbid conditions.
3. Because of the profound social impairment of PTSD (caused, for example, by the patient's anger and avoidance symptoms), close friends and family members in the patient's immediate daily environment (e.g., parents, spouse, or children) should be provided education and advised to consider assistance from specialty care, both for individual treatment and couples/family treatment.

4. Factors to consider when determining the optimal setting for treatment include:
    a. Local availability of service options (specialized PTSD programs, evidence-based treatments, behavioral health specialty care, primary care, integrated care for co-occurring disorders, Vet Centers, other)
    b. Level of provider comfort and experience in treating psychiatric comorbidities
    c. Patient preferences
    d. The need to maintain a coordinated continuum of care for chronic comorbidities
    e. Availability of resources and time to offer treatment

DISCUSSION

A number of guiding principles should be considered in making treatment decisions with these patients:

- Integrated care models, in which the physical and mental health needs of patients are addressed in a single setting by a multidisciplinary provider team, have potential to reduce perceived stigma associated with help-seeking.
- In systems where integrated care models do not exist, consultation and comprehensive assessment by a mental health provider are recommended.
- In general, referral to specialty mental health is indicated if a patient with PTSD has comorbid mental disorders that are severe or unstable. Examples include: patients whose depression is accompanied by suicidality, patients with substance dependence disorder, and patients with concurrent psychotic or bipolar disorder. If the patient is referred to mental health for treatment of PTSD, then it is usually best for the mental health provider to provide comprehensive treatment for all mental disorders.
- For patients referred to specialty mental health care, it is important to preserve the continuity of care by ensuring ongoing communication with the primary care provider and to ensure coordination of care when multiple providers are involved.

Considerations Related to Possible Referral

Complicated severe PTSD: Some patients with PTSD have complicated, challenging presentations. These patients warrant referral to specialty PTSD care that includes access to cognitive-behavioral evidence-based treatments. (See Module I-2: Treatment for PTSD)

Co-occurring major depressive disorder (MDD) in the absence of significant suicidality, panic, or generalized anxiety often shows reduction in intensity when the PTSD is treated. Depression of mild severity may not require referral to specialty care or additional treatments outside those targeting PTSD. Patients should be carefully monitored for change in symptoms. A reduction of PTSD symptoms that is not accompanied by reduction of symptoms in depression, or anxiety would justify a more formally targeted treatment. (Refer to the VA/DoD guideline for MDD)

Co-occurring mild to moderate disorders such as substance use, pain disorders, and sleep problems can frequently be effectively treated in the context of PTSD treatment and do not require a referral to specialty care. Consultation, to integrate adjunctive interventions, may be considered. (See the respective VA/DoD CPGs)

Co-occurring severe psychiatric disorders, while not precluding concurrent PTSD treatment, typically justify referral to specialty care for evaluation and treatment.

These disorders may include: *Severe Major Depression or Major Depression with suicidality, Unstable Bipolar disorder, Severe Personality Disorders, Psychotic disorders, Significant TBI, and Severe substance use disorder (SUD), or substance abuse* of such intensity that PTSD treatment components are likely to be difficult to implement.

*Persistent Post Concussion Symptoms in p*atients who present with PTSD and a history of concussion/mTBI may be best managed within the primary care setting without specialty referral, provided that the provider(s) has a reasonable level of comfort with this topic. Providers should recognize that mTBI/concussion is one of numerous possible etiologies of co-morbid post-deployment symptoms occurring in veterans and service members with PTSD, and it is often difficult to precisely attribute symptoms to concussive events that occurred months or years earlier. From a treatment standpoint, physical or cognitive symptoms, such as headaches or memory problems, can be treated symptomatically whether or not their underlying cause is PTSD, concussion/mTBI, or another condition. Primary care clinicians should not get caught up in debating causation, but maintain focus on identifying and treating the symptoms that are causing the most impairment, regardless of the cause.

J2. Concurrent PTSD and Substance Abuse

OBJECTIVE

Improve management of PTSD symptoms when they are complicated by a concurrent substance abuse problem.

BACKGROUND

Research has documented a strong relationship between PTSD and substance abuse problems in civilian and military populations of both genders (e.g., Brady, 2005; Kessler et al., 1995). For example, among male veterans seeking treatment for combat-related PTSD, high rates of lifetime alcohol use disorders and drug abuse/dependence have been documented (Roszell et al., 1991). Similarly, an extensive literature has documented high rates of PTSD among male veterans seeking substance abuse treatment. For example, Triffleman et al. (1995) found that 40 percent of substance abuse inpatient veterans had a lifetime history of combat-related PTSD, 58 percent had a lifetime history of PTSD due to combat or other traumatic exposure, and 38 percent had current PTSD.

A prospective and retrospective study (Breslau et al., 2003) reported an increased risk for the onset of nicotine dependence and drug abuse or dependence in persons with PTSD, but no increased risk or a significantly (P = .004) lower risk (for nicotine dependence, in the prospective data) in persons exposed to trauma in the absence of PTSD, compared with unexposed persons. Exposure to trauma in either the presence or the absence of PTSD did not predict alcohol abuse or dependence.

Clinicians should note that substance abuse may mask or suppress PTSD symptoms, causing an individual to apparently fail to meet criteria for PTSD diagnosis.

RECOMMENDATIONS

1. Substance use patterns of patients with trauma histories or PTSD should be routinely assessed (see the VA/DoD Clinical Practice Guideline for the Management of Substance Use Disorders).
2. Substance abusers should be routinely screened for trauma exposure and PTSD.

3. Patients with SUD and PTSD should be educated about the relationships between PTSD and substance abuse, referred for concurrent PTSD and SUD treatment, or provided with integrated PTSD/Substance Abuse treatment.
4. There is insufficient evidence to recommend for or against any specific approach to addressing PTSD that is comorbid with substance abuse/dependence. [I]
5. Substance Abuse-PTSD patients should receive follow-up care that includes a continued focus on PTSD issues.

DISCUSSION

Substance abusers with PTSD experience higher levels of subjective distress and other problems than substance abusers without PTSD. For instance, compared with women who abuse substances but do not meet diagnostic criteria for PTSD, female PTSD-substance abusers report greater psychopathology, substance abuse problems, dissociation, and behaviors associated with borderline personality disorder (Ouimette et al., 1996). Patients with concurrent PTSD and substance abuse may benefit less from conventional substance abuse treatment than those with substance abuse only (Ouimette et al., 1998a), and PTSD is frequently under-diagnosed among individuals receiving treatment for substance abuse (Dansky et al., 1997). These considerations have led some authorities to develop specialized treatments that integrate treatment for PTSD and substance abuse (Najavits, 2002; Triffleman et al., 1999).

Because substance abusers with PTSD may be at higher risk for relapse and their relapses may be "triggered" in part by trauma reminders and cues, clinicians should adapt relapse prevention methods to help substance abuse patients identify their trauma-related relapse cues and prepare them to cope with those triggers without drinking or using.

Because withdrawal symptoms experienced during early abstinence may be associated with a resurgence of traumatic memories, worsening PTSD symptoms, and, possibly, increased risk for suicidal thoughts or attempts (Kosten & Krystal, 1988), the client should be supported closely through this period, prepared for possible short-term worsening of PTSD symptoms, and helped to develop strategies for managing symptoms and urges to drink or use.

12-step programs can play an important role in the treatment of PTSD/substance abuse. In PTSD/substance abuse veterans hospitalized for substance abuse disorder, greater 12-step involvement was associated with a number of positive changes during treatment (Ouimette et al., 1998b) and with remission from substance abuse/dependence over a two-year period. Involvement in 12-Step groups may be especially helpful for patients who are socially isolated, lack positive social activities and support, or lack a social group supportive of abstinence. It is possible that PTSD patients may have special difficulties in affiliating with the groups (e.g., social anxiety, social skills deficits, difficulties with intimacy and trust, feeling unsafe in groups of people) and it may be appropriate in some circumstances for clinicians to target affiliation as a treatment goal. With regard to women, consideration should be given to the fact that exposure to 12-step environments comprised largely of men may present a real problem for those with a history of male-perpetrated sexual assault; use of women's meetings may be preferable, especially early in recovery.

EVIDENCE

	Recommendation	Sources	QE	QE	R
1	Routinely assess substance use patterns of clients with trauma histories or PTSD.	Working Group Consensus	III	Poor	I
2	Integrate PTSD-Substance Abuse treatment when possible.	Working Group Consensus	III	Poor	I
3	Screen substance abusing patients for trauma exposure and PTSD.	Dansky et al., 1997	III	Poor	I
4	Educate substance-abusing patients with PTSD about the relationships between PTSD and substance abuse.	Working Group Consensus	III	Poor	I
5	Consider concurrent PTSD treatment, or provision of integrated PTSD/substance abuse treatment.	Najavits, 2002 Ouimette et al., 1998 Zatzick 2004	II-2	Mod	C
6	Follow-up care for substance abuse-PTSD patients should include a continued focus on PTSD issues.	Ouimette et al., 2000	II-3	Fair	I

LE = Level of Evidence; QE = Quality of Evidence; SR= Recommendation (see Appendix A)

J3. The Role of the Primary Care Practitioner

BACKGROUND

Primary care clinicians may decide to refer for specialized psychiatric care at any point, depending on their level of comfortable, experience, and experience in treating PTSD, the particular needs and preferences of the patient, and the availability of other services.

RECOMMENDATIONS

1. Primary care providers should routinely provide the following services for all patients with trauma-related disorders, especially those who are reluctant to seek specialty mental health care:
    - Education about the disorder and importance of not letting stigma and barriers to care interfere with specialty treatment if needed
    - Supportive counseling
    - PTSD-related education
    - Regular follow-up and monitoring of symptoms
    - Regular follow-up and monitoring of co-morbid health concerns
2. Primary care providers should consider consultation with mental health providers for patients with PTSD who warrant a mental health referral but refuse it or seem reluctant to talk to a mental health provider.
3. Primary care providers should take leadership in providing a collaborative multi-disciplinary treatment approach. Team members may include the primary care providers, mental health specialists, other medical specialists (e.g., neurology, pain management), chaplains, pastors, social workers, occupational or recreational therapists, Vet Center staff members, staff of family support centers, exceptional family member programs, VA benefits counselors, vocational rehabilitation specialists, peer counselors, and others.

4. Primary care providers should continue to be involved in the treatment of patients with acute or chronic stress disorders. All patients with PTSD should have a specific primary care provider assigned to coordinate their overall healthcare.

DISCUSSION

Because it is difficult for PCPs to be able to provide psychotherapy, it is recommended that primary care providers who identify patients with possible PTSD consider referral to a mental health or PTSD specialist early in the treatment process. This referral should be made in consultation with the patient and with consideration of the patient's preferences.

It is also recommended that the primary care practitioner consider initiating therapy (e.g., pharmacotherapy, supportive counseling) pending referral or if the patient is reluctant or unable to obtain mental health services. The primary care provider also has a vital role to play in addressing the health of patients with PTSD by evaluating and treating comorbid physical illnesses, by mobilizing community resources (e.g., OT, Family Support, Command and Unit supports, Family Members, and Chaplains), and by educating and validating the patient regarding his/her illness. It is vital that the primary care provider and the primary care team stay actively involved, in coordination with the behavioral health specialist, in the care of patients with PTSD.

Veterans initially seen in the primary care setting who are diagnosed with PTSD and are in need of a referral for treatment can be referred to the Vet Center for treatment. This is especially helpful if the veteran is not service-connected, cannot afford treatment, or feels uncomfortable in a hospital setting or sitting in large waiting areas with many other people. If the veteran needs a referral to community services, the Vet Center is also available. The staff at the Vet Center is available for crisis intervention and works closely with VAMC staff during the assessment phase and in partnership during the course of treatment.

Additional Points for Primary Care:

- Be careful not to suggest or insinuate that physical or cognitive symptoms co-existing with PTSD are related to a "stress", "emotional", or "psychological" problem. Educate patients about the physiological dysregulation associated with PTSD and how this can impact physical and cognitive functioning.
- Encourage referral to mental health via collaborative discussion.
- Educate patients about the physiological basis also of emotional and psychological symptoms in PTSD.
- Do not hesitate to ask questions about trauma-related symptoms, but not delve into details of the traumatic experience itself unless there is the time and skill to manage resultant distress and adequately support the patient. Providers should be aware that narration of traumatic experiences, although an important component of treatment, may be associated with increased distress temporarily.
- Follow-up with patients about issues related to trauma in an ongoing way. Patients with initial subthreshold PTSD are at increased risk of developing delayed PTSD.

EVIDENCE

	Recommendation	Sources	QE	QE	R

3	Consider the existence of comorbid conditions when deciding whether to refer to specialty mental health care.	Working Group Consensus	III	Poor	I

LE = Level of Evidence; QE = Quality of Evidence; SR= Recommendation (see Appendix A)

K. Facilitate Social and Spiritual Support [*See Module A: annotation L*]

Family, religious organizations and community leaders can be helpful when dealing with an unfamiliar culture and/or religion. It may also be appropriate to consult a local cultural adviser. But particular attention should be paid to the individual's own beliefs and values, and confidentiality always must be maintained when getting input from other sources. Patient's beliefs should be seen in the context of their social, religious and cultural environment and if need be, a trusted member of the person's faith or cultural group should be consulted.

RECOMMENDATIONS

1. Provide nonintrusive ordinary social contact (e.g., a "sounding board," judicious use of humor, small talk about current events, silent companionship). Provide opportunities for grieving for losses. (Providing space and opportunities for prayers, mantras, rites and rituals and end-of-life care as determined important by the patient).
2. Consider providing direct spiritual care or ensuring patient access to spiritual care when sought.

L. Assess Duty/Work Responsibilities and Patient's Fitness (In Relation To Military Operations)

BACKGROUND

Ideally, service members who become ineffective as a result of PTSD will be returned to duty at the earliest possible time. For most military specialties, the time required to enlist and train the soldier to minimal operational readiness often exceeds a year. Consequently, service members who become ineffective due to stress-related conditions constitute a significant source of trained personnel who potentially have much to offer despite their disability. Assessment of fitness for duty may also have implications for medical boards and vocational rehabilitation.

RECOMMENDATION

1. The determination of when to return to work/duty should take into consideration the complexity, and importance of the patient's job role, and functional capabilities.
2. The continuing presence of symptoms of PTSD should not be considered in itself as sufficient justification for preventing a return to work/duty.

DISCUSSION

Practitioners who are managing patients suffering from stress reactions or PTSD should consider a variety of factors when deciding if and when the individual is ready to return to work or military duty.

First, what is the patient's job and level of responsibility? Many patients in lower skill jobs (e.g., truck drivers, food service personnel, and basic supply functions) can be expected to function effectively despite continuing symptoms. In addition, the cost

of functional failure of individuals in these roles is likely limited. In contrast, patients in higher skill jobs or those that involve greater risks (e.g., artillery forward observers, combat controllers, physicians, and pilots) should not be returned to duty unless there appears to be a high probability that they have resumed effective functioning. Individuals in leadership positions should be required to demonstrate a higher level of reconstitution as errors on the part of these individuals can potentially lead to much greater consequences.

3. TREATMENT

M. Initiate Treatment Using Effective Interventions for PTSD

BACKGROUND

Many treatment strategies are available to treat stress-related disorders and to relieve the burden of suffering for PTSD patients. Options include pharmacotherapy, psychotherapy, and somatic and alternative medicine interventions. Treatment may be provided by primary care providers, specialty mental health providers, or some combination of these.

Primary care is an ideal setting in which to educate patients and their families about treatment options for post-traumatic stress. Patients should learn that psychotherapy for PTSD requires special training and should be referred to a therapist who has experience providing CBT. Such educational efforts must include informing patients that even if they respond to medication therapy, treatment for a longer period may be needed. The patient's preferences along with provider recommendations should drive the selection of treatment interventions in a shared decision-making process.

Discussion of the evidence supporting the recommendations for treatment intervention is included in Module I-2: Treatment for PTSD.

RECOMMENDATIONS

1. A supportive and collaborative treatment relationship or therapeutic alliance should be developed and maintained with patients with PTSD.
2. Providers should explain to all patients with PTSD the range of available and effective options for PTSD treatment.
3. Patient education is recommended as an element of treatment of PTSD for all PTSD patients and their family members. [C]
4. Patient preferences along with provider recommendations should drive the selection of treatment interventions in a shared decision-making process.
5. Evidence-based psychotherapy and/or evidence-based pharmacotherapy are recommended as first-line treatment options.
6. Psychotherapies should be provided by practitioners who have been trained in the particular method of treatment, whenever possible. [Expert Consensus]
7. Patients with PTSD who are experiencing clinically significant symptoms, including chronic pain, insomnia, anxiety, or depression, should receive specific symptom management interventions.
8. A stepped care approach to treatment delivery may be considered. [Expert Consensus]
9. Specialized PTSD psychotherapies may be augmented by additional problem-specific methods/services and pharmacotherapy.
10. Consider referral for alternative care modalities (Complementary Alternative Medicine) for patient symptoms, consistent with available resources, and resonant with patient belief systems.

11. Management of PTSD or related symptoms may be initiated based on a presumptive diagnosis of PTSD. Long-term pharmacotherapy will be coordinated with other intervention.

SPECIFIC TREATMENT MODALITIES:

Pharmacotherapy:

See Recommendations for Pharmacotherapy - Module I-2: Interventions for PTSD

Psychotherapy:

See Recommendations for Psychotherapy - Module I-2: Interventions for PTSD

Adjunctive Treatment:

See Adjunctive Treatment and other modalities, including Complementary Alternative Medicine – Module I-2: Interventions for PTSD

DISCUSSION

Establishing Therapeutic Alliance

Many people with PTSD find that their relationships with others have changed as a result of exposure to trauma. They often report that they have difficulty trusting others, are suspicious of authority, dislike even minor annoyances, and generally want to be left alone. Since the clinician-patient relationship draws heavily on trust, respect, and openness, and since the relationship often has to be formed in a busy clinical or bureaucratic setting, the provider may find the PTSD patient to seem to be withholding, negativistic, or even hostile at the initial meeting. The patient may seem to have "an attitude" or an "Axis II" comorbidity. As a result, many combat veterans have been misunderstood and misdiagnosed by otherwise competent professionals, and ultimately the patient suffers through feeling betrayed and misunderstood by the mental health professional. If a therapeutic relationship is to have any opportunity to develop, the treatment provider must adopt a stance of caring and concerned involvement that takes what the patient says at face value, doesn't judge or label this type of behavior, and doesn't withdraw into an "objective" "professional" role. In short, the clinician who can relate honestly and openly is more likely to have a patient who is willing to relate to him/her as a fellow human being and an effective partner in treatment.

A general understanding of what has happened to the veteran is critical in this process of developing a therapeutic relationship. Every provider working with combat veterans should be advised to read some basic material on the experience of combat and watch documentaries of the same. The provider must develop an understanding that wartime and military service involve some of the most intense human experiences, and those feelings of profound rage, fear, and grief can be an expected part of these experiences. These feelings will be present in the interview setting and must be met with respect and compassion. It is also helpful for the professional to be careful not to assume that they have any understanding of the military experience based if they have not themselves served in the military, and should not be afraid to ask questions when they don't understand something about the military that the patient is referring to.

PTSD Treatment

Refer to the evidence-based treatment strategies for PTSD, summarized in the section on Pharmacotherapy and Psychotherapy Intervention of this guideline. The

section also includes medication tables that summarize indications/benefits, contraindications/adverse effects, and usual dosages. (See Module I-2)

Supportive counseling for PTSD has received little study to date and cannot be endorsed as an evidence-based psychotherapeutic strategy. However, it has been shown to be effective compared with no treatment and may be the sole psychotherapeutic option available for the patient with PTSD who is reluctant to seek specialty mental health care. It may be a useful engagement strategy to provide temporary support with the ultimate goal to convince patient to accept evidence-based treatment.

EVIDENCE

	Recommendation	Sources	QE	QE	R
1	Take steps to create a supportive, therapeutic alliance.	Working Group Consensus	III	Poor	I

LE = Level of Evidence; QE = Quality of Evidence; SR= Recommendation (see Appendix A)

4. RE-ASSESSMENT

O. Assess response to treatment

OBJECTIVE

Re-assess patient status following therapeutic intervention to determine response to treatment, inform treatment decisions, and identify need for additional services. Re-assessment should address PTSD symptoms, diagnostic status, functional status, quality of life, additional treatment needs, and patient preferences.

RECOMMENDATIONS

1. At a minimum, providers should perform a brief PTSD symptom assessment at each treatment visit. The use of a validated PTSD symptom measure, such as the PTSD Checklist, should be considered (see Appendix C).
2. More comprehensive re-assessment and evaluation of treatment progress should be conducted at least every 90 days, and perhaps with greater frequency for those in active treatment, and should include a measure of PTSD symptomatology (PCL) and strongly consider a measure of Depression symptomatology (PHQ9).
3. Other specific areas of treatment focus (e.g., substance abuse), should also be reevaluated and measured by standardized measures of outcome.
4. Assessment of functional impairment should also be made, at minimum, by asking patients to rate to what extent their symptoms make it difficult to engage in vocational, parental, spousal, familial, or other roles.
5. Consider continued assessment of:
    - Patient preferences
    - Treatment adherence
    - Adverse treatment effects

DISCUSSION

Patients should be assessed at least every three months after initiating treatment for PTSD, in order to monitor changes in clinical status and revise the intervention plan accordingly. The interval of three months is suggested because many controlled trials of first line therapies for PTSD demonstrate clinically-significant changes during this time frame. Assessment of the following domains is advised: (a) symptom severity and diagnostic status of PTSD, comorbid mental disorders, and comorbid medical conditions; (b) functional status and quality of life in major areas of adjustment (e.g., occupation, social and family relations, activities of daily living and capacity for self-care, physical health needs, and spiritual fulfillment); (c) psychosocial needs (e.g., financial and housing deficits); (d) patient satisfaction with treatment received and preferences for type and amount of continued treatment, (e) compliance or adherence with treatments provided; and (e) adverse side effects of pharmacological or psychosocial treatments administered.

A number of interview and questionnaire methods are recommended for assessing the diagnostic status and clinical severity of patients (see Annotation E). These measures may be used to identify the presence/absence of major mental disorders,

including PTSD, as well as the degree of symptom severity. Much of this information is important to share with patients in assessing progress of treatment and making collaborative decisions about future directions of care. The DSM-IV criteria for PTSD domains (b – e) can be routinely measured using standard clinical interview methods.

Regular Follow-Up and Monitoring

The use of pencil-and-paper measures of PTSD symptom severity such as the PTSD Checklist (PCL; see appendix C) should be considered. Scores on the PCL may be plotted serially over time to create a longitudinal record of symptom severity and may be helpful for recognizing environmental (e.g., renewed proximity to a previously abusive parent) or seasonal (e.g., anniversary of a traumatic war event) precipitants of PTSD symptoms.

Early Recognition of a Psychosocial Crisis and Referral to Specialists

Primary care providers may be the first to recognize that a patient with PTSD is entering a psychosocial crisis. Depending on the severity and disability associated with the crisis and the potential for harm to the patient or others, the primary care provider may be obliged to obtain specialty mental health services, even if that patient is reluctant to seek those services.

Coordination of General Health Care

The traditional role of the primary care provider as the coordinator of various disciplines and consultants involved in the treatment of any single patient is especially relevant for the patient with PTSD. Particularly in patients with chronic PTSD, medically unexplained symptoms or problems with substance use (including smoking) may lead to the need for a wide range of specialists. Coordination of these services is important to avoid confusion and unnecessary health care use.

P. Follow-Up

BACKGROUND

Prevalence of partial or sub-threshold PTSD is substantial. Because of risk of relapse following discontinuation of therapy in patients with chronic PTSD, long-term treatment is often needed. Most patients with chronic PTSD (defined by the DSM-IV as full-criterion symptoms lasting 3 months or more), should be continued for at least 1 year, with regularly scheduled follow-up in order to prevent relapse. In other cases, CBT may be effective for symptoms that do not respond to SSRIs.

The continued importance of psychoeducation and reinforcement of health-promoting behaviors by the primary care physician is important but generally neglected area of public health.

RECOMMENDATIONS

1. If patient does not improve or status worsens, consider one of the following treatment modification options:
    a. Continue application of the same modality at intensified dose and/or frequency
    b. Change to a different treatment modality
    c. Apply adjunctive therapies

d. Consider a referral to adjunctive services for treatment of comorbid disorders or behavioral abnormalities (e.g., homelessness, domestic violence, or aggressive behavior)

e. For patient with severe symptoms or coexisting psychiatric problems consider referrals to:

- Specialized PTSD programs
- Specialized programs for coexisting problems and conditions
- Partial psychiatric hospitalization or "day treatment" programs
- Inpatient psychiatric hospitalization

2. If patient demonstrates partial (insufficient) remission, consider one of the following treatment modification options:

a. Continue the present treatment modality to allow sufficient time for full response

b. Continue application of the same modality at intensified dose and/or frequency

c. Change to a different treatment modality

d. Apply adjunctive therapies

e. Increase level of care (e.g., referral facility, partial hospitalization, inpatient hospitalization, residential care)

f. Consider a referral to adjunctive services for treatment of comorbid disorders or behavioral abnormalities (e.g., homelessness or domestic violence)

3. If patient demonstrates improved symptoms and functioning but requires maintenance treatment:

a. Continue current course of treatment

b. Consider stepping down the type, frequency, or dose of therapy

c. Consider:

- Transition from intensive psychotherapy to case management contacts
- Transition from individual to group treatment modalities
- Transition to as needed treatment

d. Discuss patient status and need for monitoring with the primary care provider

e. Consider a referral to adjunctive services for treatment of comorbid disorders or behavioral abnormalities (e.g., homelessness or domestic violence)

4. If patient demonstrates remission from symptoms and there are no indications for further therapy:

a. Discontinue treatment

b. Educate the patient about indications for and route of future care access

c. Monitor by primary care for relapse/exacerbation

5. Evaluate psychosocial function and refer for psychosocial rehabilitation, as indicated. Available resources include, but are not limited to: chaplains, pastors, Family Support Centers, Exceptional Family Member Programs, VA benefits counselors, occupational or recreational therapists, Vet Centers, and peer-support groups. (See Module I-2 D: Psychosocial Rehabilitation)

6. Provide case management, as indicated, to address high utilization of medical resources.

DISCUSSION

Patient Does Not Improve or Status Worsens:

Re-assessment of patients' clinical status may occasionally show that symptoms and/or functional status are failing to improve or are deteriorating in a sustained way. It is important to determine that this static or deteriorated state is not simply the result of a major life crisis unrelated to the therapy being administered.

The clinician must next determine if a patient's unimproved clinical status reflects a temporary exacerbation of symptoms expected to occur in the course of treatment that will ultimately prove to be effective. For example, it is common for patients in a range of trauma-focused therapies to experience some brief distress or symptom exacerbation during initial phases of treatment where they focus on emotions associated with traumatic memories. In this case, it is important to reassure the patient about the natural course of recovery through treatment, assist him/her in coping with symptoms, and enlist him/her in the decision to continue with the current method of treatment. Increasing session contacts and or increasing the dose of medications may provide needed support.

If the clinician and patient agree that the current treatment regimen is ineffective, then a collaborative decision can be made to switch to a different modality. Another approach is to hold the course of a current therapy, which may appear ineffective, but apply adjunctive treatments (see Module I-2: PTSD Interventions) There is no empirical evidence that supports the effectiveness of combination treatments for PTSD. However, there is clinical consensus that some treatments can act synergistically (e.g., combining coping skills and symptom management approaches with exposure-based treatments).

Clinicians should consider changing the treatment plan by increasing the level of care offered to patients. Levels of care for PTSD vary in intensity, including infrequent visits administered in outpatient clinics, partial hospital programs, specialized inpatient PTSD programs, PTSD residential care programs and domiciliaries, and acute inpatient hospitalization. Patients who fail to progress in outpatient treatment may benefit from a temporary transition to a higher level of care, followed by return to outpatient management after greater stabilization of symptoms has been achieved.

Often, progress in PTSD treatment may be compromised by a concurrent behavioral disorder (e.g., domestic violence), life crisis (e.g., homelessness), or uncontrolled substance use disorder. Referral to ancillary clinical services should be considered for patients for whom these problems emerge during the course of treatment, as identified upon re-assessment.

Patient Demonstrates Improved Symptoms and Functioning but Requires Maintenance Treatment:

Treatment may also lead to slight or moderate improvement that nonetheless leave the patient with significant distress and impairment in functioning. If the patient demonstrates partial (insufficient) remission, consider one of the following treatment modification options:

1. Continue the present treatment approach to allow sufficient time for full response. This option might be worth considering when a treatment involves acquisition of skills (e.g., cognitive restructuring or anxiety management). In such a case, it is possible that the patient may be in the process of learning the skill, with the full impact of therapy dependent on increased practice and skill mastery. Or, treatment may not have yet yielded its maximum potential effect because of limited patient compliance; steps taken to increase adherence to treatment prescriptions may accelerate responsivity to the intervention.

1. If the moderate level of improvement obtained is less than would be expected, given what is known about the patient and the treatment modality, a change to a different treatment approach may be indicated.

2. In certain circumstances, a move to an increased level of care may be warranted. For example, if current functioning remains poor despite some symptom improvement or the patient stands to experience major consequences for failure to improve more rapidly (e.g., marital separation), it may be desirable to move from outpatient care to a higher level of care (e.g., residential care).

3. Improvement in PTSD symptoms may be inhibited by the presence of untreated additional problems, such as substance abuse or exposure to domestic violence. In such situations, it is important to initiate services for these problems in order to improve the capacity of the PTSD treatment to effect change.

4. Patients with partial PTSD may exhibit clinically meaningful levels of functional impairment in association with their symptoms. Functional impairment, rates of co-morbid disorders, and rates of suicidal ideation were shown to increase linearly with increasing number of PTSD symptoms, in one study, and individuals with sub-threshold PTSD had increased suicidal ideation even after controlling for the presence of co-morbid major depressive disorder (Marshall, 2001).

5. Studies in which the prevalence of partial, or sub-threshold PTSD was examined found it to be substantial. . In one study of infantry soldiers returning from Iraq, the prevalence of PTSD was estimated to be 12% when a stringent PCL definition of PTSD was utilized, but rose to 18-20% when a more liberal DSM symptom-based definition was applied (Hoge, 2004). A large Canadian epidemiological study assessing for current PTSD found the incidence to be 5.0% (women) and 1.7% (men), but the incidence of partial PTSD to be even higher at 5.7% and 2.2% for women and men respectively. Individuals with sub-threshold PTSD showed similar levels of social and occupational impairment as those meeting full criteria (Stein, 1997; marshall, 2001).

When Symptoms and Other Trauma-Related Problems show Significant Improvement, the Options include the Following:

- Discontinue treatment.
- Continue the course of treatment as is.
- "Step down" to a treatment requiring less intensive resources.

Clinician judgment, based on discussion with the patient, will be the basis of such a decision.

When therapy has resulted in clinically-significant improvement, but the improvement in functioning is recent and of limited duration, a continuation of the existing type and intensity of treatment may be indicated if the clinician judges that time is required for the patient to continue practicing new skills or to otherwise consolidate treatment gains. This will be especially true if the clinician judges that a reduction in level of therapeutic support would threaten treatment gains.

If treatment has produced clear benefit, but the patient is continuing to show treatment gains week-by-week, it may also be helpful to maintain the treatment as is, in hopes of continued improvement. For many patients, some level of continuing care may be indicated after more intensive help has produced improvements. A step-down to less resource-intensive help can often be accomplished by changing treatment type (e.g., from individual psychotherapy to periodic group support), reducing frequency of contacts (e.g., from once-per-week to twice-per-month contact), or reducing treatment dose (e.g., medication).

If treatment has resulted in significant reductions in PTSD, but related problems (e.g., anger, social isolation, guilt) have shown little change, it will be important to consider adding treatment components to address those problems or referring the patient for additional services.

Patient Demonstrates Remission from Symptoms:

When the patient demonstrates remission from symptoms and there are no indications for further therapy, it is time to discontinue treatment. Discontinuation of treatment may be anxiety-provoking for some patients, who have come to depend on the therapist. If this is the case, it may be helpful to discontinue treatment by using the step-down approach noted above, and gradually moving toward termination. Whether treatment is ended gradually, or more quickly, it is important to educate the patient about expected levels of continuing symptoms, indicators of relapse or need for future care, and ways of accessing care should the need arise. The patient can be encouraged to talk with his or her primary care provider about the treatment experience and enlist help in monitoring improvement.

Psychosocial Rehabilitation for All Patients with PTSD

Patients with persistent mental health symptoms and needs may benefit from a range of assistance strategies provided by a range of disciplines. In addition to the usual general health and mental health specialists, available resources include, but are not limited to, case-management, chaplains, pastors, Family Support Centers, Exceptional Family Member Programs, VA Benefits Counselors, vocational counselors, occupational or recreational therapy, Vet Centers, and peer-support groups.

In the primary care setting, appropriate encouragement of patients to obtain a mental health referral is important, even if patients are initially hesitant or reluctant to seek it. Mental health referral options include outpatient psychology, social work, or psychiatry clinics, depending on local resources and policies.

In the specialty mental health settings, patients may be referred to specialized PTSD programs or programs that focus treatment on important coexisting problems, such as substance use disorder programs or programs for domestic violence or sexual assault/abuse. Depending on the level of associated disability, complexity of medication regimen, and level of threat to self or others, patients with persistent PTSD symptoms and needs may require inpatient or partial psychiatric hospitalization.

Providers referring from either the primary or specialty mental health setting should consider the need for case-management to ensure that the range of patient needs is addressed and that follow-up contact is maintained.

EVIDENCE

	Recommendations	Sources	QE	QE	R
1	The primary care provider should remain involved in treatment and patient monitoring.	Working Group Consensus	III	Poor	I
2	Multidisciplinary team approach	Working Group Consensus	III	Poor	I

Module I: TREATMENT INTERVENTIONS

I-1. EARLY INTERVENTION TO PREVENT PTSD

BACKGROUND

Several studies have examined the effectiveness of treatment interventions and acute symptom management early (within one month) following a traumatic event in preventing PTSD. This includes the use of various medications for the prevention of PTSD and brief multiple sessions of psychotherapy.

This section summarizes the evidence supporting the recommendations for early intervention. Table I-1 summarizes the recommendations for interventions and their potential benefit discussed in Module A, Annotation J: Brief Intervention.

Table I - 1 Early Intervention after Exposure to Trauma (>4 days, < 30 days)

SR	Significant Benefit	Some Benefit	Unknown	No Benefit Potential Harm
A	Brief Cognitive Behavioral Therapy (4-5 sessions)			
B		Prazosin for nightmares	Imipramine	
C		Social, and spiritual support	Propranolol	
I		Provide basic Needs Psychoeducation, normalization	Sympatholytics Antidepressants Anticonvulsants Atypical Antipsychotics Chloral hydrate	Benzodiazpines **
D			Psychological First Aid	Psychological debriefing Typical Antipsychotics Formal psychological interventions for asymptomatic survivors

*SR = Strength of recommendation (see Appendix A); ** Potential harm*

RECOMMENDATIONS

1. The following treatment recommendations should apply for all acutely traumatized people who meet criteria for diagnosis of ASD, and for those with significant levels of post-trauma symptoms after at least two weeks post-trauma, as well as those who are incapacitated by acute psychological or physical symptoms.
2. Treatment should be provided after education, normalization, and Psychological First Aid has been provided, and basic needs following the trauma were made available.
3. There is insufficient evidence to recommend for or against the use of Psychological First Aid to address symptoms beyond 4 days following trauma. [I]
4. Recommend monitoring for development of PTSD using validated symptom measures (e.g., PTSD Checklist, other screening tools for ASD/PTSD.
5. Survivors who present symptoms that do not meet the diagnostic threshold should be monitored and may benefit from follow-up and provision of ongoing counseling or symptomatic treatment.
6. **Psychotherapy:**
    a. Consider early brief intervention (4 to 5 sessions) of cognitive behavioral therapy (CBT) that includes exposure based therapy, alone or combined with a component of cognitive re-structuring therapy for patients with significant early symptom levels, especially those meeting diagnostic criteria for ASD.[A]
    b. Early psychotherapy intervention for *asymptomatic* individuals is not beneficial and may be harmful. [D]
    c. Recommend against individual Psychological Debriefing as a viable means of reducing acute stress disorder (ASD) or progression to post-traumatic stress disorder (PTSD). [D]
    d. Recommend against group Psychological Debriefing as a viable means of reducing acute stress disorder (ASD) or progression to post-traumatic stress disorder. (Note: this is not a recommendation against Operational Debriefing) [D]
    e. Groups may be effective vehicles for providing trauma related education, training in coping skills, and increasing social support especially in the context of multiple group sessions.
    f. Group participation should be voluntary.
7. **Pharmacotherapy:**
    a. There is insufficient evidence to support a recommendation for use of a pharmacological agent to prevent the development of ASD or PTSD. [I]

For discussion of use of medication for specific symptom management during the early phase after trauma see Module I-3: Symptom Management

DISCUSSION

A. PSYCHOTHERAPY

A1. Psychological Debriefing

Psychological debriefing grew out of practices and experiences involving the military of the United States and other western nations. For soldiers exhibiting signs of acute stress reactions (ASR) following combat-related traumatic events, the practice of conducting early debriefings as part of a larger restoration approach, appeared to have significant impact on reducing more permanent disability.

The use of debriefings soon after exposure to traumatic events became part of military doctrine in the United States and elsewhere, as well as part of standards for early response to catastrophe for organizations such as the Red Cross. Unfortunately, the technique appears to be of little help, and potentially harmful if used in individual victims of trauma as prophylaxis for PTSD.

In considering the use of debriefing procedures as part of early interventions following trauma exposure, a distinction between the general approaches of psychological versus operational debriefings is in order. Moreover, distinction should be made between debriefing procedures that are targeted at all exposed individuals, irrespective of symptom level, and by contrast, briefer versions of empirically supported brief psychotherapy interventions that are targeted at symptomatic individuals over a few sessions (see Annotation A2: Brief CBT).

DEFINITIONS

Psychological Debriefing is a broad umbrella term used to describe a variety of one-time individual and/or group procedures that involve review of a traumatic event, by survivors or other impacted persons, for the purpose of actively encouraging individuals to: (a) talk about their experiences during the event, (b) recognize and verbalize their thoughts, emotions and physical reactions during and since the event, and (c) learn about coping methods. Specially trained debriefers lead psychological debriefings following several protocols. Some protocols emphasize normalization of symptoms and group support. Some include psycho-education and information about resources.

The term "Psychological Debriefing" does not include purely informational briefings or debriefings used in professional military or other workgroups (e.g. psychological education lectures or stress management briefings such as Battlemind Training, Battlemind Debriefing, or operational debriefings) discussed below.

Operational Debriefing is a routine individual or team review of the details of an event from a factual perspective, for the purpose of: (a) learning what actually happened for the historical record or planning purposes; (b) improving results in similar future situations or missions; and (c) increasing the readiness of those being debriefed for further action. Operational debriefings are conducted by leaders or specialized debriefers according to the organization's standing operational procedure.

Although operational debriefings achieve important short-term objectives of the organization, there is insufficient evidence that they can also reduce subsequent PTSD or other long-term negative outcomes. Organizations that use operational

debriefings should train their debriefers to avoid causing unintentional psychological harm and to identify individuals who need behavioral health follow-up.

Critical Incident Stress Debriefing (CISD) is a formalized structured review method in a group format of the stressful experience of a disaster that includes psychological debriefing. In fact, CISD was developed to assist first responders such as fire and police personnel, not the victims/survivors of a disaster or their relatives. CISD was never intended as a substitute for therapy, was designed to be delivered in a group format with professional worgroups, and is meant to be incorporated into a larger, multi-component crisis intervention system labeled Critical incident Stress Management (CISM).

Critical incident Stress Management (CISM) incorporates several components, including pre-crisis intervention, disaster or large-scale incident demobilization and informational briefings, "town meetings," staff advisement, defusing, CISD, one-on-one crisis counseling or support, family crisis intervention, organizational consultation, and follow-up and referral mechanisms for assessment and treatment, if necessary.

Battlemind Debriefing is a recently developed intervention aimed specifically at professional military teams/workgroups (like CISD) and designed to reduce any potential iatrogenic effects of psychological debriefing noted in some studies; specifically, less emphasis is given to personal disclosure and review of index events (there is no requirement for individual disclosure, and the focus of the debriefing is more broadly on the transition from the entire deployment, rather than a single critical incident) and more emphasis is given to enhancement of peer support. Battlemind debriefing can be delivered in either small group or large group lecture formats.

Individual Debriefing

Reviews and meta-analyses of studies of psychological debriefing as an early intervention to reduce or prevent PTSD symptoms in individuals have concluded that this technique is ineffective or potentially harmful (Rose, Bisson, & Wessely, 2002). Of note, two well-controlled studies with longer-term follow-up of individual patients have suggested that this intervention may be related to a poorer outcome compared to controls (Bisson, 1997; Mayou et al., 2000 which is a follow-up on Hobbs, 1996). Bisson et al. (2008) in a summary of the evidence in the ISTSS guideline (2009) also found no evidence to support the preventive value of individual debriefing delivered in a single session. Of the 10 studies that compared psychological debriefing with no interventions, 2 were positive, 5 were neutral and 3 had negative results. A meta-analysis conducted by Van Emmerick et al. (2002) included 7 studies and found that psychological debriefing interventions (non-CISD) and no intervention improved symptoms of post-traumatic stress disorder, but psychological debriefing did not improve symptoms. Cuijpers et al. (2005) assessed the results of studies examining the effect of prevention and found that the risk of posttraumatic stress disorder was somewhat increased after debriefing, but not significantly (RR=1.33), indicating a possible adverse effect. The RCTs to date cover only a limited variety of traumatic stressors, subject populations, and debriefing protocols. Most controlled studies have been of individually administered, one-time individual debriefings of victims of motor vehicle accidents or crimes such as rape. However, findings have been consistent across trials.

Group Debriefing

The recommendation against conducting structured group debriefing is based primarily on the lack of effectiveness in studies; there does not appear to be any evidence of harm. In a partially randomized trial, Deahl et al. (2000) found no benefit of debriefing over assessment only in terms of PTSD symptoms; however, the group receiving debriefing evidenced lower alcohol misuse scores. The non-random assignment to groups weakens conclusions of this study (commanders blind to condition separated approximately 100 soldiers into two groups based on schedules and responsibilities; the groups were then randomly designated 'debriefing' or 'control', thus outcomes are confounded by whatever factors were used for separating soldiers into groups by commanders). In another study by Campfield and Hills (2001), robbery victims were randomly assigned to immediate (less than 10 hours) or delayed (greater than 48 hours) CISD groups. Immediate CISD produced more pronounced reduction in symptoms, but no control group was employed and thus no conclusions regarding efficacy relative to no treatment can be made. This is particularly necessary with this intervention given that most people will recover spontaneously without any intervention and because of the potentially iatrogenic effects found in some studies of CISD with individuals. Other studies of group debriefing that have been conducted were of poor design, either, or both, in terms of low sample size and non-random assignment to group, and preclude conclusions regarding efficacy (Eid et al., 2001; Richards, 2001).

Three more recent RCT's with group debriefing have been reported. In an analogue study with students, Devilly et al. (2008) found no advantage of debriefing following a distressing video relative to a post-video snack. Adler et al. (2008) conducted a randomized trial of Critical Incident Stress Debriefing (CISD) of groups of soldiers deployed to a Kosovo peacekeeping mission. This trial randomised 1,050 soldiers from 19 platoons into 62 groups receiving one of three conditions: Debriefing (23 groups), Stress Education (20 groups) and No Intervention (19 groups). The authors reported no differences between groups on all behavioural outcomes. In a second RCT by Adler et al. (2009) with returning Iraq soldiers, results indicated that compared to a Stress Education control condition, the Battlemind Debriefing had no overall effect on PTSD; moreover, within the subgroup of high combat-exposed soldiers, Battlemind Debriefing was no more effective than the Battlemind Training lecture (given in both small group and large group formats), with both treatments producing extremely minimal improvements in PTSD Check List (PCL) scores. A small but significant reduction in PTSD symptoms, depression symptoms, and sleep problems was observed for Battlemind Debriefing compared with standard stress education, although similar benefits were observed for the two other Battlemind training interventions. Thus, given the similar efficacy of the Battlemind Training lecture program, and the very small effect sizes observed, there is no reason to recommend Battlemind Debriefing or the Battlemind lecture program.

It remains possible that group interventions with pre-existing workgroups (teams, units, EMTs, co-workers) may assist with non-PTSD areas of improvement, such as group cohesion, morale, and other important variables, but this has not been demonstrated empirically. Similarly, group interventions may be useful for screening, education, and support. Trained personnel should lead these group interventions and if group approaches are used, group participation should be voluntary. Operational debriefings after traumatic events during on-going military operations also share these considerations, but they have other objectives that may override individual mental health protection. All operational debriefings should select protocols and train the debriefers to minimize psychological harm to the participants.

In conclusion, routine use of individual debriefing or the use of group psychological debriefing in the aftermath of trauma cannot be recommended in either military or civilian life. Of importance is the fact that other early treatment interventions have been found to prevent PTSD in symptomatic individuals (see Annotation B2). It appears appropriate to continue to focus resources on identifying and treating those with recognizable psychiatric disorders arising after trauma. The emphasis should be placed on the early detection of those at risk of developing psychopatholgy and those early interventions that have been found effective should be aimed at this group.

EVIDENCE TABLE

	Evidence	Sources	LE	QE	NET	SR
1	Individual psychological debriefing (or critical incident stress debriefing) is ineffective in preventing PTSD and may have adverse long-term effects	Rose, 2002 (Cochrane SR) Van Emmerick et al., 2002 Cuijpers et al., 2005 Bisson et al., 2009 (ISTSS) Sijbrandji et al., 2006 Hobbs et al., 1996 Mayou et al., 2000 Bisson, 1997	I	Good	Zero, Small	D
3	Group debriefing is ineffective in preventing PTSD	Deahl et al., 2000 Campfield and Hills, 2001 Eid et al., 2001 Richards, 2001 Devilly et al., 2008 Adler et al., 2008 Adler et al., 2009	I, II-1	Fair	Zero, Small	D

LE =Level of Evidence; QE = Quality of Evidence; NET=Net benefit; SR = Strength of Recommendation (see Appendix A)

A2. Brief Early Cognitive-Behavioral Intervention

Research suggests that relatively brief but specialized interventions may effectively prevent PTSD in some subgroups of trauma patients. Several controlled trials have suggested that brief (i.e., 4 to 5 sessions) cognitive-behavioral treatments, comprised of education, breathing training/relaxation, imaginal and in vivo exposure, and cognitive restructuring, delivered within weeks of the traumatic event, can often prevent PTSD in survivors of sexual and non-sexual assault (Foa et al., 1995) and MVAs and industrial accidents (Bryant et al., 1998a , 1999). Brief intervention with patients hospitalized for injury has been found to reduce alcohol consumption in those with existing alcohol problems (Gentilello et al., 1999). Controlled trials of brief early intervention services targeted at other important trauma sequelae (e.g., problems returning to work, depression, family problems, trauma recidivism, and bereavement-related problems) remain to be conducted, but it is likely that targeted interventions may be effective in these arenas for at least some survivors.

At present it is unknown how much time should elapse after a traumatic experience before cognitive-behavioral intervention is initiated (Litz & Bryant: in Foa 2009 [ISTSS]). If provided too early, individuals who may not need therapy will consume helping resources. For this reason, trials have not commenced before 2 weeks after the trauma (Bryant, 1998, 1999, 2003).

Target Population for Brief CBT

Studies that have targeted all trauma survivors, regardless of levels of stress reactions, have been ineffective in preventing PTSD (Roberts et al., 2009b). Trauma-focused CBT has been found to be effective in reducing and preventing post-traumatic stress symptoms in individuals who were symptomatic, especially those meeting criteria for ASD (Roberts et al., 2009a; Stapleton, 2006). These interventions have focused on the traumatic experience via exposure to memories and trauma reminders, sometimes combined with cognitive therapy or other behavioral interventions. One study has indicated that combined imaginal and in vivo exposure is significantly more effective than pure cognitive restructuring in reducing subsequent PTSD among individuals diagnosed with ASD (Bryant, et al., 2008). This is an important finding that requires replication.

Cognitive behavioral therapy was more effective in reducing symptoms than a self-help booklet or repeated assessment. The combination of an elevated initial symptom score and failure to improve with self-monitoring was effective in identifying a group of patients with early PTSD symptoms who were unlikely to recover without intervention. (Ehlers, 2003)

Evidence Table

	Evidence	Sources	LE	QE	SR
1	Brief cognitive-behavioral intervention (4 to 5 sessions) may prevent PTSD in those reporting clinically-significant symptoms of acute post-traumatic stress	Roberts 2009a (§) Kornor, 2008 Bryant et al., 1998a, 1999 Bryant et al., 2003, 2008	I	Good	A
2	Multisession early psychological interventions for asymptomatic trauma survivors are not effective and may be harmful.	Roberts 2009b (§)	I	Good	D

LE =Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation; §-Systematic Review (see Appendix A)

A3. Other Early Interventions

Efficacious early interventions have largely been structured as brief versions of effective PTSD treatments. This suggests that other interventions may be effective in preventing PTSD but more research is needed to investigate other intervention methods. Some non-CBT interventions have received research attention. For example, brief structured writing has been found ineffective in preventing PTSD in two studies (van Emmerik, et al., 2008; Bugg, et al., 2009). A memory restructuring intervention failed to show preventive impact relative to a control condition (Gidronet al., 2007). Likewise, providing self-help information, as a preventive psychoeducation strategy to prevent PTSD has not been found to be efficacious (Scholes et al., 2007; Turpin et al., 2005).

Table I – 2 Early brief Psychotherapy Studies to Prevent the Development of PTSD

Author, Tear	Results	n	Trauma	LE	QE	NB
Brief CBT						
Bryant 1998a	Brief (5sessio) CBT w/I 2 weeks > Supportive counseling in preventing PTSD	24	Civilian	I	Fair	Mod
Bryant 1999	Brief (5 session) PE or PE + Anxiety mgmt > Supportive counseling in preventing PTSD	45	Civilian with ASD	I	Good	Sub
Bryant 2003	Brief (5sessions) CBT > Supportive Counseling in preventing PTSD	24	ASD after mTBI	I	Good	Sub
Bryant 2008	Brief (5 sessions) ET > CT > No Tx in preventing PTSD	90	ASD civilians	I	Good	Sub
Resnick 2007	Video intervention reduces PTSD vs. standard care	140	Sexual assault	I	Good	Mod
Rothbaum	1 session ET	10				EXC
Self Help (SH)						
Scholes 2007	no group differences between SH and no Tx	227	Emergency Room	I	Good	Zero
Turpin 2005	no group differences in PTSD between SH and no Tx	141	N/R	I	Fair	Zero
Structured Writing Therapy						
van Emmerik, 2008	Efficacy of SWT was comparable to CBT	125	ASD and PTSD pts	I	Good	Mod
Bugg, 2009	No differences between writing and self help (information only) groups	67	Emergency room	I	Mod	Small
Memory Structured Intervention						
Gidron 2007	No differences between MSI and supportive listening.	34	traffic accident victims	I	Fair	Zero

B. Early Pharmacotherapy Interventions to Prevent Development of PTSD

Prevention of PTSD

Few studies have examined the effectiveness of pharmacological treatment for acute symptom management and PTSD prevention immediately following a traumatic event. This includes the use of various agents for the prevention of PTSD (propranolol, hydrocortisone, and gabapentin) and the use of D-cycloserine, an N-methyl D-aspartate partial agonist, in combination with psychotherapy. Although of interest, none of these approaches is yet advocated in standard treatment guidelines for PTSD (Stein 2009 [SR]). There is insufficient evidence to draw concrete conclusions or make specific recommendations regarding the use of pharmacological agents for prevention of PTSD. While prevention of ASD is ideal, there are currently no evidence-based pharmacologic treatment modalities to arrest symptom formation and prevent progression to ASD during the first days and weeks following the traumatic exposure.

Once potential medical causes of neuropsychiatric impairment are ruled out and other immediate needs are met (e.g., physical needs, practical needs for assistance, normalization, and psychoeducation), then both medications and non-pharmacologic interventions may be considered. The selection and effectiveness of specific interventions administered acutely are not well supported in the literature. Although there are no evidence-based pharmacologic treatments for ASD, there may be a role for pharmacotherapy to aid in the management of specific symptoms (e.g., insomnia, pain, hyper arousal).

Use of Benzodiazepines

Historically, benzodiazepines were the primary agent in PTSD treatment, particularly alprazolam, and clonazepam. However, based on the limited data that are available, benzodiazepine administration should be used with caution (or discouraged) both in acute stress disorder (ASD) and post-traumatic stress disorder (PTSD), due to lack of evidence for effectiveness and risks that may outweigh potential benefits. Although benzodiazepines have been frequently used "as needed" and continuously for anxiety disorders, including to augment evidence-based treatment modalities in PTSD, there is theoretical, animal, and human evidence to suggest that benzodiazepines may actually *potentiate* the acquisition of fear responses and worsen recovery from trauma. Benzodiazepines use should be used especially cautiously in combat veterans with PTSD, because of the very high co-morbidity of combat-related PTSD with alcohol misuse and substance use disorders (upwards of 50% of comorbidity) and potential problems with tolerance and dependence. Once initiated in combat veterans, benzodiazepines can be very difficult, if not impossible, to discontinue, due to significant withdrawal symptoms compounded by the underlying PTSD symptoms.

Braun, et al. 1990, in a randomized double blind cross-over study, of alprazolam showed no significant benefit in alleviating PTSD symptoms compared with placebo. A slight reduction in anxiety symptoms was offset by withdrawal effects documented after only five weeks of treatment.

Gelpin, et al. (1996) in an open labeled study, treated 13 patients who had recently experienced trauma (within the past 18 days) and were experiencing excessive distress (panic, agitation, or persistent insomnia) for up to 6 months with alprazolam or clonazepam. These 13 patients were compared with a control group of recently traumatized individuals matched for demographics and symptoms (using the Impact of Events Scale). On follow-up, PTSD occurred at a significantly higher rate in the

benzodiazepine treated group (9/13, 69%) than in the control group (2/13, 15%). Although the strength of the evidence is low (open labeled study), the study suggested that benzodiazepines may worsen outcomes in the acute period following trauma, and the authors referenced animal data consistent with the hypothesis that benzodiazepines may potentiate the acquisition of fear responses.

Melman, et Al. 2002. In this small double-blind randomized controlled study during the acute period after trauma (mean 2 weeks after trauma), the short-term (7 day) evening use of temazepam in patients with significant ASD/PTSD symptoms was compared with placebo (11 patients in each group). The study showed no benefits in preventing PTSD, and the trend was similar to the Gelpin study, with 6 of 11 (55%) patients who received tamazepam developing PTSD, compared with 3/11 (27%) who received placebo.

Benzodiazepines can be effective against anxiety, insomnia and irritability, but they should be used with caution in patients with ASD and PTSD because of the high frequency of co-occurring substance abuse and dependence in patients with PTSD. The balance between benefit and potential risks, including the risks of dependency and of withdrawal after discontinuation, should be evaluated when considering benzodiazepines in patients with acute stress reaction.

Sleep Disturbance

One of the most difficult symptoms to address in the immediate aftermath of exposure to a traumatic event is sleep disturbance. Theoretically, the more sleep impairment and trauma-related nightmares an individual continues to experience, the more likely he or she is to continue to experience the symptoms of ASD and/or subsequently develop PTSD. There is little evidence for the effectiveness of any sleep aids in the immediate aftermath of trauma.

For Recommendations and discussion of the evidence for sleep disturbance see Module I-3: A. Sleep Disturbance

Ineffectiveness of Propranolol

Several studies have examined the use of propranolol, hydrocortisone, and gabapentin for the prevention of PTSD (Pittman, 2002; Stein, 2007).

Four small and brief clinical trials were identified in the peer-reviewed medical literature that evaluated the use of pharmacologic treatments to prevent the development of posttraumatic stress disorder (PTSD) symptoms in traumatized subjects (Pitman, 2002; Stein, 2007; Reist, 2001; Vaiva, 2003). All studies involved immediate posttraumatic administration of propranolol and 1 study also included a trial of gabapentin. Two of the studies (Reist, 2001; Vaiva, 2003) were excluded due to poor quality. Pitman (2002) reported a pilot study of 41 patients who were randomized to begin, within 6 hours of the event, a 10-day course of double-blind propranolol (n = 18) versus placebo (n = 23), 40 mg four times daily. Significant improvement of symptoms was noted in the treatment group. Stein (2007) conducted a double blind, randomized controlled trial of 14 days of the beta-blocker propranolol (n = 17), the anxiolytic anticonvulsant gabapentin (n = 14), or placebo (n = 17), administered within 48 hours of injury to patients admitted to a surgical trauma center. Of 569 accessible, potentially eligible subjects, 48 (8%) participated. Although well tolerated, neither study drug showed a significant benefit over placebo on depressive or posttraumatic stress symptoms.

McGhee et al., (2008) examined the relationship between PTSD prevalence and propranolol administration in 603 soldiers injured in OIF/OEF, of which 226

completed the PTSD Checklist-Military. Thirty-one soldiers received propranolol and 34 matched soldiers did not. In propranolol patients, the prevalence of PTSD was 32.3% vs 26.5% in those not receiving propranolol (P = .785). These data suggest propranolol does not decrease PTSD development in burned soldiers.

Although some positive results were noted, the size and weak study designs of the investigations do not allow for definitive conclusions regarding the value of these medications in preventing the development of PTSD symptoms after traumatic events.

Other Medications

One study that involved administration of cortisol at the time of cardiac bypass surgery (Schelling, 2004) suggested that patients who received stress doses of cortisol had lower PTSD symptom scores than a comparison group (that did not receive cortisol) when questioned six months after surgery.

A crossover trial of 1 month of low-dose cortisol therapy evaluated 3 patients diagnosed with PTSD (Aerni, 2004). The authors reported that each patient demonstrated improvement on at least 1 self-reported PTSD measure. The study was excluded from analysis for this guideline due to small numbers.

A single clinical investigation of the effect of the antibiotic D-cycloserine (Heresco-L, 2002) enrolled 11 patients in a crossover trial. While patients reported some improvement on self-reported measures of PTSD symptoms, similar improvements were seen in placebo-treated patients.

Conclusions:

There is a small amount of evidence that suggests that administration of cortisol at the time of, or immediately after, a traumatic event may have a preventive effect on the subsequent development of PTSD symptoms. Little evidence exists suggesting that gabapentin or propanolol are of value in preventing the development of PTSD after trauma.

Due to the limited support of evidence, the use of medications in the early period post trauma to prevent PTSD cannot be recommended. Pharmacotherapy may be considered to aid in the management of specific symptoms (e.g., addressing sleep disturbance, irritability or control of pain).

EVIDENCE TABLE

	Evidence	Sources	LE	QE	Net Effect	SR
1	Pharmacotherapy prophylaxis for PTSD	Stein, 2006 [§]	I	Poor	-	I
2	Propranolol to reduce hyperarousal, excessive arousal, or panic attacks	Pittman et al., 2002 Stein et al., 2007 Schelling., 2004	I	Fair	Small	C
3	Benzodiazepines for insomnia, hyperarousal, excessive arousal, or panic attacks	Braun et al., 1990 Cates et al., 2004 Gelpin et al., 1996	II-2	Fair	Small/Neg	D

LE =Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation §=Systematic Review *(see Appendix A)*

Table I - 3 Pharmacologic Studies to Prevent the Development of PTSD

Author, Tear	Results	n	Trauma	LE	QE	NB
Propranolol						
Pitman, 2002	Significant improvement post acute stress	41	Any	I	Good	Small
Stein, 2007	No difference from placebo (gabapentin or propanolol)	48	Severe physical injury	I	Good	Zero
Reist , 2001	Recall of arousing story was reduced	38	N/R	I	Poor	EXC
Vaiva, 2003	PTSD rate and symptoms lower in the propanolol group	19	MVA, assault	I	Poor	EXC
Cortisol						
Schelling, 2004	Hydrocortisone administered during cardiac surgery reduced chronic stress symptom scores	91	Bypass surgery		Fair	Mod
Aerni, 2004	Low dose cortisol for 1 month reduces the cardinal symptoms of PTSD	3			Poor	EXC
D-cycloserine						
Heresco-Levy, 2002	Improvements in numbing, avoidance, and anxiety symptoms	11	N/R		Fair	Zero

N/R = no reported; EXC – Excluded; Mod = Moderate

I-2. TREATMENT FOR POST-TRAUMATIC STRESS DISORDER (PTSD)

A. Selection of Therapy for PTSD

In clinical practice, providers and patients alike are often faced with important decisions relating to type, number, frequency, and dose of various psychotherapies and pharmacologic interventions. Therapies may be broadly divided into (1) evidence-based psychotherapies (particularly cognitive behavioral therapies), (2) evidence-based pharmacotherapies (particularly SSRIs and SNRIs), and (3) key adjunctive or supplemental treatment modalities.

Providers should explain to all patients with PTSD the range of therapeutic options that are available and effective for PTSD. This discussion should include general advantages and disadvantages (including side-effects/risks) associated with each therapeutic option. Contrary to clinical intuition, among the different evidence-based cognitive behavioral psychotherapy treatments, the evidence suggests that they are equivalent in their effectiveness (Rothbaum, 2001). In general, PTSD therapy research has provided insufficient evidence to favor medication or evidence-based psychotherapy as a first-line treatment. There is also insufficient evidence to suggest for or against combined medication and psychotherapy over only one of the two approaches. Patient preferences and the particular evidence-based treatments that the provider has the most training/expertise in will often drive the initial therapeutic approach.

It may be helpful to add therapies using a stepped care approach, even though supporting evidence is lacking. The use of stepped care approaches, which have been best studied in the context of collaborative care management based in primary care, has been advocated for many chronic conditions including hypertension, chronic fatigue, low back pain, depression, and post-war health concerns. In collaborative/stepped care, the intensity of care is augmented for patients who do not achieve an acceptable outcome with lower levels of care. In this approach there are care management techniques to facilitate coordination of care, monitoring, and follow-up; and there is judicious use of referrals supported through collaborative consultations. Stepped care is based on several assumptions: different people require different levels of care; finding the right level of care often depends on monitoring outcomes; moving from lower to higher levels of care based on patient outcomes often offers efficient increases in overall effectiveness; conditions often co-exist and involve more than one organ system; iatrogenic effects can occur from uncoordinated specialty care; unnecessary diagnostic tests, or use on non-evidence-based treatments; and patients often drop out or fail to follow-up with treatment as it becomes more complex.

The level or intensity of care is guided by illness trajectory (degree of chronicity and current illness severity), observed outcomes, and previously attempted therapies. Active follow-up is used to determine the level of care each patient requires over time. In PTSD for example, the patient and provider may determine that the first-line therapy will be psychotherapy. If, after a period of treatment, the patient is not responding adequately, the patient may be "stepped up" in therapeutic intensity by adding a medication, such as a selective serotonin reuptake inhibitor (SSRI) to the regimen of ongoing psychotherapy, and reassessing whether additional measures need to be taken to address co-morbid conditions.

RECOMMENDATIONS

1. Providers should explain to all patients with PTSD the range of available and effective therapeutic options for PTSD.
2. Patient education is recommended as an element of treatment of PTSD for all patients and the family members. [C]
3. Patient and provider preferences should drive the selection of evidence-based psychotherapy and/or evidence-based pharmacotherapy as the first line treatment. [Expert Consensus]
4. Psychotherapies should be provided by practitioners who have been trained in the particular method of treatment, whenever possible. [Expert Consensus]
5. A collaborative/stepped care approach to therapy administration may be considered, though supportive evidence is lacking. [Expert Consensus]
6. Specialized PTSD psychotherapies may be augmented by additional problem specific methods /services, and pharmacotherapy. [Expert Consensus]

B. PSYCHOTHERAPY INTERVENTIONS FOR PTSD

Table I - 4 Intervention for Treatment of PTSD

SR	Significant Benefit	Some Benefit	Unknown	No benefit or Harm
A	Cognitive Therapy [CT] Exposure Therapy [ET] Stress Inoculation Training [SIT] Eye Movement Desensitization and Reprocessing [EMDR]			
B		Imagery Rehearsal Therapy [IRT] Psychodynamic Therapy Hypnosis Group therapy	WEB-Based CBT Dialectical Behavioral Therapy [DBT]	
C		Patient Education		
I		Family Therapy		

SR_= level of recommendation

Significant difficulties reside in defining different CBTs and establishing their parameters. There are a number of reasons for this difficulty, including the diversity of treatments available and a lack of a common "language" to describe the same treatment components. The evidence-based psychotherapeutic interventions for PTSD that are supported by RCTs can be considered broadly as trauma-focused cognitive-behavioral therapy (CBT) interventions. CBT for PTSD refer to a range of psychological interventions based primarily on learning theory, cognitive theory, emotional processing theory, and conditioning models. Psychoeducation is another important component of all interventions. Non-trauma focused psychological treatments have not been shown to reduce PTSD symptoms as significantly as these four evidence-based CBT modalities. (ISTSS 2009, NICE 2005, Bisson 2009)

Trauma-focused CBT interventions include explicit review of traumatic experiences as part of treatment in some form. These include exposure techniques that involve repetitive review of traumatic memories and trauma-related situations and cognitive techniques that focus on identification and modification of trauma-related beliefs and meanings. Although stress inoculation training does not focus as explicitly on the exploration of traumatic memories or meanings, it is still considered a trauma-focused CBT because of it's focus on assisting individuals with PTSD in reducing trauma-related avoidance and anxiety through relaxation and other techniques and because of how extensively it has been tested specifically for PTSD. Other CBT interventions that are not trauma focused are less effective.

In formulating the recommendations,, the working group evaluated the empirical evidence-base, considering randomized trials as the highest level of the evidence-based hierarchy. Therapy provided in clinical trial settings differs from therapy that is practiced in day-to-day care, and the recommendations represent the techniques and protocols as they were studied and reported in the RCTs.

Components of efficacious CBT interventions for PTSD have been packaged in research trials in various ways. Very few studies have dismantled these individual components to assess the relative efficacy of each independently. The majority of interventions included in RCTs have been grouped into four main categories based on the components most emphasized or the specific names used in the published literature:

- **Exposure-based techniques** (for example, prolonged exposure) emphasize in-vivo, imaginal, and narrative exposure, but also include elements of cognitive restructuring (e.g. evaluating the accuracy of beliefs about danger) as well as relaxation techniques and self-monitoring of anxiety.
- **Cognitive-based therapies** (for example, cognitive processing therapy), emphasize cognitive restructuring (challenging automatic or acquired beliefs connected to the traumatic event, such as beliefs about safety or trust) but also include relaxation techniques and discussion/narration of the traumatic event either orally and/or through writing.
- **Stress Inoculation Training** (the specific anxiety management package that has been most extensively studied in the literature), places more emphasize on breathing retraining and muscle relaxation, but also includes cognitive elements (self-dialogue, thought stopping, role playing) and, sometimes, exposure techniques (in-vivo exposure, narration of traumatic event).
- **EMDR** (extensively studied in a large number of RCTs as its own modality) resembles other CBT modalities in that there is an exposure component (e.g. talking about the traumatic event as well as holding distressing traumatic memories in mind, without verbalizing them) combined with a cognitive component (e.g., identifying a negative cognition, an alternative positive cognition, and assessing the validity of the cognition), and relaxation/self-monitoring techniques (e.g., breathing, "body scan"). Although alternating eye-movements are part of the classic EMDR technique (and the name of this type of treatment), comparable effect sizes have been achieved with or without eye movements or other forms of distraction or kinesthetic stimulation. Consequently, the mechanisms of effectiveness are likely to be similar to the other trauma-focused CBTs.

RECOMMENDATIONS

1. Psychotherapy interventions are aimed at reduction of symptoms severity and improvement of global functioning. However, the clinical relevance and importance of other outcome indicators (e.g., improvement of quality of life, physical & mental health) are not currently well known.
2. Providers should explain to all patients with PTSD the range of available and effective therapeutic options for PTSD.

Treatment Options:

3. Strongly recommend that patients who are diagnosed with PTSD should be offered one of the following evidence-based psychotherapeutic interventions (Cognitive Behavioral Therapy (CBT)). Selection will be based on patient preference, severity of the symptoms, the clinician expertise in one or more of these treatment methods, and available resources:
   - Cognitive based Therapy [CT], [A]
   - Exposure based Therapy [ET] [A]
   - Stress Inoculation Training [SIT] [A]
   - Eye Movement Desensitization and Reprocessing [EMDR] [A]
4. Brief **Psychodynamic Therapy** may be considered for patients with PTSD. [B]
5. Imagery **Rehearsal Therapy [IRT]** can be considered for treatment of nightmares and sleep disruption. [B]
6. Dialectical **Behavioral Therapy (DBT)** can be considered for patients with a borderline personality disorder typified by parasuicidal behaviors. [B]
7. Hypnotic **Techniques** can be considered especially for symptoms associated with PTSD, such as pain, anxiety, dissociation and nightmares, for which hypnosis has been successfully used. [B]
8. There is insufficient evidence to recommend for or against **Family or Couples interventions** as first line treatment for PTSD; Family or Couples therapy may be considered in managing PTSD-related family disruption or conflict, increasing support, or improving communication.[I]
9. **Relaxation Therapy** (including biofeedback) is not recommended as single strategy for the treatment of PTSD. [D]
10. Relaxation **Techniques** should be considered as a component of CBT treatment approaches for ASD or PTSD in alleviating symptoms associated with physiological hyperreactivity. [C]
11. Group Therapy is recommended as useful treatment for patients with PTSD and may be considered to improve symptoms of PTSD [B]
    - There is insufficient evidence to favor any particular type of group therapy over other types.
    - Group therapy is contraindicated for patients with active psychosis, cognitive deficits or at current suicidal or homicidal risk.
    - Patients being considered for group therapy should exhibit; acceptance for the rationale for trauma work, willingness to self-disclose, and no current life crisis.

- Patients entering group therapy should sign an informed consent.

12. Consider augmenting with other effective evidence-based interventions for patients who do not respond to a single approach.

13. Supportive psychotherapy is not considered to be effective for the treatment of PTSD. However, it is more helpful than no treatment and may be helpful in preventing relapse in patients who have reasonable control over their symptoms and are not in severe and acute distress. For the patient with co-morbid disorders, supportive therapy may be all they can tolerate without causing additional harm.

Notes:

Psychotherapy interventions are aimed at reduction of symptoms severity and improvement of global functioning. However, the clinical relevance and importance of other outcome indicators (e.g., improvement of quality of life, physical & mental health) are not currently well known.

Psychodynamic, interpersonal, experiential (e.g., Gestalt therapy), and many other approaches may also be beneficial parts of an effectively integrated approach. Most experienced therapists integrate diverse therapies, which are not mutually exclusive in a fashion that is designed to be especially beneficial to a given patient.

Delivery of care:

14. Telemedicine interventions that have been shown efficacious may be considered as an alternative to standard mental health treatment for PTSD.

    a. Telemedicine interventions are recommended when face-to-face interventions are not feasible due to geographic distance between patient and provider or other barriers to patient access (e.g. agoraphobia, physical disability); when the patient would benefit from more frequent contact than is feasible with face-to-face sessions; or when the patient declines more traditional mental health interventions.

    b. Providers using telemedicine interventions should endeavor to maintain and strengthen the therapeutic relationship, build patient rapport, stress practice and assignment completion, and ensure adequacy of safety protocols using similar techniques as they do in a face-to-face session.

    c. Providers using technology-assisted interventions should take steps to ensure that their work complies with the regulations and procedures of the organization in which they are employed, legal standards, and the ethical standards of their professions. Patient confidentiality and safety should be monitored closely.

15. Web-based interventions, that have been shown to be efficacious may be considered as a standalone intervention, or as an alternative to standard mental health treatment for PTSD

    a. Clinicians should carefully review the content of any web-based materials to ensure their accuracy and ethical application before recommending use to patients.

    b. Web-based interventions are recommended where face-to-face interventions are not feasible (e.g., geography limits access to other forms of treatment) or when patients decline more traditional mental health interventions.

c. Providers using web-based interventions should regularly encourage patients to complete the web-based intervention and endeavor to maintain and strengthen the therapeutic relationship, build patient rapport, stress practice and assignment completion, and ensure adequacy of safety protocols.

d. Providers using technology-assisted interventions should take steps to ensure that their work complies with the regulations and procedures of the organization in which they are employed, legal standards, and the ethical standards of their professions. Patient confidentiality and safety should be monitored closely.

DISCUSSION

B1. Cognitive Therapy (CT)

Cognitive therapy (CT) emerged principally from the work of Albert Ellis (1962) and Aaron Beck (1964). Initially manualized for the treatment of depression (Beck, Rush, Shaw, & Emery, 1979), CT has been successfully adapted to the treatment of a diverse set of psychiatric disorders, including PTSD (Freeman & Datillo, 1992; Freeman et al., 1989; Scott et al., 1989). The most studied protocols include CPT and CT as manualized by Bryant (ref).

Several randomized controlled trials (RCTs) demonstrate the efficacy of CT for a wide range of patients with PTSD, demonstrating its use in treating veterans with combat-related trauma, motor vehicle accident survivors, sexual or physical assault victims, and victims of natural disasters. Most RCTs have examined CT as delivered in an individual therapy format, though some studies have investigated group-delivered CT.

For purposes of this guideline, CT is defined as a treatment whose primary goal is to improve mood and behavior through a deliberate and explicit focus on modifying dysfunctional thoughts, beliefs, and expectations. In theory, while behavioral change is a desirable outcome of CT, the treatment components themselves do not explicitly or directly target behavioral patterns per se (however, it appears that even cognitive interventions may involve behavioral components such as exposure in that, for example, discussing the meaning of a traumatic event inevitably involves exposing oneself to the memories of that event). Likewise, while exposure-based interventions may result in altered cognitions, exposure therapies, per se, do not involve an explicit focus on cognitive restructuring procedures seen in CT. Nonetheless, in practice it is virtually impossible to conduct cognitive trauma-focused therapy without also involving behavioral or exposure based components, as it is similarly virtually impossible to conduct behavioral or exposure-based therapy without involving cognitive therapy components.

CT is accomplished through a systematic and prescriptive process of (a) identifying dysfunctional beliefs, (b) challenging and disputing these beliefs by examining the evidence for or against them, and (c) restructuring or replacing these beliefs with those that are more functional, logical, and reality-based. According to theories on which CT is based, traumatic events may lead to distorted beliefs regarding personal safety, self-efficacy, relative danger, future consequences of actions, and availability of support. Over time, these maladaptive beliefs lead to or maintain symptoms of PTSD and impair global functioning. The goal of CT for PTSD is to correct these beliefs, which causes a decrease in symptoms and improves functioning.

The CT treatment protocol for PTSD typically begins with an introduction of how thoughts affect emotions and behavior. The cognitive model of change is introduced and the patient is given a detailed rationale and expectations for participation in therapy are established. Treatment interventions are focused on identifying and clarifying patterns of thinking. Several active techniques are used, such as capturing and recording thoughts about significant events, weighing the evidence in support of these thoughts, challenging distressing trauma-related thoughts, and replacing dysfunctional thoughts with more adaptive ones. Through systematic assignments both during and between therapy sessions, dysfunctional thoughts are examined, challenged, and replaced. As thoughts become more logical and reality-based, symptoms decrease and global functioning improves. CT also emphasizes the identification and modification of distorted core beliefs about self, others, and the larger world. CT teaches that improved accuracy of thoughts and beliefs about self, others, and the world leads to improved mood and functioning.

DISCUSSION

Randomized controlled trials (RCTs) have shown that CT alone is an effective intervention for patients with PTSD (Lovell et al., 1998; Marks et al., 2001). It is useful for identifying and modifying the many negative beliefs related to a traumatic experience. CT can be used effectively to reduce distressing trauma-related thoughts (e.g., about survival guilt, self-blame for causing the trauma, feelings of personal inadequacy, or worries about the future). Modifying thoughts about these and other trauma-related issues can reduce PTSD symptoms and improve mood and functioning. Numerous other trials support CT as a key component of combination treatments.

CT techniques are often delivered as part of treatment "packages" that can include exposure therapy, trauma-related education, and anxiety management. For example, Cognitive Processing Therapy, which has been manualized and validated for use with female sexual assault–related PTSD in women (Resick et al., 2002) and in veterans ( ), combines aspects of CT and exposure therapy. CT can also be delivered in conjunction with a range of other psychological therapies (e.g., EMDR and psychodynamic therapy). CT techniques may be an especially helpful treatment component when co-morbid depressive and/or anxiety disorders are present.

Significant difficulties reside in defining different CTs and establishing their parameters. There are a number of reasons for this difficulty, including the diversity of treatments available, a lack of a common "language" to describe the same treatment components, and the fact that a number of CTs have Behavioral Therapy components, such as imaginal and in-vivo exposure, embedded in their approach. This occurs for both explicit and implicit reasons. Explicitly, a number of treatments combine cognitive and exposure-based components and have patients engage in activities that have the dual goals of modifying maladaptive beliefs and facilitating behavioral habituation to the feared stimulus through repeated exposure to the trauma memory and reminders of the trauma memory. In effect, these treatments are combination treatments rather than purely cognitive therapies. Other treatments integrate exposure-based components in a more implicit, or accidental, manner. For example, having patients write extensively about their trauma, talk about it, or discuss it with others may have the result of habituation through repeated behavioral steps while the treatment itself claims to be purely cognitive. The effect of this blurring of the treatment components makes classification difficult and leads to a number of CTs that are best framed as combination or package treatments containing both cognitive and exposure therapy (ET) elements. In fact, while cognitive therapy and exposure therapy may be theoretically distinct forms of

treatment, in practice these interventions are often combined and most evidenced-based PTSD treatments combine elements of CT and ET.

Contraindications for CT have not been empirically established, but may include psychosis, severe brain damage, or severe intellectual impairment.

Summary of Studies:

Twenty-one relevant clinical trials that evaluated the use of CT for PTSD were analyzed. The trials investigated the effect of CT compared with no-treatment conditions, such as placement on a waiting list, and compared with other therapies. Both single-session therapy and long-term therapy were studied, with the longest therapy lasting 30 weeks, plus additional sessions after the end of formal treatment. Although therapists trained in standardized CT methods provided some treatments, the actual content of the therapy was often variable, as was the terminology used to describe it. In these studies, although the patients in the control group and study group generally improved over time, there was significantly greater improvement in most treated groups, compared with controls. The studies that enrolled participants from the general population of PTSD patients examined a primarily female population. There was a single clinical trial that enrolled male disaster workers.

Follow-up intervals ranged from immediate posttreatment to up to 2 years after completion of therapy. Patient retention rates were generally similar to those observed in studies of other types of therapy, but ranged from 52% to 100%. Few studies were blinded, and most relied on self-reported symptom questionnaires to provide data for analysis.

Nine relevant randomized clinical trials compared the effect of CT with that of a nonactive treatment, such as waitlist control group, treatment as usual (TAU), or repeated assessment (Beck, et al., 2009; Classen, Koopman, Nevill-Manning, & Spiegel, 2001; Difede, et al., 2007; Duffy, Gillespie, & Clark, 2007; Ehlers, et al., 2005; Foa, Zoellner, & Feeny, 2006; Monson, et al., 2006; Sijbrandij, et al., 2007; Smyth, Hockemeyer, & Tulloch, 2008). Both group and individual CT appeared effective in reducing PTSD symptoms. This was seen for brief, limited treatment models and for treatment programs taking several months to complete. Four studies compared the effect of CT with that of therapies described as support, supportive care, or Rogerian support therapy (Blanchard, et al., 2003; McDonagh et al., 2005; Foa, Zoellner, & Feeny, 2006; Cottraux, et al., 2008). In these trials, CT was reported to be superior to supportive care in reducing PTSD or in retaining patients in therapy. Notably, in the Cottraux study, there were more drop-outs from the Rogerian group due to worsening symptoms. Additionally, the CT group patients in this study demonstrated sustained improvements in PTSD symptoms at two years follow-up. Trauma-focused CT and present-focused CT were compared in a single study of Vietnam veterans (Schnurr, et al., 2003). Approximately 40% of all participants showed significant change in PTSD symptoms, but neither treatment was superior to the other.

The Trauma-Adaptive Recovery Group Education and Therapy (TARGET) model was studied in a trial that compared it with CT in the treatment of substance abuse patients (Frisman et al., 2008). Some improvement in PTSD symptoms was noted in both groups, but TARGET therapy was reported to produce greater improvement in sobriety self-efficacy. One clinical trial (van Emmerik, et al., 2008) compared CT with a structured writing therapy that included three components: (a) writing in the first person, (b) cognitive self-reappraisal of the writing, (c) farewell and sharing the writing. The authors reported improvement in both study groups, but detected no differences in efficacy between them.

Recently, researchers have attempted to dismantle treatments to examine their efficacious components. Bryant et al. (2003) reported that patients who received both CT and ET demonstrated less avoidance, depression, and catastrophic cognitions relative to patients who received ET only, while there was no difference in PTSD symptoms between the groups. In a later four arm study to try to determine what specific components of CBT were more effective, Bryant et al. (2008) compared cognitive restructuring (CR) alone, in-vivo exposure alone, in-vivo combined with imaginal exposure, and the combination of CR, in-vivo exposure, and imaginal exposure. The combined treatment was most effective; supporting the notion that effective therapy needs to include a combination of exposure and cognitive techniques. Resick et al. (2008) found no difference between patients assigned to receive Cognitive Processing Therapy (CPT) and patients assigned to receive only the cognitive component of CPT. Interestingly, a third group that received only written narrative exposure without any of the other CPT techniques performed nearly as well with no significant difference compared with full CPT or the cognitive component by the time of the 6 month follow-up. In an attempt to isolate the active ingredients, McDonagh et al. (2005) compared a treatment combining exposure and cognitive therapy elements to both a waitlist control group and a group given Present-Centered Therapy (PCT), a form of problem-solving therapy designed to eliminate the active ingredients found in CBT. Both treatment groups demonstrated improved symptoms over the waitlist control group but did not differ between themselves.

Bisson (2009) performed a systematic review of the randomized trials of all psychological treatments (Cochrane Collaboration Report). Treatment were categorized as Trauma-focused cognitive behavioural therapy/exposure therapy (TFCBT); stress management (SM); other therapies (supportive therapy, non-directive counselling, psychodynamic therapy and hypnotherapy); group cognitive behavioural therapy (group CBT); eye movement desensitization and reprocessing (EMDR). The reduction of clinician assessed PTSD symptoms measured immediately after treatment of TFCBT did significantly better than waitlist/usual care, SM and other therapies. Stress management did significantly better than waitlist/usual care, and there was no significant difference between other therapies and waitlist/usual care control. Group TFCBT was significantly better than waitlist/usual care. EMDR did significantly better than waitlist/usual care and other therapies. There was no significant difference between EMDR and TFCBT or SM.

There was evidence that individual TFCBT, EMDR, stress management and group TFCBT are effective in the treatment of PTSD. Other non-trauma focused psychological treatments did not reduce PTSD symptoms as significantly. There was some evidence that individual TFCBT and EMDR are superior to stress management in the treatment of PTSD at between 2 and 5 months following treatment, and also that TFCBT, EMDR and stress management were more effective than other therapies. There was insufficient evidence to determine whether psychological treatment is harmful. There was some evidence of greater dropout in active treatment groups. The considerable unexplained heterogeneity observed in these comparisons, and the potential impact of publication bias on these data, suggest the need for caution in interpreting the results of this review.

Conclusions:

There is good evidence that individual CT is effective in reducing PTSD symptoms, and limited evidence that treatment gains persists for up to 2 years. Additional research is needed to demonstrate the efficacy of CT delivered in a group format. Given the contrasting outcomes of available studies comparing combinations and

dismantling components, there is insufficient data to conclude that CT is superior to ET at this time.

EVIDENCE TABLE

	Recommendation	Sources	LE	QE	SR
1	CT is effective with civilian men and women exposed to combat and non-combat trauma.	Bryant et al., 2003 Bryant et al., 2008 Cottraux et al., 2008 Difede et al., 2007 Duffey et al., 2007 Ehlers et al., 2005 Foa et al., 2005 Lovell, et al., 2001 Marks et al., 1998 Sijbrandij et al., 2007 Smyth, Hockemeyer, & Tulloch, 2008 vanEmmerik, Kamphuis, & Emmelkamp, 2008	I	Good	A
3	CT is effective in treating comorbid substance abuse and PTSD	Frisman et al., 2001	I	Poor	C
4	CT is effective in treating PTSD in motor vehicle accident survivors	Blanchard et al., 2003	I	Mod	B
5	CT is effective in treating PTSD in a group format	Beck et al., 2009	III	Poor	I
2	CT is effective with military and veterans with combat- and non-combat-related PTSD.	Monson et al., 2006	III	Poor	I
3	CT is effective for women with PTSD associated with sexual assault.	Chard, 2005 Classen et al., 2003 Foa et al., 2004 Foa, Zoellner, & Feeny, 2006 McDonagh et al., 2005 Resick et al., 2002 Resick et al., 2002 ,2008	I	Good	A

QE = Quality of Evidence;SR =Strength of Recommendation (see Appendix A)

B2. Exposure Therapy (ET)

Exposure therapy protocols have a high level of evidence for treatment of PTSD, and generally include the components of psychoeducation, imaginal or narrative exposure, in-vivo exposure, and processing of thoughts and emotions. The most commonly used protocol is Prolonged Exposure (PE), although various other exposure protocols have been used. Protocols that provide only a portion of these components (e.g. imagery rehearsal therapy, in-vivo exposure or imaginal exposure alone), show less robust effect sizes. Imaginal exposure involves encouraging the patient to revisit the experience in imagination, and recalling the experience through verbally describing the physical and emotional details of the trauma. In vivo exposure involves asking the patient to physically confront realistically safe but still feared stimuli (e.g. driving a car after having been in a serious motor vehicle accident). In vivo exposure is typically arranged in a hierarchical order based on perceived difficulty of confronting each stimulus. In addition, each item on the

hierarchy may be titrated to make it more or less difficult depending on the patient's progress in treatment. In the preceding example the patient might first sit in a car in the passenger seat, and then in the driver's seat, and then start the car, etc. The patient repeats each situation until a reduction in the intensity of emotional and physiological response is achieved, at which point they move on to the next item in their hierarchy.

DISCUSSION

RCTs have shown that Exposure Therapy (ET) helps men and women with PTSD symptoms. RCTs of ET have demonstrated its efficacy in female victims of sexual and non-sexual assault, motor vehicle accidents, male combat-related trauma, war refugees, and mixed trauma populations. In randomized trials comparing ET with other cognitive behavioral treatments, ET has performed as well or better than any other cognitive behavioral therapy (CBT) approach. Findings regarding efficacy in (mostly Vietnam) combat veterans in VA clinical settings are less consistent and the degree of improvement in PTSD symptoms may be less pronounced though preliminary data suggest it is efficacious (Rauch et al., 2009).

The mechanism of ET is thought to be related to reduction in negative emotions (fear, anxiety, sadness, guilt) associated with their experience through repetitive, therapist-guided confrontation of feared places, situations, memories, thoughts, and feelings. ET usually lasts from 8 to 15 sessions depending on the trauma and treatment protocol. In the most common form of ET, patients are repeatedly exposed to their own individualized trauma stimuli, until their arousal and emotional responses are consistently diminished. ET providers can vary the pacing and intensity of exposing patients to the most difficult details of their trauma based on the patient's emotional response to the trauma and to the therapy itself.

Several studies indicate that results are comparable between exposure with other forms of cognitive behavioral therapy (e.g., cognitive therapy, EMDR, stress inoculation training, or combinations). Variations on exposure therapy that have promising results include written exposure and exposure in the context of a broader narration of the patient's life. For example, in a three arm dismantling RCT by Resick, et al. (2008), written exposure was compared directly with the CPT program (without the written exposure component), and the full CPT program (including written exposure). Treatment sessions for the written exposure only group consisted of two one-hour sessions to provide overview of treatment and education, followed by five two-hour sessions where the patient was asked to write for approximately 60 minutes alone about their worst traumatic event, followed by reading this to the therapist who provided supportive feedback without any of the cognitive restructuring techniques. The written exposure group did nearly as well as both of the CPT treatment arms (which consisted of 12 one-hour sessions), and on the six month follow-up there was no significant difference between the three groups. This supports the notion that a systematic writing narrative process can be highly effective in alleviating symptoms.

Oral narrative therapy has also been shown to be highly effective in treating PTSD in war-ravaged refugee populations. In one study of Rwandan refugees with PTSD and severe war-related trauma (Neuner, 2008), lay counselors had patients construct a narration of their life from birth to the present while focusing on detailed exploration of specific traumatic experiences. This resulted in significant improvement in PTSD symptoms, with effects comparable to any of the most cited CPT or PE studies in U.S. or European clinical samples. Increasingly, virtual (computer based) exposure techniques and strategies are being utilized to accomplish exposure therapy.

However, to date there are no randomized studies of virtual reality compared with either wait list or standard exposure techniques that confirm its efficacy.

There have, as yet, been no randomized trials comparing ET with pharmacotherapy, either alone or in conjunction with one another. However, two trials have examined augmentation strategies. In one trial, the addition of ET following 10 weeks of sertraline resulted in reduction in relapse and additional symptom reduction in those patients who either failed to initially respond or partially responded to sertraline (Rothbaum, et al., 2006). In a second study, augmentation with paroxetine for patients who partially responded to 6 sessions of ET did not result in additional benefit (Simon, et al, 2007).

As with any treatment, patients need to be screened for their suitability prior to undergoing ET as it may temporarily increase their level of distress. Patients living with the threat of domestic violence should not be considered for ET until their security can be assured. ET has not been studied and providers should therefore use caution when working with patients with health problems that preclude exposure to intense physiological arousal, current significant suicide risk, substance dependence, or current psychosis. Providers should be aware of the possibility of increased distress as patients confront trauma memories and reminders. As in all PTSD treatment, providers must take concrete steps to prepare patients for the treatment (e.g., present clear rationale, explore patient concerns, encourage realistic expectations, and build commitment to the therapy) in order to reduce the risk of dropout.

EVIDENCE TABLE

	Evidence	Sources	LE	QE	SR
1	ET is effective in the treatment of PTSD (compared to waiting list, present centered therapy, and other control comparisons)	Basoglu 2005, 2007 Cloitre 2002 Cooper et al., 1989 Feske, 2008 Foa et al., 1991 & 1999a Ironson et al., 2002 Keane et al., 1989 Marks et al., 1998 McDonah, 2005 Neuner 2004, 2008 (life narration), Schnurr 2007 Tarrier et al., 1999	I	Good	A
2	ET compared to other forms of therapy show equivalent results.	Bryant, 2003 Bryant, 2008 Foa et al., 1991 & 1999a Foa, 2005 Marks et al., 1998 Paunovic & Ost, 2001 Power, 2002 Resick ,2002 Resick & Nishith, 2001 Resick, 2008 (written exposure) Rothbaum, 2005 Schnurr, 2001 Tarrier et al., 1999	I	Good	A

QE = Quality of Evidence; R = Recommendation (see Appendix A)

B3. Stress Inoculation Training (SIT)

Several therapy protocols have been developed that focus on anxiety management and coping skills training, including Stress Inoculation Training and Relaxation Training. Stress inoculation training (SIT), is presented as a tool box or set of skills for managing anxiety and stress (Hembree & Foa, 2000). This treatment was developed for the management of anxiety symptoms and adapted for treating women rape trauma survivors. SIT typically consists of education and training of coping skills, including deep muscle relaxation training, breathing control, assertiveness, role playing, covert modeling, thought stopping, positive thinking and self-talk, and in-vivo exposure. The rationale for this treatment is that trauma related anxiety can generalize to many situations (Rothbaum et al., 2000). The Expert Consensus Guideline Series: Treatment of Post-traumatic Stress Disorder notes that anxiety management is among the most useful psychotherapeutic treatments for patients (Foa et al., 1999b). Relaxation protocols have also demonstrated encouraging results (Marks, et al., 1998; Taylor, et al., 2003; Vaughn, et al., 1994).

SIT is designed to "inoculate" people with PTSD from heightened stress responses through teaching anxiety management skills which can include:

- Relaxation training: teaching patients to control fear and anxiety through the systematic relaxation of the major muscle groups
- Breathing retraining: teaching slow, abdominal breathing to help the patient relax and/or avoid hyperventilation with its unpleasant and often frightening physical sensations
- Positive thinking and self-talk: Teaching the person how to replace negative thoughts (e.g., 'I'm going to lose control') with positive thoughts (e.g., 'I did it before and I can do it again') when anticipating or confronting stressors. This is often combined with in-vivo exposure.
- Assertiveness training: teaching the person how to express wishes, opinions, and emotions appropriately and without alienating others
- Thought stopping: distraction techniques to overcome distressing thoughts by inwardly 'shouting stop (Foa et al., 1999b).

Many SIT protocols also include cognitive restructuring and elements of exposure therapy.

DISCUSSION

There have been two RCTs that have evaluated SIT and both studies found SIT to be effective with women who have survived sexual assault. A study by Foa and colleagues (1991) with 45 female sexual assault victims compared SIT, Prolonged Exposure (PE) (see Annotation B2), Supportive Counseling (SC) and wait list control. SIT was found to be the most effective treatment for short term symptom improvement and both SIT and PE were effective for long term improvement with PE superior to SIT. Rothbaum, (2001) reports, "results suggested that all conditions produced improvement on all measures immediately post-treatment and at follow-up. At follow-up, clients who received PE continued to improve after treatment termination, whereas clients in the SIT and SC conditions evidenced no change between post-treatment and follow-up." Another study with 96 female sexual assault victims compared SIT, PE, combined SIT and PE, and wait list controls (Foa et al., 1999a). The study found all treatments were better than wait list control for

ameliorating PTSD severity at post-treatment and at 6-month follow-up. Interestingly, although all three treatments were effective, the combined treatment was not superior to either SIT or PE alone. Although this may be related to the fact that clients in the combined treatment group received less PE-or SIT-specific techniques than participants in the individual treatments, the most likely explanation presented in the paper was an unusually low drop out rate that happened to occur in the PE-only group.

A study of 15 women by Kilpatrick et al. (1982) found SIT to be effective in reducing rape related fear and anxiety.

Motor vehicle accident survivors (Hickling & Blanchard, 1997) had a 68 percent reduction of PTSD symptoms after involvement in a modified version of Foa et al.'s SIT/PE combination program.

A controlled study comparing three different forms of relaxation (relaxation, relaxation plus deep breathing, and relaxation plus deep breathing plus biofeedback) for 90 Vietnam veterans found that all treatments were equally, but only mildly, effective in leading to improvement (Watson et al., 1997).

Vaughn, et al. (1994) found that relaxation training was superior to waitlist. Taylor et al (2003) also found support for reduction of PTSD with a relaxation protocol though effects were less than for ET. In a head-to-head comparison study by Marx (1998), relaxation training produced nearly the same beneficial effect as PE.

EVIDENCE TABLE

	Evidence	Sources	LE	OE	SR
1	SIT is effective as a treatment for PTSD particularly related to sexual assault.	Foa et al., 1999a Foa et al., 1991 Kilpatrick et al, 1982 Rothbaum, 2000a	I	Good	A

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

B4. Eye Movement Desensitization and Reprocessing (EMDR)

Eye Movement Desensitization and Reprocessing (EMDR) is a psychological treatment designed to alleviate the distress associated with traumatic memories (Shapiro, 1989a, and 1989b). The objective of EMDR is to assist patients to accessing and process traumatic memories while bringing these to an adaptive resolution (Shapiro, 2001).

In EMDR, the therapist collaborates with patients to: (1) access a disturbing image associated with the traumatic event; (2) solicit the experience of body sensations associated with the disturbing image; (3) identify an aversive self-referring cognition (in concise words) that expresses what the patient "learned" from the trauma; (4) identify an alternative positive self-referring cognition that the patient wishes could replace the negative cognition. The patient is then asked to hold the disturbing image, sensations, and the negative cognition in mind while tracking the clinician's moving finger back and forth in front of his or her visual field for about 20 seconds. In successive tracking episodes, the patient concentrates on whatever changes or new associations have occurred. Eye movement episodes are repeated until there are no new associations. Subsequent tracking episodes attempt to replace the negative cognitive self-statement with the alternate positive cognition.

Between sessions, the patient is directed to keep a journal of any situations that provoke PTSD symptoms and of any new insights or dreams about the trauma. The

number of sessions is dependent upon observed improvements and the number of traumatic events experienced.

Within a session, standard self-rating scales document changes in the intensity of the symptoms and the negative cognition, and the patient's acceptance of the alternative positive cognition. The patient reports following each set of eye movement episode to inform the therapist of the strength of both negative and positive cognitions; changes in cognitions, the images, emotions, or body sensations are also reported.

EMDR protocols allow for substitution of left-right alternating tone or touch as modifications to the use of the eye movements, suggesting that it is not the eye movements per se, but rather side to side alternating stimulation that is sought. Studies attempting to ascertain the relative contribution of the eye-movement component suggest that comparable outcomes are attained with or without eye movements. These findings are seen as indicating that this aspect (i.e., eye-movements or alternating stimulation of any type) of the treatment protocol may not be critical components.

Given the success of EMDR and the lack of support for the alternating stimulation components, many theorists are considering the active ingredients for the observed treatment gains. Specifically, EMDR is gaining acceptance as a treatment that shares components with other existing, successful treatments. Derived from desensitization strategies, EMDR counters avoidance of the traumatic memories and related cues by repeatedly accessing the aversive traumatic images themselves, promotes emotional processing by soliciting the emotional responses attendant to the aversive memories; identifies a novel and alternative view of the traumatic experience in conjunction with the patient, and then challenges the patient to consider the validity or accuracy of the alternative perspective. With the focus upon physiological arousal and reactivity, EMDR as a desensitization treatment also provides a component of arousal management that is inherent in the treatment. Thus, EMDR at its most basic level incorporates components of a) exposure to trauma related cues; and b) processing of emotional responses. Each of these EMDR components involves efforts to mitigate strategic avoidance reactions theoretically viewed as maintaining current symptomatology. EMDR also includes: c) elements of corrective and rational restructuring of the patient's views of the traumatic event; and d) self monitoring of cognitive and emotional responses that are often viewed as key homework components of cognitive behavior therapy in general, and e) a focus on heightened physiological arousal and reactivity.

DISCUSSION

EMDR possesses efficacy for treating patients with PTSD: this conclusion is based upon a thorough review of the literature in the treatment guidelines generated by a task force for the International Society for Traumatic Stress Studies (Spates et al., 2009) as well as by Division 12 of the American Psychological Association (APA). The United Kingdom's NICE Guidelines for PTSD (2005) also recommend EMDR as a treatment supported by multiple efficacy studies. While the results of numerous controlled published studies found medium to large effect sizes for EMDR, the claims for EMDR as a modality that is more efficient or rapid than other forms of cognitive behavioral treatment remains unconfirmed across the studies that specifically address the issue. Similarly, suggestions that EMDR is more easily tolerated than other psychological treatments remain unsupported empirically.

Results of meta-analytic studies, review articles, and extant practice guidelines suggest that EMDR successfully treats symptoms of PTSD when compared to no treatment or delayed treatment conditions. When compared to other treatment

modalities, most studies reviewed indicated that EMDR possessed comparable efficacy to other well accepted cognitive behavioral treatments to include: stress inoculation training (SIT) and exposure therapies.

Maxfield and Hyer (2002) conducted a meta-analysis involving comparisons of EMDR against wait list controls, cognitive behavior therapy involving exposure, and treatment modalities described as other than CBT. Results indicated superiority of EMDR to the wait list control condition. Also, the authors found an overall superiority of EMDR compared to the other active treatment conditions, though they noted sufficient variability that they judged the summed results to indicate comparable vs. superior effectiveness of EMDR over other treatments.

Four studies specifically compared EMDR with Exposure Therapy. (Lee et al., 2002; Power et al., 2002; Rothbaum, et al., 2005; and Taylor et al., 2002). Lee et al. (2002) and Power et al. (2002) found that EMDR had equivalent or better results than CBT and was more efficient in that it worked faster. Taylor et al., (2002) didn't observe differential efficiency in their trial, but they also used therapist-assisted *in vivo* work plus imaginal work. Rothbaum, et al., (2005) found symptom improvement at post-test to be equivalent between EMDR and prolonged exposure. She writes in the abstract, "PE and EMDR

did not differ significantly for change from baseline to either posttreatment or 6-month follow-up measurement on any quantitative scale." Although a measure termed "end-state functioning" was described as favoring PE, this was a composite variable derived from three validated scales, that seemed to magnify the small non-significant differences on these individual scales when they were combined.

Criticisms of EMDR stem from its theoretical premises to the necessity of its components to achieve the desired outcome. With respect to componential analyses, the data are substantive at this time. Spates et al. (2009) reviews aptly the literature on dismantling studies in EMDR and concludes that "the best provisional conclusion so far is that the bilateral stimulation component of EMDR does not incrementally influence treatment outcome". Not withstanding the lack of necessity for eye movements, when viewed within the framework of all other trauma-focused CBTs, EMDR is equivalent.

Some support for the inclusion of therapeutic eye movement is provided by a set of seven studies but most of these are studies with analog populations, or in clinical populations exposed to a traumatic event, but who didn't necessarily develop full clinical PTSD (Andrade et al., 1997; Barrowcliff et al., 2004; Christman and Garvey, 2000; Kavanaugh et al., 2001; Kuiken et al., 2001-2002; Sharpley et al., 1996; Wilson, Silver, Covi, & Foster, 1996; and van den Hout et al., 2001).

There may be some basis for or against recommending this treatment depending upon the type of trauma leading to PTSD. Specifically, studies of EMDR efficacy with combat veterans have demonstrated considerable variability, with several authors suggesting that the treatment may be less than optimal for this condition (Boudewyns et al., 1993; Jensen, 1994). Other studies that are more recent have suggested the opposite (Carlson et al., 1998; Devilly et al., 1998). It should be noted that only two of the cited studies had a full course of treatment – all the others were short duration studies. However, it should be also noted that studies of other CBT modalities and SSRIs have also shown inconsistent results in combat veterans, and thus, based on current evidence, there is no reason to believe that EMDR would not be as effective as other trauma-focused CBTs in this populations.

Overall, argument can reasonably be made that there are rigorously controlled studies to support the conclusion that EMDR is effective in the treatment for PTSD.

EVIDENCE TABLE

	Recommendation	Sources	LE	QE	R
1	EMDR is more efficacious for PTSD than wait-list, routine care, and active treatment controls.	Chemtob et al., 2000 Davidson & Parker, 2001 Maxfield & Hyer, 2002 Sheppard et al., 2000 Van der Kolk et al. 2007	I	Good	A
2	Eye movements are *not* critical to the effects of EMDR.	Davidson & Parker, 2001 Spates et al., 2009	I	Poor	C
3.	EMDR compared with ET show consistent comparable results.	Cahill, 2000 Davidson & Parker, 2001 Foa & Meadows, 1997 Ironson et al., 2002 Lee et al., 2002 Power et al., 2002 Rothbaum et al., 2005 Servan-Schrieber, 2000 Sheppard et al., 2000 Taylor et al., 2002 Van Etten and Taylor, 1998	I	Fair	B

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

B5. Imagery Rehearsal Therapy (IRT)

Occurrence of nightmares as a problem is frequent; 4 to 8 percent in the general population and 60 percent in PTSD. Evidence shows that nightmares are associated with psychological distress and sleep impairment. A conditioning pattern similar to classic psychophysiological insomnia is produced in the nightmare disturbed loop, along with the negative cognition of "fear of going to sleep." Studies using brief CBT (desensitization and imagery rehearsal) have demonstrated a large reduction in nightmares. Many studies, including Forbes et al. (2001) suggest that PTSD is associated with a propensity toward image, particularly where the post-traumatic symptom picture is characterized by nightmares and flashbacks. IRT incorporates a system to increase the imagery control.

IRT is aimed at changing the content of the patient's nightmares to promote mastery over the content-threat, thereby altering the meaning, importance, and orientation to the nightmare. IRT includes elements of 1) psychoeducation about nightmares, insomnia, and PTSD, 2) positive coping skill building (thought stopping, breathing, grounding, writing/talking about issues and others), 3) cognitive restructuring, 4) sleep hygiene, stimulus control, and sleep restriction, 5) and focused use of pleasant imagery to replace negative imagery in recurrent nightmares. While discussion of trauma imagery occurs, the model includes a de-emphasis of discussion of this content in group sessions. The model has been tested primarily in a group format.

DISCUSSION

Several studies have examined IRT with some promising results. While not with a primary PTSD population, Krakow et al. (1995) studied 58 chronic nightmare sufferers who were randomly assigned to a treatment group (n = 39) or a wait-list control group (n = 19). The IRT group demonstrated significant reductions in

nightmares and improved sleep quality. Further, reduction in nightmares was a significant predictor of improvement in sleep. The authors concluded that, for some chronic sufferers, nightmares may be conceptualized as a primary sleep disorder which can be effectively and inexpensively treated with CBT.

Krakow et al., (2001) randomly assigned 168 female survivors of sexual assault (95% of the sample met the criteria for PTSD) to receive IRT (n = 88) or wait-list (n = 80) and found that among completers those women assigned to IRT had a larger reduction in self reported PTSD severity at 3 month follow up than wait-list. Further, the impact of nightmares was reduced and sleep quality improved. In a pilot study of IRT with crime survivors with PTSD, Krakow et al., (2001a) reported significant reductions in nightmares, improved sleep, and reduced PTSD severity at 3-month follow-up.

Forbes et al. (2001) completed an open trial of group IRT with 12 Vietnam Veterans with combat-related nightmares and PTSD. Veterans reported significant reduction in nightmare frequency and intensity for the target nightmare. In addition, self reported PTSD symptoms were significantly reduced. Follow up data demonstrated maintenance of gains at 12 months following the conclusion of treatment (Forbes et al, 2003).

While much of the research to date has focused on IRT other versions of nightmare reduction programs, such as Emotional Relaxation and Rescripting are currently under empirical examination.

EVIDENCE TABLE

	Recommendation	Sources	LE	QE	R
1	IRT can be considered for treatment of PTSD (nightmare and sleep disruption in particular).	Krakow et al., 1995; 2001a; 2001b Forbes et al, 2001, 2003	I I-1	Fair	B

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

B6. Psychodynamic Therapy

BACKGROUND

In 1895, Joseph Breuer and Sigmund Freud based their *Studies on Hysteria* on the proposition that traumatic life events can cause mental disorder (Breuer & Freud, 1955). This principle, radical for its time, grew in scope and application over the next century and strongly influenced military psychiatry in World War I (Kardiner, 1941; Rivers, 1918) and World War II (Grinker & Spiegel, 1945). Psychodynamic principles were later applied to the psychological problems of Holocaust survivors (Krystal, 1968; De Wind, 1984), Vietnam veterans (Lindy, 1996), rape survivors (Rose, 1991), adult survivors of childhood sexual trauma (Courtois, 1999; Roth & Batson, 1997; Shengold, 1989), and survivors of other traumatic events (Horowitz, 1997). Psychodynamic ideas have also helped providers manage the sometimes complex issues that may surface in the relationship between survivor and psychotherapist (Pearlman & Saakvitne, 1995; Wilson & Lindy, 1994). Psychodynamic psychotherapies operate on the assumption that addressing unconscious mental contents and conflicts (including those that may have been blocked from consciousness as part of a maladaptive response) can help survivors cope with the effects of psychological trauma. Psychological meanings of post-traumatic responses are explored by examination of the fears, fantasies, and defenses stirred up by the traumatic event.

DISCUSSION

Individual case reports comprise the bulk of the psychodynamic literature on the treatment of psychological trauma, but a small group of empirical investigations are available to support recommending that 2 psychodynamically-informed treatments can be considered as treatment options for PTSD.

Three RCTs have supported the efficacy of Gersons' Brief Eclectic Psychotherapy for reducing PTSD symptoms in police (Gersons, Carlier, Lamberts, & van der Kolk, 2000) and community patients with PTSD (Lindauer et al., 2005; Lindauer et al., 2007). This 16-week individual psychotherapy includes both CBT (e.g., psychoeduction, imaginal exposure, cognitive restructuring) and psychodynamic elements (focus on shame and guilt, attention to the patient-therapist relationship) and a farewell ritual at the end of treatment. At present, it is unclear which elements of treatment are responsible for the improved outcomes.

Brom and colleagues (1989) conducted a RCT that compared Horowitz' (1976) Brief Psychodynamic Therapy to hypnotherapy, trauma desensitization, and a wait-list control group in the treatment of PTSD. They found that symptoms of intrusion and avoidance improved significantly in each of the treatment groups but not in the control group; no differences across the three treatments were observed.

While research evidence and clinical experience suggest that psychodynamic psychotherapy can be effectively combined with other forms of psychotherapy and with psychopharmacological interventions for depression (DiMascio et al., 1979; van Praag, 1989), this approach has not been sufficiently researched in work with PTSD.

Psychodynamic ideas have, in some instances, been misapplied in clinical work with trauma survivors giving rise to concern about the creation or elaboration of so-called *false memories* (Roth & Friedman, 1997). It may be that trauma survivors are particularly prone to this phenomenon given their tendency towards dissociation. It is important that clinicians be properly trained before undertaking psychodynamic treatment of trauma survivors

Because of its focus on basic problems in interpersonal relationships, psychodynamic psychotherapy may be useful in working with patients with complex PTSD. Clinical case studies suggest that psychodynamic psychotherapy may be of particular value in work with adult survivors of childhood sexual abuse (Courtois, 1999; Roth & Batson, 1997; Shengold, 1989).

EVIDENCE TABLE

	Recommendation	Sources	LE	QE	SR
1	Some forms of psychodynamic psychotherapy can be considered for the treatment of PTSD.	Brom et al., 1989 Gersons, Carlier, Lamberts, & van der Kolk, 2000 Lindauer et al., 2005 Lindauer et al., 2007	I	Good	B
2	Psychodynamic psychotherapy for patients with comorbidity PTSD.	Courtois, 1999 Roth & Batson, 1997 Shengold, 1989	II-2	Fair	B

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

B7. Patient Education

BACKGROUND

Education of the trauma survivor is a core part of all PTSD treatment. Survivors need to better understand what they are experiencing, how to cope with reactions or symptoms, and what happens in treatment. It is also helpful to provide this information to family members or to the patient's significant others so that they can more effectively support the patient's recovery.

DISCUSSION

PTSD education involves teaching the survivor to label, recognize, and understand PTSD symptoms (and other trauma-related problems) that he or she is experiencing, providing simple advice regarding coping, explaining what he or she can do to facilitate recovery, and describing treatment options. Education can help make symptoms more understandable and predictable, decrease fear of symptoms, increase awareness of coping options, and help survivors decide whether to seek treatment or learn how to better participate in treatment.

Education should be one of the first steps of PTSD treatment. It can help establish the credibility of the treatment provider, make treatment seem immediately helpful to the patient, and help prepare the patient for next steps in treatment. In fact, education should continue throughout PTSD treatment, sometimes in brief discussions when the patient has questions and sometimes more systematically as a formal helping activity. It can be delivered to individuals or to groups. Because those with PTSD often have difficulties with concentration and memory, repetition of educational information and provision of written information are important.

The content of PTSD-related education can include the following topics:

1. *Nature of PTSD symptoms:* It is often useful to help the survivor identify and label the reactions that he or she may be experiencing, recognize that emotional and physical reactions are very common (and not dangerous), and understand that anxiety and distress are often "triggered" by reminders of the traumatic experience that can include sights, sounds, or smells associated with the trauma, physical sensations (e.g., heart pounding), or behaviors of other people. However, it is important to include comment on positive steps that the individual is taking, if appropriate, rather than providing a long list of possible symptoms for review. Patients can also benefit in understanding how PTSD symptoms have their basis in adaptive survival responses to life-threatening events.
2. *Practical steps to cope with trauma-related problems:* Survivors can also be educated about ways of coping with their PTSD symptoms in order to minimize their impact on functioning and quality of life. While education about coping is not a substitute for more systematic coping skills training, simple information can also be useful. Survivors can be helped to distinguish between positive and negative coping actions. Positive coping includes actions that help to reduce anxiety, lessen other distressing reactions, and improve the situation: relaxation methods, exercise in moderation, talking to another person for support, positive distracting activities, and active participation in treatment. Negative coping methods may help to perpetuate problems and can include continual avoidance of thinking about the trauma, use of alcohol or drugs, social isolation, and aggressive or violent actions.

3. *Nature of the recovery process and PTSD treatment:* Survivors will sometimes have unrealistic or inaccurate expectations of recovery, and may benefit from understanding that recovery is an ongoing daily gradual process (i.e., it doesn't happen through sudden insight or "cure") and that healing doesn't mean forgetting about the trauma or having no emotional pain when thinking about it. Education about what happens in treatment is also important. This can help build motivation to participate or persist in treatment.

Despite the ubiquity of education in PTSD treatment, and a strong clinical consensus as to the importance of such education, there is little evidence bearing on its impact on chronic PTSD. Education has usually been a component of empirically supported treatments, but it has not been carefully evaluated as a "stand alone" treatment (nor is it intended to be delivered in the absence of other treatment elements).

Psychoeducation was one of several components in each study, and the effect of the psychoeducation component per se can thus not be evaluated. There is, therefore, insufficient evidence to conclude that psychoeducation alone is an effective treatment for PTSD.

Three studies (Krupnick J 2008); (Wallis 2002); (Weine S 2008) compared group interventions containing a psychoeducation component with WL. There were 9, 12, and 16 sessions, and the sample sizes were 48, 83, and 166. Although each intervention contained a psychoeducational component, the focus and content of the group sessions differed across studies. In 2 studies, the group intervention decreased PTSD symptoms compared with WL, while in the third; PTSD symptoms were only evaluated as a mediator for effects on access to mental health services. No study included a control condition for the psychoeducation component.

EVIDENCE

	Recommendation	Sources	LE	QE	R
1	Psychoeducation is recommended as component of PTSD treatment.	Foa et al., 1999 Lubin et al 1998 (Krupnick J 2008); (Wallis 2002); (Weine S 2008)	III II-2	Poor Fair	C B

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

B8. Group Therapy

BACKGROUND

The ISTSS (2009) guideline includes a comprehensive critical review of group therapy approaches for the treatment of PTSD. (Shea, McDevitt-Murphy, Ready, & Schnurr, 2009). Shea et al.'s discussion builds upon the previous edition's chapter by Foy and colleagues (2000). The authors briefly review the use of group therapy for PTSD. They note that it first began to be used as a "front-line treatment" for PTSD in the 1970's, and that it has continued to be used, and researched, up to the present. There is an intuitive appeal of providing this form of therapy to patients who, by the nature of their disorder, have to deal with "isolation, alienation, and diminished feelings" (Foy et al., 2000). Thus, it is possible that group therapy may foster "survivor helping survivor" feelings in participants.

Foy et al., (2000) and Shea et al., (2009) distinguish group treatment approaches by their emphasis on reintegration of the traumatic experience as an integral change

process. Trauma-focused groups assume integration of the traumatic memory and modify the meaning of the trauma for the individual, while present-centered supportive approaches aim to decrease isolation and increase sense of competence. The authors characterize three overarching group therapy orientations (See table I-5): Psychodynamic/Interpersonal/Process (present- or trauma-focused), Supportive (present –focused), and Cognitive Behavioral (predominantly trauma-focused). Most groups share common strategies designed to provide a sense of safety, trust, and develop cohesion among members. The three approaches do, however, differ in significant ways in terms of techniques and strategies used:

Table I - 5 Group Therapy in PTSD (Shea et al., 2009)

Approach	Techniques/Strategies
Supportive groups (Present focused)	-Aim to enhance daily functioning through provision of safety, trust, acceptance, and normalization of symptoms and experiences -Help individuals develop sense of mastery over problems via group feedback, emotional support, and reinforcement of adaptive behaviors -Focus on current life issues rather than traumatic experiences
Psychodynamic/ Interpersonal Process (trauma focused)	-Facilitate insight-based learning and change -When an explicit focus on trauma is present, trauma material arises in a less structured manner or covertly and emphasis is on increasing awareness of unconscious fears and maladaptive patterns -Emphasize understanding the meaning of the -trauma symptoms -Help individuals gain insight and make connections into how current difficulties may be linked to the trauma -The Interpersonal Therapy (IPT) model helps groups members identify their specific relationship difficulties and behavioral patterns that promote poor functioning -"Process" groups maintain emphasis on the immediate present experience of the individual, their feelings and needs, and their interactions with other members
Cognitive-behavioral therapy groups (Trauma focused)	-Include psychoeducation on trauma and skills training to manage anxiety and arousal -Trauma is directly addressed via repeated imaginal exposure techniques in session and having individuals listen to audio-recording of their trauma experiences as homework between sessions -Maladaptive thoughts and beliefs are identified and modified or restructured -In final sessions, relapse prevention strategies are planned and coping skills reviewed

The value and necessity of these factors, however, have not been examined empirically.

Foy et al. (2000) provide a useful guide to selecting candidates for group therapy (although, the value and necessity of these factors have not been examined empirically):

- Flexibility in personal schedule
- Ability to establish interpersonal trust
- Prior group experience, including 12-step groups
- Completion of a preparatory course of individual therapy
- Similar traumatic experiences with other group members
- Compatibility for gender, ethnicity, and sexual orientation
- Willingness to abide by rules of group confidentiality
- Not severely paranoid or sociopathic
- Stable living arrangement

Contraindications for Group Therapy (Shea et al., 2009)

- Active psychosis
- Severe organicity or limited cognitive capacity
- Pending litigation or compensation seeking

Trial participants in the studies reviewed commonly lacked previous individual or group therapy experience.

Although clinical judgment assumes that positive engagement in and outcomes from trauma-focused group treatment depend on the ability to tolerate high anxiety or other emotions, no valid method exists for assessing such a trait and studies of trauma-focused groups have not examined it as a predictor of effect (Shea et al., 2009).

Indications for Trauma Focus versus Supportive Groups (from Foy et al., 2000)

- Individual can tolerate high anxiety arousal or other strong affects
- No active suicidality or homicidality
- Substance abuse or other comorbidities are under control
- Individual accepts rationale for trauma uncovering work
- Willingness to self-disclose personal traumatic experiences
- No current life crises

Although most studies of group treatment for PTSD do focus on a particular trauma type, the importance of homogeneity of groups in terms of trauma type is an unanswered question.
Vicarious traumatization is a concern within trauma-focused groups, but no published evidence exists indicating that negative effects occur for some members in trauma-focused group treatment as a result of vicarious traumatization and systematic investigation of this possibility has not occurred (Shea et al., 2009).

RATIONALE

The empirical literature on group treatment for PTSD has grown since the publication of the first edition of the Treatment Guidelines for PTSD although there remain methodological weaknesses in study designs and there is no empirical evidence to support a conclusion that group treatment is superior to individual treatment for trauma.

None-the-less, it does appear that group-based treatment for individuals diagnosed with PTSD is associated with improvements in symptoms of PTSD and there is growing belief that some unique attributes of the group treatment format provide benefits that are superior to individual treatment for trauma. Identified benefits include; efficiency in treatment provision, development of support and understanding between group members that may counteract isolation and alienation.

DISCUSSION

Our search for relevant studies began with a review of studies included in Shea et al. (2009) and was limited to studies in which the sample participants met DSM criteria for PTSD and the active treatment was solely or predominantly in group format. Of the total 22 studies in Shea et al. (2009), 14 studies met the inclusion criteria, including six randomized and two nonrandomized trials comparing at least one active treatment group to a comparison or control condition, and six studies reporting pre- to post-treatment effects of a single group treatment condition. Four additional studies, not included in the Shea et al. (2009), provide additional information to

consider when weighing the effectiveness of group therapy. Two were recently published and one of these focused on a Veteran sample (Beck, Coffey Foy, Keane, & Blanchard, 2009; Ready, Thomas, Worley, Backscheider, Harvey, Baltzell, et al., 2008). Two additional RCTs: Rogers et al., (1999), although dated, was a randomized trial with a Veterans sample and Spielman et al. (2004) compared trauma and present focus group therapy in women sexually abused. . Fourteen of the total 18 studies examined cognitive-behavioral interventions; two examined interpersonal therapy, and one psychodynamic intervention.

Randomized Studies

Eight of the 18 studies reviewed used randomized designs. Of these eight, six examined cognitive-behavioral therapy (CBT) approaches. Only three of these six compared the active treatment to a comparison condition that was not a wait-list. Schnurr and colleagues (2003) investigated Trauma-Focused Group Therapy (TFGT) in male Veterans of the Vietnam War in the largest and most rigorous study to date of group therapy for PTSD (Schnurr, Friedman, Foy, Shea, Hsieh, Lavori, et al., 2003). TFGT incorporates group-based psychoeducation, coping skills training, imaginal exposure, cognitive challenging, and relapse prevention, with one-third of all sessions devoted to individual work (Foy, Ruzek, Glynn, Riney, & Gusman, 1997). Schnurr et al (2003) did not include individual sessions. TFGT was compared with present-centered group therapy (PCGT), an approach designed to provide the "nonspecific" factors of support and interpersonal connection inherent in group treatment. Both groups experienced significant modest-sized pre- to post-treatment improvement in PTSD, which were maintained at 12 months. The primary intention-to-treat (ITT) analyses did not find differences on PTSD or any other outcomes between the group conditions (Schnurr, 2003). Rogers and colleagues (Rogers et al., 1999) also focused on Vietnam War Veterans in their randomized pilot trial comparing a single group session of flooding-based exposure therapy with a single group session of eye movement desensitization and reprocessing (EMDR) in 12 Veterans who were undergoing inpatient treatment for combat-related PTSD. There were no differences between groups on PTSD symptoms post-treatment. The authors reported that both groups showed significant improvements. Lastly, Beck and colleagues (Beck et al., 2009) randomized 44 individuals with PTSD related to motor vehicle accidents (MVAs) to either Group Cognitive Behavior Therapy (GCBT) or a minimal contact comparison condition. The GCBT was a 14-week treatment adaptation of individual CBT to a group setting (for details on development and adaptations, see Beck & Coffey, 2005). The MCC condition consisted of telephone contact by the project coordinator once every 4 weeks during the span of 14 weeks where a structured script was used to assess PTSD and suicidality, and provide minimal support but no active intervention. At post-treatment, GCBT resulted in significantly greater reductions in PTSD symptoms among treatment completers, with large between group effect sizes and stability of gains at 3-months. Significantly more patients in GCBT (88.3%) versus in MCC (31.3%) no longer met criteria for PTSD at post-treatment.

The remaining three randomized studies comparing CBT to a wait-list (WL) control involved female populations. In the largest of the three trial (n = 168), ITT analyses showed that Imagery Rehearsal Therapy (IRT) resulted in significantly more improvement in PTSD, nightmares, and sleep, with large between-group effects on the CAPS and PTSD Symptom Scale (PSS) and improvements maintained at 6 months (Krakow, Hollifield, Johnston, Koss, Schrader, Warner, et al., 2001; Krakow, Hollifield, Scharader, Koss, Tandberg, Lauriello, et al., 2000). Large effects were also found on PTSD symptoms between an affect management group and WL control

where both groups also received individual therapy and medication (Zlotnick, Shea, Rosen, Simpson, Mulrenin, Begin, et al., 1997). Both of these trials examined PTSD related to childhood abuse. A trial of women with PTSD related to diverse traumas, as well as comorbid panic disorder, indicated that multichannel exposure therapy (MCET) was superior to control in PTSD reduction (Falsetti, Resnick, Davis, & Gallagher, 2001; Falsetti, Resnick, & Davis, 2005).

Two small-scale randomized trials evaluated non-CBT approaches versus wait-list controls in women with PTSD related to sexual abuse, mostly in childhood. Comparison of a trauma-focused group and a present-focused group, both based on psychodynamic principles, showed no differences for either relative to a wait-list control (Spiegel, Classen, Thurston, & Butler, 2004) and even when combined, the composite treatment group showed significant more improvement only on non-PTSD measures (Classen, Koopman, Nevill-Manning, & Spiegel, 2001). In contrast, Krupnick and colleagues (Krupnick, Green, Miranda, & Stockton, 2008) found significant effects with ITT analyses for Interpersonal Therapy group on PTSD, depression, and interpersonal functioning, with a medium-to-large effect for PTSD.

Nonrandomized Controlled Studies

Two studies compared a group treatment to control condition with a nonrandomized design. Cloitre and Koenen (2001) reported significant improvement in PTSD, anger, and depression for an interpersonal/process therapy compared to a wait-list control, but only for therapy groups that did not have members with borderline personality disorder (BPD). The effect on PTSD symptoms was large. Resick and Schnicke (1992) observed significant improvements for cognitive reprocessing therapy (CPT) but not for wait-list on PTSD, depression, distress, and social adjustment, with maintenance of improvement at 6 months.

Summary of Studies without Control or Comparison Conditions:

All seven studies without a control or comparison condition evaluated CBT-based group treatments. With a very large sample of 2,223 Vietnam War Veterans, a naturalistic program evaluation study by Creamer and colleagues (Creamer, Elliot, Forbes, Biddle, & Hawthorne, 2006) examined the effects of a group-based CBT approach with components similar to trauma-focused group therapy for combat-related PTSD (TFGT) (Foy et al., 1997), along with 6-12 sessions of individual therapy through the 2 weeks of group treatment. Outcomes of the naturalistic trial included a very low drop-out rate of 3% and moderate-to-large within-treatment effect sizes at 6-months on PTSD, depression, alcohol use, family functioning, and anger that continued to increase over a 12-month follow-up period. The design had the advantage of reflecting routine clinical practice in a real-world treatment setting.

A similar field test approach was employed by Ready et al. (2008), who evaluated an on-going model called Group-Based Exposure Therapy (GBET) similar to TFGT in a sample of 102 predominantly Vietnam War Veterans. Significant symptom reductions were found in all three PTSD symptoms clusters and on both clinician ratings and self-report measures. Large effect sizes were found on the clinician ratings of total PTSD symptoms and medium-to-large effect sizes were found on PTSD self-report measures on both posttreatment and 6-month follow-up. Medium effect sizes were also found on suicidal ideation. In addition, 81% of patients with valid total CAPS scores at pretest and posttest showed a clinically significant improvement, defined as a reduction of 10 or more points on the total CAPS at posttest. The authors note that

group formats have been favored within the VA system, although differential effects of such multi-phased treatments as GBET are unknown.

Donovan and colleagues (Donovan, Padin-Rivera, & Kowalix, 2001) evaluated a 12-week partial hospitalization program (Transcend) in a sample of 46 male Vietnam War Veterans. The program addresses combat-related PTSD and substance abuse utilizing skills training, trauma processing, psychoeducation, relapse prevention, and cognitive restructuring, among other techniques, and is supplemented by physical exercise and community service activities. Significant medium-size decreases in PTSD symptoms and addictive behavior were observed posttreatment and maintained through 12-month follow-up (Donovan et al., 2001).

Three studies evaluated Seeking Safety, a present-centered 24-session CBT intervention for PTSD complicated by substance abuse or dependence. All three used small samples of less than 30. In the earliest trial, 17 of of 27 women completed treatment and in the completer analyses significant medium-size declines were found pretreatment to 3-month follow-up in alcohol use and in subtle symptoms of long-term childhood trauma, such as "fear of men", but not in DSM-based PTSD symptoms as assessed by the Modified PTSD Symptom Scale (MPSSR). Zlotnick et al. (Zlotnick, Najavits, Rohsenow, & Johnson, 2003) evaluated Seeking Safety as an adjunct to group treatment-as-usual based on an abstinence-oriented 12-step model in 18 incarcerated women. They found that at posttreatment, 53% no longer met criteria for PTSD and there were significant decrease in PTSD symptoms. Improvements in drug and alcohol use also occurred. Gains were maintained through 3-month follow-up (Zlotnick et al., 2003). Most recently, results of an evaluation of Seeking Safety in 18 Veterans with combat-related PTSD and substance abuse disorders at a VA Medical Center indicated significant improvements in self-reported PTSD and quality of life posttreatment (Cook, Wasler, Kane, Ruzek, & Woody, 2006).

Lastly, an evaluation of a trauma-focused group therapy that incorporated psychoeducation, exposure, and cognitive-behavioral interventions with 29 multiply traumatized women showed significant pre- to posttreatment reductions in PTSD symptoms, with clinically meaningful reductions (more than one standard deviation blow pretreatment levels, about a 50% reduction) in scores on the Clinician-Administered PTSD Scale (CAPS) occurring for 38% of the group. However, although the trial abstract indicated that participants were "diagnosed with chronic PTSD", the mean values for the CAPS reported for each cluster and the total were very small (each < 1.7). How the CAPS was scored was not clear. In addition, self-report measures of PTSD showed nonsignificant reductions (Lubin, Loris, Burt, & Johnson, 1998).

Caveat regarding analysis of the data

In examining the effects of these group treatments, a significant and prevalent methodological limitation warrants discussion. This limitation is that most studies failed to use analytic strategies to account for clustering of observations within treatment groups. Participants administered treatment in group format share a common therapy environment, which may homogenize response to the treatment. As explained by Baldwin and colleagues (Baldwin, Murray, & Shadish, 2005), studies that do not take into account the magnitude of the dependency among observations taken on members of the same group, or intraclass correlation (ICC), underestimate the standard error of the treatment effect by pooling the effect of the group with the effect of the treatment, so that even if treatment has no effect, an incorrect analysis

can suggest a treatment effect. Baldwin et al. (2005) demonstrated the significance of this limitation by correcting the unit of analysis with an adjustment to the denominator degrees of freedom within predominantly pre- to posttreatment analyses in 33 studies of treatments on the American Psychological Association's list of evidence-based group treatment to reflect the number of groups (i.e., cohorts in each condition) in the study. This correction resulted in the loss of statistically significant effects for over 30% of the studies. Incorporating the ICC in the reanalyses resulted in a loss of significance for additional studies.

Out of the 18 studies reviewed herein, only two studies corrected for unit of analysis and group ICC (Beck et al., 2009; Schnurr et al., 2003) and two studies accounted for ICC (Creamer et al., 2006; Ready et al., 2008) in analyses, with the remaining studies taking a typical approach of treating the individual participants as the unit of analyses and not correcting for the ICC. As was the case for the APA studies, it is likely that true effects for group treatments for PTSD are more modest than published effects. With the assumption that the smaller the sample size, the more modest the true detectable effects, we adjusted the denominator degrees of freedom in the pre- to post-treatment analysis of the primary PTSD outcome for the three studies with the smallest sample size of those reviewed (Resick & Schnicke, 1992; Rogers et al., 1999; Falsetti et al., 2001, 2005). The RCT of Rogers and colleagues (2009), with a total sample of 12, used only one group per condition. Based on Baldwin et al. (2005) method, we treated this study as if it had two groups per condition. After adjusting the degrees of freedom, the change in symptoms were no longer statistically significant ($p = .06$). Falsetti and colleagues (2001, 2005) used a sample of 27 in their nonrandomized controlled trial, also with only 1 group per condition. Again assuming 2 groups per condition, correction to the degrees of freedom resulted in a nonsignificant finding for PTSD symptom change ($p = .088$). Lastly, degrees of freedom adjustments in Resick and Schnicke's (1992) uncontrolled trial of 19 individuals with three CPT groups resulted in pre- to post-treatment changes on the PTSD subscale of the SCL-90-R and the arousal subscale of the PTSD Symptom Scale no longer meeting statistical significance ($p = .062$ and $p = .068$, respectively). In reviewing the articles for this annotation, we noted that many authors did not indicate the number of groups/cohorts per condition, the number of participants per group, or both. Compounding the failure to account for observation clustering was the fact that many studies also suffered from small samples, particularly given the number of analyses performed.

Conclusions

The empirical literature on group treatment for PTSD has grown since the publication of the first edition of the Treatment Guidelines for PTSD. However, most studies continue to utilize small sample sizes, use wait-list controls, and fail to account for clustering of observations in analyses. Advances in methodological rigor are typified within studies by Schnurr and colleagues (2003), as well as Beck and colleagues (2009). Field tests of interventions developed as part of clinical practice and evaluated on large samples, such as those by Creamer et al. (2006) and Ready et al. (2008), offer unique information yet pose numerous questions regarding complex multi-phase approaches that require further research.

With these caveats in mind, our review indicates that, overall, the research indicates that group-based treatment for individuals diagnosed with PTSD is associated with improvements in symptoms of PTSD, although results are inconsistent, quality of most trials are poor, and there is insufficient evidence regarding the efficacy of group

1166 therapy compared with individual CBTs. Reported pre- to post-treatment effect
1167 sizes, based on analyses not adjusted for within-group dependence and unit of
1168 analysis, range from small to large and likely overestimate the true effect of the
1169 treatment. The amount of change exceeded that of wait-list controls for most
1170 studies. The trial of a psychodynamic treatment evidenced the weakest within-group
1171 effects (Classen et al., 2004). The two studies of interpersonal therapy evidenced
1172 small to large effects (Cloitre & Koenen, 2001; Krupnick et al., 2008). Significant
1173 support exists for cognitive–behavioral approaches, for both combat veterans and in
1174 adults with histories of abuse, with effects ranging from small to very large. The four
1175 studies that did correct for either unit of analysis and/or group intraclass correlation
1176 yielded between-group effect sizes of .09 (Pre to 7-mo CAPS, ITT analysis: Schnurr
1177 et al., 2003) and .84 (Pre to Post CAPS: Beck et al., 2009), and within-group effect
1178 sizes of .59 (Pre to 6-mo PCL: Creamer et al., 2006), and 1.20 (Pre to 6-mo CAPS,
1179 ITT analysis, Ready et al., 2008). Thus, variability in methodology and resultant
1180 effects are evident.

1181 As noted above, few studies have directly compared different forms of group therapy
1182 and the largest controlled study to date (Schnurr et al., 2003) indicated equal benefit
1183 from trauma-focused and present-centered supportive therapies in the primary
1184 analyses. The only other study to compare two active treatments (one trauma-
1185 focused and the either present-focused) did not find differences, but did suffer from
1186 small samples (Classen et al., 2004). Shea and colleagues' (2009) examination of
1187 within-group effect sizes pre to post-treatment found no evidence that groups
1188 focusing on trauma provide superior outcome than those who do not. Only one trial
1189 examined a group adaptation of an existing and proven individual therapy protocol
1190 (Beck et al., 2009). Given that within this trial, reductions in PTSD from GCBD were
1191 comparable to those obtained in previous studies of individual CBT but GCBT did not
1192 reduce comorbid anxiety and depression, the authors call for direct comparison of
1193 individual versus group CBT in order to determine differential efficacy.

1194 We concur with Shea et al.'s (2009) assessment that it remains unknown whether
1195 improvements found in most studies of cognitive-behavioral or
1196 interpersonal/process-oriented treatments are due to the strategies employed by the
1197 different group types. Schnurr et al. (2003) remains the only adequately powered
1198 comparison of an active treatment and control, and primary analyses yielded null
1199 findings. Ready and colleagues discuss the role of "dose" of exposure therapy as a
1200 potential factor in the differences observed between their GBET and some of the
1201 other group models for treating war-related PTSD, such as Schnurr et al.'s (2003)
1202 TFGT. Group-based exposure therapy has a minimum of 60 hours of exposure
1203 therapy compared to TFGT's 40 hours (4 hours of within-group war trauma
1204 presentations per patient, 16 hours of listening to recordings of one of the patients
1205 own presentations, and 20 hours of hearing other patients war trauma
1206 presentations). They also note that it also may be significant that the number of
1207 exposures to a patients' own traumatic experiences in GBET (22 or more) is more
1208 similar to the number of exposures typically used in individual exposure therapy (35
1209 or more; Foa, Hembree, & Dancu, 2002, as cited in Ready et al., 2008) than in TFGT
1210 (10). Perhaps the higher dose of exposure therapy contributed to the differences in
1211 treatment outcomes between GBET and Schnurr et al.'s (2003) trial of TFGT. Further
1212 evidence for such a possibility comes from the fact that when Schnurr et al. (2003)
1213 included participants with at least 24 sessions of treatment in secondary analyses,
1214 significant differences suggested that trauma-focused groups may be more effective
1215 than present-centered groups.

EVIDENCE TABLE

	Recommendation	Sources	LE	QE	SR
1	Consider group treatment for patients with PTSD	Beck et al., 2009 ❶ Classen et al., 2001; ❶ Cloitre & Koenen, 2001 Cook et al., 2006 Creamer et al., 2006 - Donovan et al., 2001 - Falsetti et al., 2001, 2005 ❶ Krakow et al., 2000, 2001 ❶ Krupnick et al., 2008 ❶ Lublin et al., 1998 Najavits et al., 1998 Ready et al., 2008 - Resick & Schniske, 1992 Rogers et al., 1999 ❶ Schnurr et al., 2003 v❶ Spiegel et al., 2004❶ Zlotnick et al., 1997❶ Zlotnick et al., 2003 Foy et al., 2000 (SR) Shea et al., 2009 (SR)	1 II	Fair	B
2	Current findings do not favor trauma-focused versus present-focused group therapy	Schnurr et al., 2003 Classen et al., 2004 Shea et al., 2009	I	Good	I

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

B9. Dialectical Behavior Therapy

BACKGROUND

Dialectical behavior therapy (DBT) is a comprehensive cognitive-behavioral treatment for complex, difficult-to-treat mental disorders, specifically designed to treat chronically suicidal individuals, and patients with multi-disorders or borderline personality disorder (BPD).

DBT has since been adapted for other seemingly intractable behavioral disorders involving emotion dysregulation, including substance dependence in individuals with BD and binge eating, to other clinical populations (e.g., depressed, suicidal adolescents), and in a variety of settings (e.g., inpatient, partial hospitalization, forensic).

While considerable evidence supports the use of exposure-based treatment for PTSD, its utilization may pose some problems for patients where the symptoms of PTSD are complicated. High rates of attrition, suicidality, dissociation, destructive impulsivity, and chaotic life problems are reasons cited by clinicians for abandoning empirically supported exposure treatment. Some practitioners have suggested that the approach of DBT, designed to address many of these issues, offers useful strategies for addressing the needs of patients considered poor candidates for exposure therapy.

The DBT approach incorporates what is valuable from other forms of therapy, and is based on a clear acknowledgement of the value of a strong relationship between therapist and patient. Therapy is structured in stages and at each stage a clear hierarchy of targets is defined. The techniques used in DBT are extensive and varied, addressing essentially every aspect of therapy. These techniques are underpinned by a dialectical philosophy that recommends a balanced, flexible and systemic approach to the work of therapy. Patients are helped to understand their problem behaviors and then deal with situations more effectively. They are taught the necessary skills to enable them to do so and helped to deal with any problems that they may have in applying those skills. Advice and support is available between sessions. The patient is encouraged and helped to take responsibility for dealing with life's challenges.

DISCUSSION

Although DBT is becoming more common as a technique for treating patients with BPD, no clinical trials have been reported in the literature for the use of DBT in patients with PTSD. The following studies concern patients with BPD who attempt some form of self-injury; however, for patients with PTSD and comorbid BPD, these studies may be applicable to the treatment decision process.

In a meta-analysis of RCTs of "psychosocial and/or psychopharmacological treatment versus standard or less intensive types of aftercare" for patients who had shown self-harm behaviors, Hawton et al., (2000) compared DBT vs standard after care and found that DBT significantly reduced rates of further self-harm (0.24; 0.06 to 0.93)." The authors caution, however, that "there still remains considerable uncertainty about which forms of psychosocial and physical treatments of self-harm patients are most effective, inclusion of insufficient numbers of patients in trials being the main limiting factor."

van den Bosch et al., (2002) and Verheul et al., (2003) reported on the effectiveness of DBT in a group of 58 female BPD patients. For these women, DBT therapy "resulted in better retention rates and greater reductions of self-mutilating and self-damaging impulsive behaviours compared with usual treatment, especially among those with a history of frequent self-mutilation" (Verheul et al., 2003). In the same study group, van den Bosch et al., (2002) compared the results of therapy in women with and without comorbid substance abuse. They found that comorbid substance abuse did not dilute the effect of the DBT, but that the DBT therapy had no effect on the womens' substance problems. Evans et al., (1999) compared the provision of self-help booklets alone to six sessions of cognitive therapy linked to the booklets, which contained elements of DBT (MACT) in 34 patients who had attempted self-harm. The authors reported that MACT therapy led to a lowering of the number of suicidal acts per month, and also improved self-rated depressive symptoms.

Linehan and colleagues, (1993) conducted a RCT of 39 women with BPD, who were randomly assigned to DBT or usual care for one year, then followed-up at six and twelve months following treatment. The authors reported that DBT patients had significantly less parasuicidal behavior, less anger, and better self-reported social adjustment during the initial 6 months and significantly fewer psychiatric inpatient days and better interviewer-rated social adjustment during the final 6 months; overall, DBT subjects had significantly higher Global Assessment Scale scores during the follow-up year.

Telch et al., (2001) and Safer et al., (2001) expanded the DBT concept to treatment of women with binge eating disorder. In both studies, women were randomly assigned to DBT or a wait list (Telch study – 44 women; Safer study – 31 women)

and the authors' results were similar; patients improved significantly in reduction of binge/purge behaviors, but did not differ on any secondary measures.

Bohus et al., (2000) treated 24 female chronically suicidal patients with DBT and found significant improvements in ratings of depression, dissociation, anxiety and global stress and a highly significant decrease in the number of parasuicidal acts.

Gould et al., (2003) and Miller and Glinski, (2000) identify DBT as a promising treatment for suicide, however, they acknowledge the need for RCTs. In their overview of the use of DBT, Koerner and Linehan (2000) also stress the need for longitudinal follow-up studies to determine suicide rates and maintenance of treatment gains.

EVIDENCE TABLE

	Recommendation	Sources	QE	QE	R
1	Consider DBT for patients with a borderline personality disorder typified by parasuicidal behaviors.	Evans et al., 1999 Hawton et al., 2000 Linehan et al., 1993 Safer et al., 2001 Telch et al., 2001 van den Bosch et al., 2002 Verheul et al., 2003	I	Fair	B

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

B10. Hypnosis

BACKGROUND

Hypnosis is not held to be an ASD or PTSD therapy per se but may significantly enhance the effectiveness of other therapies in their treatment or in the management of a variety of related clinical conditions (Kirsch et al., 1998; Spiegel & Spiegel, 1987). Historically, hypnotic treatments have played a role in the management of shell shock, battle fatigue and traumatic neuroses.

Hypnosis is defined by the APA as "a procedure during which a health professional or researcher suggests that a client, patient, or subject experience changes in sensations, perceptions, thought, or behavior. The hypnotic context is generally established by an induction procedure (Kirsch, 1994). An induction procedure typically entails instructions to disregard extraneous concerns and focus on the experiences and behaviors that the therapist suggests or that may arise spontaneously.

Hypnosis should only be used by credentialed health care professionals, who are properly trained in the clinical use of hypnosis and are working within the areas of their professional expertise.

DISCUSSION

Most of the case studies that reported that hypnosis was useful in treating posttrauma disturbances following a variety of traumas lack methodological rigor, and therefore strong conclusions about the efficacy of hypnosis to treat PTSD cannot be drawn (Rothbaum, 2001).

Brom and colleagues (1989) in a RCT, showed that hypnosis and desensitization significantly decreased intrusive symptoms whereas psychodynamic therapy was

useful for reducing avoidance symptoms in patients with various types of posttraumatic symptomatology. In a meta-analysis, Sherman (1998) compared the effects of the Brom et al. trial with those of other controlled studies and found that the major advantage of using hypnosis may appear at long term follow-up rather than at the end of treatment: this is consistent with meta-analyses of hypnosis for conditions other than PTSD (Kirsch et al., 1999).

Various studies, including meta-analyses, of the treatment of anxiety, pain, repetitive nightmares and other conditions often associated with PTSD imply that hypnosis can substantially reduce the severity of these problems (Daly & Wulff, 1987; Jiranek, 1993; Richmond et al., 1996; Kirsch et al., 1995; Eichelman, 1985; Kingsbury, 1993) and enhance the effectiveness of psychodynamic and cognitive behavioral therapy (Kirsch, 1996; Kirsch et al., 1999; Smith et al., 1980). Most of the literature on the use of hypnosis for PTSD is based on service and case studies. Shakibaei, (2008) reported that hypnotherapy helped reduce both pain and re-experiencing of traumatic events among burn patients in a randomized control trial but it should be noted that patients meeting criteria for any acute psychiatric disorder were specifically excluded from this study.

Abramowitz (2008) reports on a RCT in which hypnotherapy was compared to zolpidem treatment for insomnia among 32 patients with combat PTSD who were also suffering from insomnia. All patients were already taking an SSRI. He found significant improvement in PTSD symptoms and sleep quality, number of awakenings, ability to concentrate in the morning, and morning sleepiness in the hypnotherapy group. Sleep time improved equally in both groups.

There are a number of indications for using hypnosis in the treatment of PTSD:

1. Hypnotic techniques may be especially valuable as an adjunctive treatment for symptoms often associated with PTSD including dissociation, anxiety, pain, nightmares and insomnia.
2. PTSD patients who manifest at least moderate hypnotizability may benefit from the addition of hypnotic techniques to their treatment.
3. Because confronting traumatic memories may be very difficult for some PTSD patients, hypnotic techniques may provide them with a means to modulate their emotional and cognitive distance from such memories as they are worked through therapeutically.

There are a number of contraindications for using traditional hypnotic techniques in the treatment of PTSD (Cardena et al., 2008):

1. In the rare cases of individuals who are refractory or minimally responsive to suggestion, hypnotic techniques may not be the best choice, because there is some evidence that hypnotizability is related to treatment outcome efficacy (Levitt, 1994; Spiegel et al., 1981 & 1993).
2. Some PTSD patients may be resistant to hypnotic treatment because of religious concerns or other beliefs. If resistance persists, other suggestive techniques may be tried including emotional self-regulation therapy (ESRT), which is done with open eyes and uses sensory recall exercises rather than a hypnotic induction (Bayot et al., 1997; Kirsch et al., 1999).
3. For patients who have low blood pressure or are prone to fall asleep, hypnotic procedures such as "alert hand," which emphasize alertness and acitivity rather than relaxation, may be substituted (Cardena et al., 1998).

EVIDENCE

	Recommendation	Sources	LE	QE	R
1	Hypnosis may be used to alleviate PTSD symptoms.	Brom et al., 1989 Sherman, 1998	I	Fair	B

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

B11. Behavioral Couples Therapy

BACKGROUND

Perceived social support has been identified as an important resilience factor in PTSD. Families report significant distress during the deployment cycle the prevalence of family problems, such as divorce. A number of family and couples interventions have been developed, including Behavioral Family Therapy (BFT) (Mueser & Glynn, 1995), Cognitive-Behavioral Couples Therapy (CBCT; Monson et al., 2004), and Support and Family Education (SAFE; Sherman, 2003). However, there is as yet little support for these interventions as a first line treatment for PTSD.

DISCUSSION

Glynn et al. (1999) conducted a RCT of couples or family treatment for PTSD utilizing either an Exposure condition, Exposure followed by BFT, or a wait list control. While both active treatment conditions improved on PTSD symptoms, BFT did not significantly improve the PTSD symptoms, compared to the Exposure only condition. However, BFT did demonstrate improved problem solving skills relative to the other two conditions.

Monson et al. (2004, 2005) conducted a small, uncontrolled pilot study of seven couples who received CBCT for PTSD. Significant improvements were found on PTSD, depression, and anxiety for both veterans and wives. The improvement in relationship satisfaction was more mixed, with no improvement for husbands but greater improvement for wives.

Devilly (2002) examined a Lifestyle Management course for male veterans with PTSD and their partners, in a weeklong residential treatment. Both veterans and their partners experienced significant reductions in anxiety, depression, and stress; veterans also experienced significant reductions in PTSD. However, the effect size of these changes was small and symptom improvements were considered to be of limited clinical importance.

No studies that evaluated behavioral couple's therapy (BCT) for treatment of posttraumatic stress disorder (PTSD) were identified. One study (Rotunda et al., 2008) evaluated BCT for substance use disorder (SUD) in veterans with comorbid PTSD. The study was not designed to evaluate BCT for treatment of PTSD, but did assess psychological symptoms as a function of BCT. Although, the effects of BCT on PTSD symptoms specifically were not reported, the results suggested that BCT may reduce general psychological distress and increase abstinence in male veterans with SUD and comorbid PTSD. However, caution should be taken in generalizing these findings to a population with PTSD alone, given the body of literature demonstrating that those with comorbid SUD and PTSD are different from those with PTSD alone on a number of important clinical variables (e.g., symptom severity, chronicity of illness, treatment refractory) (Robert, Beckham, and Moore, 2007).

No review or meta-analysis publications that addressed BCT, BFT, or CBCT as a treatment for PTSD were identified.

EVIDENCE TABLE

	Evidence	Sources of Evidence	LE	QE	SR
1	BFT did not significantly improve the PTSD symptoms, and was inferior to other psychotherapies	Glynn et al. (1999) Monson et al. (2004)	I	Fair	I

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

B12. Telemedicine and Web-based Interventions

B12-1. TELEMEDICINE INTERVENTIONS

BACKGROUND

Increasingly, a range of technologies are being adapted to enhance delivery of mental health services. Such technologies include the telephone and videoconferencing tools. Some technological applications assist human providers in delivering their treatments to patients, as when videoconferences or telephones are used to reach those for whom attendance may be difficult, or increasing convenience for patients by eliminating travel to face-to-face sessions. Telephone-based services – phone-based counseling, automated telephone assessment, and interactive telephone applications – provide ways of extending assessment and treatment into the natural environment.

DISCUSSION

A burgeoning body of rigorous research has demonstrated that psychotherapy for treatment of depression and anxiety disorders delivered either via videoteleconferencing (VTC) or via telephone is not only effective, but clinically equivalent to face-to-face delivery (O'Reilley et al., 2007; Bee et al., 2008). However, only one study to date has conducted that level of rigorous examination of psychotherapy delivered to a PTSD population via VTC (Morland et al., 2009). This study found that Anger Management Group therapy via VTC was *as effective as* face-to-face delivery in reducing anger symptoms in PTSD patients, both immediately post treatment and in short term follow-up (i.e., 3 months). It also found that were no significant differences between the two modalities in satisfaction with treatment, treatment credibility, attendance, homework completion, attrition, or alliance among group members (Greene et al., 2010). However, patients receiving treatment via VTC had lower therapeutic alliance with the group leader than those who received face-to-face delivery.

Additional trials of VTC delivery of PTSD-specific treatments have also demonstrated clinical effectiveness that was comparable to face-to-face delivery (e.g. Frueh et al., 2007). However, due to the methodologies used (e.g. small sample size, non-randomized), they were not able to test if VTC was actually equivalent to face-to-face treatment. A non-random cohort study demonstrated that CBT delivered via VTC improved PTSD symptoms at a level similar to face-to-face group delivery (Germain, Marchand, Bouchard, Drouin, & Guay, 2009). A recent pilot study found that Prolonged Exposure Therapy delivered via VTC was highly effective, safe, and feasible (Tuerk et al., 2010).

There has been somewhat inconsistent evidence of process outcomes such as patient and provider satisfaction, patient treatment preference, comfort talking to their therapists, and homework compliance among the different trials comparing VTC and face-to-face delivery of PTSD interventions. Although several studies have found no significant differences between the two modalities, some have found that in-person delivery has generated slightly better process outcomes (Morland, Pierce, & Wong, 2004; Frueh et al., 2007).

The effectiveness of telephone delivery of case management and support has been well proven for a wide variety of behavioral health interventions. However, it is much less studied with PTSD patients. A small cohort study demonstrated that telephone-based monitoring and support improved patient satisfaction and entry into aftercare compared to treatment as usual condition (Rosen et al., 2006).

Mobile phone-based interventions present several advantages and capabilities (e.g., web-browsing, text messaging, software applications, etc.) that could address common problems in delivering evidence-based treatments (Boschen, 2010); however, the evidence to support these technologies in the PTSD interventions has yet to be generated.

In summary, telephone delivery and videoconferencing can be effectively used to overcome geographical barriers to mental health care. There is an abundance of evidence that the modalities are safe and effective. There is preliminary evidence to suggest that psychotherapy delivered via these modalities is as effective as face-to-face care. As the field develops, additional research needs to examine how TMH modalities affect the therapeutic process and also how mobile phone-based interventions can be effectively used for PTSD treatment.

B12-2. WEB-BASED INTERVENTIONS

BACKGROUND

Increasingly, a range of computer and Internet technologies are being adapted to enhance delivery of mental health services. Web-based applications can deliver elements of treatment (such as psychoeducation or skills training) in the absence of provider contact or with reduced contact. And it is possible that access to help via technologies may increase engagement in care by reducing stigma associated with treatment-seeking and increasing accessibility of care (e.g., for rural populations, disabled persons, individuals without easy transportation access). To date, research conducted with PTSD patients has been very limited, but services are increasingly being delivered via these technologies. Newly developed technologies can present significant challenges related to patient confidentiality and safety, and these must be addressed carefully, by both the individual providers and the organization delivering these interventions.

DISCUSSION

Web-based interventions have very limited research for treatment of PTSD, although several studies have been done to assess these techniques particularly in traumatized individuals with general distress or subclinical PTSD symptoms. Web-based interventions may provide an effective delivery modality for CBT techniques that can be considered in certain circumstances. However, these interventions raise a number of privacy and confidentiality issues and have not been directly compared with other evidence-based person-to-person CBT modalities that have been shown to be efficacious may be considered as a standalone intervention, or as an alternative to standard mental health treatment for PTSD.

The Internet provides a potential resource for delivery of both information (psychoeducation) and more complex interventions. At present, while there is much traumatic stress-related information available on the Web, the accuracy and authoritativeness of the information can be difficult for consumers to determine. Bremner, Quinn, Quinn, and Veledar (2006) reviewed the quality of 80 websites related to psychological aspects of trauma, and found that 42% of sites had inaccurate information, 82% did not provide a source of content, and 41% did not use a mental-health professional in the development of the content. The authors concluded that, although abundant, websites providing information about traumatic stress are often not useful, and can sometimes provide inaccurate and potentially harmful information to consumers of medical information.

Despite these concerns, prominent authoritative websites that are grounded in research on psychological trauma and PTSD do exist and many public organizations and universities have developed online information resources related to post-traumatic stress (e.g., National Center for PTSD site: www.ncptsd.va.gov; Center for the Study of Traumatic Stress, http://www.centerforthestudyoftraumaticstress.org/; International Society for Traumatic Stress Studies, www.istss.org; National Institute of Mental Health, http://www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder-ptsd/index.shtml).

Patients and family members should be warned that information about PTSD that is obtained from the Internet should be interpreted with caution. Internet sites from established health care agencies or patient advocacy organizations are recommended over chat rooms or nonspecialist or commercial sites.

Several randomized controlled trials (RCTs) of web-based intervention treatment of PTSD have been conducted. Taken together, they provide preliminary support for the use of specific web-based CBT approaches. RCTs of web-based therapist-assisted interventions (Knauvelsrud & Maercker, 2007; Lange, et al., 2001; Lange et al., 2003; Litz, Engel, Bryant, & Papa, 2007) have demonstrated significant improvements in trauma-related symptoms compared to wait-list and supportive counseling control conditions, with improvements being maintained over short-term (i.e., 3 month) follow-up periods. The studies have focused largely on traumatized individuals (clinical and non-clinical, such as university students) with generalized distress or subclinical PTSD symptoms. Only one of the RCTs selected patients based on a PTSD diagnosis. This study involved service members with PTSD related to the Pentagon attack of September 11, 2001 or combat in Iraq or Afghanistan (OEF & OIF) (Litz et al., 2007). However, the definition of PTSD was not based on a standard structured clinical interview, and no difference was found in the intent-to-treat analysis between the internet-based CBT and internet-based supportive therapy control. In addition, this was not a pure internet-based intervention, as it involved a 2 hour initial face-to-face session in addition to periodic telephone contact. A meta-analysis of Internet interventions for anxiety (Reger & Gahm, 2009) found that the effect Sizes for PTSD symptoms fell in the large range (ES = .75; CI = .49 to 1.01), but again, this was not based on studies of patients with PTSD per se, but rather persons who have sustained trauma and who have distress, subclinical PTSD, or in some cases actual PTSD. Reger and Gahm (2009) also noted many methodological problems with current studies and indicated that additional research is needed to determine evidence for effectiveness.

In conclusion, there is insufficient evidence to recommend web-based interventions for treatment of PTSD. The use of the Internet may have relevance as adjunctive modalities in assisting distressed traumatized individuals and complement other evidence based treatment interventions.

As with face-to-face treatments, it is important to recognize that existing studies have looked at the effectiveness of specific web-based protocols. Thus, it cannot be inferred that the studied modalities are generalizable to other web-based treatments. Three of the studies cited above relate to one intervention entitled Interapy (Lange, et al., 2001; Lange et al., 2003; Knauvelsrud & Maercker, 2007). Interapy and DeStress (Litz et al., 2007) share several intervention components, including repeated writing about the traumatic experience. These evidence-supported web-based protocols are also therapist-assisted, with significant input from the provider. For example, Interapy involves a mean per-patient total of 14 hours of therapist time. Evidence from research on other mental health problems indicates that rates of attrition from web-based interventions are high in the absence of provider contact to facilitate completion. With regard to PTSD, there is relatively little evidence at present for the effectiveness of Internet interventions that are completely self-administered (e.g., Hirai & Clum, 2005).

Regardless of intervention mode, it is important that those involved in technology-assisted intervention delivery take steps to ensure that their work complies with the regulations and procedures of the organization in which they are employed, with evolving legal standards, and with the ethical standards of their professions. Newly developed technologies can present significant challenges related to patient confidentiality and safety, and these must be addressed carefully by both the individual providers and the organization delivering these interventions.

C. PHARMACOTHERAPY FOR PTSD

There is growing evidence that PTSD is characterized by specific psychobiological dysfunctions, which have contributed to a growing interest in the use of medications to treat trauma-related biological effects (see Table I-6).

Studies of medication classes used in therapy for PTSD in individuals exposed to trauma that assessed clinical outcomes were included in the review for this guideline update. Evidence from randomized controlled trials (RCTs) was considered to be of highest quality, followed by observational evidence. Other sources were evaluated when randomized controlled trials and observational studies were not available or did not provide adequate evidence. Studies were excluded if they did not evaluate response to pharmacotherapy and if they did not evaluate individuals exposed to trauma. The recommendations and tables address only drugs that have been studied and are available in the U.S. Other drugs that have not been reported in published studies or were tested in open label trials have not been considered and therefore do not appear in the table.

Table I - 6. Summary Table – Drug Therapy for PTSD

SR	Significant Benefit	Some Benefit	Unknown	No Benefit
A	SSRIs SNRIs			
B		Atypical Antipsychotics (adjunctive) TCAs MAOIs (phenelzine) Mirtazapine Nefazodone **		
C			Prazosin	
I			Buspirone Non-benzodiazepine hypnotics Bupropion Trazodone (adjunctive)	Gabapentin Guanfacine Lamotrigine Topiramate Valproate Tiagabine Benzodiazepines **
D				Conventional Antipsychotics **

*SR_= level of recommendation; ** Potential harm*

RECOMMENDATIONS

General Recommendations:

1. Risks and benefits of long-term pharmacotherapy should be discussed prior to starting medication and should be a continued discussion item during treatment.
2. Monotherapy therapeutic trial should be optimized before proceeding to subsequent strategies by monitoring outcomes, maximizing dosage (medication or psychotherapy), and allowing sufficient response time (For at least 8 weeks). [C]
3. if there is some response and patient is tolerating the drug, continue for at least another 4 weeks.
4. If the drug is not tolerated discontinue the current agent and switch to another effective medication.
5. If no improvement is observed at 8 weeks consider;
6. Increasing the dose of the initial drug to maximum tolerated
7. Discontinuing the current agent and switching to another effective medication
8. Augmenting with additional agents.
9. Recommend assessment of adherence to medication at each visit.
10. Recommend assessment of side effects and management to minimize or alleviate adverse effects.

11. Assess for treatment burden (e.g., medication adverse effects, attending appointments) after initiating or changing treatment, when the patient is non-adherent to treatment, or when the patient is not responding to treatment.
12. Since PTSD is a chronic disorder, responders to pharmacotherapy may need to continue medication indefinitely; however it is recommended that maintenance treatment should be periodically reassessed.
13. Providers should give simple educational messages regarding antidepressant use (e.g., take daily, understand gradual nature of benefits, continue even when feeling better, medication may cause some transient side effects, along with specific instructions on how to address issues or concerns and when to contact the provider) in order to increase adherence to treatment in the acute phase of treatment. [B]

Monotherapy:

14. Strongly recommend selective serotonin reuptake inhibitors (SSRIs), for which fluoxetine, paroxetine or sertraline have the strongest support, or serotonin norepinephrine reuptake inhibitors (SNRIs), for which venlafaxine has the strongest support, for the treatment of PTSD. [A]
15. Recommend mirtazapine, nefazodone, tricyclic antidepressants (TCAs), amitriptyline and imipramine, and monoamine oxidase inhibitors (MAOIs), phenelzine, for treatments for PTSD. [B]
16. There is insufficient evidence to support the use of prazosin as monotherapy in the management of PTSD. [I]
17. The existing evidence does not support the use of bupropion, buspirone, trazodone, guanfacine, anticonvulsants (tiagabine, lamotrigine, topiramate, valproate, gabapentin), or atypical or atypical antipsychotics as monotherapy in the management of PTSD. [D]
18. There is evidence against the use of benzodiazepines in the management of PTSD. [D]

Augmented Therapy for PTSD:

19. Recommend atypical antipsychotics as adjunctive therapy - (risperidone and olanzapine [B] Quetiapine [C]).
20. There is insufficient evidence to recommend a sympatholytic, or an anticonvulsant as an adjunctive therapy for the treatment of PTSD. [I]

DISCUSSION

Treatment of PTSD core symptoms

Antidepressants

Antidepressants, particularly serotonergic reuptake inhibitors (SSRIs) have proved effective in treating PTSD, and are recommended as first-line agents in treatment guidelines (Davidson et al., 2001; Brady et al., 2000; Foa et al., 2000; Foa et al., 1999). Over 3000 patients have participated in studies of paroxetine, sertraline and fluoxetine. Sertraline and paroxetine have FDA approval for PTSD. SSRIs have a broad spectrum of action effectively reducing all three core symptoms of PTSD. As a class they are generally well tolerated.

Results with SSRIs are conflicting with respect to wartime related PTSD. Martenyi et al. (2002) with combat veterans of recent wars found fluoxetine to be significantly

superior to placebo. Martenyi (2007) reported a negative fixed-dose trial with fluoxetine. In addition, Friedman et al. (2007) testing Vietnam vets with chronic PTSD in a VA Hospital setting observed no difference between sertraline and placebo. One should not extrapolate the findings of Friedman's paper to all veterans as veterans with chronic PTSD who remain symptomatic after decades of VA treatment comprise a chronic treatment refractory cohort that is not representative of all male combat veterans with PTSD.

The SSRIs Citalopram, escitalopram and fluvoxamine have been not been studied sufficiently to warrant a recommendation.

Venlafaxine, a SNRI, has been shown to have positive results in two trials of more than 800 participants with noncombat-related PTSD (Davidson, 2006a, 2006b). Duloxetine and desvenlafaxine have not been studied and cannot be recommended at this time. In a 24-week comparison trial, venlafaxine performed as well as sertraline in civilian population (Davidson, 2006b).

Other monotherapy recommendations are mirtazapine, nefazodone, TCAs, and MAOIs although these have been studied in fewer patients and are considered second-line treatment options. Of the TCAs, only amitriptyline and imipramine have demonstrated positive outcomes, while data on desipramine and nortriptyline have been negative, poor quality studies. Nefazodone has been the subject of several small- to mid-sized RCTs and case-control studies (Davis et al., 2000; Garfield et al., 2001; Gillin et al., 2001; Hertzberg et al., 1998; Hidalgo et al., 1999; Zisook et at., 2000). In all six studies, the drug was helpful in improving CAPS, HAM-D, sleep, and anxiety. In a trial of combat and sexual assault origin PTSD, nefazodone was more effective than placebo (Davis, 2004). Nefazodone has demonstrated efficacy equivalent to sertraline in two fair-quality trials (McRae, 2004; Saygin, 2002). Two trials with mirtazepine (Davidson, 2003; Chung, 2004) have demonstrated positive findings. However, in the placebo controlled trial (Davidson, 2003) both mirtazepine and placebo had large effect sizes. In a trial of military veterans, mirtazepine was as efficacious as sertraline but there was no placebo comparison arm (Chung, 2004). Of the currently available MOAIs, only phenelzine has been studied. In a placebo comparison trial, Vietnam veterans assigned to phenelzine had significant improvement in IES compared to placebo (Kosten, 1991).

Although **atypical antipsychotics** are not effective as monotherapy, significant efficacy as adjunctive treatment to antidepressants has been shown in trials composed primarily of veterans. Response was predominantly in hyperarousal and re-experiencing symptom clusters. These trials studied risperidone and olanzapine with one small quetiapine trial. Only one trial has addressed their role in co-morbid psychosis (Hamner, 2003). A significant improvement in psychotic symptoms (change in PANS) was found in risperidone treated Veterans compared to placebo; both groups improved significantly in their CAPS scores. In an open-label trial, quetiapine improved both PANS and CAPS scores compared to baseline (Hamner 2003 different from above). Olanzapine as an adjunctive treatment improved CAPS scores and sleep quality compared to placebo in a small 8-week trial (Stein M, 2002). No data are available on the use of typical antipsychotics in the treatment of PTSD.

The existing evidence does not support the use of **anticonvulsants** as monotherapy in the management of PTSD. Tiagabine has been compared to placebo in two RCTs with no difference in response (Connor 2006; Davidson 2007). Valproate, as monotherapy, did not differ from placebo in one RCT (Davis, 2008) Anticonvulsants are frequently used as adjunctive treatments. Only topiramate has been studied in

this role in Veterans with negative results (Lindley, 2007). Data on other anticonvulsants are insufficient to recommend their use in PTSD. A meta analysis showed useful use of valproate in PTSD (Adamou, 2007)

The Cochrane Collaboration published a review of the evidence regarding pharmacological treatments in PTSD (Stein et al., 2006). They found 35 short-term RCTs of PTSD (4597 participants) to review, three of which contained a maintenance component; five of those were unpublished. The authors concluded that, while no clear evidence exists to show that any particular class of medication is more effective or better tolerated than any other, the greatest number of trials showing efficacy to date, as well as the largest, have been with the SSRIs. On the basis of the data, the review recommends the SSRIs as first line agents in the pharmacotherapy of PTSD, and supports their value in long-term treatment.

A meta-analysis of 4 RCTs that compared SSRIs to placebo without regard to diagnostic criteria, duration, severity, or co-morbid diagnoses reported that treatment favored the drug in all 4 trials; however, only one study (with 183 subjects) reached statistical significance. Two RCTs maintained treatment with an SSRI for 64 weeks and 40 weeks, respectively. One study reported that 50% of patients experienced worsening symptoms when placebo was substituted for active drug and in the second report patients on placebo were 6.4 times more likely to relapse compared to the drug group. Although some patients may respond to an antidepressant trial within 3 months, some patients may require more than 12 weeks to respond to SSRIs (Martenyi et al., 2002).

Benzodiazepines

Benzodiazepines are widely used for symptomatic control of insomnia, anxiety, and irritability, there is no evidence they reduce the core symptoms (e.g., syndromal symptoms) of PTSD, such as avoidance or dissociation (Friedman and Southwick, 1995; Viola et al., 1997). More recent studies have been scarce, and Kosten et al. (2000) presents evidence that does not support the use of benzodiazepines in PTSD.

Benzodiazepine administration should be discouraged both in acute stress disorder (ASD) and post-traumatic stress disorder (PTSD), due to lack of evidence for effectiveness and risks that outweigh potential benefits. Although benzodiazepines have been frequently used "as needed" and continuously for anxiety disorders, including to augment evidence-based treatment modalities in PTSD, there is evidence to suggest that benzodiazepines may actually potentiate the acquisition of fear responses and worsen recovery from trauma. Benzodiazepines use should be considered relatively contraindicated in combat veterans with PTSD, because of the very high co-morbidity of combat-related PTSD with alcohol misuse and substance use disorders (upwards of 50% of comorbidity) and potential problems with tolerance and dependence. Once initiated in combat veterans, benzodiazepines can be very difficult, if not impossible, to discontinue, due to significant withdrawal symptoms compounded by the underlying PTSD symptoms.

Although there have been few clinical trials of benzodiazepines to prevent or treat PTSD, they have been consistent in showing negative findings.

Clinical Trials

- Braun, et al. 1990 - In a randomized double blind cross-over study, alprazolam showed no significant benefit in alleviating PTSD symptoms compared with placebo. A slight reduction in anxiety symptoms was offset by withdrawal effects documented after only five weeks of treatment.

- Gelpin, et al. 1996 - In this open labeled study, 13 patients who had recently experienced trauma (within the past 18 days) and were experiencing excessive distress (panic, agitation, or persistent insomnia) were treated for up to 6 months with alprazolam or clonazepam. These 13 patients were compared with a control group of recently traumatized individuals matched for demographics and symptoms (using the Impact of Events Scale). On follow-up, PTSD occurred at a significantly *higher* rate in the benzodiazepine treated group (9/13, 69%) than in the control group (2/13, 15%). Although the strength of the evidence is low (open labeled study), the study suggested that benzodiazepines may worsen outcomes in the acute period following trauma, and the authors referenced animal data (see below) consistent with the hypothesis that benzodiazepines may potentiate the acquisition of fear responses.

- Melman, et al. 2002 - In this small double-blind randomized controlled study during the acute period after trauma (mean 2 weeks after trauma), the short term (7 day) evening use of temazepam in patients with significant ASD/PTSD symptoms was compared with placebo (11 patients in each group). The study showed no benefits in preventing PTSD, and the trend was similar to the Gelpin study, with 6 of 11 (55%) patients who received tamazepam developing PTSD, compared with 3/11 (27%) who received placebo.

- Cates, et al. 2004 - This small single blind cross-over placebo controlled study compared clonazepam with placebo for the treatment of sleep dysfunction associated with combat-related PTSD. The study showed no significant difference between the benzodiazepine and placebo treatment.

Other Relevant Studies

- Viola et al. (1997) - At Tripler Army Medical Center, after having treated 632 patients, the vast majority of whom suffered from combat-related PTSD, between 1990 and 1996, the staff began to "explore treatment alternatives" to benzodiazepines due to the "risks attendant to benzodiazepine management of PTSD, coupled with poor clinical outcome" (Viola et al., 1997).

- Risse et al. (1990) - This case series reflects the typical clinical experience when benzodiazapines are utilized for treating combat-related PTSD. In this study alprazolam was used to augment treatment of anxiety symptoms in 8 combat veterans with chronic PTSD and co-morbid conditions (mostly alcohol misuse). Although anxiety initially improved with treatment, the improvement was short lived and resulted in tolerance to increasing doses and eventual failure of the treatment. The key problem was encountered upon attempting to gradually withdraw the medication after determining that ongoing treatment was not going to be of further benefit. All 8 patients experienced severe reactions, including anxiety, sleep disturbance, rage, hyperalertness, increased nightmares, and intrusive thoughts; 6 of the 8 veterans developed a level of rage with homicidal ideation that they had never encountered previously.

- Davydow (2008) - In this literature review of the risk factors for developing PTSD after serious trauma (requiring ICU treatment), greater ICU benzodiazepine administration was found to be one of the consistent predictors of PTSD.

- Randal, et al. (1995); and Coupland, et al. (1997) - Flumazenil, a benzodiazepine/GABA receptor antagonist, provokes panic attacks in patients with panic disorder, but not in healthy controls. In these two studies (one of which involved a group of male Vietnam combat veterans), flumazenil was compared with placebo to determine if it provoked anxiety, panic, or PTSD symptoms. Both studies showed that there were no significant increases in anxiety, panic, or PTSD symptoms in subjects as a result of flumazenil administration. This suggests that PTSD is dissimilar to panic disorder in terms of benzodiazepine receptor functioning, and helps to explain why benzodiazepine treatment has produced no significant benefits in clinical trials.

- Several studies involving different animal models of PTSD (for example, Matar, et al., 2009 and Hebert, et al., 1996) have shown that benzodiazepine administration in the immediate aftermath of stress exposure significantly increases vulnerability to develop more severe responses upon subsequent exposure to stress.

	Evidence	Source	LE	QE	NB	SR
1	Benzodiazepines are not recommended for treatment of PTSD	Braun et al., 1990 Cates et al., 2004 Gelpin et al., 1996 Melman et al., 2002	I I II-2 I	Fair/Poor	Small/ Neg	D

LE =Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation; NB=Net benefit (see Appendix A)

Symptom-specific adjunctive treatments

A number of trials have shown the efficacy of certain agents to target specific PTSD symptoms.

Prazosin as a global treatment for PTSD has yielded mixed results, it has shown consistent efficacy in improving sleep and reducing nightmares. In five relatively small studies (Raskind et al., 2002,2003 and 2007; and Taylor 2006,2008), prazosin has demonstrated a value in reducing nightmares and in improving CAPS, CGI, and CGIC scores. (See discussion in Module I-3 A. Sleep Disturbance)

Other agents that have improved insomnia are trazodone, mirtazepine, and olanzapine. There are no trials of non-benzodiazepine hypnotics in the treatment of sleep disorders associated with PTSD.

Sympatholytics have also been investigated as PTSD therapy.

Buspirone, a nonbenzodiazepine antianxiety drug, is reported to have "clinical efficacy" in two very small studies (Duffy & Malloy, 1994; Wells et al., 1991).

Table I - 1 Pharmacologic Studies for Treatment of PTSD

Drug	Source of Evidence	Result	n	LE	QE	NB	SR
SSRI							
Sertraline *	Brady et al., 2000	Significant improvement, CAPS-2, CGI	187	I	G	Sub	A
	Davidson et al., 2001a	Effective for prevention of PTSD relapse	96	I	G	Sub	
	Davidson et al., 2001b	Significant responder rate, CAPS-2	208	I	G	Sub	
	Davidson et al., 2002	Study of effect on individual symptoms	?	II-2	F	Mod	
	Davidson et al.,2001c	Effective for preventing PTSD relapse	96	I	G	Sub	
	Friedman et al., 2007	No sig diff between Tx and Pbo. Combat trauma.	169	I	G	Zero	
	Londborg et al., 2001	Significant response maintained x 36 weeks	128	II-1	G	Sub	
	Rapaport et al., 2002	Significant response maintained x 64 weeks	359	I/II-1	G	Sub	
	Tucker et al., 2003	Significant improvement of primary outcome	58	I	F	Zero	
	Zohar et al., 2002	Numeric advantage (only), not sig, Israeli vets	42	I	G	Zero	
Paroxetine *	Marshal 2007	Significant improvement, CAPS-2 & CGI	52	I	G	Sub	A
	Marshall, et al., 2001	Significant improvement, CAPS-2 & CGI	551	I	G	Sub	
	Tucker, et al., 2001	Significant improvement, CAPS-2	307	I	G	Sub	
Fluoxetine	Barnett et al., 2002	Study of tolerability. Well-tolerated	65	I	G	Sub	A
	Connor et al., 1999	"Superior" response for civilian patients	53	I	G		
	Davidson 2005	Well-tolerated and effective in prevention of relapse, improve CGI. High rate of relapse	57	I	G	Sub	
	Martenyi 2007	No significant dif. between Tx and Pbo; TOP-8	411	I	G	Zero	
	Martenyi et al., 2002a	Effective for prevention of PTSD relapse; 50% subjects - combat related	131	I	G	Sub	
	Martenyi et al., 2002b	Effective: improvement in TOP-8, CGI; 50% subjects -combat related	301	I	G	Sub	
	Meltzer-Brody, et al., 2000	Reduced all symptom clusters of PTSD;	53	II-2	F		
	Van der ko et al., 1994	Fluoxetine > placebo, more in non VA pts	64	I	G	Sub	
Citalopram	Seedat et al., 2000	Significant improvement, CAPS-2	14	II-1	F		
	Tucker et al, 2003	Sig improvement (↓ BP)	58	I	F	Neg	
Fluvoxamine	Escalona et al., 2002	Appears to improve PTSD symptoms	15	III	P	-	I
	Neylan et al., 2001	Improved sleep quality for Vietnam vets	21	III	P	-	

Drug	Source of Evidence	Result	n	LE	QE	NB	SR
TCA							
Amitriptyline	Davidson et al., 1990	Effective for core symptoms of PTSD	46	I	G	Mod	B
	Davidson et al., 1993	Significant improvement: IES, CGI, HAMD	62	I	G		
Desipramine	Reist et al., 1989	Did not show efficacy; no statistics	27	III	P		
Imipramine	Kosten et al., 1991	Significant improvement, CAPS-2, IES	41	I	G		
Nortriptyline	Zygmont et al., 1998	Effective for traumatic grief symptoms	22	II-1	G		
	Dow et al., 1997	Improvement in CGE for PTSD with MDD	72	II-2	F		
MAOI/RIMA							
Phenelzine	Kosten et al., 1991	Significant improvement in IES, better than placebo	37	I	G	Mod	B
SNRI							
Venlafaxine	Davidson et al, 2006;	Effective in tx PTSD; Improves resilience	329	I	G	Sub	A
	Davidson et al., 2006b	Effective similar to sertraline	531	I	G	Sub	
Secondary AD							
Bupropion	Becker et al., 2007	Bupropion SR had no effect on PTSD	30	I	F	Neg	I
	Canive et al., 1998	No change in total CAPS score - male veterans	17	II-2	F		
Nefazodone	Davis et al, 2004	Nefazodone is effective and well-tolerated ; Combat sexual	42	I	G	Sub	B
	Davis et al., 2000	Significant improvement in CAPS, HAM-D	36	II-2	G		
	Garfield et al., 2001	Significant improvement in CAPS, anxiety	14	II-2	F		
	Gillin et al., 2001	Significant improvement in sleep, CAPS	12	II-2	F		
	Hidalgo et al., 1999	High response rate; pooled data, 6 studies	105	II-2	F		
	McRae et al., 2004	Nefazodone is effective as sertraline. High attrition rates	37	I	F	Sub	
	Saygin et al,. 2002	Nefazodone is effective as sertraline and well-tolerated Earthquake survivors	54	I	F	Sub	
	Zisook et at., 2000	PTSD symptoms lessened, CAPS	19	II-2	F		
Trazodone	Warner et al., 2001	Reduction in nightmares; 9 reports priapism	74	III	P		I
Mirtazapine	Chung et al, 2004	Mirtazapine is effective as sertraline and well tolerated. Military veterans (Korean)	51	II-1	F	Mod	B
	Davidson et al., 2003	Significant improvement in the SPRINT, SIP, DTS as compared to placebo	26	I	F	Mod	B

Drug	Source of Evidence	Result	n	LE	QE	NB	SR
Anticonvulsants							
Gabapentin	Hamner et al., 2001	Effective for insomnia, adjunct treatment	30	II-2	P	Zero	I
Lamotrigine	Hertzberg et al., 1999	Promising results	14	I	P	Zero	I
Topiramate	Lindley SE 2007	No significant effect for topiramate over placebo	40	I	F	Zero	C
	Tucker P, 2007	Not significant difference from placebo (non-combat)	38	I	G	Zero	
Valproate	Davis L 2008	Divalproex monotherapy was not effective in the treatment of chronic PTSD	85	I	G	Zero	C
	Adamou 2007 (SR)	Valproate was generally effective in reducing hyperarousal, improving irritability and anger	63	I	F	Small	
Tiagabine	Connor K 2006	No significant improvement was observed on all outcome measures	29	I	F	Zero	?
	Davidson J 2007	No difference from placebo	232	I	G	Zero	
Atypical Antipsychotics							
Olanzapine	Butterfield et al., 2001	No beneficial effect. High placebo response	15	I	G		I
	Petty et al., 2001	Significant improvement in CAPS, CGI	48	II-1	G		
	Stein et al., 2002	Adjunct to SSRI. Significant improvement in measures, but not in global response	19	I	F	Mod	
Quetiapine	Hamner et al., 2003	Significant improvement in CAPS	20	II-1	F		I
Risperidone	Bartzokis 2005	Risperidone>placebo; Vet military	48	I	G	Small	C
	Hamner et al., 2003	Adjunct to other meds, comorbid psychoses	40	I	F	Neg	
	Monnelly 2003	Risperidone > placebo; Military combat	15	I	F	Mod	
	Padala P 2006	Sexual assault - risperidone monotherapy was more effective than placebo	20	I	P	Small	
	Reich D 2004	Child abuse - Risperidone more effective than placebo;	21	I	F	Mod	
	Rothbaum 2008	Civilian - Risperidone augmentation was helpful in subjects who did not remit with sertraline alone	45	I	F	Small	

Drug	Source of Evidence	Result	n	LE	QE	NB	SR
Sympatholytics							
Clonidine	Kinzie & Leung, 1989	Cambodian refugees improved, dual therapy	68	III	P	Small	I
Guanfacine	Horrigan & Barnhill, 1996	suppression of PTSD associated nightmares in children	1	III	P	Small	D
	Neylan T, 2006	No effect on PTSD symptoms (in vet military)	63	I	Good	Neg	
	Davis l 2008	No effect on PTSD symptoms	65	I	Good	Neg	
Prazosin	Raskind et al., 2003	Significant improvement, CAPS, CGI	10	I	F	Small	B
	Raskind et al., 2002	Significant improvement in dream scores	59	II-2	F	Zero	
	Raskind et al., 2007	Significant improved sleep quality, reduced nightmares, better overall sense of well being.	34	I	G	Mod	
	Taylor et al., 2006	Reduction in global PTSD illness severity	11	II	P	Mod	
	Taylor et al., 2008	Significantly improved CGI-I scores; and changed PDRS scores toward normal dreaming	13	I	F	Mod	
Benzodiazepines							
Benzodiaz.	Kosten et al., 2000	Not associated with adverse outcomes	370	II-2	F	Zero	D
Alprazolam	Braun et al., 1990	Did not show efficacy. (concern: rebound anxiety)	16	I	F	Zero	D
Clonazepam	Fossey & Hamner, 1994	A source of sexual dysfunction	42	III	P	Zero	D
	Gelpin et al., 1996	No beneficial effect in PTSD, may worsen outcome	20	II-1	F	Zero	
	Shalev & Rogel 1992	No effect on auditory startle	N/A	III	F	Zero	
Temazepam	Melman et al., 2002	No benefits in preventing PTSD, May worsen outcome	11	I	P	Zero	D
	Cares et al., 2004	No difference between the benzodiazepine and placebo	I	I	P	Zero	D

LE=Level of Evidence QE=Quality of Evidence (F=Fair; G=Good; P=Poor); NB=Net benefit (Sub=Substantial; Mod = Moderate; Neg=Negative)
SR= Strength of Recommendation (see Appendix A);

* FDA Approved
** Trials added since the 2004 VA/DoD PTS gudieline

Table I - 2 Symptoms Response by Drug Class and Individual Drug (based on controlled trials)

		Global Improvement	Re-experiencing (B)	Avoidance/ Numbing (C)	Hyper-arousal (D)
SSRI	Fluoxetine	X	X	X	X
	Sertraline	X	X	X	X
	Paroxetine	X	X	X	X
SNRI	Venlafaxine	X	X	X	X
TCAs	Amitriptyline/ Imipramine	X	X		X
MAOIs	Phenelzine	X	X		X
Sympatholytics	Prazosin	X	X		X
Other Antidepressants	Mirtazapine	X	X		X
	Nefazodone	X	X		X
Atypical antipsychotics	Risperidone		X		X
	Olanzapine				X

Table I - 3 Drug Details

Agent	*Oral Dose	Contraindications	Adverse Events	Pregnancy Category	Remarks
Selective Reuptake Serotonin Inhibitors (SSRIs)					
Fluoxetine **Paroxetine** **Sertraline** **Fluvoxamine** **Citalopram** **Escitalopram**	20 – 60 mg/d 20 – 60 mg/d 50 – 200 mg/d 50 – 150 mg bid 20 – 60 mg/d 10 – 20 mg/d	**Contraindications** : • MAO inhibitor within 14 days • Concurrent use of pimozide or thioridazine • Hypersensitivity	• Nausea , diarrhea • Headache • Dizziness • Sexual dysfunction • Hyponatremia/SIADH (Syndrome of Inappropriate Antidiuretic Hormone) • Nervousness, anxiety, agitation • Serotonin syndrome	• All except paroxetine are Category C • Paroxetine Category D • Women planning to breast feed, consider an antidepressant with the lowest excretion into breast milk: paroxetine, sertraline	• Avoid abrupt discontinuation of all except fluoxetine • Citalopram, escitalopram and sertraline are less likely to be involved in hepatic enzyme drug interactions involving CYP2D6 or 3A4 • All except escitalopram are generically available • St. Johns Wort may in decrease the concentration of SSRIs metabolized by CYP2D6
Tricyclic Antidepressants					
Imipramine **Amitriptyline** **Desipramine** **Nortriptyline** **Protriptyline** **Clomipramine**	150 – 300 mg/d 150 – 300 mg/d 100 – 300 mg/d 50 – 150 mg/d 30 – 60 mg/d 150 – 250 mg/d	**Contraindications** : • Clomipramine – seizure disorder • MAOI use within 14 days • Acute MI within 3 months • Hypersensitivity **Relative Contraindications**: • Coronary artery disease • Prostatic enlargement	• Dry mouth • Dry eyes • Constipation • Orthostatic hypotension • Increased heart rate • Ventricular arrythmias • Weight gain • Drowsiness	• Category C • Women planning to breast feed, consider an antidepressant with the lowest excretion into breast milk: nortriptyline	• Therapeutic blood concentrations not established for PTSD • Desipramine and nortriptyline have lower rate of sedation anticholinergic and hypotensive effects • Moderate CYP2D6 inhibition • St. Johns Wort may decrease the concentration of SSRIs metabolized by CYP2D6

Agent	*Oral Dose	Contraindications	Adverse Events	Pregnancy Category	Remarks
Monoamine Oxidase Inhibitors					
Phenelzine **Tranylcypromine**	45-75 mg/d in divided doses 10 – 60 mg/d target 1 mg/kg/d target 0.7 mg/kg/d	**Contraindications**: • All antidepressants within 14 days of start of a MAOI, except fluoxetine is 5 weeks • Concurrent use with CNS stimulants or depressants and decongestants • CHF, hepatic or renal disease • Pheochromocytoma • Foods high in tyramine • Hypersensitivity •	• Hypertensive crisis with drug/tyramine interactions • Bradycardia • Orthostatic hypotension • Insomnia • Dry mouth • Dry Eyes • Constipation	• Category C	• Patient must maintain a low tyramine diet and avoid foods rich in tyramine • Tranycypromine should be taken early in the day to reduce insomnia • MAOIs are to be discontinued 2-weeks prior to starting another antidepressant or serotonergic agent
Sympatholytics					
Propranolol	40 - ? mg/d	**Contraindications:** • Sinus bradycardia, uncompensated congestive heart failure, 2nd or 3rd degree heart block, severe COPD or asthma, hypersensitivity to beta-blockers	• Hhypotension, bronchospasm, bradycardia	• Category C & D (2nd & 3rd trimesters) • Breast feeding – not recommended	• Has only been used in a single dose for prevention of PTSD
Prazosin	Target 6 – 10 mg/d Start with 1 mg at bedtime and increase as blood pressure allows.	• Hypersensitivity to quinazolines • Conurrent use of phosphodiesterase type-5 inhibitors	• First dose syncope	• Category C • Breast feeding – affects unknown	• Primarily used for management of recurrent distressing dreams
Novel Antidepressants					

Agent	*Oral Dose	Contraindications	Adverse Events	Pregnancy Category	Remarks
Bupropion **Nefazodone** **Trazodone** **Venlafaxine** **Mirtazapine**	150 – 450 mg/d 300 – 600 mg/d 300 – 600 mg/d 150 – 375 mg/d 30 – 60 mg/d	**Contraindications** : • MAOI use within 14 days (all) • Hypersensitivity Bupropion – single doses of regular-release >150 mg/d and total daily dose >450 mg/d. • History of seizures, anorexia or buliemiaNefazodone • Active liver disease or increased liver enzymes • Use with carbamazepine, pimozide, cisapride, triazolam and alprazolam	• Bupropion: headache, insomnia, dizziness, weight loss, decreased appetite, anxiety, agitation, nervousness, sleep disturbances • Nefazodone: hepatotoxicity • Trazodone and nefazodone: sedation, rare priapism • Venlafaxine: hypertension in patients with pre-existing hypertension, headache, insomnia, somnolence, nervousness, dizziness, anorexia • Mirtazapine: weight gain, increase appetite, somnolence, dry mouth	• Category C (all)	• Need to taper venlafaxine to prevent rebound signs/symptoms • The group has a lower rate of sexual dysfunction compared to SSRIs • Obtain baseline LFTs when treating with nefazodone • Nefazodone is a potent CYP3A4 inhibitor • St. Johns Wort may increase mirtazepine's metabolism

Agent	*Oral Dose	Contraindications	Adverse Events	Pregnancy Category	Remarks
Anticonvulsants					
Carbamazepine	target 400 – 1600 mg/d	**Contraindications:** • bone marrow suppression, particularly leukopenia • hypersensitivity to carbamazepine, pimozide or tricyclic antidepressants • MAOI use within 14 days • Concurrent use of nefazodone	• bone marriw suppression, aplastic anemia, leukopenia, SIADH, drowsiness, ataxia, photosensitivity, serious dermatologic reactions including Stevens-Johnson syndrome, A-V block and bradycardia	• Category D • Excreted into breast milk in high concentrations; measurable in infant serum.	• Therapeutic blood concentration are not established for PTSD, but monitoring may be useful in cases of suspected toxicity (usual range 4 – 12 mcg/mL) • Strong inducer of CYP 1A2, 2B6, 2C8, 2C9, 2C19, and 3A4. Induction can reduce effectiveness of many medication such as oral contraceptives
Gabapentin	target 300 – 3600 mg/d	• renal impairment	• sedation, ataxia • peripheral edema	• Category C • Excreted into breast milk; effects unknown	
Lamotrigine	Not taking divalproex or CBZ: 25 mg once a day for 2 weeks, then 50 mg/day for 2 weeks, then 100 mg/day for 1 week	• increased rash with valproate; max dose of 200 mg	• Stevens- Johnson syndrome • fatigue • Headache • Peripheral edema • Rash • Vision changes	• Category C • Excreted in breast milk with measurable	Adjust dose base on renal function • Taking divalproex: 25 mg every other day for 2 weeks, then 25 mg/day for 2 weeks, then 50 mg/day for 1 week, then 100 mg/day • Taking enzyme inducing drug (eg, CBZ): 50 mg/day for 2 weeks, then 100 mg/day for 2 weeks, then 200 mg/day for 1 week, then 300 mg/day for 1 week
Topiramate	target 200 – 400 mg/d. Start with 25 – 50 mg/d and increase by 15 – 50 mg/week to maximum dose or as tolerated.	• hepatic impairment	• angle closure glaucoma • sedation • dizziness • ataxia • cognitive impairment • weight loss • paresthesia • vision changes	• Category C • Excreted in to breast milk; breast feeding not recommended	
Valproate	target 10 – 15 mg/kg/d	• impaired liver function, thrombocytopenia	• nausea/vomiting • sedation • ataxia • thrombocytopenia • Alopecia • Weight gain • pancreatitis	• Category D • Low concentrations in breast milk and infant. Theoretical risk for hepatotoxicity or thrombocytopenia. Monitor for jaundice, liver damage, bleeding.	

Agent	*Oral Dose	Contraindications	Adverse Events	Pregnancy Category	Remarks
Benzodiazepines					
Clonazepam **Lorazepam** **Alprazolam** **Diazepam**	Start - 0.25 mg bid, increase by 0.25 mg every 1-2 days; maximum 20 mg/d 2 – 4 mg/d1.5 to 6 mg/d10 - 40 mg/d	**Contraindications:** • hypersensitivity • significant liver disease (clonazepam) • narrow angle glaucoma • severe respiratory insufficiency (lorazepam) • Caution in elderly patients and patients with impaired liver function. • Risk of abuse in patients with history of substance abuse	• sedation • memory impairment • ataxia • dependence • Confusion • hypotension	• Category D (all) • All enter breast milk; breastfeeding not recommended	• If doses sustained > 2 months at therapeutic doses, then drug should be tapered over 4-week period • Alprazolam – concern with rebound anxiety

Agent	*Oral Dose	Contraindications	Adverse Events	Pregnancy Category	Remarks
Typical antipsychotics					
Chlorpromazine **Haloperidol**	100 – 800 mg/d 2 – 20 mg/d	**Contraindication** : • Parkinson's disease • QTc prolongation or concurrent use with medications that prolong the QTc interval • Severe CNS depression • Hypersensitivity	• Sedation • Orthostatic hypotension with chlorpromazine, thioridazine · • Akathisia • Dystonia • drug-induced parkinsonism • Tardive dyskinesia may occur with all antipsychotics with long-term use. • Neuroleptic malignant syndrome • QTc changes	• Category C (all) • All enter breast milk; not recommended	• Therapeutic doses not established in the treatment of PTSD • Use should be well justified in medical record because of the risk of tardive dyskinesia. •
Atypical antipsychotics					
Olanzapine **Quetiapine** **Risperidone**	5 – 20 mg/d 300 – 800 mg/d 1 – 6 mg/d	**Relative contraindication:** • Parkinson's disease • Hypersensitivity	• Sedation • Weight gain • Neuroleptic malignant syndrome • Higher doses may cause akathisa, drug-induced parkinsonism, especially with risperidone doses >6 mg/d	Olanzapine: Category B Quetiapine: Category C Risperidone: Category C • All excreted into breast milk; not recommended, use with caution	• Therapeutic doses not established for PTSD • Weight gain occurs with all agents; however, olanzapine produces significantly greater gain • The relative risk of tardive dyskinesia compared to typical antipsychotics has not been established for these agents • Monitor for development of diabetes/hyperglycemia , increased cholesterol and trigylcerides •

Agent	*Oral Dose	Contraindications	Adverse Events	Pregnancy Category	Remarks
Non-benzodiazepine					
hypnotics **- Zaleplon** **- Zolpidem**	 5 – 10 mg/d 5 – 10 mg/d	**Contraindications:** • Hypersensitivity **Precautions:** • Caution with alcohol/drug abuse history • Caution in elderly and patients with liver dysfunction	• Sedation • Ataxia • Rebound insomnia may occur • Dizziness • Headache • Behavioral changes, bizarre behavior, hazardous activities while asleep	• Category C (both) • Enters breastmilk; avoid zaleplon; use zolpidem with caution	• Abuse has occurred resulting in withdrawal reactions • Zolpidem is a CYP3A4 substrate and its metabolism can be decreased by 3A4 inhibitors
anti-anxiety **- Buspirone**	20 – 60 mg/d	**Precaution:** • MAOI use within 14 days	• Nausea • Headache • Dizziness • Drowsiness	• Category B • Excretion into breast milk unknown; not recommended	• Buspironeis a CYP3A4 substrate and its metabolism can be decreased by 3A4 inhibitors

*Dose adjustments may be necessary in renal or hepatic impairment.

D. ADJUNCTIVE SERVICES

D1. Psychosocial Rehabilitation

BACKGROUND

Patients with chronic PTSD may develop a persistent incapacitating mental illness marked by severe and intolerable symptoms; marital, social, and vocational disability; and extensive use of psychiatric and community services. These patients may sometimes benefit more from therapeutic intervention that facilitates generalizing skills for coping with PTSD from clinic to home/work/community such as case management and psychosocial rehabilitation than from psycho-or pharmacotherapy.

Psychosocial Rehabilitation involves clinicians providing family psycho-education, supported employment, supported education, supported housing, or some serving as case managers, or others working with peer counselors. VHA's Uniform Mental Health Services policies (Veterans Health Administration, 2009) now mandate psychosocial rehabilitation, expanding such services from inpatient units to outpatient programs in Primary Care settings, Outpatient clinics, Community-Based Outpatient Clinics (CBOC), Vet Centers, Home-Based Care programs, and in partnerships with agencies and providers in communities.

RECOMMENDATIONS

1. Consider psychosocial rehabilitation techniques once the client and clinician identify the following kinds of problems associated with the diagnosis of PTSD: persistent high-risk behaviors, lack of self care/independent living skills, homelessness, interactions with a family that does not understand PTSD, socially inactive, unemployed, and encounters with barriers to various forms of treatment/rehabilitation services.

16. Client and clinician should determine whether such problems are associated with core symptoms of PTSD and, if so, ensure that rehabilitation techniques are used as a contextual vehicle for alleviating PTSD symptoms.

17. Psychosocial rehabilitation should occur concurrently or shortly after a course of treatment for PTSD, since psychosocial rehabilitation is not trauma-focused.

DISCUSSION

Penk and Flannery (2000) listed seven forms of psychosocial rehabilitation as clinical practice guidelines for Post-traumatic Stress Disorder (PTSD):

1. Patient education services
2. Self-Care and Independent Living Skills Techniques
3. Supported Housing
4. Marital/Family Skills Training
5. Social Skills Training
6. Vocational Rehabilitation
7. Case Management

A decade later, Penk & Ainspan (2009) suggest to add to this list: 8) Physical health and well-being and computer-assisted self-management training in reducing PTSD and other mental disorders such as addictions and depression.

Table I - 7 Adjunctive Problem Focused Method/Services

If the client and clinician together conclude that the patient with PTSD:		Service/Training
1	Is not fully informed about aspects of health needs and does not avoid high-risk behaviors (e.g., PTSD, substance)	Provide patient education
2	Does not have sufficient self-care and independent living skills	Refer to self-care/independent living skills training services
3	Does not have safe, decent, affordable, stable housing that is consistent with treatment goals	Use and/or refer to supported housing services
4	Does not have a family that is actively supportive and/or knowledgeable about treatment for PTSD	Implement family skills training
5	Is not socially active	Implement social skills training
6	Does not have a job that provides adequate income and/or fully uses his or her training and skills	Implement vocational rehabilitation training
7	Is unable to locate and coordinate access to services such as those listed above	Use case management services
8	Does request spiritual support	Provide access to religious/spiritual advisors and/or other resources
	OTHER CONDITIONS	
9	Does have a borderline personality disorder typified by parasuicidal behaviors	Consider Dialectical Behavioral Therapy
10	Does have concurrent substance abuse problem	Integrated PTSD substance abuse treatment (e.g., Seeking Safety)

The empirical literature on group treatment for PTSD has grown since the publication of the first edition of the Treatment Guidelines for PTSD.

Evidence-based research from randomized clinical trials now is available to support recommending psychosocial rehabilitation when treating veterans. (Glynn, Drebing, & Penk, 2009). Psychosocial Rehabilitations are not limited to veterans with schizophrenia or other psychoses. Psychosocial rehabilitations are recognized as efficacious in treating Post-traumatic Stress Disorders (PTSD), Major Depression Disorders (MDD), and Addictions, especially when mental health practices are delivered through self-management manuals and the Internet integrated into supported education and supported employment

The psychosocial rehabilitation model may include medication when needed; skills training designed to assist veterans to live productively in the community, and various forms of psychotherapy. Integrating trauma focused psychotherapies with psychosocial rehabilitation is currently under-utilized but new interventions are being empirically-validated to bring together several forms of treatments and rehabilitation for PTSD.

Models of Psychosocial Rehabilitation Services

1. Education
    - Family psychoeducation is the process of providing education and coping skills for veterans and their families about relevant medical and mental disorders. Examples of such psychosocial rehabilitation are the family interventions for PTSD developed by Shirley Glynn (1999) at the VA in West Los Angeles and manualized approaches designed by Sherman, Sautter, Lyons, Manguno-Mire, Han, and Perry (2005) delivered at VHA medical centers in VISN 16—Oklahoma City, Jackson, and Houston.
    - Family psychoeducation generally takes place in multi-family groups (producing the added benefit of augmenting social support) but such techniques can also be given in single family formats or even by books or online (e.g., Sherman & Sherman, 2005).
    - Family psychoeducation is noted for fostering social support, challenging a key symptom in Post-traumatic Stress Disorder (PTSD) which is characterized by social avoidance and isolation. Precautions are needed in fielding family psycho-education among many different families, since consent of each individual is always required when information is shared about a veteran's illness and/or about families' symptoms and ways of coping. Family psychoeducation is a treatment modality in which families are a partner in providing services to each other: Families are not objects in treatment.
    - Family psychoeducation is effective, particularly for PTSD (Cf. Glynn, Drebing, & Penk 2009), hence well-regarded in the VHA and emphasized in mental health services. Studies from different countries over the past 20 years show that family psychoeducation reduces the rates of re-hospitalization by an average of fifty percent.

2. Self-Care and Independent Living Skills Techniques
    - While social rehabilitative therapies (i.e., teaching social, coping, and life function skills) have been proven effective in chronic schizophrenic and other persistently impaired psychiatric cohorts, they have yet to be formally tested with PTSD clients. Since they appear to generalize well from clients with one mental disorder to another, it is reasonable to expect that they will also work with PTSD clients. There is clinical consensus that appropriate outcomes would be improvement in self-care, family function, independent living, social skills, and maintenance of employment.
    - Given the positive impact of independent skills training techniques for mental disorders in general (Halford et al., 1995), PTSD-centered modules should be developed and tested for effectiveness.

3. Supported Housing
    - VHA for decades has offered support for housing through residential care programs, such as residential care in inpatient units, domiciliaries, affiliations with state and local housing resources, vouchers for single-room occupancy, congregate housing in private homes.

- Forms of housing considered more effective are those in which clinical services are integrated or efforts are made by treating staff to foster community living (Goldfinger et al., 1997; Schutt & Garrett, 1992)
- Existing literature for persons with other forms of mental illness demonstrates that case management linked to specialized clinical services is more effective than "single-room occupancy" or "warehousing" in shelters without other forms of support (Goldfinger et al., 1997).
- The greatest risk to ending housing arrangement and likelihood of discontinuing rehabilitation arise from addictions (Goldfinger, Schutt, Tolomiczenko, Seidman, Penk, Turner, 1999; Rog, 2000; Tsemberis & Eisenberg, 2000; Culhane, Metraux, & Hadley, 2002). Thus, interventions that provide housing supports are critical to success in rehabilitation (Mares, Kasprow, & Rosenheck, 2004).
- Research on outcomes for compensated work therapy transitional residence model(CWT/TR) have shown such endeavors indeed are quite successful in transitioning homeless, unemployed veterans who had been hospitalized on inpatient units from VA medical centers to independent living in the community (Schutt, Rosenheck, Penk, Drebing, & Seibyl, 2005). The program requires that unemployed, homeless veterans work in CWT (and, later, other jobs) in order to gain access to VHA housing for a limited time before transitioning to housing on one's own or in private congregate housing with other veterans.
- Outcome studies show that such interventions are successful in promoting tenure in jobs and in personal living arrangements, promoting healthier styles of living, as well lowered costs due to reduce recidivism, (Cook, 2001; McKay, Johnsen, Banks and Stein, 2005; Cowell, Pollio, North, et al, 2003; Pelletier, Ngyuen, Bradley, et al (2005).

4. Marital/Family Skills Training
   - Marital and family treatments for trauma survivors fall into one of two general categories: systemic approaches designed to treat marital or family disruption, and supportive approaches designed to help family members offer support for an individual being treated for PTSD. These treatments are usually provided as an adjunct to other forms of treatment that are designed to directly address the PTSD symptoms.
   - A single, low-quality RCT compared the addition of family therapy to individual therapy for war veterans with PTSD (Glynn et al., 1999). It found no significant benefit to the addition of behavioral family therapy (BFT), largely due to a high dropout rate, nor did it add significantly to the treatment of PTSD with direct therapeutic exposure (DTE) (an individual psychotherapy technique).
   - There are no research studies on the effectiveness of marital/family therapy for the treatment of PTSD. However, because of trauma's unique effects on interpersonal relatedness, clinical wisdom indicates that spouses and families be included in treatment of those with PTSD. Of note, marriage counseling is

typically contraindicated in cases of domestic violence, until the batterer has been successfully (individually) rehabilitated.

5. Social Skills Training
   - Effectiveness of social skills training has been well demonstrated over many years in many RCTs but not specifically for PTSD (Dilk & Bond, 1996).
   - Effectiveness of social skills training has been demonstrated for reducing social isolation of persons with severe mental disorders (e.g., schizophrenia); similar techniques may be promising for PTSD, particularly if adapted to address antecedent conditions involved in trauma and its consequences (Rothbaum & Foa, 1996).

6. Vocational Rehabilitation
   - Effectiveness of vocational rehabilitation techniques in treating mental disorders has been demonstrated under controlled experimental conditions (Bell & Lysaker, 1996; Bell et al., 1996; Bell et al., 1993; Bond et al., 1997) and controlled, clinical studies (Anthony et al., 1995; Drake, 1996; Lehman, 1995; Lysaker et al., 1993).
   - As a form of psychosocial rehabilitation, Supported Employment (SE) means that individuals with mental health disorders learn how to find and keep regular, real world, jobs in the community. In SE, vocational rehabilitation specialists provide continuous support to assist veterans achieve success at work. Outcomes for SE have been shown to be much better than for traditional approaches and this finding has been replicated in several countries (Bond, Drake and Mueser, 1997; Latimer, Lecomte, Becker, et al., 2006; Oldman, Thomson, Calsaferri, et al., 2005; Penk, Drebing, Rosenheck, van Ormer, & Mueller, 2010, 2009).
   - Strong outcome data exists to support the efficacy of Supported Employment (SE) for veterans with medical and mental disorders (Glynn, Drebing, & Penk, 2009).
   - SE consists of many different kinds of interventions including the "place-and-train" model that uses on-the-job training within and outside VA medical centers (Penk, 2000).
   - Cochrane Review reviewed eighteen randomized controlled trials among nonveteran and veteran samples, mostly those with serious mental disorders, and found that SE was superior to programs that offered pre-vocational training (Crowther, Marshall, Bond, and Huxley, 2001).
   - SE was found to be associated with fewer crises, less chaos, more structure, and on-going support from vocational rehabilitation specialists because consumers now focus on developing their lives in the community and managing their illness more independently (Bond, Becker, and Drake, 2001).
   - Effect sizes for treating PTSD with Supported Employment are sizable (e.g., Glynn, Drebing, & Penk; 2009; Drebing, Van Ormer, Rosenheck, Rounsaville, Herz, & Penk, 2005; Drebing, Van Ormer, Schutt, Krebs, Losardo, Boyd, Penk, & Rosenheck, 2004; Drebing, Van Ormer, Rosenheck, Rounsaville, Herz, & Penk, 2005; Rogers, Anthony, Lyass, & Penk, 2006; Drebing, Van Ormer, Mueller, Hebert, Penk, Petry, Rosenheck, & Rounsaville, 2007).

7. Case Management

Although case management has been shown to be useful for a range of other psychiatric disorders, there is currently no evidence available from RCTs or from systematic reviews to support or reject the use of case management for PTSD patients.

- Among populations with histories of trauma, the assertive community treatment models have been empirically validated under controlled (but not with random assignment) conditions (Mueser et al., 1998).
- Most of the research that empirically validates case management has been conducted among persons with severe mental disorders (Mueser et al., 1998), presumably including persons with co-occurring PTSD and other disorders.
- Evidence suggests that outcomes are more favorable for intensive case management (well-trained clinician teaches client psychosocial rehabilitation skills in the client's home/community) than for simple case management (clinician links client to needed services).
- Case management has been demonstrated to reduce inpatient hospitalizations and severe symptoms, as well as to stabilize housing for formerly homeless persons; however, there is little evidence to suggest that case management improves vocational adjustment/social functioning (Mueser et al., 1998).

D2. Spiritual Support

BACKGROUND

Social support will be critical for helping the individual cope after a trauma has occurred. It may be necessary to identify potential sources of support and facilitate support from others (e.g., partners, family, friends, work colleagues, and work supervisors).

The terms "religious" and "spiritual" are both used in the clinical literature to refer to beliefs and practices to which individuals may turn for support following a traumatic event.

Spiritual & existential issues: "Given the complex range of PTSD symptomatology, a successful treatment program will address not only the emotional issues that characterize the disorder but also its psychophysiological, cognitive, and interpersonal processes and existential meanings" (Hunter, 1996).

Religion may provide a framework by which many survivors of trauma construct a meaningful account of their experience, and may be a useful focus for intervention with trauma survivors.

DISCUSSION

Religion seeking is an observed post-traumatic phenomenon:

There is a large body of anecdotal literature documenting the propensity of individuals to seek religious/spiritual comfort following a traumatic event. The terrorist attacks of September 11, 2001 provide a recent instance of this phenomenon. Meisenhelder (2002) notes "the events of September 11, 2001 triggered a widespread national response that was two-fold: a post-traumatic stress reaction and an increase in attendance in religious services and practices immediately following the tragic events." Schuster and his colleagues performed a nationwide phone survey of 569 adults within a week of the event (2001), and found

that "forty-four percent of the adults reported one or more substantial stress symptoms; 91 percent had one or more symptoms to at least some degree. Respondents throughout the country reported stress syndromes. They coped by talking with others (98 percent), turning to religion (90 percent)."

Demonstrated benefits of the practice: religious/spiritual care:

Some longitudinal studies have found support for religious /spiritual practices extending longevity (Hummer et al., 1999; Strawbridge et al., 1997), and reducing the duration of depression (Koenig et al., 1998). However, others examining the overall literature have found it to be "weak and inconsistent" (Sloan, et al., 1999). Strawbridge and his colleagues (1998) used a large public health survey to investigate "associations between two forms of religiosity and depression as well as the extent to which religiosity buffers relationships between stressors and depression". The authors conclude "religiosity may help those experiencing non-family stressors, but may worsen matters for those facing family crises."

Several possible pathways for positive physical / mental health benefits from religious/spiritual practice have been identified. These include; (1) reduction of behavioral risks through healthy religious lifestyles (e.g. less drinking or smoking) (2) expanded social support through involvement in spiritual communities, (3) enhancement of coping skills and helpful cognitive appraisals resulting in meaning-making, and (4) physiological mechanisms such as activation of the "relaxation response" through prayer or meditation.

Recent research on cognitive processes following traumatic events indicates that challenges to an individual's basic life assumptions may occur. These assumptions involve the security and meaningfulness of the world and the individual's sense of self-worth in relation to perception of the environment (Janoff-Bulman, 1979). Specifically, these assumptions are; (1) that one's environment is physically and psychologically safe, (2) that events are predictable, meaningful and fair, (3) that one's own sense of self-worth is positive in relation to experiences with other people and events (Hunter, 1996). The style and intensity of religious / spiritual appraisals and coping behaviors made in the aftermath of trauma may both reflect and influence the recovery trajectory and ultimate outcomes of traumatic events.

A recent meta-analytic study (Ano & Vasconcelles, 2005) of religious / spiritual coping with stressful events examined results from 49 studies meeting inclusion criteria from the 109 studies initially identified. In this study, Pargament's (1997) model of religious coping was used to distinguish between positive and negative uses of religion / spirituality to deal with life crises. Bivariate correlations between religious coping (positive and negative) measures and psychological adjustment (positive and negative) were averaged to obtain effect size estimates for findings for four key relationships; 1) positive religious coping and positive adjustment, 2) positive coping and negative adjustment, 3) negative coping and positive adjustment, and 4) negative coping and negative adjustment. The strongest average effect size estimate (.33) was obtained for the 29 studies examining the relationship between positive coping and positive adjustment. The 22 studies of negative coping and negative adjustment produced a significant moderate effect size estimate of .22. Finally, from 38 studies examining correlations between positive coping and negative adjustment, a small, yet significant, effect size estimate of -.12 was obtained. Taken together, findings from the Ano & Vasconcelles (2005) meta-analysis show that both forms of religious coping are related to psychological adjustment to stress. Positive religious coping is related to both positive and

negative forms of adjustment in the directions expected; whereas negative coping is only significantly related to negative adjustment.

A study of help-seeking military veterans found significant associations between negative religious coping, lack of forgiveness and worse mental health outcomes (PTSD and Depression) (Witvliet et al., 2004). Similarly, loss of religious faith was found to be associated with worse mental health outcomes (i.e. greater utilization of mental health services) among military veterans in treatment for PTSD (Fontana & Rosenheck, 2004). Most recently, in a study of religiously active trauma survivors positive relationships were found between a measure of positive religious coping, seeking spiritual support, and posttraumatic growth. In the same study a negative religious coping indicator, religious strain, was significantly related to posttraumatic symptoms (Harris, Erbes, Engdahl, Olsen, Winskowski & McMahill, 2008). Thus, there is some consistency in findings of a complex relationship between religious coping and psychological adjustment following stress.

An integrative review of the literature on spirituality and bereavement by Wortman & Park (2008) suggests that religion/spirituality has a mixed but generally positive relationship with adjustment to bereavement depending on the dimension measured. Making-meaning appeared to be an important pathway associating religion/spirituality with adjustment for several dimensions, including general religiousness, intrinsic religiousness, religious coping, and belief in the helpfulness of religion.

The role of the Chaplain:

Recent studies of healthcare systems indicate strong association between the degree to which patient emotional / spiritual needs are met and overall patient treatment satisfaction. Healthcare accrediting bodies are recommending that Chaplains/pastoral care teams work in close collaboration with medical care teams to provide patients with an in-depth spiritual care experience that results in emotional comfort and improved satisfaction (Clark et al., 2003).

The Chaplain may play an important role in helping individuals regain a sense that their basic life assumptions are true. Chaplains receive training in a wide variety of supportive techniques, and they stand ready to assist all individuals, including those who do not subscribe to an organized religion. Chaplains may provide assistance in one or more of the following ways:

- Organizing and mobilizing community action by;
- Providing education and consultation with advice for leaders
- Assisting in the mobilization of action plans and recovery processes
- Offering facilitation of adaptation and mastery in social change
- Assisting in the development of community networks
- Supporting the development of a positive recovery organization
- Serving as a source of communication
- Fostering Community Theater and art geared to encouraging working through and recovery from the trauma.

Providing space and opportunities for prayers, mantras, rites and rituals and end-of-life care as determined important by the patient is another significant contribution of the Chaplain. (Canda and Phaobtong, 1992; Lee, 1997).

EVIDENCE

	Recommendation	Sources	LE	QE	SR
1	Consider referral for religious/spiritual counseling as indicated for patient symptoms, consistent with available resources, and resonant with patient beliefs	Baldacchino and Draper, 2001 Meisenhelder, 2002 Calhoun et al., 2000 Humphreys et al., 2001 Nixon et al., 1999 Strawbridge et al., 1998	III	Poor	I
2	Consider providing direct spiritual care or ensuring patient access to spiritual care	Bogia and Preston, 1985 Everly, 2000b	II	Fair	C

LE =Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation (see Appendix A)

E. SOMATIC TREATMENT

E1. Biomedical Somatic Therapies

OBJECTIVE

Evaluate the evidence for efficacy of Biomedical Somatic Therapies including Electroconvulsive Therapy (ECT), Cranial Electrotherapy Stimulation (CES), Vagal Nerve Stimulation (VNS), Repetitive Transcranial Magnetic Stimulation (rTMS), Deep Brain Stimulation (DBS)) in the treatment of PTSD.

BACKGROUND

There has been little research studying these modalities in the treatment of PTSD. ECT has strong research support in the treatment of refractory depression. VNS, rTMS, and CES have been cleared for marketing by the FDA for the treatment of depression, and DBS has been given a humanitarian exemption clearance for marketing for the treatment of Obsessive Compulsive Disorder. None of these modalities have been approved for the treatment of PTSD.

RECOMMENDATIONS

There is insufficient evidence to recommend the use of any of the Biomedical Somatic Therapies for first-line treatment of PTSD. [D]

18. ECT and rTMS may be considered as an alternative in chronic, severe, medication and psychotherapy-resistant PTSD. [B]

DISCUSSION

Although there is significant interest in biomedical somatic interventions in PTSD, there is no evidence for their use as a first line treatment for PTSD. ECT and rTMS may be beneficial in chronic, treatment-resistant PTSD, however their use has to be further studied in larger patient populations, and specifically in combat veterans.

Electroconvulsive Therapy (ECT)

Watts (2007) reports a VA retrospective chart review study of twelve hospitalized Vietnam veterans with severe refractory depression (including bipolar depression) with co-morbid PTSD who underwent a course of ECT. Results showed good response for depressive symptoms but minimal response for PTSD symptoms.

Margoob et al (2010) reports on an open ECT trial for 20 patients (17 completers) with severe, chronic, antidepressant- and CBT-refractory PTSD who were

prospectively treated with a fixed course of 6 bilateral ECT treatments on an outpatient basis. The improvement in PTSD (40%), measured by CAPS was independent of the improvement in depression (57%), and treatment gains were maintained at 4-6 months follow-up.

Repetitive Transcranial Magnetic Stimulation (rTMS)

Rosenberg (2002) added rTMS to standard antidepressant therapy in 12 patients with PTSD and found that depression responded strongly but PTSD benefits were minimal.

Osuch (2009) studied rTMS as an adjunct to exposure therapy and existing medications in 9 patients with comorbid major depression and PTSD in a double-blind crossover study which included a sham arm and found decrease in hyperarousal symptoms alone.

Cohen (2004) reported findings of an RCT which showed significant improvement in PTSD core symptoms of re-experiencing and avoidance, but only when a 10 Hertz treatment was delivered (note that Osuch utilized no more than a 5 Hertz strength).

Boggio et al. (2009) studied the efficacy of 20 Hz rTMS of either right or left dorsolateral prefrontal cortex (DLPFC) as compared to sham rTMS in 30 patients with chronic PTSD, in a double blind, placebo-controlled trial with a sham arm. Both active conditions-20 Hz rTMS of left and right DLPFC induced a significant decrease in PTSD symptoms based on the PTSD Checklist and Treatment Outcome PTSD Scale; however, right rTMS induced a larger effect than left rTMS. Improvements in PTSD symptoms were still significant at 3-month follow-up. Neuropsychological evaluation showed that active 20 Hz rTMS was not associated with cognitive worsening in patients with PTSD.

Vagal Nerve Stimulation (VNS)

There is one open pilot study of Vagal Nerve Stimulation for treatment-resistant anxiety disorders (George, 2008) that included two patients with PTSD. This study does not provide sufficient evidence on which to base a recommendation regarding the use of VNS in the treatment of PTSD.

Although there has been significant interest and widespread utilization of CES in the treatment of PTSD, there is insufficient evidence for or against its use.

Conclusion:

While intriguing, the findings from these studies are limited by a small number of patients and comorbid symptomatology, and do not provide adequate support to recommend any of the biomedical somatic interventions as a first-line treatment for PTSD. rTMS and ECT have had initial evidence of possible benefits in chronic, treatment-resistant PTSD, however more studies in larger patient populations are needed.

EVIDENCE TABLE

	Evidence	Source	LE	QE	SR
1	ECT – for PTSD co-morbid with severe refractory depression.	Watts 2007 Margoob, 2010	II-3 II-2	Fair	B
2	rTMS - Good PTSD outcome at higher frequency. Primarily for comorbid depression added to antidepressant. Depression benefit robust.	Burt 2002	III	Poor	B
		Cohen 2004 Boggio, 2009	I I	Good	
		Rosenberg PB 2002 Osuch, 2009	I II-1	Fair	
3	VNS - vagus nerve stimulation (VNS) for treatment-resistant anxiety disorders	George, 2008	I	Poor	I

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

E2. Acupuncture

OBJECTIVE

Improve management of PTSD symptoms, particularly when accompanied by associated symptoms of chronic pain, depression, insomnia, anxiety, or substance abuse.

BACKGROUND

The practice of needling in acupuncture to mediate pain, one of the well accepted indications for acupuncture, is thought to occur through the production of endogenous monoamines and neuropeptides. Besides activating neurohumoral pathways, acupuncture stimulates neural connections associated with the Autonomic Nervous System, prefrontal cortex, and limbic system, all structures thought to regulate the pathophysiology of PTSD. Acupuncture investigation for the treatment of PTSD has been limited to at best two (English) RCTs. However, symptomatic relief of disturbances associated with PTSD symptom clusters enhances the consideration of the use of this modality.

RECOMMENDATIONS

1. Acupuncture may be considered as treatment for patients with PTSD. [B]

DISCUSSION

Research focusing on the efficacy of acupuncture is still relatively limited. The few available studies are well done and demonstrate significant improvement in both PTSD and PTSD associated symptomatology. A larger numbers of studies exist concluding Acupuncture's efficacy in pain management, insomnia, depression, and substance abuse.

Hollifield et al (2007) evaluated the potential efficacy and acceptability of acupuncture for the treatment of PTSD. Individuals diagnosed with PTSD were randomized to an acupuncture treatment group (ACU), a cognitive-behavioral therapy group (CBT), or a wait-list control group (WLC). The primary outcome measure was self-reported PTSD symptoms at baseline, end treatment, and 3-month follow-up. Repeated measures MANOVA was used to detect predicted Group X Time

effects in both intent-to-treat (ITT) and treatment completion models. Compared with the WLC condition in the ITT model, acupuncture provided large treatment effects for PTSD (F [1, 46] = 12.60; p < 0.01; Cohen's d = 1.29), similar in magnitude to group CBT (F [1, 47] = 12.45; p < 0.01; d = 1.42) (ACU vs. CBT, d = 0.29). Symptom reductions at end treatment were maintained at 3-month follow-up for both interventions.

A recent unpublished DoD/VA RCT studied 55 active duty members with PTSD randomized to PTSD treatment as usual (TAU) and PTSD treatment as usual plus eight 90 minute acupuncture sessions delivered twice weekly for four weeks (TAU + Acupuncture). Outcome measures included: Clinician-Administered PTSD Scale (CAPS), PTSD Checklist (PCL), Becks Depression Inventory (BDI I-II), Numeric Rating Scale for Pain (NRS), and SF-36v2. Follow up was at baseline, 4, 8, and 12 weeks post randomization. Compared to usual PTSD care, a four week course of twice weekly acupuncture resulted in significantly greater improvement in PTSD symptoms, (Pre-post ES 1,4-1.6 versus usual care ES 0.12-0.74, significant improvement in Depression, and significant improvement in pain.

EVIDENCE TABLE

	Evidence	Source	LE	QE	SR
1	There is some evidence that acupuncture may be helpful with the management of Post-traumatic Stress Disorder, acute or chronic.	Hollified et al., 2007	I	Good	B

LE=Level of Evidence QE=Quality of Evidence; SR= Strength of Recommendation (see Appendix A)

F. COMPLEMENTARY AND ALTERNATIVE MEDICINE

OBJECTIVE

Identify interventions derived from traditional and nontraditional complementary approaches that may provide effective first line or adjunctive treatment for PTSD.

BACKGROUND

Complementary and alternative medicine (CAM) is a group of diverse medical practices, products and systems that are not generally considered part of conventional medicine. While there is limited evidence to suggest that any of the CAM therapies listed below are efficacious for PTSD, these interventions may be of value in dealing with other symptoms (particularly those associated with hyperarousal) or comorbid conditions. There is little evidence that these interventions are harmful. Some patients who may be reluctant to accept mental health labels or interventions may be more accepting of these novel treatment approaches. CAM interventions are affordable and generally accessible in communities across the nation. Many CAM therapies are practiced in a group setting which may have the added benefit of increasing socialization. CAM programs may be engaged as a family that could increase social support and reduce stress for all family members. CAM approaches often provide an increased sense of mastery and control that may promote greater resilience.

Since complementary medicine may relate to particular cultural backgrounds or other belief systems, health professionals should be aware of and sensitive to the needs and desires of the patient and the family. Health professionals should be willing to discuss the effectiveness of therapy and different options of care within the context of the current health care system.

CAM Modalities:

CAM modalities are typically grouped into broad categories reflecting putative mechanism of action: However, this is more for convenience than any real biologic underpinnings. In fact, some modalities such as acupuncture span more than one category. Generally consistent with the schema offered by the National Center for Complimentary and Alternative Medicine these groups are:

1. **Natural Products (Biologically Based Practices)**: Biologically based therapies that use natural substances (e.g., herbs, foods, vitamins, dietary supplements) to promote healing and wellness.
2. **Mind-Body Medicine**: Approaches that seek to enhance conscious mental control over other bodily processes. These practices use a variety of techniques to enhance the mind's ability to impact physical function and promote health. (e.g., meditation, yoga, prayers, guided imagery, progressive muscle relaxation/deep breathing, dance therapy, art therapy, music therapy.)
3. **Manipulation and Body Based Practices (Exercise and Movement):** These practices are based on movement of one or more parts of the body. Manipulations that focus primarily on the structure of the body including bones and joints, soft tissue circulatory and lymphatic system such as chiropractic, spinal manipulation, massage therapy, reflexology, and acupressure.
4. **Energy medicine:** Energy moving practices involving the use of energetic fields that purportedly surround and penetrate the human body. (e.g., Qi gong, Reiki, Therapeutic touch)
5. **Whole Medial Systems**: Alternative medicine systems based upon complete systems of theory and practice such as Ayurvedic Medicine, homeopathy, naturopathy, and Traditional Chinese Medicine (TCM).

RECOMMENDATIONS

1. There is insufficient evidence to recommend CAM approaches other than acupuncture as first line treatments for PTSD. [I]
2. CAM approaches may be recommended as adjunctive treatments for PTSD symptoms (hyperarousal and when comorbid conditions for which CAM therapies may be effective (e.g. pain, insomnia) are present.
3. CAM approaches may be recommended as alternatives when patients decline standard mental health interventions for the purpose of engagement and potential increase in sense of self-mastery, self-control and social support.
4. Providers should discuss the effectiveness of therapy and different options of care within the context of the current health care system.

DISCUSSION

Surveys of CAM utilization (meditation, yoga, massage, and deep breathing exercises) among the general US population indicate significant increases in acceptance of these practices over the past decade (Barnes et al., 2008). A recent White House Commission reported on CAM highlighted the need for continued rigorous research regarding these approaches (White House Commission, 2002).

Complementary and Alternative Medicine (CAM) approaches to the treatment of many medical and mental health diagnoses, including PTSD are in use; the research base to support their effectiveness is improving but not complete. Numerous CAM modalities have been uses for symptomatic relief related to insomnia, anxiety, and various somatic presentations associated with PTSD. Revisions of the VA/DoD CPGs are currently underway to include a comprehensive review of the evidence for all treatments, including CAM.

F1. Natural Products (Biologically Based Practices)

Herbal or dietary supplements have also been used for the treatment of PTSD. Omega -3 fatty acid, docosahexaenoic acid (DHA) affects catecholamines and proinflammatory cytokines have been shown to decrease the perception of stress (Bradbury, 2004). Although there have been some studies of their effectiveness, the results of these small RCTs provide insufficient evidence to draw firm conclusions about their effectiveness for PTSD. In addition, the quality and purity of herbals and dietary supplements available in the United States varies widely, further complicating their use.

F2. Mind-Body Medicine

Mindfulness Based Stress Reduction (MBSR) is one such modality used to emphasis the richness of each moment of our lives. Like many of the tools CAM practices encourage, MBSR fosters a sense of awareness and discovery issuing from the deep relaxation a contemplative mind experiences Mediation, specifically, Transcendental Meditation™ used to treat anxiety and depression in Vietnam Veterans (Books 1990) is another tool or practice shown to be useful for autonomic arousal, **Yoga Nidra**, a relaxation and meditative form of yoga, has also been used as an adjunctive treatment for PTSD. Formal studies demonstrating its effectiveness for PTSD are currently being conducted, and further research is needed on Yoga Nidra for PTSD before its effectiveness can be commented on. Yogic breathing, a pattern of of specific breathing techniques, may also lessen anxiety.

F3. Manipulation and Body Based Practices (Exercise and Movement)

Exercise has been advocated as an integrative approach in the prevention and treatment of PTSD and other combat related mental health problems. Taylor (2008) examined the relationship between baseline physical fitness and the development of PTSD symptoms (as measured by the Impact of Event Scale) in a group of 31 soldiers undergoing military survival training. He found that higher levels of pre-study physical fitness were inversely related to both trait anxiety levels and IES scores. Studies have shown that pre-trauma levels of exercise tend to decline after developing PTSD (de Assis, et al., 2008). Aside from PTSD, Depression was a frequent condition for which exercise therapy was applied. The majority of reviewed

studies utilized an aerobic exercise regimen, e.g., walking, running, stationary cycling (Diaz & Motta, 2008; Manger & Motta, 2005). One study emphasized the importance of participant selection of the specific type of exercises that would comprise their treatment (Donta, et al, 2003). The studies reviewed here utilized both group and individual exercise formats. All studies demonstrated either a reduction in symptoms from baseline PTSD measures or relative to a placebo or control group but the effects were generally modest and did not always extend to other mental health disorders such as anxiety and depression. A primary methodological limitation of the papers reviewed here is that exercise interventions were rarely conducted in isolation from other psychotherapeutic approaches.

F4. Energy medicine

Reiki and Johrei

- *Reiki* and j*ohrei* are both energy medicine techniques that originated in Japan. In *reiki*, the practitioner places his hands on or near the person receiving treatment with the intent to transmit *ki*, believed to be life-force energy. *Johrei,* a form of energy healing that originated in Japan, involves the practitioner facing the person receiving the treatment, where "spiritual energy" is transmitted through the practitioner (Brooks, et al., 2006).
- There are no current controlled studies examining *Reiki* or *johrei* in patients with PTSD or Acute Stress Disorder. A small number of low-quality studies have been conducted showing positive improvement in conditions commonly comorbid with PTSD, such as depression (Collinge, Wentworth, and Sabo, 2005) or anxiety (Brooks et al., 2006).
- A recent systematic review of randomized clinical trails of *reiki* noted that the currently available RCTs are "scarce" and lack independent replication (Lee, Pittler, and Ernst, 2008). The studies that exist suffer from methodological flaws related to sample size, inadequate design, and poor reporting.

F5. Whole Medical Systems

F6. Other Approaches

Animal-Assisted Therapy (AAT)

AAT is a goal-directed intervention in which an animal meeting specific criteria is an integral part of the treatment process. AAT is delivered and/or directed by a health/human service provider working within the scope of his or her profession. AAT is designed to promote improvement in human physical, social, emotional, and/or cognitive functioning. AAT is provided in a variety of settings and may be group or individual in nature. Commonly used animals include dogs and horses.

I-3. MANAGEMENT OF SPECIFIC SYMPTOMS

This section includes recommendations regarding treatment interventions for a selected list of physical symptoms that are common in patients presenting with posttraumatic stress symptoms.

Survivors of trauma may not complain directly of PTSD symptoms such as re-experiencing or avoidance. Instead, they may complain of sleeping problems. When seeking to identify PTSD, providers should consider asking specific questions about sleep problems, (including flashbacks and nightmares), pain (including musculoskeletal, headache), or hyperarousal (including an exaggerated startle response or sleep disturbance). Many individuals with PTSD experience sleep disturbances (trouble falling asleep or problems with waking up frequently after falling asleep). Chronic pain and insomnia often occur simultaneously, with the vast majority of chronic pain patients complaining of interrupted or poor quality sleep. When a person with PTSD experiences sleep disturbances, using alcohol as a way to self-medicate becomes a double-edged sword. Excessive alcohol use can impair one's ability to sleep restfully and to cope with trauma memories and stress. The need to improve sleep in these patients is clear, given increasing evidence that sleep disturbance is associated with heightened pain sensitivity and elevated disability.

Chronic pain is frequently observed in patients with PTSD and is often associated with a significant level of affective distress and physical disability. Chronic pain may develop because of an injury sustained in a traumatic event such as a motor vehicle accident, work-related injury, or injury in military combat. Patients with chronic pain, particularly headache disorders and fibromyalgia (FM), associated with psychological traumas need a special management strategy. Diagnosis of headache disorders and FM in traumatized patients and obtaining the clinical history of a traumatic event or diagnosing PTSD in chronic pain patients is of great importance.

A. Sleep Disturbances

BACKGROUND

Many patients with PTSD have had insomnia for years including broken sleep, frequent awakenings, and nightmares, all of which contribute to poor sleep quality. Hyperarousal behaviors, part of PTSD symptoms for many people can be stronger at night and contribute to insomnia. Sleep problems in traumatized patients may also reflect co-morbid conditions some of which may be of new onset (pain may be prominent among these).

There is no evidence to suggest that insomnia, as a component of traumatic stress reactions, should be managed differently than insomnia associated with other conditions. Clinical experience does, however, show that some psychologically traumatized patients dread sleep because of intense nightmares.

Research demonstrates that non-pharmacologic sleep strategies yield outcomes equal or superior to those obtained with hypnotics alone or hypnotics combined with non-pharmacologic strategies. Long-term outcomes are better following non-pharmacologic interventions. The aim of sleep management is to establish a regular, normalized sleep-wake pattern.

RECOMMENDATIONS (BASED ON CONSENSUS OF CLINICAL EXPERTS)

Sleep Disturbance

1. Encourage patients to practice good sleep hygiene including:
    - Restricting the night-time sleep period to about eight hours
    - Waking at a regular time
    - Arising from bed at a regular time
    - Avoiding going to bed too early
    - Avoiding alcohol
    - Avoiding stimulants, caffeinated beverages, power/energy drinks, nicotine and over the counter medications
    - Avoiding stimulating activities, light, noise and temperature extremes before bedtime (e.g., exercise, video games, T.V.) or in the sleeping area
    - Reducing (to less than 30 minutes), or abolishing, daytime naps
    - Practicing relaxation techniques
    - Engaging in moderate exercise, but not immediately before bedtime
2. Offer Cognitive Behavioral Therapy for Insomnia that may include:
    - Educating about proper sleep habits and sleep needs
    - Correcting false and unrealistic beliefs/concerns about sleep
    - Identifying and addressing anxious, automatic thoughts which disrupt sleep
3. Consider adjunctive therapy for nightmares using prazosin. [B]
4. Any significant change in sleep patterns should trigger clinical reassessment in order to rule out worsening or new onset of co-morbid conditions

Insomnia

5. Monitor symptoms to assess improvement or deterioration and reassess accordingly.
6. Explore cause(s) for insomnia, including co-morbid conditions.
7. Begin treatment for insomnia with non-pharmacologic treatments including sleep hygiene and cognitive behavioral treatment (See recommendation for Sleep Disturbances).
8. The selection of sleep agents for the treatment of insomnia in PTSD patients may be impacted by other treatment decisions (e.g., medications already prescribed for the treatment of PTSD, depression, TBI, pain, or concurrent substance abuse/withdrawal) and social/environmental/logistical concerns associated with deployment.
    a. **Trazodone** may be helpful in management of insomnia and may also supplement the action of other antidepressants.

b. **Hypnotics** are a second line approach to the management of insomnia and should only be used for short periods of time. Should hypnotic therapy be indicated, the newer generation of non-benzodiazepines (e.g. zolpidem, eszopiclone, ramelteon) may have a safety advantage by virtue of their shorter half-life and lower risk of dependency. Patients should be warned of and monitored for the possibility of acute confusional states/bizarre sleep behaviors associated with hypnotic use. Benzodiazepines can be effective in chronic insomnia but may have significant adverse effects (confusion, sedation, intoxication) and significant risk of dependency.

c. **Atypical antipsychotics** should be avoided due to potential adverse effects but may be of value when agitation or other symptoms are severe.

d. If nightmares remain severe, consider adjunctive treatment with **prazosin [B]**

e. If symptoms persist or worsen – refer for evaluation and treatment of insomnia

Additional information of management of insomnia can be found in:

VHA Pharmacy Benefit Management (PBM) guideline for Insomnia: http://www.pbm.va.gov/ClinicalRecommendations.aspx

Sleep Hygiene Patient Education

- Avoid or limit caffeinated products, nicotine, and alcohol, especially later in the day
- Avoid drinking excess liquids after supper to avoid having to get up during the night to go to the bathroom
- Avoid or limit daytime naps to 30 minutes in the early afternoon before 3:00 pm
- Go to bed only when sleepy. Sleep only as much as needed to feel refreshed. Staying in bed longer can result in fragmented/shallow sleep on following nights
- Create a dark, quiet, temperature-controlled bedroom (e.g., change the number of blankets you use; use earplugs; close the door if noisy)
- Avoid heavy meals within 2 hours of bedtime; a light snack might help if hungry
- Maintain a regular daily schedule of activities including bedtime and awakening times, 7 days/week. Use an alarm clock if needed
- Exercise regularly during the daytime. Avoid active exercise in the late evening when it is close to bedtime
- Use the bed and bedroom only for sleeping or sexual activity. Do not eat, work or watch television while in bed
    - If you cannot sleep, if possible, get out of bed and go to another room read or engage in other quiet activities; or do other relaxation activities before attempting to sleep again. Return to bed only when sleepy. Repeat if necessary. Do not watch the clock; turn the clock around or cover it up
- Solve problems before retiring. If not possible, write down your worries, plans and strategies during the early evening and not at bedtime
- Correct extrinsic factors such as environmental disruption (e.g., pets or snoring partner)
- Establish a "wind-down" routine going to bed and develop and maintain bedtime "rituals" that make going to sleep a familiar routine; for example:
    - Set time to relax before bed with 20-30 minutes of relaxation (e.g. soft music, meditation, breathing exercises
    - Take a warm bath
    - Have a light snack, which could include: warm milk, foods high in tryptophan, such as bananas, carbohydrates, which can help induce sleep

Adapted from Petit L, et al. Age Ageing 2003; 32: 22. Wilson S. and Nutt D. Prescriber 2005; 19: 29-41 Wolkove N, et al. CMAJ 2007; 176: 1449-54.

DISCUSSION

Use of Benzodiazepines for Sleep Disturbance

In a small, double-blind, placebo-controlled temazepam trial in acute accident/injury victims at a trauma center (Mellman et al., 2002) temazepam 30 mg was administered for 5 nights, tapered for 2 nights, then discontinued. At 6 week follow-up, 6/11 temazepam subjects and 3/11 placebo subjects met PTSD symptom criteria. Sleep improvement was noted however for the duration of the trial. However, in a small randomized, controlled trial, alprazolam did not have substantial benefit for PTSD or for nightmares, although it did improve anxiety (Braun, 1990). In another small single-blind controlled study, clonazepam did not demonstrate significant benefit for sleep difficulties, including nightmares (Cates, 2004).

An argument can be made for short-term use of a benzodiazepine for the purpose of reducing hyperarousal symptoms in the immediate trauma aftermath, in order to help normalize sleep cycles and minimize anxiety. Longer-term use of benzodiazepines, however, should be avoided, as the limited data available show that prolonged use of benzodiazepines (1-6 months duration) is associated with a higher rate of subsequent PTSD (Gelpin et al., 1996).

Benzodiazepines use should be considered relatively contraindicated in combat veterans with PTSD, because of the very high co-morbidity of combat-related PTSD with alcohol misuse and substance use disorders (upwards of 50% of comorbidity) and potential problems with tolerance and dependence. Once initiated in combat veterans, benzodiazepines can be very difficult, if not impossible, to discontinue, due to significant withdrawal symptoms compounded by the underlying PTSD symptoms.

Prazosin to Treat Sleep Disturbance

Five publications (Raskind 2000, 2002, 2003; Taylor 2006 & 2008) that examined the role of antiadrenergic medications, commonly used for treating hypertension, in the treatment of posttraumatic stress disorder (PTSD) were identified in the peer-reviewed literature.

Although Taylor et al. (2006) and Raskind et al. (2003) were excluded from the analyses (due to small number of subjects that did not meet inclusion criteria), both have shown positive results in reducing psychological distress specifically to trauma cues (Taylor et al., 2006). Patients taking prozosin showed significant improvement on the Clinician-Administered PTSD Scale (Raskind, 2003).

Raskind et al. (2007) evaluated prazosin effects on trauma nightmares, sleep quality, global clinical status, dream characteristics, and comorbid depression. Forty veterans (mean age 56 +/- 9) with chronic PTSD and distressing trauma nightmares and sleep disturbance were randomized to evening prazosin (13.3 +/- 3 mg/day) or placebo for 8 weeks. In the evaluable sample (n = 34) primary outcome measures demonstrated that prazosin was significantly superior to placebo for reducing trauma nightmares and improving sleep quality. Prazosin shifted dream characteristics from those typical of trauma-related nightmares toward those typical of normal dreams.

Taylor et al. (2008) was a double blind, placebo-controlled crossover study of 13 civilians with trauma-related PTSD. Prazosin was rapidly titrated to 3 mg/night during each 3-week treatment phase. Prazosin, compared with placebo, significantly increased total sleep time by 94 min ($p < 0.01$); and total rapid eye movement (REM) sleep and mean REM duration were also longer with prazosin. Reductions in trauma nightmares, total PTSD symptoms (using the PCL-C) and CGIC scores were significantly changed compared with placebo.

The results of these studies were consistent and positive, suggesting that prazosin therapy is safe and is associated with reduction of nighttime symptoms of PTSD. Prazosin is an effective and well-tolerated treatment for trauma nightmares, sleep disturbance and global clinical status in veterans with chronic PTSD.

Ruff and colleagues (2009) found in an observational study that prazosin combined with sleep hygiene counseling was an effective initial treatment for a group of OIF/OEF veterans (n-74) with headaches associated with histories of mild TBI from exposure to an explosion in combat and with PTSD. Prazosin was well tolerated. Nine weeks after providing sleep counseling and initiating an

increasing dosage schedule of prazosin at bedtime 65 veterans had reduced headache intensity and frequency, reduced daytime sleepiness, and improved cognitive performance. These gains maintained 6 months later.

Sleep hygiene counseling is beneficial in terms of improving sleep duration and reducing the time it takes for a person to fall asleep (Morin et al., 1999). By blocking nightmares in people with PTSD, prazosin prolongs sleep duration by preventing sleep interruptions. Thus the two interventions may have synergized, with sleep hygiene counseling reducing the time it took for veterans to fall asleep and prazosin prolonging sleep.

A systematic review by Dierks et al. (2007) did not find any additional publication to the above. The authors concluded that despite various limitations, all of the studies showed significant improvements in the sleep-related symptoms of PTSD following the addition of prazosin therapy, based on the Clinician Administered PTSD Scale recurrent distressing dreams item and the Clinical Global Impression of Change scale.

EVIDENCE TABLE

	Evidence	Source	LE	QE	NB	SR
1	Prazosin to improved sleep quality, reduced trauma nightmares	Dierks et al. (2007) § Raskind et al., 2002, 2007 Taylor et al., 2008	I	Good	Mod	B
2	Benzodiazepines for sleep disturbance, insomnia	Gelpin et al., 1996 Mellman et al., 1998	II-2	Fair	Small/ Neg	C

LE =Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation; NB=Net benefit (see Appendix A)

Table I - 8 Pharmacologic Studies - Prazosin for Sleep Disturbances

Author, Tear	Results	n	Trauma	LE	QE	NB
Raskind et al. , 2002	Significant improvement in dream scores after 8 weeks of prazosin treatment	59	Retrospective study - Veterans	II-2	Poor	Mod
Raskind et al. , 2003	Significant improvement, CAPS, CGI. Prazosin > placebo	10	Veterans	I	Poor	Mod
Raskind et al., 2007	No difference	34	Veterans	I	Good	Mod
Taylor et al., 2006	Reduction in global PTSD illness severity	11	Civilian	II	Poor	Mod
Taylor et al., 2008	Reductions of nighttime, significantly increased total sleep time	13	Civilian	I	Fair	Mod

B. Pain

BACKGROUND

There is growing body of research that indicates clearly that PTSD and chronic pain frequently co-occur. People with both PTSD and chronic pain tend to have greater distress and impairment compared to those with only one of these conditions and assessment and treatment are more complicated. When evaluating a patient with known, or suspected, ASD or PTSD it becomes important to include a pain assessment (acute or chronic) in the examination and to consider the extent to which PTSD symptoms may be being influenced by pain or the extent to which pain symptoms are being exacerbated by PTSD. Likewise, pain evaluations should include an assessment of possible PTSD symptomatology. For some patients chronic pain may actually serve as a reminder of the traumatic event, which will tend to exacerbate the PTSD. For others, re-experiencing the trauma may exacerbate pain.

Certain types of chronic pain are more common in individuals who have experienced specific traumas. For example, adult survivors of physical, psychological, or sexual abuse tend to be more at risk for developing certain types of chronic pain later in their lives. The most common forms of chronic pain involve: pain in the pelvis, lower back, face, and bladder; fibromyalgia; interstitial cystitis; and nonremitting whiplash syndromes. Chronic pain is a common problem among returning soldiers. In service persons from OEF/OIF head, neck and back pain, shoulder and knee pain have been found most common (Lew, 2009). While the concept of comorbid physical and emotional problems is not new, the particular combination of chronic pain, PTSD symptoms and post concussion syndrome and their apparent prevalence is unique to the OEF/OIF population and appears to be more common in blast injured patients and may be more difficult to treat then each condition independently.

Understanding the development and maintenance of chronic pain and PTSD and how they interact is of essential importance as the co-occurrence of these conditions is often overlooked in practice and, as a result, encumbers treatment outcomes. Fear-based avoidance is a central theme in both PTSD and chronic pain. While the underlying basis for the avoidance may differ, avoidance behaviors may exacerbate or maintain the severity of either or both conditions. Although pharmacological agents have been examined in the treatment of pain and PTSD individually, little is known regarding the relationship of medication use with functioning in patients with comorbid conditions. Pain should be assessed and aggressively treated in early phases of post trauma and providers across disciplines need to work together to develop treatments that are complementary, based on theory, and supported by empirical evidence.

RECOMMENDATIONS (BASED ON CONSENSUS OF CLINICAL EXPERTS)

1. Recommend pain assessment using a '0 to 10' scale.
2. Obtain a thorough biopsychosocial history and assess for other medical and psychiatric problems, including risk assessment for suicidal and homicidal ideation; misuse of substances, such as drugs or alcohol; over-the-counter and prescription drugs or narcotics.

3. Assessment should include questions about the nature of the pain and likely etiology (i.e., musculoskeletal and neuropathic), locations, quality, quantity, triggers, intensity, duration of the pain, as well as aggravating and relieving factors.
4. Assessment should include evaluation of the impact of pain on function and activities, pain-related disability or interference with daily activities.
5. Assessment should include the identification of avoidance behaviors that contribute to emotional distress and/or impaired functioning.
6. Management of pain should be multidisciplinary, addressing the physical, social, psychological and spiritual components of pain in an individualized treatment plan that is tailored to the type of pain. [C]
7. Selection of treatment options should balance the benefits of pain control with possible adverse effects (especially sedating medications) on the individual's ability to participate in, and benefit from, PTSD treatment. [I]
8. Musculoskeletal pain syndromes can respond to correcting the underlying condition and treatment with non-steroidal anti-inflammatory drugs (NSAIDs).
9. When appropriate, recommend use of non-pharmacologic modalities for pain control such as biofeedback, massage, imaging therapy, physical therapy, and complimentary alternative modalities (yoga, meditation, acupuncture). [C]
10. Centrally acting medications should be used in caution in patients with PTSD as they may cause confusion and deterioration of cognitive performance and interfere with the recovery process
    a. If required, lower doses of opioid therapy or other centrally acting analgesics should be used for short duration with transition to the use of NSAIDs. [C]
11. Consider offering Cognitive Behavioral Therapy that may include:
    b. Encouraging increasing activity by setting goals
    c. Correcting false and unrealistic beliefs/concerns about pain
    d. Teaching cognitive and behavioral coping skills (e.g., activity pacing)
    e. Practicing and consolidation of coping skills –and reinforcement of use.

DISCUSSION

Prevalence

PTSD and chronic pain disorder are highly comorbid (Sharp, 2001). The literature indicates a high degree of co-occurrence between pain and PTSD, regardless of whether the pain is being assessed in patients with PTSD or PTSD is being assessed in patients with chronic pain. Chronic pain and posttraumatic stress disorder (PTSD) are frequently observed to be comorbid following traumatic injury (Bryant et al., 1999; Hickling and Blanchard, 1992). Studies have shown that PTSD symptoms tend to be elevated in patients with chronic pain and fibromyalgia (Amir, 1997; Engel, 2000; Sherman, 2000) chronic low back pain, and other musculoskeletal disorders (Sherman, 2000).

Sharp (2004) reported on four studies (Bryant et al., 2001; Beckham et al., 1997; McFarlane et al.,1987; and Benedikt & Kolb, 1986). The samples were drawn from MVA victims, combat veterans, fire fighters, and chronic pain clinic patients. In each instance they found a high prevalence of pain in patients diagnosed with PTSD or a high prevalence of PTSD in patients diagnosed with chronic pain.

Asmundson et al. (2002) discusses the current definitions of chronic pain and PTSD and finds some overlaps in the cognitive, behavioral, and physiological domains. He states that "anxiety and hyper-arousal, avoidance behaviour, emotional lability and elevated somatic focus are frequently observed in both conditions. Both PTSD and chronic pain are characterized by hyper-vigilance and attentional bias for stimuli that are specific to each condition."

Norman et al. (2008) found that self-reported pain levels within 48 hours after serious injury were significantly and strongly associated with the subsequent risk of PTSD. Similarly, in a study of 2,931 seriously injured patients admitted to acute care hospitals in the United States, Zatzick and Galea (2007) found that pain after injury was significantly associated with an increased risk of PTSD one year after hospitalization. The prevalence of PTSD is particularly high when the chronic pain results directly from a traumatic event (Hickling & Blanchard, 1992; Taylor & Koch, 1995; Chibnall , 1994; Asmundson et al. 1998; Otis et al., 2003), and the presence of both PTSD and chronic pain can increase the symptom severity of either condition (Otis, 2003).

Schwartz et al. (2006) noted that between 10% and 50% of patients treated in tertiary care settings for chronic pain and related conditions have symptoms that meet criteria for PTSD.

Norman (2007) demonstrated that Peritraumatic pain was associated with an increased risk of PTSD, even after controlling for a number of other significant risk factors other than acute stress disorder symptoms. An increase of 0.5 S.D. from the mean in a 0–10 pain rating scale 24–48 hours after injury was associated with an increased odds of PTSD at 4 months by more than fivefold, and at 8 months by almost sevenfold. The author suggests that high levels of peritraumatic pain could be used to identify individuals at elevated risk for PTSD following traumatic injury.

Persons with comorbid pain and PTSD may experience less symptom improvement after treatment for these conditions (Asmundson, 2002; Baker et al., 1997; Clark et al., 2009; Hickling, 1992; McClean, 2005; Muse, 1986). The co-occurrence of chronic pain and PTSD has implications on the experience of both conditions. Patients with chronic pain related to trauma or PTSD experience more intense pain and affective distress (Geisser, 1996), higher levels of life interference (Turk et al., 1996), and greater disability than pain patients without trauma or PTSD (Sherman, 2000).

Comorbidity of Pain and PTSD (and PCS) in OEF/OIF

Because of the nature of injuries and the physical demands of OEF and OIF deployments, there are data to suggest that a significant majority of returned warriors report ongoing pain problems (Clark, 2004; Clark et al., 2009a; Gironda et al., 2006; Kalra et al., 2008).

Posttraumatic headaches are a common complaint (Gironda et al., 2009; Clark et al., 2007; Gironda et al., 2006; Lew et al., 2007; Ruff et al., 2008). Other commonly reported pain problems are low back pain and joint pain (Clark et al., 2007; Clark et al., 2009a). The high prevalence of chronic pain (pain that lasts longer than 3 months) places OEF/OIF soldiers at long-term risk for impaired functional ability, significant emotional distress, interpersonal conflict, substance misuse, and vocational limitations. Substance misuse (including opioid medications) has also been found in OEF/OIF returnees, although at lesser prevalence than pain, (published rates range from 3 to 28%; Clark et al., 2007; Kalra et al., 2008; Kang & Hyams, 2007; Shipherd et al., 2007).

Pain symptoms are a common complaint among post deployment populations (back pain and headache). In one study of 1800 OEF/OIF veterans, 46.5% reported some pain, with 59% of those exceeding the VA clinical threshold of $\geq$ 4 on a 0-10 pain scale (Gironda et al., 2006). Recent literature suggests that many returning service members have multiple comorbid symptoms of post concussion syndrome, chronic pain, and PTSD (Clark et al., 2007; Clark et al., 2009; Lew et al., 2009; Sayer et al., 2008). In a sample of OEF/OIF veterans pain was the single most common complaint recorded and 42% of the sample reported concurrent PCS, chronic pain, and PTSD symptoms.

Evidence Statements

- Benedikt and Kolb (1986) reported that 10 percent of a sample of 225 patients referred to a Veterans Administration pain clinic met criteria for PTSD
- Muse (1986) reported that 9.5 percent of a sample of patients attending a multidisciplinary chronic pain center met criteria for "post-traumatic pain syndrome"
- When patients are referred for the assessment of a chronic pain problem resulting from a traumatic event, the prevalence of PTSD increases
- Asmundson (1998) -Among injured workers with chronic pain who were referred to a rehabilitation program, 34.7 percent of the sample reported symptoms consistent with PTSD.
- Hickling (1992) - high rates of PTSD have been reported by, and colleagues for patients referred for, psychological treatment following an MVA
- Chibnall (1994) - rates of PTSD in patients for which pain is secondary to an MVA range from 30 to 50 percent
- Greenfield (1992); Turk (1996) - Among patients with fibromyalgia, 24 to 47 percent of patients attribute the onset of their symptoms to a physical injury associated with an MVA
- Geisser (1996) - patients with accident-related pain and high PTSD symptoms reported higher levels of pain and affective distress relative to patients with accident-related pain and without PTSD, or nonaccident-related pain
- McFarlane (1994) - the prevalence of chronic pain in individuals with a primary diagnosis of PTSD is high. Pain was the most common physical complaint (45% back pain and 34% headaches).
- Beckham (1997) - 80 percent among combat Vietnam veterans with PSTD who completed self-report questionnaires assessing PTSD reported the presence of a chronic pain condition Increased levels of PTSD re-experiencing symptoms were associated with increased pain level and pain-related disability

- Tushima (1990) found that patients with post-traumatic headache reported more frequent pain and had a poorer prognosis than did nontraumatic headache patients
- Peterlin (2008)- found that a chronic migraine sample reported significantly more PTSD than did an episodic migraine sample

"The mechanism by which chronic pain, and PTSD (and Post Concussion Syndrome) interact is still unclear. Researchers evaluating comorbid pain and PTSD have presented a variety of models to explain this phenomenon, including a Shared Vulnerability model, a Mutual Maintenance model, and a Triple Vulnerability model (Asmundson et al., 2002; Otis et al., 2003; Sharp & Harvey, 2001). These models propose mechanisms of interaction via the dispositional tendency to be fearful or anxious, the belief that anxiety states cause harmful consequences, and the cognitive distortions and behavioral patterns of PTSD and chronic pain that maintain or exacerbate symptoms of the other syndrome. These models have yet to be fully tested and there are no available outcomes data regarding the success of integrated treatment of comorbid pain and PTSD symptoms (Otis et al., 2003). However, such research is now being conducted (Otis, 2008)" (Walker, 2010)

Pain & PTSD Sensitivity Assessment

Given the high rates of comorbidity of chronic pain and PTSD, clinicians should assess for both disorders. Several well-validated self-report questionnaires are available to help determine a diagnosis and the severity of symptoms. Self-report measures of pain include the 0 to 10 numerical pain rating scale, the McGill Pain Questionnaire or for a more comprehensive assessment, the West Haven-Yale Multidimensional Pain Inventory, or the Pain Outcomes Questionnaire was developed and validated specifically for veterans and will be integrated into the electronic medical record.

Asmundson et al. (2002) Recommended that clinicians who conduct diagnostic assessments of patients presenting with PTSD symptoms also screen for the presence of existing pain conditions such as fibromyalgia or chronic musculoskeletal pain. The clinician can include self reported questions or use a structured clinical interview format. They recommend the use of self-report measures like the McGill Pain Questionnaire-Short Form, the Multidimensional Pain Inventory, and where appropriate, the Pain Anxiety Symptoms Scale.

Interdisciplinary Approach to Management

Only a few studies have reported the results of treatments designed to address co-occurring chronic pain and PTSD. Given the current state of the literature, few recommendations can be made regarding preferred treatment modalities for individuals with comorbid pain and PTSD. Several authors support the use of a multidisciplinary treatment approach for patients with PTSD and chronic pain (Muse, 1986).

Given the broad range of emotional and physical symptoms characteristic of veterans with Co-occurring PTSD, chronic pain and possible PCS, an integrated treatment approach is required (Walker, 2010). Treatment goals need to be

clarified (e.g., reduced symptom severity, increased occupational or interpersonal functioning, reduced ogoing use of health care services) (Clark, 2008).

The focus of the integrated approach should be on education and management of symptoms and improving daily function. The interventions and treatment modalities employed follow the current evidence based recommendations for PCS, chronic pain and PTSD (See VA/DoD guidelines for mTBI/Concussion and the VHA NPMS, 2003)

The VHA National Pain Management Strategy (VHA/NPMS, 2003) advocates the use of evidence based, comprehensive, multicultural, integrated approach to pain issues that focuses on reducing pain and suffering, improving function, and enhancing quality-of-life. Specific practice guidelines for managing acute and chronic pain associated with certain conditions like low back pain (APS-AAPM, 2005; VHA/DoD, 2007), the use of opioids with chronic pain (VHA/DoD, 2010), and other resource material are recommended for use by practitioners.

For the OEF/OIF population of returning soldiers, treatment should be individualized on an inpatient or outpatient basis depending upon need within group and individual treatment formats. Treatment should be goal oriented and time limited, with increased patient function and independence as major goals (Clark, 2009).

"The foundations of treatment are psychoeducation, coping skills training, and cognitive– behavioral therapy that involves active self-management techniques for chronic pain and PTSD. In many cases symptom management will be facilitated by the judicious use of pharmacological agents; minimizing polypharmacy and adverse effects that may impact comorbid symptoms. This is particularly important in that many of these patients present with difficulties in memory, attention, and concentration. While these cognitive deficits may be mild, many pharmaceuticals useful in the treatment of pain or emotional distress can negatively impact cognitive functioning" (Walker, 2010).

Non-Pharmacologic Treatment

Initial treatment of PTSD focuses on providing psychoeducation about the disorder. This may include specifically addressing how fears and avoidance of the trauma may serve to maintain the symptoms and decrease the ability to function. This may also include discussing how your pain may serve as a trigger or reminder of the trauma and increase arousal, fear, and avoidance and thereby increase disability and pain (Sharp, 2004).

Nonpharmacological ways to manage chronic pain may include **Relaxation (**e.g., relax the locus of the pain problems by relaxing muscle tension). **Increasing Activity and Fitness (**e.g., gradual return to more normal levels of activities and slowly increase patient's stamina for physical activities), **Reducing Emotional Over-Reactivity (**e.g., practice specific methods of emotional reaction to stressful triggers); **External Focusing/Distracting** (e.g., learn to shift and manipulate the focus of attention in a positive way, which will minimize your experience of the pain).

Complementary Alternative medicine - approaches are being increasingly studied to decrease symptom severity. There are numerous interventions that are being used to help manage chronic pain, including breathing, muscle relaxation, visual imagery, music, cold/heat, stretching, massage therapy, stress management, acupuncture, acupressure, hydrotherapy and other.

Tan et al. (2007) examined various CAM therapies for chronic pain. For example heart rate variability (HRV) biofeedback (using a stress eraser portable biofeedback device that easily can be used by Veterans at home for the purpose of increasing HRV) has been shown to be effective for reducing the symptoms of PTSD (e.g., Tan et al., 2009; Zucker, 2009), and for persistent pain associated with fibromyalgia (Hassett et al., 2007). Regulating Heart rhythm coherence, using biofeedback devices that computes the heart rhythm patterns have been shown to improve symptoms such as depression, anxiety, panic disorder, and PTSD symptoms (McCraty, Atkinson, Tomasino, & Stuppy, 2001).

Treatment: Pharmacotherapy

There are no studies evaluating the pharmacotherapy for acute dissociation or traumatic pain associated with ASR.

The most common first-line treatments for pain have traditionally been analgesics, which include opioids, NSAIDS (nonsteroidal anti-inflammatory drugs), antiepileptic drugs, and tricyclic antidepressants for neuropathic pain, and antidepressants that target the inhibition of norepinephrine reuptake (SNRIs). With respect to trauma exposure, some data suggests that pain patients with comorbid PTSD use analgesic medications at higher rates than their non-PTSD counterparts (Schwartz et al., 2006).

Opioid Therapy

While controversial, the use of opioid medications in the treatment of chronic, non-malignant pain has increased significantly over the past three decades (Caudill-Slosberg et al., 2004). The efficacy of opioids in alleviating acute pain is well established, but less is known regarding their utility in treating chronic pain or their relationship with patient functioning over extended periods of use (Ballantyne and Shin, 2008). Side effect profiles associated with opioid use – tolerance, physical dependence, cognitive impairment – often are cited as factors contributing to potential decreases in functioning (Ballantyne and Shin, 2008; Eriksen et al., 2006). Understanding the interrelationships of chronic pain, PTSD, and opioid use with patient functioning becomes clinically relevant given that comorbid psychiatric disorders are known to increase risk of abuse and dependency among persons with chronic pain (Edlund et al., 2007). Some data suggests that pain patients with comorbid PTSD use analgesic medications at higher rates than their non-PTSD counterparts (e.g., Schwartz et al., 2006). It may suggest that the experience of pain in the present may be affected by previous emotional trauma and ongoing trauma-related stress disorders. Some findings suggest the possibility that long term use of opioids may lead to opioid-induced hyperalgesia (Angst & Clark, 2006).

Given inconsistent findings regarding the efficacy of opioids for long term pain control, potential for reductions in overall functioning, and the increased risk of abuse and dependency, providers should consider the benefits and potential harm of extended opioid therapy for patients with chronic pain subsequent to traumatic injury (Clapp, 2010) (VA/DoD COT CPG, 2010).

Selective serotonin reuptake inhibitors (SSRIs) are recommended as the first-line pharmacological intervention for PTSD (See Intervention for PTSD –Module B). SSRIs also have been examined for use in the treatment of chronic pain, but support for their efficacy in this population is limited (see reviews by McCleane, 2008; Dworkin et al., 2007). Sedative and anxiolytic medications are sometimes prescribed to alleviate symptoms associated with both PTSD and chronic pain but

are not recommended due to the addictive properties of many anxiolytic agents (American Psychiatric Association, 2004;Sanders et al., 2005). The relationship between these pharmacological agents and functioning among patients with comorbid pain and PTSD has not been examined.

Early pain intervention to prevent PTSD

Acute pain caused by physical injury may by itself be a precursor for PTSD. Injury that is also associated with traumatic exposure increases the risk for PTSD. When pain is treated early and aggressively, patients may have the best chance of getting better. Though many fear addiction from opioids, they can be an important part of halting the pain cycle. Few studies have investigated the effect of pain reduction in the early stages after injury and the development of PTSD.

Bryant et al. (2008m) examined the influence of acute administration of morphine as protective against development of PTSD in a consecutive sample of patients admitted to hospital after traumatic injury (n = 155) . The patients who met criteria for PTSD at 3 months (14%) received significantly less morphine than those who did not develop PTSD; there was no difference in morphine levels in those who did and did not develop major depressive episode or another anxiety disorder. The authors suggested that administration of morphine in the acute post-traumatic stage may limit fear conditioning in the aftermath of traumatic injury and may serve as a secondary prevention strategy to reduce PTSD development.

Holbrook et al. (2010) analyzed data for 696 military personnel (mostly male, mean age about 24) who were hurt during OIF but who did not have serious traumatic brain injury. About one-third (35%) of the injured personnel developed PTSD. The finding was that those who had been administered morphine shortly after their injury (60% versus 76%) were less likely to develop PTSD (ORs ranging from 0.48 to 0.66, $P<0.05$ for all). Several factors, including severity and mechanism of injury, need for amputation, resuscitation, and the presence of mild traumatic brain injury were adjusted for. Although causality could not be established, the authors concluded that a reduction in perceived pain levels through the use of morphine or other opioids, as part of trauma care, may lower the rate of PTSD onset after major trauma.

Cognitive Behavior Therapy (CBT)

Cognitive behavioral therapy is recommended as first line therapy for PTSD (See Intervention for PTSD Module B). CBT is a skills-based treatment approach that focuses on teaching patients ways to identify and change maladaptive thoughts, feelings, and behaviors and to replace them with those that are more balanced and adaptive, with the ultimate goal of improving patients' overall quality of life and reducing psychological distress. In addition, cognitive–behavioral treatment approaches focus on changing certain target behaviors that appear to be problematic, and teach adaptive ways of coping (Otis, 2009). CBT includes establishing a safe (controlled) setting for the patient to address trauma cues. Treatment protocols include a range of techniques from desensitization, to confront mildly distressing cues to exposure (re-experiencing all at once) of the traumatic event to allow the patient to confront his or her fears and process the trauma memory until it is no longer distressing (Calhoun & Resick, 1993; Blanchard & Hickling, 1997). By also learning stress management techniques, the patient can learn how to decrease his or her anxiety response and learn how

to use these skills to manage PTSD-type symptoms. Many of these tools are also used for adaptive chronic pain management. "By gradually increasing one's activity level through the exposure exercises, the patient is also able to decrease his/her focus on pain and fear and engage in life again" (Townsend, 2010). CBT for pain is aimed at changing maladaptive thoughts and behaviors that serve to maintain and exacerbate the experience of pain. CBT for chronic pain involves teaching patients ways of safely reintroducing enjoyable activities into their lives.

Using components of cognitive processing therapy (CPT) for PTSD and cognitive behavioral therapy (CBT) for chronic pain management, a 12-session integrated treatment for veterans with comorbid chronic pain and PTSD was developed (Otis, 2009). The key components of the CBT for chronic pain, include cognitive restructuring (i.e., teaching patients how to recognize and change maladaptive thoughts), relaxation training (e.g., diaphragmatic breathing, progressive muscle relaxation), time-based activity pacing (i.e., teaching patients how to become more active without overdoing it), and graded homework assignments designed to decrease patients' avoidance of activity and reintroduce a healthy, more active lifestyle (Otis, 2007). The therapy includes weekly readings and homework assignments, pre- and post-treatment evaluations using measures of pain, PTSD, physical disability, and psychological distress.

The result of implementing the program in a pilot study demonstrates the importance of establishing participant trust, regular therapy attendance, and addressing participant avoidance. Participants reported that they generally liked the format of treatment, appreciated learning about the ways that chronic pain and PTSD share some common symptoms, and ways that the two disorders can interact with one another. The authors concluded, based on this initial small pilot study that the participants appeared to benefit from receiving the integrated treatment for pain and PTSD (Otis, 2009).

EVIDENCE TABLE Pain in PTSD

	Evidence	Source	LE	QE	SR
1	Prevalence of co morbid chronic pain and PTSD.	Schwartz,, 2006 Gironda, 2006 Sharp, 2004 Asmundson et al., 2002 Norman et al., 2008 Zatzick & Galea, 2007 Bryant et al., 2009	III	Good	A
	Comorbidity in OEF/OIF				
2	Pain & Anxiety Sensitivity Assessment	Asmundson et al., 2002			B
3	Multidisciplinary Approach to Management	Clark, 2008			C
4	Treatment: Pharmacotherapy	Schwartz et al., 2006			I
	Early intervention to control acute pain	Bryant Holbrook et al., 2009	I	Good	B

5	Non-Pharmacologic Treatment	Sharp, 2004			
6	Cognitive Behavior Therapy (CBT)	Otis, 2009 Townsend, 2010 Foa & Meadows, 1997 Foa et al., 1991 Keane & Kaloupek, 1996 Marks et al., 1998 Solomon et al., 1991			C

LE =Level of Evidence; QE = Quality of Evidence; SR = Strength of Recommendation; NB=Net benefit (see Appendix A)

C. Irritability, Severe Agitation, or Anger

BACKGROUND

In the most general sense, anger is a feeling or emotion that ranges from mild irritation to intense fury and rage. Anger is often a central feature of response to trauma and can be seen as a core component of the survival response in humans. Mismanaged or uncontrolled anger and rage can lead to a continued sense of being out of control and may cause conflicts in personal and professional relationships. Anger and irritability may be associated with domestic violence and abuse, road rage, and workplace violence even if there is no intent to cause harm to others. It is important to distinguish between anger and aggression. Aggression is behavior that is intended to cause harm to another person or damage property. This behavior can include verbal abuse, threats, or violent acts. Anger, on the other hand, is an emotion and does not necessarily lead to aggression. Therefore, a person can become angry without acting aggressively.

Anger becomes a problem when it is felt too intensely, is felt too frequently, or is expressed inappropriately. Anger management interventions include a range of methods including teaching individuals to recognize signs of becoming angry, self-calm, avoid escalating conflicts, and respond to anger-eliciting situations in more positive ways.

RECOMMENDATIONS (BASED ON CONSENSUS OF CLINICAL EXPERTS)

1. Assess the nature of symptoms, severity, and dangerousness. Consider using standardized Anger Scales, such as Spielberger's State-Trait Anger Expression Inventory,' to quantify.
2. Explore for cause of symptoms and follow-up to monitor change
3. Consider referral to specialty care for counseling or for marital or family counseling as indicated. Offer referral for:
    a. Anger Management therapy
    b. Training in exercise and relaxation techniques
4. Promote participation in enjoyable activities - especially with family/ loved ones.
5. Promote sleep and relaxation
6. Avoid stimulants and other substances (caffeine, alcohol)

7. Address pain (see pain management)
8. Avoid benzodiazepines
9. Consider SSRI/SNRI
    a. If not responding to SSRI/SNRI and other non-pharmacologic interventions, consider low-dose antiadrenergics, or low-dose atypical antipsychotics (risperidone, quetiapine)
    b. If not responding or worsening, refer to specialty care

DISCUSION

In anger management treatments, physical arousal, problem behaviors, and anger-provoking thoughts/beliefs are all addressed in different ways (Chemtob, 1997).

Cognitive-behavioral treatment such as anxiety management, shows positive results when used to address anger, and applies many techniques to manage these three anger components.

DISCSSION

Prevalence

High levels of anger have been observed in veterans of the Iraq and Afghanistan Wars. (Jakupcak, 2007)

A study of sample OEF/OIF veterans found over half of the veterans with PTSD indicated that they had been aggressive in the past 4 months, such as threatening physical violence, destroying property, and having a physical fight with someone. Veterans with subthreshold PTSD syndrome reported just about the same amount of aggressive behavior as the veterans with PTSD. In fact, anger has been shown to be associated with other comorbid conditions to PTSD such as head injury, and alcohol (substance) abuse. Each of these conditions has been associated with elevated anger and hostility in veterans from previous conflicts (Elboquen 2010).

In another survey of 2797 US soldiers returning from deployment, overall, 40% of soldiers reported killing or being responsible for killing during their deployment. Even after controlling for combat exposure, killing was a significant predictor of PTSD symptoms, alcohol abuse, anger, and relationship problems Maquan et al., 2010).

A study assessing Vietnam combat veterans and comparing them to veterans who did not serve in war found that the combat veterans were not significantly more angry than their veteran peers who did not serve in Southeast Asia. Additionally, various parameters of war zone duty were not highly associated with anger scores. However, combat veterans with PTSD scored significantly higher than veterans without PTSD on measures of anger, arousal, range of anger-eliciting situations, hostile attitudinal outlook, and tendency to hold anger in. These results suggest that PTSD, rather than war zone duty, is associated with various dimensions of angry affect (McFalls et al., 1997).

Anger can be a very difficult emotion to deal with and can lead to a number of legal and interpersonal problems, such as domestic violence. In fact, individuals with PTSD are particularly at risk for the perpetration of relationship violence.

Research has identified anger as prominent in and an influence on, treatment outcomes for military veterans with PTSD. To improve treatment effectiveness, clinicians need to assess veterans' anger, aggression, and alcohol use, as well as their current fear of anger and elucidate the relationship between these factors (Forbes, 2008).

Chemtob et al., (1997) described three components of posttraumatic anger that can become maladaptive or interfere with one's ability to adapt to current situations that do not involve extreme threat:

- **Arousal**: Anger is marked by the increased activation of the cardiovascular, glandular, and brain systems associated with emotion and survival. It is also marked by increased muscle tension. Sometimes with individuals who have PTSD, this increased internal activation can become reset as the normal level of arousal and can intensify the actual emotional and physical experience of anger. This can cause a person to feel frequently on-edge, keyed-up, or irritable and can cause a person to be more easily provoked. It is common for traumatized individuals to actually seek out situations that require them to stay alert and ward off potential danger. Conversely, they may use alcohol and drugs to reduce overall internal tension.
- **Behavior**: Often, the most effective way of dealing with extreme threat is to act aggressively, in a self-protective way. Additionally, many people who were traumatized at a relatively young age do not learn different ways of handling threat and tend to become caught in their ways of reacting when they feel threatened. This is especially true of people who tend to be impulsive (who act before they think). Again, as stated above, while these strategies for dealing with threat can be adaptive in certain circumstances, individuals with PTSD can become stuck in using only one strategy when other approaches would be more constructive. Behavioral aggression may take many forms, including aggression toward others, passive-aggressive behavior (e.g., complaining, "backstabbing," deliberately being late or doing a poor job), or self-aggression (self-destructive activities, self-blame, being chronically hard on oneself, self-injury).
- **Thoughts and Beliefs**: The thoughts or beliefs that people have to help them understand and make sense of their environment can often overexaggerate threat. Often the individual is not fully aware of these thoughts and beliefs, but they cause the person to perceive more hostility, danger, or threat than others might feel is necessary. For example, a combat veteran may become angry when others around him (wife, children, coworkers) don't "follow the rules." The strength of his belief is actually related to how important it was for him to follow rules during the war in order to prevent deaths. Often, traumatized persons are not aware of the ways their beliefs are related to past trauma. For instance, by acting inflexibly toward others because of their need to control their environment, they can provoke others into becoming hostile, which creates a self-fulfilling prophecy. Common thoughts people with PTSD have include: "You can't trust anyone," "If I got out of control, it would be horrible/life-threatening/intolerable," "After all I've been through, I deserve to be treated better than this," and "Others are out to get me, or won't protect me, in some way."

How can individuals with posttraumatic anger get help?

In anger management treatment, arousal, behavior, and thoughts/beliefs are all addressed in different ways. Cognitive-behavioral treatment, a commonly utilized therapy that shows positive results when used to address anger, applies many techniques to manage these three anger components:

- For **increased arousal**, the goal of treatment is to help the person learn skills that will reduce overall arousal. Such skills include relaxation, self-hypnosis, and physical exercises that discharge tension.

- For **behavior**, the goal of treatment is to review a person's most frequent ways of behaving under perceived threat or stress and help him or her to expand the possible responses. More adaptive responses include taking a time out; writing thoughts down when angry; communicating in more verbal, assertive ways; and changing the pattern "act first, think later" to "think first, act later."

- For **thoughts/beliefs**, individuals are given assistance in logging, monitoring, and becoming more aware of their own thoughts prior to becoming angry. They are additionally given alternative, more positive replacement thoughts for their negative ideas (e.g., "Even if I am out of control, I won't be threatened in this situation," or "Others do not have to be perfect in order for me to survive/be comfortable"). Individuals often role-play situations in therapy so they can practice recognizing their anger-arousing thoughts and applying more positive thoughts.

There are many strategies for helping individuals with PTSD deal with the frequent increase of anger they are likely to experience. Most individuals have a combination of the three anger components listed above, and treatment aims to help with all aspects of anger. One important goal of treatment is to improve a person's sense of flexibility and control so that he or she does not feel re-traumatized by his or her own explosive or excessive responses to anger triggers. Treatment is also meant to have a positive impact on personal and work relationships.

APPENDICES

APPENDIX A: Guideline Development Process

The update of the VA/DoD Clinical Practice Guideline for Management of Post-Traumatic Stress was developed following the steps described in "Guideline for Guidelines," an internal working document of the VA/DoD Evidence Based Practice Working Group, that requires an ongoing review of guideline works in progress.

The Offices of Quality Performance and Patient Care Services of the VA, and the Army Medical Command of the DoD identified clinical leaders to champion the guideline development process. During a preplanning conference call, the clinical leaders defined the scope of the guideline and identified a group of clinical experts from the VA and DoD to form the Management of Post-Traumatic Stress Working Group (WG). For this guideline these WG participants were drawn from the fields of primary care, psychiatry, psychology, internal medicine, pharmacology, nursing, and social work.

The WG participated in 2 face-to-face meetings to reach consensus about the guideline algorithm and evidence-based recommendations and to prepare a draft update document. The draft continued to be revised by the Working Group through numerous conference calls and individual contributions to the document.

Recommendations for the management of post-traumatic stress were derived through a rigorous methodological approach that included the following:

- Determining appropriate criteria such as effectiveness, efficacy, population benefit, or patient satisfaction
- Reviewing literature to determine the strength of the evidence in relation to these criteria
- Formulating the recommendations and grading the level of evidence supporting the recommendation

After orientation to the goals and scope of the guideline update, the WG developed a set of 13 researchable questions within the focus areas of the guideline and identified associated key terms. For this guideline, two sets of questions were developed. The First (A) addressed *acute and early intervention aimed at/prevention of PTSD in adults with recent exposure to trauma.* The second set (B) focused on *therapy of adult patients with PTSD to achieve resolution of symptoms and functional outcome.* This approach ensured that the guideline development work outside of meetings focused on issues that practitioners considered important and also produced criteria for the literature search and selection of included studies that formed the body of evidence for this guideline update.

All questions specified (adapted from the Evidence-Based Medicine toolbox, Center for Evidence-Based Medicine, [http://www.cebm.net]):

- **P**opulation – Characteristics of the target patient population
- **I**ntervention – Exposure, diagnostic, or prognosis
- **C**omparison – Intervention, exposure, or control used for comparison
- **O**utcome – Outcomes of interest

These specifications served as the preliminary criteria for selecting studies. See *PICO Questions to Guide Literature Search* for a complete listing and categorization of the questions *(end of this appendix).*

Literature Search

An initial global literature search yielded 59 systematic reviews/meta-analyses addressing pharmacotherapy, psychotherapy, combination, enhancement, complementary and other topics. One hundred and seventy eight (178) RCTs were found on the same subjects. Twenty-four controlled trials (CT) addressed combination, enhancement, and other areas. Refinement of the review process with input from

the WG members resulted in the studies being identified that met the baseline criteria for inclusion, addressed one or more of the researchable questions, and covered topic areas that had either not been addressed in the previous version of this guideline or had been included but not fully developed . A more detailed (full) search was conducted on each question, supplemented by hand searches and cross-referencing to search for relevant articles. The searches for these questions covered the period since the publication of the first VA/DoD CPG on management of post-traumatic stress (between January 1, 2002 and August, 2009).

Selection of Evidence

The evidence selection process was designed to identify the best available evidence to address each key question and ensure maximum coverage of studies at the top of the hierarchy of study types. Published, peer-reviewed RCTs, as well as meta-analyses and systematic reviews that included randomized controlled studies, were considered to constitute the strongest level of evidence in support of guideline recommendations. This decision was based on the judgment that RCTs provide the clearest, most scientifically sound basis for judging comparative efficacy. The WG also recognized the limitations of RCTs, particularly considerations of generalizability with respect to patient selection and treatment quality. When available, the search sought out critical appraisals already performed by others that described explicit criteria for deciding what evidence was selected and how it was determined to be valid. The sources that have already undergone rigorous critical appraisal include Cochrane Reviews, Best Evidence, Technology Assessment, AHRQ systematic evidence reports, and other published Evidence-based Clinical Practice Guidelines.

The following databases were searched: Medline/Pubmed, Embase, PsycINFO, OVID, PILOT, and Cochrane Central Register of Controlled Trials. Limits were set for language (English), and type of research (RCT, systematic reviews including EPC and HTA reviews and meta-analyses). For prognostic and diagnostic questions (e.g., does test improve outcome?); cohort or other prospective non-RCT designs were considered.

The following inclusion criteria were used to select the articles identified in the literature search for possible inclusion:

- Published in United States, United Kingdom, Europe, Australia, Japan, New Zealand
- Full articles only published in English
- Study populations: age limited to adults 18 years of age or older; all races, ethnicities, and cultural groups
- Relevant outcomes able to be abstracted from the data presented in the articles
- Sample sizes appropriate for the study question addressed in the paper. RCTs were included if they were initiated with 30 or more participants

Preparation of Evidence Tables (Reports) and Evidence Rating

The results of the searches were organized in evidence reports, and copies of the original studies were provided to the WG for further analysis. Each reference was appraised for scientific merit, clinical relevance, and applicability to the populations served by the VA and DoD health care systems.

Recommendation and Quality Rating

Evidence-based practice involves integrating clinical expertise with the best available clinical evidence derived from systematic research.

A group of research analysts read and coded each article that met inclusion criteria. The articles were assessed for methodological rigor and clinical importance. Clinical experts from the VA and DoD WG reviewed the results and evaluated the strength of the evidence, considering quality of the body of evidence (made up of the individual studies) and the significance of the net benefit (potential benefit minus possible harm) for each intervention.

The overall strength of each body of evidence that addresses a particular Key Question was assessed using methods adapted from the U.S. Preventive Services Task Force (Harris, 2001). To assign an overall quality [QE] (see Table A-2) of the evidence (good, fair, or poor), the number, quality, and size of the studies; consistency of results between studies; and directness of the evidence were considered. Consistent results from a number of higher-quality studies [LE] (see Table A-1) across a broad range of populations; supports with a high degree of certainty that the results of the studies are true and therefore the entire body of

evidence would be considered ‘‘good” quality. A ‘‘fair” quality was assigned to the body of evidence indicating that the results could be due to true effects or to biases present across some or all of the studies. For a ‘‘poor” quality body of evidence, any conclusion is uncertain due to serious methodological shortcomings, sparse data, or inconsistent results.

The Strength of Recommendation [SR] was then determined based on the Quality of the Evidence [QE], and the clinical significance of the net benefit [NB] (see Table A-3) for each intervention, as demonstrated by the body of evidence. Thus, the grade (i.e., A, B, C, D or I) assigned to guideline recommendations reflect both variables; the Quality of the evidence and the potential clinical benefit that the intervention may provide to patients (see Table A4).

Table A-1: Level of Evidence (LE)	
I	At least one properly done RCT
II-1	Well-designed controlled trial without randomization
II-2	Well-designed cohort or case-control analytic study, preferably from more than one source
II-3	Multiple time series evidence with/without intervention, dramatic results of uncontrolled experiment
III	Opinion of respected authorities, descriptive studies, case reports, and expert committees

Table A-2: Overall Quality [QE]	
Good	High grade evidence (I or II-1) directly linked to health outcome
Fair	High grade evidence (I or II-1) linked to intermediate outcome; *or* Moderate grade evidence (II-2 or II-3) directly linked to health outcome
Poor	Level III evidence or no linkage of evidence to health outcome

Table A-3: Net Effect of the Intervention [NB]	
Substantial	More than a small relative impact on a frequent condition with a substantial burden of suffering; *or* A large impact on an infrequent condition with a significant impact on the individual patient level.
Moderate	A small relative impact on a frequent condition with a substantial burden of suffering; *or* A moderate impact on an infrequent condition with a significant impact on the individual patient level.
Small	A negligible relative impact on a frequent condition with a substantial burden of suffering; *or* A small impact on an infrequent condition with a significant impact at the individual patient level.
Zero or Negative	Negative impact on patients; *or* No relative impact on either a frequent condition with a substantial burden of suffering, or an infrequent condition with a significant impact on the individual patient level.

Table A-4: Final Grade of Recommendation [SR]				
	The net benefit of the intervention			
Quality of Evidence	Substantial	Moderate	Small	Zero or Negative
Good	A	B	C	D
Fair	B	B	C	D
Poor	I	I	I	I

Strength of Recommendation Rating [SR]

A	A strong recommendation that the clinicians provide the intervention to eligible patients. *Good evidence was found that the intervention improves important health outcomes and concludes that benefits substantially outweigh harm.*
B	A recommendation that clinicians provide (the service) to eligible patients. *At least fair evidence was found that the intervention improves health outcomes and concludes that benefits outweigh harm.*
C	No recommendation for or against the routine provision of the intervention is made. *At least fair evidence was found that the intervention can improve health outcomes, but concludes that the balance of benefits and harms is too close to justify a general recommendation.*
D	Recommendation is made against routinely providing the intervention to asymptomatic patients. *At least fair evidence was found that the intervention is ineffective or that harms outweigh benefits.*
I	The conclusion is that the evidence is insufficient to recommend for or against routinely providing the intervention. *Evidence that the intervention is effective is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.*

Algorithm Format

The clinical algorithm incorporates the information presented in the guideline in a format which maximally facilitates clinical decision-making. The use of the algorithmic format was chosen because of evidence showing that such a format improves data collection, facilitates diagnostic and therapeutic decision-making, and changes patterns of resource use.

The algorithmic format allows the provider to follow a linear approach to critical information needed at the major decision points in the clinical process and includes:

- An ordered sequence of steps of care
- Recommended observations
- Decisions to be considered
- Actions to be taken

A clinical algorithm diagrams a guideline into a step-by-step decision tree. Standardized symbols are used to display each step in the algorithm (Society for Medical Decision-Making Committee, 1992). Arrows connect the numbered boxes indicating the order in which the steps should be followed.

	Rounded rectangles represent a clinical state or condition.
	Hexagons represent a decision point in the guideline, formulated as a question that can be answered Yes or No. A horizontal arrow points to the next step if the answer is YES. A vertical arrow continues to the next step for a negative answer.
	Rectangles represent an action in the process of care.
	Ovals represent a link to another section within the guideline.

A letter within a box of an algorithm refers the reader to the corresponding annotation. The annotations elaborate on the recommendations and statements that are found within each box of the algorithm.

Included in the annotations are brief discussions that provide the underlying rationale and specific evidence tables. Annotations indicate whether each recommendation is based on scientific data or expert opinion. A complete bibliography is included in the guideline.

Lack of Evidence – Consensus of Experts

Where existing literature was ambiguous or conflicting, or where scientific data was lacking on an issue, recommendations were based on the clinical experience of the Working Group.
This update of the Stroke Rehabilitation Guideline is the product of many months of diligent effort and consensus building among knowledgeable individuals from the VA, DoD, and academia, as well as guideline facilitators from the private sector. An experienced moderator facilitated the multidisciplinary Working Group. The list of participants is included in Appendix D

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Management of Post-Traumatic Stress
UPDATE 2010 PICO QUESTIONS

A. Acute Intervention / Prevention in adults with recent exposure to trauma or diagnosed with ASD

1. Is **debriefing** more effective than no intervention or any other intervention for prevention of PTS disorder?
2. Is **pharmacotherapy** more effective than no intervention or any other intervention for prevention of full PTS disorder?
    a. **alpha–blockers**
    b. **beta–blockers**
    c. Sympatolitic
    d. **DCS and CBT**
3. Are any **psychotherapy techniques** more effective than no intervention or any other intervention for prevention of full PTS disorder?
4. Is **psychoeducation** more effective than no intervention or any other intervention for prevention of full PTS disorder?
5. Are any **Complimentary Alternative Medicine (CAM) approaches** more effective than no intervention or any other intervention for prevention of full PTS disorder?
6. Is **early intervention** more effective than **later intervention** for prevention of full PTS disorder**?**
7. Is **combination** of pharmacotherapy and psychotherapy more effective than no intervention or any other intervention for prevention of full PTS disorder?
8. **Is peer counseling** more effective than **counseling** by an outside team for prevention of full PTS disorder?
9. **Is outreach (screening, repeated screening)** more effective than no intervention or any other intervention for prevention of full PTS disorder?

B. Treatment for PTSD

Which of the following treatment interventions for adult patients with PTSD lead to achieve Resolution of symptoms and Functional outcome? (Consider effectiveness in special population (e.g., Gender, Combat veterans, Elderly)

10. Psychotherapy Techniques:

Is **prolonged exposure** more effective interventions in the treatment of PTSD**?**
Is EMDR more effective than other interventions in the treatment of PTSD?
Is cognitive processing therapy more effective than other interventions in the treatment of PTSD?
Is DBT, MBCT, ACT or mindfulness more effective than other interventions in the treatment of PTSD?
Psychoeducation (Battlemind, stress control) more effective than other interventions in the treatment of PTSD?

11. Pharmacotherapy Classes:

-MAOI and TCAs
-SSRIs
-SNRIs
-DNRI
-Novel antidepressant (trazodone, nefazodone)
-Conventional antipsychotics
-Atypical antipsychotics
-Anticonvulsants
-Anxiolytic (Benzodiazepine)
-Sedative hypnotics (for sleep)
-Antiadrenergics

12. Somatic:

-ECT
-rTMS

13. Complementary Alternative Mdedicine (CAM)

-Acupuncture
-Meditation
-Herbal, food suppl.,
-Yoga, Tai Chi

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240 **APPENDIX B**
241 **Acronym List**
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ABCs	Airway, breathing, circulation
AHCPR	Agency for Healthcare Policy and Research
APA	American Psychiatric Association
ASD	Acute stress disorder
ASR	Acute stress reaction
AUDIT	Alcohol Use Disorders Identification Test
BEP	Brief Eclectic Psychotherapy
BFT	Behavioral Family Therapy
BL	baseline;
CAGE	Alcohol abuse/dependence screening test mnemonic
CAPS	Clinician-Administered PTSD Scale;
CAPS	Clinician Administered PTSD Scale
CAPS-1	Clinician-Administered PTSD Scale1-month version;
CAPS-2	Clinician-Administered PTSD Scale1-week version;
CAPS-2	Clinician-Administered PTSD Scale Part 2;
CAPS-D	Clinician-Administered PTSD Scale hyperarousal subscale;
CBC	Complete blood count
CBT	Cognitive Behavioral Therapy
CCTR	Cochrane Central Register of Controlled Trials
CDR	Commander
CGI	Clinical Global Impression;
CGI-I	Clinical Global Impression-Improvement;
CGI-S	Clinical Global Assessment of Severity;
CGIC	Clinical Global Impression of Change;
CI	confidence interval;
CISD	Critical Incident Stress Debriefing
CNS	Central nervous system
COSR	Combat and operational stress reactions
CPT	Cognitive Processing Therapy
CPT-C	CPT-Cognitive
CT	Cognitive Therapy
CTT	Cognitive Trauma Therapy
CV	Cardiovascular
DARE	Database of Abstracts of Reviews of Effectiveness
DAST	Drug Abuse/Dependence Screener
DBT	Dialectical Behavioral Therapy
DCS	D-cycloserine;
DoD	Department of Defense
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders (4th ed.)
DTS	Davidson Trauma Scale;
dx	diagnosis
EBM	Evidence-based medicine
EBPTU	Evaluation and Brief PTSD Treatment Unit
ED	Emergency Department;
EEG	Electroencephalography

EKG	Electrocardiogram
EMDR	Eye Movement Desensitization and Reprocessing
EMTs	Emergency Medical Teams
ES	effect size
ESRT	Emotional Self-Regulation Therapy
ET	Exposure Therapy
EtoH	Ethanol
FDA	U. S. Food and Drug Administration
GAF	Global Assessment of Function
GI	Gastrointestinal
grp(s)	group(s);
GT	group therapy
GU	Genitourinary
HIV	Human immunodeficiency virus
Interapy	Internet Therapy
IRT	Imagery Rehearsal Therapy
IRT	Image Rehearsal Therapy
ITT	Intention to Treat
LOC	Level of consciousness
LOF	Level of function
MAOIs	Monoamine oxidase inhibitors
MAST	Michigan Alcohol Screening Test
MDD	Major Depressive Disorder
MHP	Mental health providers
MI	Myocardial infarction
MISS	Mississippi Scale for Combat-Related PTST-civilian version;
MMSE	Mini-Mental State Examination
MRI	Magnetic resonance imaging
MSE	Mental status examination
MVA	motor vehicle accident;
N/R	not reported;
NET	Narrative Exposure Therapy (a form of Exposure Therapy)
NIMH	National Institute of Mental Health
NS	Nervous system
OMO	Ongoing military operations
OTC	Over-the-counter
PCL	Posttraumatic Stress Disorder Checklist;
PCL-C	PTSD Checklist – Civilian Version
PCL-M	Patient Checklist for PTSD-Military Version;
PCL-M	PTSD Checklist – Military Version
PCL-S	PTSD Checklist – Stressor Specific Version
PCP	Primary care provider
PE	Physical examination
PE (Interventions)	Prolonged Exposure
PIES	Proximity, Immediacy, Expectancy, Simplicity
PSQI	Pittsburgh Sleep Quality Index
PsychEd	Psychological Education
pt(s)	patient(s);
PTSD	posttraumatic stress disorder;

PTSD	Post-traumatic Stress Disorder
QE	Quality of evidence
RA	Repeated Assessment
RCS	Readjustment Counseling Services
RCT	Randomized controlled trial
RLX	Relaxation Training
RTD	Return-to-duty
SC	Supportive Counseling
SC	Supportive Counseling
SIADH	Syndrome of inappropriate antidiuretic hormone
SIPU	Specialized Inpatient PTSD Unit
SIT	Stress Inoculation Therapy
SM	Service member
SR	Strength of recommendation
SSRI	Selective Serotonin Reuptake Inhibitors
SUD	Substance Use Disorder
SUNY	State University of New York
TAU	Treatment as Usual
TCAs	Tricyclic Antidepressants
TOP-8	Treatment Outcome PTSD rating scale;
TSH	Thyroid Stimulating Hormone
Tx or RX	treatment
USPSTF	U.S. Preventive Service Task Force
VA	Veterans Affairs
VAMC	Veterans Affairs Medical Center
Vets	Veternas
VHA	Veterans Health Administration
WL	wait list

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APPENDIX C
PTSD Screening Tools

Primary Care PTSD Screen (PC-PTSD)

The table below shows the Primary Care PTSD Screen (PC-PTSD) that has been designed for use in primary care and other medical settings. The PC-PTSD is brief and problem-focused. The screen does *not* include a list of potentially traumatic events. There are two reasons for this:

- Studies on trauma and health in both male and female patients suggest that the active mechanism linking trauma and physical health is the diagnosis of PTSD. In other words, the relationship between trauma and health appears to be mediated through a current PTSD diagnosis.
- A symptom-driven screen, rather than a trauma-focused screen, is attractive to primary care staff who may not be able to address a patient's entire trauma history during their visit with the patient. Such a trauma inquiry might be especially problematic with a VA population where the average number of traumatic events meeting criterion A for PTSD is over four.

A positive response to the screen does not necessarily indicate that a patient has Post-traumatic Stress Disorder. However, a positive response does indicate that a patient *may* have PTSD or trauma-related problems and further investigation of trauma symptoms by a mental-health professional may be warranted.

Primary Care PTSD Screen **In your life, have you ever had any experience that was so frightening, horrible, or upsetting that, *in the past month,* you…**
1. Have had nightmares about it or thought about it when you did not want to? **YES** **NO**
2. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it? **YES** **NO**
3. Were constantly on guard, watchful, or easily startled? **YES** **NO**
4. Felt numb or detached from others, activities, or your surroundings? **YES** **NO**
Current research suggests that the results of the PC-PTSD should be considered "positive" if a patient answers "yes" to any two items.

PTSD CheckList – Civilian Version (PCL-C)

Patient's Name: _____

Instruction to patient: Below is a list of problems and complaints that veterans sometimes have in response to stressful life experiences. Please read each one carefully, put an "X" in the box to indicate how much you have been bothered by that problem *in the last month.*

No.	Response:	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing *memories*, *thoughts*, or *images* of a stressful experience from the past?					
2.	Repeated, disturbing *dreams* of a stressful experience from the past?					
3.	Suddenly *acting* or *feeling* as if a stressful experience *were happening again* (as if you were reliving it)?					
4.	Feeling *very upset* when *something reminded* you of a stressful experience from the past?					
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, or sweating) when *something reminded* you of a stressful experience from the past?					
6.	Avoid *thinking about* or *talking about* a stressful experience from the past or avoid *having feelings* related to it?					
7.	Avoid *activities* or *situations* because *they remind you* of a stressful experience from the past?					
8.	Trouble *remembering important parts* of a stressful experience from the past?					
9.	Loss of *interest in things that you used to enjoy*?					
10.	Feeling *distant* or *cut off* from other people?					
11.	Feeling *emotionally numb* or being unable to have loving feelings for those close to you?					
12.	Feeling as if your *future* will somehow be *cut short*?					
13.	Trouble *falling* or *staying asleep*?					
14.	Feeling *irritable* or having *angry outbursts*?					
15.	Having *difficulty concentrating*?					
16.	Being *"super alert"* or watchful on guard?					
17.	Feeling *jumpy* or easily startled?					

Weathers, F.W., Huska, J.A., Keane, T.M. *PCL-C for DSM-IV.* Boston: National Center for PTSD – Behavioral Science Division, 1991.

PTSD CheckList – Military Version (PCL-M)

Patient's Name: _____

Instruction to patient: Below is a list of problems and complaints that veterans sometimes have in response to stressful military experiences. Please read each one carefully, put an "X" in the box to indicate how much you have been bothered by that problem in *the last month.*

No.	Response:	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing *memories*, *thoughts*, or *images* of a stressful military experience?					
2.	Repeated, disturbing *dreams* of a stressful military experience?					
3.	Suddenly *acting* or *feeling* as if a stressful military experience *were happening again* (as if you were reliving it)?					
4.	Feeling *very upset* when *something reminded* you of a stressful military experience?					
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, or sweating) when *something reminded* you of a stressful military experience?					
6.	Avoid *thinking about* or *talking about* a stressful military experience or avoid *having feeling*s related to it?					
7.	Avoid *activities* or *situations* because *they remind you* of a stressful military experience?					
8.	Trouble *remembering important parts* of a stressful military experience?					
9.	Loss of *interest in things that you used to enjoy*?					
10.	Feeling *distant* or *cut off* from other people?					
11.	Feeling *emotionally numb* or being unable to have loving feelings for those close to you?					
12.	Feeling as if your *future* will somehow be *cut short*?					
13.	Trouble *falling* or *staying asleep*?					
14.	Feeling *irritable* or having *angry outbursts*?					
15.	Having *difficulty concentrating*?					
16.	Being *"super alert"* or watchful on guard?					
17.	Feeling *jumpy* or easily startled?					

Weathers, F.W., Huska, J.A., Keane, T.M. *PCL-M for DSM-IV.* Boston: National Center for PTSD – Behavioral Science Division, 1991.

PTSD CheckList – Stressor Specific Version (PCL-S)

The event you experienced was: _____ on: _____

Instruction to patient: Below is a list of problems and complaints that veterans sometimes have in response to stressful military experiences. Please read each one carefully, put an "X" in the box to indicate how much you have been bothered by that problem in *the last month.*

No.	Response:	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing *memories*, *thoughts*, or *images* of the stressful experience?					
2.	Repeated, disturbing *dreams* of the stressful experience?					
3.	Suddenly *acting* or *feeling* as if the stressful experience *were happening again* (as if you were reliving it)?					
4.	Feeling *very upset* when *something reminded* you of the stressful experience?					
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, or sweating) when *something reminded* you of the stressful experience?					
6.	Avoid *thinking about* or *talking about the* stressful experience or avoid *having feeling*s related to it?					
7.	Avoid *activities* or *situations* because *they remind you* of the stressful experience?					
8.	Trouble *remembering important parts* of the stressful experience?					
9.	Loss of *interest in things that you used to enjoy*?					
10.	Feeling *distant* or *cut off* from other people?					
11.	Feeling *emotionally numb* or being unable to have loving feelings for those close to you?					
12.	Feeling as if your *future* will somehow be *cut short*?					
13.	Trouble *falling* or *staying asleep*?					
14.	Feeling *irritable* or having *angry outbursts*?					
15.	Having *difficulty concentrating*?					
16.	Being *"super alert"* or watchful on guard?					
17.	Feeling *jumpy* or easily startled?					

Weathers, F.W., Huska, J.A., Keane, T.M. *PCL-S for DSM-IV.* Boston: National Center for PTSD – Behavioral Science Division, 1991.

APPENDIX D
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APPENDIX E
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[Will be completed in the final version]