

Posttraumatic stress disorder in combat veterans

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ABSTRACT

Posttraumatic stress disorder (PTSD) affects up to 18% of combat veterans, many of whom will seek care from clinicians outside the military healthcare system. This article reviews the epidemiology, risk factors, symptoms, diagnosis, treatment, and referral options for PTSD so that PAs in primary care can recognize and appropriately manage patients with PTSD.

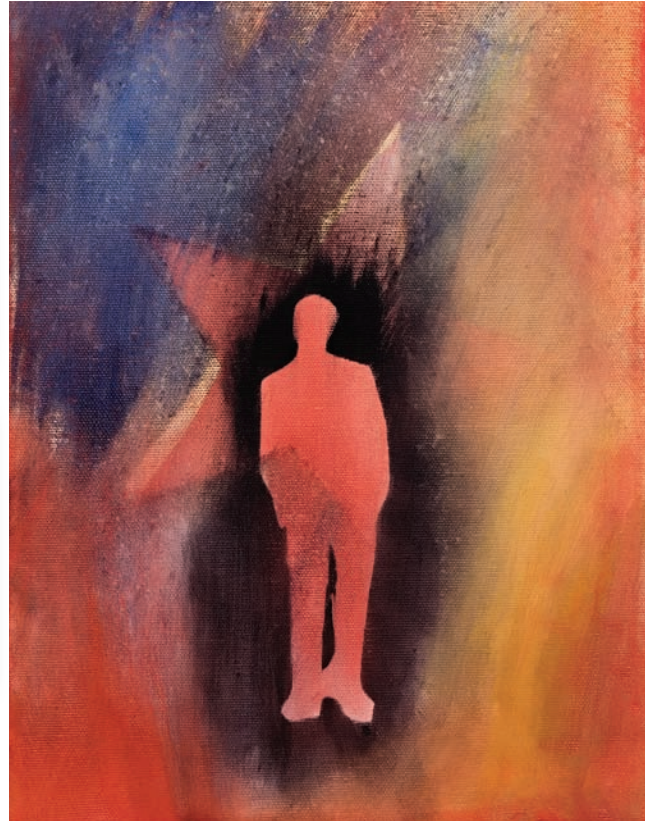
Keywords: posttraumatic stress disorder, veterans, combat, antidepressants, primary care, mental health

Learning objectives

- Describe the risk factors for developing PTSD.
- Detect the clinical manifestations of PTSD in combat veterans.
- Recognize combat veterans who meet the diagnostic criteria for PTSD in the primary care setting.
- Initiate pharmacologic and psychotherapeutic treatment plans for combat veterans with PTSD.

More than 2 million US military personnel have served overseas in support of the global war on terror since 2001.¹ Operations in Iraq and Afghanistan represent the most sustained ground combat involving American troops since the Vietnam War.² In this era of modern warfare, soldiers face unique stressors: prolonged combat exposure resulting in fear and sustained anticipatory anxiety, concerns about biological or chemical weapons, and unpredictability of deployment length or multiple deployments.³ For many soldiers, these stressors contribute to the development of mental distress and psychiatric disorders, including posttraumatic stress disorder (PTSD).

When active-duty soldiers experience symptoms of PTSD, comprehensive mental health services are provided through the Department of Defense healthcare system. However,



many patients are not identified or are inadequately treated before returning to civilian life.⁴ Because only a minority of veterans use Veterans Affairs (VA) healthcare services, primary care providers such as physician assistants (PAs) in non-VA facilities are increasingly becoming the initial clinical contact for veterans seeking treatment for health problems.^{5,6} These veterans may be experiencing symptoms of underlying PTSD, so PAs must have a comprehensive knowledge of PTSD, including its epidemiology, risk factors, symptoms, diagnosis, treatment, and referral options. By being prepared to diagnose and manage PTSD, clinicians can improve overall quality of care and long-term outcomes for affected veterans and their families.

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EPIDEMIOLOGY AND RISK FACTORS

The actual prevalence and incidence of PTSD in Iraq and Afghanistan war veterans are difficult to establish. Differences in sampling and measurement strategies,

Key points

- PTSD affects up to 18% of combat veterans. Risk factors include cumulative combat experience and National Guard and Reserve member status.
- Because of the avoidant component of PTSD, affected veterans may hesitate to seek care, presenting only when a secondary medical or psychiatric problem develops.
- Hallmark symptoms of PTSD include flashbacks, social withdrawal, and combative behavior.
- The key to effective management of PTSD is early detection and intervention. PAs who encounter veterans in a primary care setting should screen for PTSD.
- Antidepressants and cognitive behavioral therapy are effective treatments for PTSD.

diagnostic criteria, latency of assessment, and the possibility of recall bias lead to varying prevalence assessments. Associated comorbidities, symptom overlap with other psychiatric disorders, and cultural or sociopolitical factors may also influence the accuracy of findings.⁷ Despite these limitations, the most widely accepted epidemiologic data estimate that more than 300,000 Iraq and Afghanistan war veterans may suffer from PTSD.⁸ Of the keystone studies, those that used the PTSD Checklist approximate prevalence at 11.6% to 18% postdeployment, with veterans of the Iraq war accounting for the higher end of the range.^{9,10} Data collected from VA medical records reveal that between 2001 and 2005, 13% of all Iraq and Afghanistan war veterans received a charted diagnosis of PTSD.² These findings are consistent with more recent studies using the PTSD Checklist.¹¹ Regardless of collection method, these figures may be underestimated because of the stigma associated with disclosure of mental health issues.¹²

Many of these epidemiologic studies were also able to identify risk factors for PTSD development. The strongest association was between cumulative combat experience and probable PTSD risk.¹³ Specific exposures, such as intensity of urban combat, personal injury, witnessing others wounded or killed, and prolonged or multiple tours, are predictive for PTSD development. A higher probable risk of PTSD has also been linked to National Guard and Reserve member status; about 40% of troops deployed to Iraq and Afghanistan fall into this category.¹³ Clinician awareness of these factors allows for timely identification and treatment of veterans who may be suffering from PTSD.

CLINICAL MANIFESTATIONS

Soldiers' responses to traumatic stress in combat vary, but most responses occur in sequential phases. Immediate symptoms may include anxiety, confusion, fear, and numbness. Delayed symptoms may include apathy, grief, intrusive thoughts, or withdrawal.¹⁴ Most soldiers naturally

adapt and recover normal functioning.³ However, acute stress disorder, which may precede PTSD, must be considered when this cluster of symptoms lasts up to 4 weeks and causes the patient clinically significant difficulties in functioning. A pathologic response that persists beyond 4 weeks is called PTSD.¹⁵

Chronic PTSD affects biological, psychological, and behavioral processes and can result in severe functional impairment, reduced quality of life, and high comorbidity with medical and other psychiatric disorders.⁷ Veterans suffering from PTSD experience intense responses to stimuli, including flashbacks, anxiety, and combative or protective behavior. The intensity of this hyperarousal can cause veterans to avoid experiences that trigger symptoms and become emotionally numb, detached, or withdrawn—all hallmarks of PTSD.

Because of the avoidant component of PTSD, patients often hesitate to seek care and may present only after secondary medical or psychiatric problems have developed. In a primary care setting, these patients may complain of somatic symptoms such as generalized pain, fatigue, insomnia, migraines, or sexual dysfunction. Providers must also be aware that other disorders such as depression, anxiety, or substance abuse may be symptoms of underlying PTSD.⁷ Family members may provide clues supporting a picture of PTSD, including domestic violence, social withdrawal, or marital discord.¹⁶ Clinicians must further investigate these symptoms because the most effective management of PTSD relies on early and accurate detection.

ASSESSMENT AND DIAGNOSIS

The assessment for PTSD begins with determination of veteran status, which should be a routine component of the social history during the clinical interview with all patients. Once a patient is identified as a veteran, the first step is to obtain a brief trauma history. This can include questions regarding combat experiences and location, length, and number of deployments. If a history of trauma exposure is established, the next step is to administer the four-question Primary Care PTSD Screen (PC-PTSD) developed by the National Center for PTSD (Table 1). The screen can quickly be completed and has a sensitivity of 78% and specificity of 87% for PTSD in patients who answer "yes" to three or more items.¹⁶ A positive screen warrants further assessment of symptoms, which can be accomplished through a more in-depth interview or self-report questionnaire.

The Clinician-Administered PTSD scale (CAPS) is the gold standard in PTSD assessment and is based on the diagnostic criteria for PTSD as found in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*. However, this structured interview is impractical in most primary care settings due to the extensive time required for administration. Alternative interviews endorsed by the National Center for PTSD include the Structured Interview for PTSD (SI-PTSD) and the PTSD Symptom Scale Interview (PSS-I).

TABLE 1. Primary Care PTSD Screen²¹

<p>Have you had any experiences that were so frightening, horrible, or upsetting that, in the past month, you:</p> <ul style="list-style-type: none"> • have had nightmares about it or thought about it when you did not want to • tried hard not to think about it or went out of your way to avoid situations that reminded you of it • were constantly on guard, watchful, or easily startled • felt numb or detached from others, activities, or your surroundings?
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Many veterans may be reluctant to divulge or have difficulty relaying their feelings about past military experiences when directly questioned. In this instance, clinicians may find more success using standardized, self-administered checklists. The most widely used assessment is the PCL, which covers all of the *DSM* diagnostic criteria for PTSD and only takes a few minutes to complete.⁴ The Mississippi Scale for PTSD is longer and not based on the *DSM* but has shown good reliability.¹⁷ All of the screening methods provide details about the frequency and severity of symptoms, level of distress, and functional impairment, which guide accurate diagnosis and appropriate treatment decisions.¹⁸

The final step in the evaluation of symptoms is to directly apply the *DSM* criteria as found in the most recent edition. In the *DSM-5*, symptoms are grouped into four main clusters: reexperiencing the trauma, avoidance of trauma-related stimuli, negative alterations in cognitions and mood, and alterations in arousal and reactivity. A diagnosis of PTSD can be made if the patient presents with symptoms from all four groups that last for more than 4 weeks and cause significant distress or functional impairment.¹⁵

Although the assessment of PTSD can seem like a daunting task, early diagnosis reduces long-term effects of the disorder and is crucial for successful outcomes.

TREATMENT OVERVIEW

Treatment must be initiated immediately after diagnosis to facilitate optimal recovery and prevent further development of medical or psychiatric comorbidities, severe interpersonal or vocational functional impairment, and chronic disability. A multidisciplinary approach incorporating medication and psychotherapy is widely accepted as the best way to treat PTSD. Complete remission can be achieved in 30% to 50% of cases, and partial improvement can be expected in most patients who receive appropriate therapy.¹⁶

In a primary care setting, PAs can be responsible for initiating and managing pharmacotherapy and referring patients to other mental health specialties as needed. When beginning the treatment process, first address symptoms requiring emergency intervention, such as suicidal or homicidal thoughts, acute psychotic symptoms, or symptoms that severely interfere with psychosocial functioning.³ Immediately consult with mental health services and refer the patient to

an ED. Also identify and address high-risk behaviors, including tobacco, alcohol, or recreational drug use—patients with PTSD and these conditions need an integrated treatment strategy for the best chance of recovery.

PHARMACOLOGIC INTERVENTION

Drug therapy for PTSD aims to reduce symptoms and stabilize the patient.¹⁹ Many potentially effective medications are available, and research is ongoing. **Table 2** summarizes the latest clinical practice guidelines.

When initiating pharmacologic therapy, counsel patients on the importance of taking medication daily and continuing even when symptoms improve because sudden discontinuation may result in increased anxiety, insomnia, depression, and irritability. Clinical guidelines recommend an 8-week trial period of any new medication to allow for sufficient response time. If no improvement in symptoms is noted at 8 weeks, the dose can be increased to the maximum tolerated or the medication can be switched. If effective, medication should be continued for 6 months to 1 year to avoid symptom recurrence. Because PTSD is a chronic disorder, patients with a positive response may need to continue therapy indefinitely. At each subsequent visit, clinicians should assess for therapy adherence, monitor adverse reactions, and evaluate for symptomatic improvement. Ongoing use of tools such as the CAPS provides an accurate assessment of treatment response and patient progress.¹⁸

Antidepressants Sertraline and paroxetine are FDA-approved to treat PTSD. These selective serotonin reuptake inhibitors (SSRIs) have been shown in large-scale clinical trials to ameliorate all four symptom clusters of PTSD (reexperiencing the trauma, avoidance, and hyperarousal).²⁰ Because of their broad-spectrum action, SSRIs are strongly recommended and considered first-line therapy for PTSD. Other agents in this class include citalopram, escitalopram, fluoxetine, and fluvoxamine. SSRIs increase the concentration of serotonin in the neural synapses, modulating excessive external stimuli to decrease aggression, anxiety, panic, and depression.¹⁹

Additionally, the serotonin norepinephrine reuptake inhibitor (SNRI) venlafaxine has shown positive relief of PTSD symptoms and is also considered an initial treatment of choice.¹⁸ SNRIs act on the neurotransmitter norepinephrine in addition to serotonin, improving patient energy levels and concentration.

The adverse reactions to SSRIs and SNRIs generally are more tolerable than those of other antidepressants, although patients should be informed of the possibility of nausea, drowsiness, weight gain, sexual dysfunction, or insomnia.¹⁹ Most undesirable effects can be avoided by using lowstarting doses.

Second-line options include the tricyclic antidepressants (TCAs) amitriptyline and imipramine, which are useful in PTSD due to their strong antipanic properties. However, these drugs are less commonly prescribed because of their risk for

TABLE 2. Pharmacologic management of PTSD in adults¹⁸

Indication	Drug class	Drug	Oral dose
First-line monotherapy	SSRI	Sertraline	50-200 mg/day
		Paroxetine	20-60 mg/day
		Fluoxetine	20-60 mg/day
		Citalopram	20-40 mg/day
		Escitalopram	10-20 mg/day
		Fluvoxamine	50-150 mg twice daily
	SNRI	Venlafaxine	150-375 mg/day
Second-line monotherapy	TCA	Amitriptyline	150-300 mg/day
		Imipramine	150-300 mg/day
	MAOI	Phenelzine	45-75 mg/day in divided doses
	Atypical antidepressants	Mirtazapine	30-60 mg/day
		Nefazodone	300-600 mg/day
Adjunctive therapy	Sympatholytic	Prazosin	Start at 1 mg/day; increase to 6-10 mg/day

overdose and cardiac disturbances. Monoamine oxidase inhibitors (MAOIs) such as phenelzine are also antipanic agents, but their use is limited because they pose the risk of hypertensive crisis. Other monotherapy recommendations include the second-generation antidepressants mirtazapine and nefazodone.¹⁸ Trazodone has not been proven effective as a primary treatment, but is synergistic with SSRIs and may be used in low doses to treat sleep disturbances.¹⁶

Sympatholytics The only agent in this class with consistent evidence supporting its use is the alpha-blocker prazosin. Although not suitable as a monotherapy, prazosin is a safe and effective adjunct used to treat recurring nightmares. Prazosin is generally well tolerated, although it may induce first-dose syncope. Propranolol, a nonselective beta-blocker, may have a role in prophylaxis after a trauma to prevent PTSD, but is not recommended as treatment for chronic PTSD.¹⁸

Atypical antipsychotics At this time, no evidence supports the use of atypical antipsychotics as monotherapy. When used as adjunctive treatments, olanzapine and quetiapine may improve sleep quality and reduce reexperiencing and hyperarousal symptoms. Risperidone has been reported to improve episodes of psychosis but has limited effect on global PTSD symptoms.¹⁸ These medications should only be used in select patients with intense paranoia, severe agitation, dissociation, or brief psychotic reactions if the patient has not responded to SSRIs or SNRIs.¹⁹

Other agents Although benzodiazepines are frequently prescribed to reduce symptoms of anxiety and insomnia, they may actually worsen patients' recovery from PTSD due to their dissociative and disinhibitory properties.¹⁹ This class also carries a significant risk of abuse and dependency

and is contraindicated in combat veterans with PTSD. Conventional antipsychotic medications, including haloperidol and chlorpromazine, are not recommended due to the risk of neurological and endocrinological adverse reactions. Finally, evidence is insufficient to support the use of mood-stabilizing or anticonvulsant agents such as carbamazepine, gabapentin, lamotrigine, and topiramate in the management of PTSD.¹⁸

PSYCHOTHERAPY

Several evidence-based psychotherapeutic interventions are available. Although providing these therapies is beyond the scope of practice of most primary care PAs, a general knowledge of the options is needed to refer veterans appropriately. Psychoeducation is usually conducted before starting therapy in order to improve the patient's level of understanding of PTSD, the treatment process, and expectations of recovery.¹⁹ The first-line choice of therapy is trauma-focused cognitive behavior therapy (CBT).¹⁶ CBT involves identifying and challenging dysfunctional beliefs and correcting them to decrease symptoms of PTSD and improve functioning.¹⁸

Exposure-based therapy consists of therapist-guided confrontation of intolerable or avoided fear-based memories. With repeated exposure to the traumatic stimuli, the patient experiences progressive reduction in distress levels and negative emotions, making clinical remission possible.¹⁶

Stress management therapy such as stress inoculation training (SIT) is among the most useful psychotherapeutic treatments in the management of PTSD-related anxiety. SIT teaches coping skills, relaxation, breathing control, thought-stopping, and positive thinking to decrease heightened stress responses. Another efficacious technique, eye

movement desensitization and reprocessing (EMDR), helps patients access and process traumatic memories to bring them to adaptive resolution.

Finally, group-based therapy appears to be associated with symptomatic improvement and other benefits including the development of support between group members and the normalization of symptoms and experiences.¹⁸

REFERRAL AND RESOURCES

At any point in the management of PTSD, PAs may refer patients to specialized treatment programs, behavioral medicine, or other mental health services. Referral can be made without a clinical diagnosis of PTSD if the patient's symptoms overlap other psychiatric conditions. Furthermore, if symptoms persist after an adequate attempt at first-line treatment, consider referral for more comprehensive services.

The most up-to-date clinical practice guidelines published by the VA and Department of Defense can be found at <http://www.healthquality.va.gov>. The National Center for PTSD (<http://www.ncptsd.va.gov>) offers professional resources including screening tools, treatment guides, and educational handouts. Other authoritative websites for providers include the International Society for Traumatic Stress Studies (<http://www.istss.org>), Center for the Study of Traumatic Stress (<http://www.centerforthestudyoftraumaticstress.org>), and National Institute of Mental Health (<http://www.nimh.nih.gov>).¹⁸

CONCLUSION

The unique stressors of modern warfare have contributed to the development of PTSD in many Iraq and Afghanistan war veterans. PAs may be the initial clinical contact if these veterans seek healthcare services outside the military healthcare system. Because early diagnosis and intervention are key, clinicians must have the knowledge and tools to manage PTSD in a primary care setting. By being prepared to recognize risk factors and symptoms of PTSD, screen appropriately, and initiate evidence-based treatment with referral as necessary, PAs can improve long-term outcomes and overall quality of care for affected veterans. **JAAPA**

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