

PTSD: A systematic approach to diagnosis and treatment

Accurate diagnosis and management depends on proper application of DSM-5 criteria

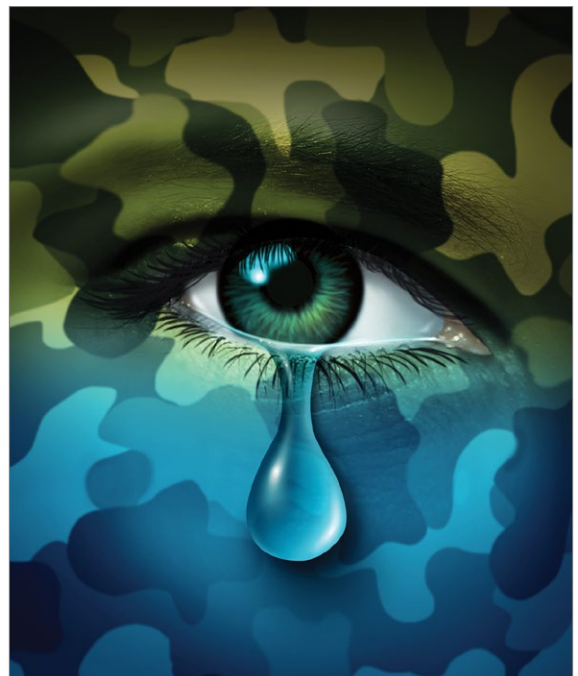
Posttraumatic stress disorder (PTSD) has increasingly become a part of American culture since its introduction in the American Psychiatric Association's third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III) in 1980.¹ Since then, a proliferation of material about this disorder—both academic and popular—has been generated, yet much confusion persists surrounding the definition of the disorder, its prevalence, and its management. This review addresses the essential elements for diagnosis and treatment of PTSD.

Diagnosis: A closer look at the criteria

Criteria for the diagnosis of PTSD have evolved since 1980, with changes in the definition of trauma and the addition of symptoms and symptom groups.² *Table 1*³ (page 36) summarizes the current DSM-5 criteria for PTSD.

Trauma exposure. An essential first step in the diagnosis of PTSD is to determine whether the individual has experienced exposure to trauma. This concept is defined in Criterion A (trauma exposure).³ PTSD is nonconformist among the psychiatric diagnoses in that it requires a specific external event as part of its definition. Misapplication of the trauma exposure criterion by many clinicians and researchers has led to misdiagnosis and erroneously high prevalence estimates of PTSD.^{4,5}

A traumatic event is one that represents a threat to life or limb, specifically defined as “actual or threatened death,



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A traumatic event is one that represents a threat to life or limb and is defined as ‘actual or threatened death, serious injury, or sexual violence’

Table 1

DSM-5 criteria for PTSD

Trauma exposure	
Trauma	Actual or threatened violent death, serious injury or accident, or sexual violence
A. Exposure	Via any of the following: <ol style="list-style-type: none"> 1. Directly exposed to trauma 2. Eyewitness (in person) to others directly exposed to trauma 3. Learning of direct exposure to trauma of a close family member or close friend 4. Repeated or extreme exposure to aversive details of traumatic event (eg, trauma workers viewing human remains or repeatedly exposed to details of child abuse), in person or via work-related electronic media
Symptom groups B to E (symptoms beginning or worsening after the traumatic event)	
B. Intrusion	≥ 1 intrusion symptoms: <ol style="list-style-type: none"> 1. Recurrent, involuntary, distressing trauma memories 2. Recurrent, distressing trauma-related dreams 3. Dissociative reactions/flashbacks related to trauma 4. Intense or prolonged psychological distress to trauma reminders 5. Marked physiological reactions to trauma reminders
C. Avoidance	≥ 1 avoidance symptoms: <ol style="list-style-type: none"> 1. Avoidance/efforts to avoid distressing internal trauma reminders (memories, thoughts, feelings) 2. Avoidance or efforts to avoid distressing external trauma reminders (people, places, activities)
D. Negative cognition and mood	≥ 2 negative cognition/mood symptoms: <ol style="list-style-type: none"> 1. Amnesia for important parts of trauma exposure 2. Persistent, exaggerated negative beliefs about self, others, or the world 3. Persistent, distorted trauma-related cognitions leading to inappropriate blame of self/others 4. Persistent negative emotional state (eg, fear, horror, anger, guilt, shame) 5. Loss of interest or participation in significant activities 6. Detached/estranged feelings from others 7. Persistent loss of positive emotions (eg, happiness, satisfaction, love)
E. Hyperarousal	≥ 2 marked alterations in trauma-related arousal and reactivity: <ol style="list-style-type: none"> 1. Irritability and angry outbursts with little/no provocation (eg, verbal/physical aggression toward people/objects) 2. Reckless or self-destructive behavior 3. Hypervigilance 4. Exaggerated startle 5. Concentration problems 6. Sleep disturbance (eg, difficulty falling or staying asleep, restless sleep)
Additional criteria	
F. Duration	>1 month
G. Distress/impairment	Clinically significant distress; social/occupational/other important functioning impairment
H. Not attributable to another disorder	Independent of physiological effects of a substance (eg, medication, alcohol) or another medical condition
Source: Reference 3	

serious injury, or sexual violence.”³ DSM-5 does not allow for just any stressful event to be considered trauma. For example, no matter how distressing, failing an important test at school or being served with divorce proceedings do not represent a *requisite trauma*⁶ because these examples do not entail a threat to life or limb.

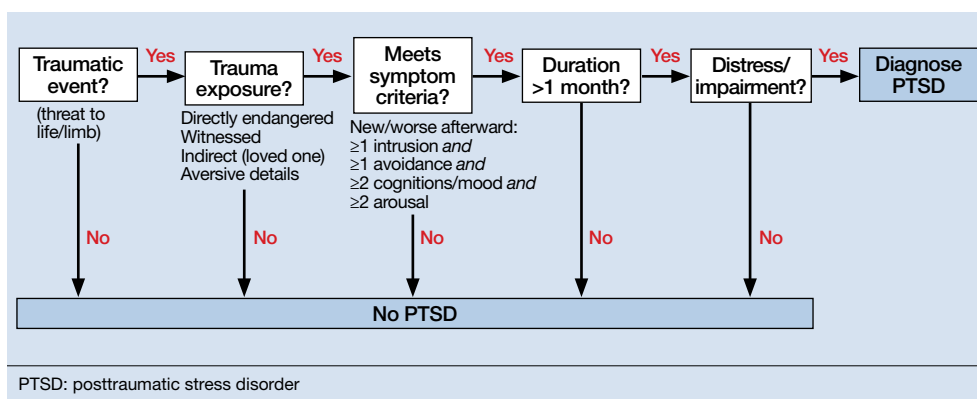
DSM-5 PTSD Criterion A also requires a *qualifying exposure* to the traumatic event. There are 4 types of qualifying exposures:

- direct experience of immediate serious physical danger
- eyewitness of trauma to others
- indirect exposure via violent or accidental trauma experienced by a close family member or close friend



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Assessing DSM-5 criteria for PTSD



• repeated or extreme exposure to aversive details of trauma, such as first responders collecting human remains or law enforcement officers being repeatedly exposed to horrific details of child abuse.³

Witnessed trauma must be in person; thus, viewing trauma in media reports would not constitute a qualifying exposure. Indirect trauma exposure can occur through learning of the experience of a qualifying trauma exposure by a close family member or personal friend.

It is critical to differentiate exposure to trauma (an objective construct) from the subjective distress that may be associated with it. If trauma has not occurred or a qualifying exposure is not established, no amount of distress associated with it can establish the experience as meeting Criterion A for PTSD. This does not mean that nonqualifying experiences of stressful events are not distressing; in fact, such experiences can result in substantial psychological angst. Conversely, exposure to trauma is not tantamount to a diagnosis of PTSD, as most trauma exposures do not result in PTSD.^{7,8}

Symptom groups. DSM-5 symptom criteria for PTSD include 4 symptom groups, Criteria B to E, respectively:

- intrusion
- avoidance
- negative cognitions and mood (numbing)
- hyperarousal/reactivity.

A specific number of symptoms must be present in all 4 of the symptom groups to fulfill diagnostic criteria. Importantly, these

symptoms must be linked temporally and conceptually to the traumatic exposure to qualify as PTSD symptoms. Specifically, the symptoms must be new or substantially worsened after the event. For example, continuing sleep disturbance in someone who has had lifetime difficulty sleeping would not count as a trauma-related symptom. Most symptom checklists do not properly assess diagnostic criteria for PTSD because they do not anchor the symptoms in an exposure to a traumatic event; diagnosis requires an interview to fully assess all the diagnostic criteria. Finally, the symptoms must have been present for >1 month for the diagnosis, and the symptoms must have resulted in clinically significant distress or functional impairment to qualify.

The *Algorithm* provides a practical way to systematically assess all DSM-5 criteria for PTSD to arrive at a diagnosis. The clinician begins by determining whether a traumatic event has occurred and whether the individual had a qualifying exposure to it. If not, PTSD cannot be diagnosed. Alternative diagnoses to consider for new disorders that arise in the context of trauma among patients who are not exposed to trauma include major depressive disorder, adjustment disorder, and bereavement, as well as acute stress disorder (which is not validated but has potential utility as a billable diagnosis).

Avoidance and numbing symptoms (present in Criteria C and D) have been shown to represent markers of illness and can be useful in predicting PTSD.⁸⁻¹⁰ Unlike symptoms of intrusion and hyperarousal (Criteria

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An interview is required to fully and properly assess all the diagnostic criteria for PTSD



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Prominent avoidance/numbing profiles may predict PTSD in the first 1 to 2 weeks after trauma exposure, before PTSD can be formally diagnosed

Table 2

PTSD treatment guidelines and reviews of guidelines

Year	Source/author(s)	Title
Treatment guidelines		
2000	Foa et al ¹⁵	Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies
2004	American Psychiatric Association ¹⁶	Practice guideline for the treatment of patients with acute stress disorder and posttraumatic stress disorder
2005	National Collaborating Centre for Mental Health and British Psychological Society ¹⁷	Post-Traumatic Stress Disorder: The management of PTSD in adults and children in primary and secondary care
2005	International Society for Traumatic Stress Studies Board of Directors ¹⁸	Effective treatments for PTSD
2013	Phoenix Australia Centre for Posttraumatic Mental Health ²⁰	Australian guidelines for the treatment of acute stress disorder and posttraumatic stress disorder
2013	World Health Organization ²¹	Guidelines for the management of conditions specifically related to stress
2017	Department of Veterans Affairs and Department of Defense ¹⁹	VA/DoD clinical practice guidelines. Management of Posttraumatic Stress Disorder and Acute Stress Reaction 2017
Reviews of treatment guidelines		
2009	Benedek et al ²²	Guideline watch (March 2009): practice guideline for the treatment of patients with acute stress disorder and posttraumatic stress disorder
2009	Stein et al ²³	Pharmacotherapy of posttraumatic stress disorder: a review of meta-analyses and treatment guidelines
2010	Forbes et al ²⁴	A guide to guidelines for the treatment of PTSD and related conditions
2012	Nash and Watson ²⁵	Review of VA/DOD Clinical Practice Guideline on management of acute stress and interventions to prevent posttraumatic stress disorder
2016	Lee et al ¹⁴	Psychotherapy versus pharmacotherapy for posttraumatic stress disorder: systemic review and meta-analyses to determine first-line treatments

DoD: Department of Defense; PTSD: posttraumatic stress disorder; URL: uniform resource locator; VA: Veterans Affairs

B and E, respectively), which are very common and by themselves are nonpathological, avoidance/numbing symptoms occur much less commonly, are associated with functional impairment and other indicators of illness, and are strongly associated with PTSD.⁶ Prominent avoidance/numbing profiles have been demonstrated to predict PTSD in the first 1 to 2 weeks after trauma exposure, before PTSD can be formally diagnosed.¹¹ Posttraumatic stress symptoms are nearly universal after trauma exposure, even in people who do not develop PTSD.⁵ Intrusion and hyperarousal symptoms constitute most of such symptoms,⁷ and these symptoms in the absence of prominent avoidance/numbing can be considered normative distress responses to trauma exposure.¹²

Some PTSD symptoms may seem quite similar to symptoms of depressive disorders and anxiety disorders. PTSD can be differentiated from these other disorders by linking the symptoms temporally and contextually to a qualifying exposure to a traumatic event. More often than not, PTSD presents with comorbid psychiatric disorders, especially depressive disorders, anxiety disorders, and/or substance use disorders.⁵ Epidemiologic research on PTSD has shown consistently that pre-existing psychopathology is a strong predictor of PTSD following trauma exposure, as well as of psychiatric comorbidity. These comorbid conditions may be as important as the PTSD in choosing a treatment, and they should be treated concurrently with PTSD.^{6,13}

URL

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https://www.rehab.research.va.gov/jour/2012/495/page637.html

Treatment: Medication, psychotherapy, or both

Both pharmacotherapy and psychotherapy—as monotherapy or in combination—are beneficial for treatment of PTSD. Research has not conclusively shown either treatment modality to be superior, because adequate head-to-head trials have not been conducted.⁴ Therefore, the choice of initial treatment is based on individual circumstances, such as patient preference for medication and/or psychotherapy, or the availability of therapists trained in evidence-based PTSD psychotherapy. Pharmacotherapeutic approaches are considered especially beneficial for depressive- and anxiety-like symptoms of PTSD, and trauma-focused psychotherapies are

presumed to address the neuropathology of conditioned fear and anxiety responses involved in PTSD.¹⁴ *Table 2*¹⁴⁻²⁵ provides a list of published treatment guidelines and reviews to help clinicians seeking further detail beyond that provided in this article.

Antidepressants are the mainstay of pharmacotherapy for PTSD. These medications are effective for treating major depressive disorder, and have beneficial properties for PTSD independent of their antidepressant effects. The serotonin selective reuptake inhibitors (SSRIs) sertraline and paroxetine are FDA-approved for the treatment of PTSD.⁶ Other recommended medications include the serotonin-norepinephrine reuptake inhibitor (SNRI) venlafaxine, and nefazodone, an atypical serotonergic agent.¹³ Other antidepressants with less published evidence of effectiveness are used as second-line pharmacotherapies for PTSD, including fluoxetine (SSRI), and mirtazapine, a noradrenergic and specific serotonergic antidepressant (NaSSA).⁴ Older medications, such as the tricyclic antidepressant amitriptyline and the monoamine oxidase inhibitor phenelzine, have also been used successfully as second-line treatments, but evidence of their benefit is less convincing than that supporting the first-line SSRIs/SNRIs. Additionally, their less favorable adverse effect and safety profiles make them less attractive treatment choices.¹³ *Table 3*¹⁴⁻²⁵ (*page 40*) provides a list of first- and second-line medications for PTSD with recommended dosages and adverse effect profiles.

Other medications. Antiepileptics, antipsychotics, and benzodiazepines have not been demonstrated to have efficacy for primary treatment of PTSD, and none of the medications are considered first-line treatments, although sometimes they are used adjunctively in attempts to enhance the effectiveness of antidepressants. Benzodiazepines are sometimes used to target symptoms, such as sleep disturbance or hyperarousal, but only for very short periods. Several authoritative reviews strongly recommend against practices of polypharmacy that commonly involves use of these agents.^{4,14} Prazosin, an alpha-1 adrenergic antagonist, has been

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Antiepileptics, antipsychotics, and benzodiazepines have not been demonstrated to have efficacy for primary treatment of PTSD



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Explain to patients that it takes many weeks of consistent dosing for the clinical effects to improve symptoms in PTSD

Table 3

First- and second-line pharmacologic agents for PTSD

Agent	Class	Dosing
First-line		
Sertraline ^a	SSRI	Target dose: 50 to 200 mg/d. Initial dose: 25 mg/d, increase weekly
Paroxetine ^a	SSRI	Target dose: 20 to 50 mg/d. Initial dose: 20 mg/d, increase weekly by 10 mg/d (25% higher dose for controlled release formulation)
Nefazodone	Atypical serotonergic	Target dose: 300 to 600 mg/d (in 2 divided doses). Initial dose: 200 mg/d, increase weekly by 100 to 200 mg/d
Venlafaxine	SNRI	Target dose: up to 225 mg/d (375 mg/d for severe PTSD). Initial dose: 75 mg/d, increase by 75 mg/d every 4 days. (2 to 3 divided daily dosages for non-extended release formulation)
Second-line		
Fluoxetine	SSRI	Target dose: 20 to 60 mg/d (max. 80). Initial dose: 10 mg/d, increase after 1 week to 20 mg/d. (2 divided daily doses, morning and noon, for >20 mg/d)
Mirtazapine	NaSSA	Target dose: 15 to 45 mg/d (bedtime). Initial dose: 15 mg/d
Prazosin ^b	Alpha-1 adrenergic antagonist	Initial dose: 1 mg/d (bedtime); increase by 1 to 2 mg/d weekly to max. 15 mg/d
Amitriptyline ^c	TCA	Target dose: 75 to 150 mg/d (bedtime). Initial dose: 75 mg/d, increase by 25 to 50 mg/d as needed
Phenelzine ^c	MAOI	Target dose: 60 to 90 mg/d. Initial dose: 15 mg 3 times a day, can be increased rapidly

Source: Reference 14-25

^aFDA-approved for PTSD

^bTargets nightmares and sleep disruption specifically

^cAdverse effect/safety profile concerns

FDA: Food and Drug Administration; MAOI: monoamine oxidase inhibitor; NaSSA: noradrenergic and specific serotonergic antidepressant; PTSD: posttraumatic stress disorder; SNRI: serotonin-norepinephrine reuptake inhibitor; SSRI: selective serotonin reuptake inhibitor; TCA: tricyclic antidepressant

demonstrated to be an effective treatment for nightmares and sleep disturbances, and has grown increasingly popular for treating these symptoms in PTSD, especially in military veterans.¹³

A well-established barrier to effective pharmacotherapy of PTSD is medication nonadherence.¹³ Two common underlying sources of nonadherence are inconsistency with the patient's treatment preference and intolerable adverse effects. Because SSRIs/SNRIs require 8 to 12 weeks of adequate dosing for symptom relief,¹³ medication adherence is vital. Explaining to patients that it takes many weeks of consistent dosing for clinical effects and reassuring them that the antidepressant agents used to treat PTSD are not habit-forming may help improve adherence.⁴

Psychotherapy. Prolonged exposure therapy and cognitive processing therapy—both

trauma-focused therapies—have the best empirical evidence for efficacy for PTSD.^{4,14,26} Some patients are too anxious or avoidant to participate in trauma-focused psychotherapy and may benefit from a course of antidepressant treatment before initiating psychotherapy to reduce hyperarousal and avoidance symptoms enough to allow them to tolerate therapy that incorporates trauma memories.⁶ However, current PTSD treatment guidelines no longer recommend stabilization with medication or preparatory therapy as a routine prerequisite to trauma-focused psychotherapy.⁴

Eye movement desensitization and reprocessing (EMDR) therapy has emerged as a popular trauma-focused therapy with documented effectiveness. During EMDR, the patient attends to emotionally disturbing material in brief sequential doses (which varies with individual patients) while

Adverse effects

Concerns

Diarrhea, nausea, dizziness, drowsiness, headache, low libido, delayed ejaculation	Reduce dose for liver impairment; discontinuation syndrome (need taper)
Fatigue, constipation, diarrhea, dizziness, drowsiness, sexual dysfunction, coagulopathy	Reduce dose for severe renal or liver impairment; discontinuation syndrome (need taper)
Nausea, constipation, blurred vision, clumsiness, dizziness, tinnitus, insomnia	Rare liver failure, priapism; discontinuation syndrome (need taper)
Fatigue, headache, diaphoresis	Reduce dose for severe renal or liver impairment; discontinuation syndrome (need taper)
Rash, itching, restlessness	Reduce dose for liver impairment; discontinuation syndrome (need taper)
Sedation, dizziness, constipation, increased cholesterol; weight gain/loss (dose dependent)	Reduce dose for severe renal or liver impairment; discontinuation syndrome (need taper)
Dizziness, syncope, sedation, headache	Rare priapism; orthostatic hypotension can be severe
Constipation, dry mouth, urinary retention, blurred vision, weight gain, sexual dysfunction, orthostasis	Cardiac conduction abnormalities can be fatal
Constipation, diarrhea, sexual dysfunction, weight gain, fatigue, sleep disturbance, sedation, headache	Hypertensive crisis/serotonin syndrome if used with sympathomimetic drugs (including above antidepressants)

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Stabilization with medication or preparatory therapy is no longer needed as a routine prerequisite to trauma-focused psychotherapy

simultaneously focusing on an external stimulus, typically therapist-directed lateral eye movements. Critics of EMDR point out that the theoretical concepts and therapeutic maneuvers (eg, finger movements to guide eye gaze) in EMDR are not consistent with current understanding of the neurobiological processes involved in PTSD. Further, studies testing separate components of the therapy have not established independent effectiveness of the therapeutic maneuvers beyond the therapeutic effects of the psychotherapy components of the procedure.⁴

Other psychotherapies might also be beneficial, but not enough research has been conducted to provide evidence for their effectiveness.⁴ Non-trauma-focused psychotherapies used for PTSD include supportive therapy, motivational interviewing, relaxation, and mindfulness. Because these therapies have less evidence of effectiveness,

they are now widely considered second-line options. Psychological first aid is not a treatment for PTSD, but rather a nontreatment intervention for distress that is widely used by first responders and crisis counselors to provide compassion, support, and stabilization for people exposed to trauma, whether or not they have developed PTSD. Psychological first aid is supported by expert consensus, but it has not been studied enough to demonstrate how helpful it is as a treatment.⁶

Comorbidities require careful consideration

PTSD in the presence of other psychiatric disorders may require a unique and specialized approach to pharmacotherapy and psychotherapy. For instance, for a patient who has a comorbid substance use disorder,



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A patient with comorbid TBI may have reduced tolerance to medications, and may require a tailored titration strategy

Related Resources

- Bernadino M, Nelson KJ. FIGHT to remember PTSD. *Current Psychiatry*. 2017;16(8):17.
- Koola MM. Prazosin and doxazosin for PTSD are underutilized and underdosed. *Current Psychiatry*. 2017;16(3):19-20,47,e1.

Drug Brand Names

Amitriptyline • Elavil, Endep	Phenelzine • Nardil
Fluoxetine • Prozac, Sarafem	Prazosin • Minipress
Mirtazapine • Remeron	Sertraline • Zoloft
Nefazodone • Serzone	Venlafaxine • Effexor
Paroxetine • Paxil	

acute substance withdrawal can exacerbate PTSD symptoms. Sertraline is considered a medication of choice for these patients,¹³ and having a substance abuse specialist on the treatment team is desirable.^{4,13} A patient with comorbid traumatic brain injury (TBI) may have reduced tolerance to medications, and may require an individually-tailored and elongated titration strategy. Additionally, stimulants sometimes used to improve cognition for patients with comorbid TBI can exacerbate symptoms of hyperarousal, and these patients may need stabilization before beginning PTSD treatment. Antidepressant treatment for PTSD among patients with comorbid bipolar disorder has the potential to induce mania. Psychiatrists must consider these issues when formulating treatment plans for patients with PTSD and specific psychiatric comorbidities.^{4,6}

PTSD symptoms can be chronic, sometimes lasting many years or even decades.²⁷ In a longitudinal study of 716 survivors of 10 different disasters, 62% of those diagnosed with PTSD were still symptomatic 1 to 3 years after the disaster, demonstrating the enduring nature of PTSD symptoms.¹² Similarly, a follow-up study of survivors of the Oklahoma City bombing found 58% of those with PTSD and 39% of those

without PTSD were still reporting post-traumatic stress symptoms 7 years after the incident.²⁸ Remarkably, these same individuals reported substantially improved functioning at work, with family and personal activities, and social interactions,²⁸ and long-term employment disability specifically related to PTSD is highly unusual.²⁹ Even individuals who continued to report active posttraumatic stress symptoms experienced a return of functioning equivalent to levels in individuals with no PTSD.²⁸ These data suggest that treating psychiatrists and other mental health clinicians can be optimistic that functioning can improve remarkably over the long term, even if post-traumatic stress symptoms persist.

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Bottom Line

A thorough understanding of the criteria for posttraumatic stress disorder (PTSD) is necessary for accurate diagnosis and treatment. Evidence-based treatment options for adults with PTSD include certain antidepressants and trauma-focused psychotherapies.

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Antidepressant treatment for PTSD among patients with comorbid bipolar disorder has the potential to induce mania