TERMINOLOGY

CLINICAL CLARIFICATION

- Posttraumatic stress disorder is a psychiatric disorder associated with development of characteristic symptoms after exposure to a traumatic event that leads to significant distress or functional impairment[1]
  - The following *DSM-5* criteria are diagnostic for posttraumatic stress disorder in children older than 6 years and adults:[1]
    - Criterion A: exposure to actual or threatened death, serious injury, or sexual violence in at least 1 of the following ways:
      - Personally experiencing traumatic event(s)
      - Witnessing the event(s) in person as it occurred to others
      - Learning about the event(s) that occurred to a close friend or family member
      - Experiencing repeated or extreme exposures to aversive details of event(s)
        - Does not include exposures through electronic media, television, movies, or pictures, unless work related
    - Criterion B: presence of at least 1 intrusion symptom associated with and occurring after the traumatic event(s)
      - Recurrent, involuntary, and intrusive distressing memories of the event(s)
      - Recurrent distressing dreams related to the event(s)
      - Dissociative reactions (eg, flashbacks) in which the patient feels or acts as if the event(s) were recurring
      - Intense or prolonged psychological distress when exposed to internal or external cues related to an aspect of the event(s)
      - Marked physiologic reactions to these cues
    - Criterion C: persistent avoidance of certain stimuli associated with the event(s)
      - Efforts to avoid distressing memories, thoughts, or feelings related to the event(s)
      - Efforts to avoid external reminders of those memories, thoughts, or feelings
    - Criterion D: negative changes in cognitions and mood associated with the event(s), either starting or worsening after the event(s), as evidenced by at least 2 of the following:
      - Inability to recall key features of the traumatic event (due to dissociative amnesia; not due to head injury, alcohol, or drugs)
      - Persistent and exaggerated negative beliefs or expectations about self, others, or the world in general
      - Persistent distorted cognitions about the cause or consequence of the event(s), resulting in the patient blaming self or others
      - Persistent negative emotions, such as fear horror, anger, guilt, or shame
      - Markedly diminished interest or participation in significant activities
      - Feeling of detachment or estrangement from others
      - Persistent inability to experience positive emotions, such as happiness, satisfaction, or love
    - Criterion E: changes in arousal and reactivity beginning or worsening after the event(s), as indicated by 2 or more of the following:
      - Irritable behavior and angry outbursts (with little or no provocation)
      - Reckless or self-destructive behavior
      - Hypervigilance
      - Exaggerated startle response
      - Difficulty concentrating
      - Sleep disturbance(s)
    - Criterion F: criteria B, C, D, and E must be met for more than 1 month after the traumatic event
    - Criterion G: the condition must cause clinically significant distress or impairment
    - Criterion H: condition is not attributable to substance use or any other medical condition
  - The following *DSM-5* criteria are diagnostic for posttraumatic stress disorder in children younger than 6 years of age:[1]
    - Criterion A: exposure to actual or threatened death, serious injury, or sexual violence in at least 1 of the following ways:
      - Directly experiencing the event
      - Personally witnessing the event as it occurred to others, especially a primary caregiver
        - Does not include exposures through electronic media, television, movies, or pictures
      - Learning that the event occurred to a parent or caregiver
    - Criterion B: presence of at least 1 intrusion symptom associated with and occurring after the traumatic event(s)
      - Recurrent, involuntary, and intrusive distressing memories of the event(s)
      - Recurrent distressing dreams related to the event(s)
        - May not be obvious that the dream content is related to the traumatic event(s)
      - Dissociative reactions in which the child feels or acts as if the event(s) were recurring
        - May occur on a continuum, with child losing awareness of current surroundings in the most extreme cases

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    - Intense or prolonged psychological distress when exposed to internal or external cues related to an aspect of the event(s)
    - Marked psychological reactions to these cues
  - Criterion C: persistent avoidance of certain stimuli associated with the event(s) or negative alternations in cognitions and mood associated with the event beginning or worsening after the event as evidenced by 1 or more of the following symptoms:
    - Efforts to avoid activities, places, or physical reminders that cause recollections of the traumatic event(s)
    - Efforts to avoid people, conversations, or interpersonal situations that cause memories of the traumatic event(s)
    - Substantially increased frequency of negative emotional stress (fear, guilt, sadness, shame, confusion)
    - Markedly diminished interest or participation in significant activities, including constriction of play
    - Social withdrawal
    - Persistent reduction in expression of positive emotions
  - Criterion D: changes in arousal and reactivity beginning or worsening after the event(s), as indicated by 2 or more of the following:
    - Irritable behavioral or angry outbursts with little or no provocation, expressed as verbal or physical aggression toward people or objects
    - Hypervigilance
    - Exaggerated startle response
    - Problems with concentration
    - Sleep disturbances
  - Criterion E: duration of symptoms is greater than 1 month
  - Criterion F: condition causes clinically apparent distress or interference with relationships with parents, siblings, peers, or other caregivers, or interferes with school behavior
  - Criterion G: condition is not attributable to substance use or any other medical condition

CLASSIFICATION

- *DSM-5* recognizes 2 subtypes, which may be specified for all age groups[1]
  - Delayed expression
    - Defined when the full posttraumatic stress disorder criteria are not met until 6 months after the traumatic event(s)
    - Present in about 10% of cases[2]
  - Dissociative symptoms
    - Meeting the criteria for posttraumatic stress disorder plus experiencing persistent or recurrent symptoms of depersonalization or derealization that are not attributable to substance use or another medical condition
    - Depersonalization is defined as feeling detached from one's body or mental processes as if observing them from the outside
    - Derealization is defined as feeling a sense of unreality of surroundings (eg, dreamlike, distant, distorted)
    - Present in about 14% of cases[3]

DIAGNOSIS

CLINICAL PRESENTATION

- History
  - The experience of trauma includes exposure to threatened death, serious bodily injury, or sexual violence; such an event is required for the diagnosis, although witnessing (rather than personally experiencing) the traumatic event may also result in posttraumatic stress disorder[1]
    - Because patients may not associate current symptoms with a traumatic event, especially if a lot of time has passed, it is important to ask any patients who repeatedly report to primary care with unexplained physical symptoms about traumatic event(s)
    - Patients may give negative responses to all-inclusive questions (eg, "Have you ever been abused?"); specific questions (eg, "Have you even been hit, beaten, or choked?") may be better[4]
    - Men most often report combat experience, physical assault, witnessing death or assault, or being threatened with a weapon[2]
    - Women more often report rape, sexual molestation, physical abuse, and childhood neglect[2]
  - Symptoms typically begin within 3 months of the traumatic event(s), although the full diagnostic criteria may not be met for years after the trauma[1]
    - If duration of symptoms is less than 1 month, the diagnosis cannot yet be made; however, if the patient otherwise appears to have symptoms of posttraumatic stress disorder, consider the diagnosis of acute stress disorder[1]

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- Symptoms fall within 4 groups: intrusion, avoidance, negative changes in cognition and mood, and alterations in arousal[1]
  - Intrusion symptoms
    - Recurrent, intrusive, and involuntary memories of the event(s)[1]
      - Memories typically involve sensory, emotional, or physiologic components
      - Often manifests as distressing dreams that replay the event or that thematically represent the event
    - Reliving the experience through flashbacks that may last from seconds to hours or days[1]
      - Flashbacks range from brief sensory intrusions to complete loss of reality and awareness of surroundings
      - Patient may act as if the event(s) were occurring at that moment
    - Intense distress or physiologic reactivity after exposure to triggering people, places, or events or physical sensations
  - Avoidance symptoms
    - Patient will attempt to avoid all triggers that are reminders of the event
    - Avoids talking about the event in detail
  - Changes in cognitions and mood
    - Emotional numbing
      - Loss of interest in participating in activities once enjoyed[1]
      - A feeling of detachment from other individuals
      - A persistent inability to feel positive emotions[1]
    - Persistent negative feelings
      - About self, including shame or guilt, which may manifest in statements such as "I am a bad person" or "My nervous system is permanently ruined"
      - About the outside world, which may manifest in statements such as "The world is a terrible and dangerous place" or "I cannot trust anyone"
    - Negative changes in cognition[1]
      - Difficulty concentrating, remembering daily events, or attending to focused tasks
      - Loss of memory for significant parts of the event(s)
      - Distorted thoughts and reasoning about the cause or consequences of the event[1]
    - Difficulty regulating emotions or maintaining interpersonal relationships (particularly for those with severe, repetitive, or prolonged trauma)[1]
  - Altered arousal
    - Heightened sensitivity to perceived threats, both those related and not related to the traumatic event(s), and increased reactivity to unexpected stimuli[1]
    - Aggression with little or no provocation or a quick temper[1]
    - Participation in reckless or self-destructive behavior[1]
    - Difficulty falling or staying asleep or having nightmares[1]
- Symptoms manifest differently by age group
  - Children[1]
    - Distressing dreams
      - Dream content may not be obviously related to the traumatic event(s)
    - Flashbacks can be experienced differently than in adults
      - May be manifested through play
      - Fear may not be expressed during the reexperiencing
    - Avoidance behaviors
      - In addition to avoiding people, places, and things that remind them of the trauma, school-aged children may avoid participation in new activities
    - Emotional and cognitive changes
      - Loss of positive expressions of emotion with increased expression of negative emotions, such as sadness, shame, and guilt
      - Withdrawal from playing with friends
      - Developmental regression, including loss of language, may occur
    - Alterations in arousal
      - Angry outbursts or temper tantrums
  - Adolescents
    - May view themselves as cowardly
    - May view themselves as being changed in ways that make them undesirable to their peers
    - Reluctance to pursue developmental opportunities, such as dating or driving
    - May lose aspirations for the future

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- Older adults
  - May experience more avoidance, hyperarousal, sleep problems, and crying spells than younger individuals exposed to the same trauma[1]
    - If posttraumatic stress disorder begins in younger adulthood but continues into older age, symptoms of hyperarousal, avoidance, and negative cognition and moods may be reduced[1]
  - Negative health perceptions are common, accompanied by increased using of primary care services
  - May have suicidal ideation
- Patients with untreated posttraumatic stress disorder may use primary care services frequently, with a variety of unexplained somatic complaints

- Physical examination
  - Typically normal findings unless the trauma resulted in a persistent physical injury or scarring
  - A mental status examination should be performed to assist with differential diagnosis[5]

CAUSES AND RISK FACTORS

- Causes
  - Although the etiology of posttraumatic stress disorder is not fully known, it is thought to be due to absence of normal trajectory of recovery after exposure to a traumatic event[6]
    - While many people experience a *DSM-5* posttraumatic stress disorder–qualifying traumatic event, most do not develop posttraumatic stress disorder
    - A hypothesis is that the memory of the trauma is not fully processed and therefore the person maintains misperceptions or distorted thinking patterns that occurred at the time of the trauma[6]
    - May be associated with neurobiologic alterations in the central and autonomic nervous systems[7]
      - Certain alterations in the brain have been associated with posttraumatic stress disorder[7,8]
        - Reduced brain volume in the hippocampus and anterior cingulate
        - Excessive amygdala activity
        - Reduced activation of the prefrontal cortex and hippocampus in response to trauma reminders
- Risk factors and/or associations
  - Age
    - May occur at any age from the first year of life onward[1]
      - Children and adolescents generally have been found to have a lower prevalence after exposure to trauma[1]
        - This may be because data reflect previous diagnostic criteria that were not adequately developmentally informed
      - Prevalence is lower in older adults compared with the general population[1]
        - However, older adults may be more susceptible to subthreshold disease
  - Sex
    - Woman are at higher risk and tend to experience symptoms for a longer duration than men (lifetime prevalence is twice that of men[4])[1]
      - This difference in risk is partly attributable to a greater likelihood of exposure to traumatic events, such as rape and sexual assault
  - Ethnicity/race
    - 12-month prevalence is greater in the United States (3.5%) than in European, Asian, African, and Latin American countries (0.5%-1%)[1]
    - In the United States specifically, higher rates have been reported for Latinos, African Americans, and American Indians than for non-Latino white people, with lower rates reported in Asian Americans[1]
    - Among veterans, African Americans, Hispanics, and American Indian/Alaska Natives experience a higher rate of posttraumatic stress disorder after combat-related trauma[4]
  - Other risk factors/associations
    - Exposure to stressful or traumatic events including but not limited to:[1]
      - War (as either combatant or civilian)
      - Threatened or actual physical assault (eg, robbery, mugging, childhood physical abuse)
      - Threatened or actual sexual abuse (eg, forced penetration, alcohol or drug-facilitated penetration, contact or noncontact sexual abuse, sexual trafficking)
        - For children, developmentally inappropriate sexual contact without physical violence or injury is considered sexual violence
      - Being kidnapped, held hostage, or tortured
      - Experiencing a terrorist attack
      - Being incarcerated as a prisoner of war
      - Experiencing a man-made or natural disaster
      - Experiencing a severe motor vehicle crash

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- Experiencing a traumatic medical incident
  - By *DSM-5* criteria, not all life-threatening illnesses or medical incidents are considered traumatic events [1]
  - Traumatic medical incidents are those that involve sudden catastrophic events (eg, waking during surgery, anaphylactic shock) [1]
- Witnessing stressful or traumatic events, including: [1]
  - Threatened or serious injury
  - Unnatural death
  - Physical or sexual abuse
  - Domestic abuse
  - War
  - Natural or man-made disaster
  - Medical catastrophe in a child
  - Indirect exposure to violent or accidental event involving a close friend or loved one (eg, learning of an event) [1]
- The following individuals are at higher risk: [1]
  - Highest risk is among survivors of rape, military combat or captivity, ethnically or politically motivated internment, or genocide (33%-50%) [1]
  - Those with traumatic exposure on a regular basis
    - Military personnel
      - For military personnel, being a perpetrator of atrocities, witnessing atrocities, or killing the enemy increases risk
    - Police officers
    - Firefighters
    - Emergency medical personnel (eg, emergency medical technician)
- Additional risk factors
  - Underlying emotional issues
    - Emotional problems before age 6 years [1]
    - Previous mental disorders, such as panic disorder, depressive disorder, obsessive-compulsive disorder, or prior posttraumatic stress disorder [1]
  - Environmental [1]
    - Lower socioeconomic status
    - Childhood adversity
    - Previous exposure to trauma, particularly during childhood
    - Lower education or intelligence
    - Family history of psychiatric disorders
  - Risk is greater if:
    - Trauma involves interpersonal violence
    - Trauma results in personal injury
    - Acute pain level is high after serious physical injuries [9]
    - Trauma results in physical disability and an inability to return to work [9]
    - Trauma results in personal loss or financial stress
    - Adverse life events are experienced after the trauma

DIAGNOSTIC PROCEDURES

- Primary diagnostic tools
  - Diagnosis is based on patient interview, which may be aided by a screening assessment tool at the initial diagnostic encounter and ideally is confirmed by a semistructured interview with a mental health professional [10, 11]
    - In the primary care setting, use a screening instrument to determine if patient appears likely to have posttraumatic stress disorder
      - Brief screening questionnaire can be helpful to determine whether an individual has had an event that meets *DSM-5* criterion A, or to determine the different types of criterion A events an individual has experienced.
        - Brief Trauma Questionnaire [12]
          - 10-item questionnaire
          - A "yes" response to any question will meet criterion A
          - Available from the US Department of Veterans Affairs [12]
      - PC-PTSD-5 (Primary Care PTSD Screen for *DSM-5*) [10]
        - 5-item screening measure
        - If this screen reveals probable posttraumatic stress disorder, consider obtaining the PTSD Checklist for *DSM-5* (PCL-5) as additional provisional evidence of posttraumatic stress disorder

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- Available from the US Department of Veterans Affairs[10]
- PCL-5 (PTSD Checklist for *DSM-5*)[11]
  - 20-item self-report measure useful for both screening and for making a provisional diagnosis
  - Available in several versions, the PCL-5 version with criterion A is appropriate when trauma exposure has not been separately measured by some other method
  - Available from the US Department of Veterans Affairs[11]

DSM-5 diagnostic criteria for posttraumatic stress disorder (children older than 6 years and adults).

Criterion A:
Exposure to actual or threatened death, serious injury, or sexual violence in at least 1 of the following ways:
1. Personally experiencing traumatic event(s)
2. Witnessing the event(s) in person as it occurred to others
2. Learning about the event(s) that occurred to a close friend or family member
3. Experiencing repeated or extreme exposures to details of event(s). (Does not include exposures through electronic media, television, movies, or pictures, unless work related.)
Criterion B:
Presence of at least 1 intrusion symptom associated with and occurring after the traumatic event(s):
1. Recurrent, involuntary, and intrusive distressing memories of the event(s)
2. Recurrent distressing dreams related to the event(s)
3. Dissociative reactions (eg, flashbacks) in which the patient feels or acts as if the event(s) were recurring
4. Intense or prolonged psychological distress when exposed to internal or external cues related to an aspect of the event(s)
5. Marked physiologic reactions to these cues
Criterion C:
Persistent avoidance of certain stimuli associated with the event(s):
1. Efforts to avoid distressing memories, thoughts, or feelings related to the event(s)
2. Efforts to avoid external reminders of those memories, thoughts, or feelings
Criterion D:
Negative changes in cognitions and mood associated with the event(s), either starting or worsening after the event(s), as evidenced by at least 2 of the following:
1. Inability to recall key features of the traumatic event (due to dissociative amnesia; not due to head injury, alcohol, or drugs)
2. Persistent and exaggerated negative beliefs or expectations about self, others, or the world in general
3. Persistent distorted cognitions about the cause or consequence of the event(s), resulting in the patient blaming self or others
4. Persistent negative emotions, such as fear, horror, anger, guilt, or shame
5. Markedly diminished interest or participation in significant activities
6. Feeling of detachment or estrangement from others
7. Persistent inability to experience positive emotions, such as happiness, satisfaction, or love
Criterion E:
Changes in arousal and reactivity beginning or worsening after the event(s), as indicated by 2 or more of the following:
1. Irritable behavior and angry outbursts (with little or no provocation)
2. Reckless or self-destructive behavior
3. Hypervigilance
4. Exaggerated startle response
5. Difficulty concentrating
6. Sleep disturbance(s)
Criterion F:
Criteria B, C, D, and E must be met for more than 1 month after the traumatic event
Criterion G:
The condition must cause clinically significant distress or impairment
Criterion H:

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The condition is not attributable to substance use or any other medical condition

Data from American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Association; 2013:265-90.

- After the initial screening, if posttraumatic stress disorder is likely, conduct an in-depth assessment to establish diagnosis; this assessment requires more time to complete and should be administered by someone knowledgeable about posttraumatic stress disorder and trained in administering the assessment (typically a psychologist or psychiatrist)[6]
  - Several semistructured interviewing tools are available to guide the assessment:
    - CAPS-5 (Clinician-Administered PTSD Scale for *DSM-5*)[13,14]
      - 30-item interview[14]
      - Considered the gold standard for diagnosis by the Veterans Administration; can be obtained by request from the US Department of Veterans Affairs[13]
    - CAPS-CA-5 (Clinician-Administered PTSD Scale for *DSM-5*: Child/Adolescent Version)[13]
      - For children and adolescents aged 7 years and older
      - Includes age-appropriate items and picture response options
      - Can be obtained by request from the US Department of Veterans Affairs[15]
    - PSS-I-5 (PTSD Symptom Scale Interview)[14,16]
      - Updated to include *DSM-5* diagnostic criteria
      - Available by request from the University of Pennsylvania; details are available on the US Department of Veterans Affairs National Center for PTSD website[16]

- Procedures
  - PC-PTSD-5 (Primary Care PTSD Screen for *DSM-5*)[10]
    - General explanation
      - 5-item questionnaire with "yes"/"no" responses
        - Have you ever experienced an especially frightening, horrible, or traumatic event; for example, a serious accident or fire, a physical or sexual assault or abuse, an earthquake or flood, a war, seeing someone be killed or seriously injured, or having a loved one die through homicide or suicide?
          - If the patient answers "yes," move on; if the patient answers "no," the test result is negative
        - In the past month, have you:
          - 1. Had nightmares about the event(s) or thought about the event(s) when you did not want to?
          - 2. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
          - 3. Been constantly on guard, watchful, or easily startled?
          - 4. Felt numb or detached from others, activities, or your surroundings?
          - 5. Felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused?
    - Indication
      - Screening assessment for posttraumatic stress disorder in a primary care setting
    - Interpretation of results
      - Test results are positive if the patient answers "yes" to any 3 questions[17]
  - PCL-5 (PTSD Checklist for *DSM-5*)[11]
    - General explanation
      - 20-item self-reported questionnaire
        - In the past month, how much were you bothered by:
          - 1. Repeated, disturbing, and unwanted memories of the stressful experience?
          - 2. Repeated, disturbing dreams of the stressful experience?
          - 3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?
          - 4. Feeling very upset when something reminded you of the stressful experience?
          - 5. Having strong physical reactions when something reminded you of the stressful experience (eg, heart pounding, trouble breathing, sweating)?
          - 6. Avoiding memories, thoughts, or feelings related to the stressful experience?
          - 7. Avoiding external reminders of the stressful experience (eg, people, places, conversations, activities, objects, situations)?
          - 8. Trouble remembering important parts of the stressful experience?
          - 9. Having strong negative beliefs about yourself, other people, or the world (eg, "I am bad," "there is something seriously wrong with me," "no one can be trusted," "the world is completely dangerous")?
          - 10. Blaming yourself or someone else for the stressful experience or what happened after it?
          - 11. Having strong negative feelings, such as fear, horror, anger, guilt, or shame?

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        - 12. Loss of interest in activities that you used to enjoy?
        - 13. Feeling distant or cut off from other people?
        - 14. Trouble experiencing positive feelings (eg, being unable to feel happiness or have loving feelings for people close to you)?
        - 15. Irritable behavior, angry outbursts, or acting aggressively?
        - 16. Taking too many risks or doing things that could cause you harm?
        - 17. Being "superalert," watchful, or on guard?
        - 18. Feeling jumpy or easily startled?
        - 19. Having difficulty concentrating?
        - 20. Trouble falling or staying asleep?
    - Indication
      - Screening assessment for posttraumatic stress disorder; may be used for a provisional diagnosis
    - Interpretation of results
      - Scoring[11]
        - 0 = not at all
        - 1 = a little bit
        - 2 = moderately
        - 3 = quite a bit
        - 4 = extremely
        - An overall score of 33 is considered a positive provisional test result (based on initial validation study)[5]

DIFFERENTIAL DIAGNOSIS

- Most common
  - Adjustment disorders[1]
    - Similar to posttraumatic stress disorder, ***DSM-5*** defines adjustment disorders as the presence of emotional or behavioral symptoms in response to identifiable stressor(s) occurring within 3 months of the onset of the stressor(s)
    - Unlike posttraumatic stress disorder, the stressor can be of any severity or type
    - Diagnose adjustment disorder over posttraumatic stress disorder in 1 of 2 situations:
      - When a patient is exposed to a stressor that meets criterion A for posttraumatic stress disorder but responds in a way that does not meet all other posttraumatic stress disorder criteria
      - When a patient responds in a way that meets all criteria for posttraumatic stress disorder to a stressor that does not meet criterion A
  - Acute stress disorder[1]
    - Similar to posttraumatic stress disorder, acute stress disorder is a reaction to actual or threatened death, serious injury, or sexual violation resulting in symptoms related to intrusion, negative mood, dissociation, avoidance, and arousal, beginning or worsening after the stressful event(s)
    - Diagnostic criteria are slightly different from those of posttraumatic stress disorder, requiring at least 9 symptoms from any of the following categories: intrusion, negative mood, dissociation, avoidance, and arousal
    - Differentiate by symptom duration, which is limited to 3 days to 1 month after the traumatic event in acute stress disorder
  - Major depressive disorder[1]
    - Mood disorder characterized by persistent feelings of sadness or hopelessness or loss of interest in activities once enjoyed
    - When preceded by a traumatic event, this condition may be mistaken for posttraumatic stress disorder
    - Unlike posttraumatic stress disorder, does not include any criteria B or C symptoms
    - Differentiate from posttraumatic stress disorder by absence of several posttraumatic stress disorder criteria symptoms
  - Personality disorder[1]
    - Condition characterized by impairments in personality functioning and pathologic personality traits persisting over time
    - As with posttraumatic stress disorder, patient may have difficulty maintaining interpersonal relationships
    - Differentiate by absence of actual or threatened death, serious injury, or sexual violation
  - Dissociative disorders[1]
    - Disorders characterized by a loss of normal integration between memories, identity awareness and sensations, and body movements; include the following:
      - Dissociative amnesia[1]
      - Dissociative identity disorder[1]
      - Depersonalization-derealization disorder[1]

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- Symptoms may be mistakenly classified as posttraumatic stress disorder with dissociative symptoms[1]
  - However, if all criteria for posttraumatic stress disorder are met, then posttraumatic stress disorder with dissociative symptoms should be diagnosed
- Unlike posttraumatic stress disorder, dissociative disorders do not always result from exposure to trauma[1]
- Differentiate from posttraumatic stress disorder by absence of several posttraumatic stress disorder criteria symptoms

- Obsessive-compulsive disorder[1]
  - Psychological condition characterized by recurrent intrusive thoughts or repetitive stereotyped behaviors that last for at least 1 hour per day or interfere with normal functioning
  - Similar to posttraumatic stress disorder, obsessive-compulsive disorder is characterized by intrusive thoughts
  - However, in obsessive-compulsive disorder, thoughts do not typically relate to a past traumatic event
  - Differentiate from posttraumatic stress disorder by the presence of compulsions, urges to perform rituals in response to obsessions, and absence of criteria D and E symptoms

TREATMENT

GOALS

- Reduce the severity of symptoms[4]
- Prevent complications and development of comorbid conditions (eg, substance use disorder) related to the trauma[4]
- Improve functioning[4]
- Prevent relapse[4]

DISPOSITION

- Admission criteria
  - Suicidal or homicidal ideation[4]
  - Severe illness with lack of social support[4]
  - Significant functional impairment[4]
- Recommendations for specialist referral
  - Refer to a mental health professional for definitive diagnosis and disease management[4]
    - If managed in a primary care setting, the Veterans Administration/Department of Defense guideline recommends collaborative care to ensure that the veteran is receiving evidence-based care[5]
  - Collaborate with a specialist in substance use disorders for patients with severe drug or alcohol dependence
  - Outpatient care is optimal for most patients; however, those with comorbid conditions may require inpatient care[4]

TREATMENT OPTIONS

- Consider patient preference when determining the best treatment plan[5]
  - Engage in shared decision making when deciding on a treatment plan, educating patients about the effective treatment options and including them in the choice of treatment[5]
- Management consists of psychotherapy and/or pharmacotherapy[4]
  - Trauma-focused psychotherapy with exposure and/or cognitive restructuring components is recommended as first line treatment[5]
    - Meta-analysis supports use of such therapies over non–trauma-focused psychotherapy or medication as first line interventions[18]
    - Base choice of psychotherapy on clinical considerations, clinician expertise, and patient preference[5]
      - The following trauma-focused psychotherapies have the most support from clinical trials:[19, 5, 20]
        - Prolonged exposure therapy
          - Helps the patient to systematically approach, instead of avoid, safe (but feared) stimuli. Eventually the feared consequences are no longer expected and the automatic fear response to trauma-related stimuli subsides[6]
        - Cognitive processing therapy (an approach which combines exposure therapy and cognitive therapy)
          - Focuses on interventions that directly target maladaptive thinking patterns[6]
        - Eye movement desensitization and reprocessing
          - Based on the theory that the patient has not fully processed the memory of the trauma and therefore maintains any misperceptions/distorted thinking that occurred at the time of the trauma; bilateral eye movements during autobiographical memory reduce distress attached to the trauma memory[6]
    - Other psychotherapies with sufficient evidence to recommend their use include specific cognitive behavioral therapies for posttraumatic stress disorder, brief eclectic psychotherapy, narrative exposure therapy, and written exposure therapy[5]

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- Pharmacotherapy
  - May be used as a first line or a second line treatment
    - Pharmacotherapy is a reasonable first line alternative to psychotherapy if the patient prefers it or if psychotherapies are not available [18, 5, 21]
      - Serotonin reuptake inhibitors reduce core symptoms of posttraumatic stress disorder and improve associated depression and disability [21]
        - Sertraline, paroxetine, fluoxetine (selective serotonin reuptake inhibitors) and venlafaxine (serotonin-norepinephrine reuptake inhibitor) are recommended as monotherapies [20]
          - Both sertraline and paroxetine are FDA approved for posttraumatic stress disorder
            - Symptom improvement generally occurs within 2 to 4 weeks [4]
            - In multicenter trial, sertraline significantly better than placebo for improved avoidance-numbing symptoms cluster score, but not for reexperiencing score or for 12-week remission rate [22]
            - Longer treatment (eg, 36 weeks as opposed to 12 weeks) improves treatment response [6]
            - Patients with chronic disease may require a longer duration of treatment [4]
          - Venlafaxine is effective compared with placebo [23]
            - Significant improvement in avoidance-numbing and hyperarousal symptoms clusters; week 12 remission rate of 30.2% (significant compared with placebo) [22]
        - Potential adverse effects include sexual dysfunction, increased sweating, gastrointestinal upset, and drowsiness or fatigue [5]
        - Evidence suggest that there is less confidence for use of these agents in combat-related posttraumatic stress disorder than for posttraumatic stress disorder resulting from civilian trauma [24]
  - When there is poor response to psychotherapy or a serotonin reuptake inhibitor, combination therapy is sometimes used. There is insufficient evidence to guide clinical decision making on this approach; clinical judgment is required [5, 25]
- Drug therapy
  - Selective serotonin reuptake inhibitors
    - Sertraline [6]
      - Sertraline Hydrochloride Oral tablet; Adults: 25 mg PO once daily initially. After 1 week, increase to 50 mg PO once daily. If necessary, increase by 25 to 50 mg/day at intervals of not less than 1 week. Therapeutic range: 50 to 200 mg/day. Max: 200 mg/day.
    - Paroxetine [6]
      - Paroxetine Hydrochloride Oral tablet; Adults: 20 mg PO once daily, usually given in the morning, is the initial and effective usual dose. Effective dose range: 20 to 50 mg/day during clinical trials. Max: 50 mg/day PO. DEBILITATED ADULTS: 10 mg PO once daily initially, with titration by 10 mg/week if needed. Max: 40 mg/day PO. Effective in treating PTSD symptoms including re-experiencing/intrusion, avoidance/numbing, and hyperarousal. When discontinuing, taper the dose if possible.
      - Paroxetine Hydrochloride Oral tablet; Geriatric Adults: 10 mg PO once daily initially, usually in the morning. Doses should be increased by 10 mg/day at weekly intervals if needed and tolerated. Max: 40 mg/day PO. When discontinuing, taper the dose if possible.
    - Fluoxetine [20]
      - Fluoxetine Hydrochloride Oral capsule [Depression/Mood Disorders]; Adults: Initially, 20 mg PO once daily. A range of 20 to 80 mg/day PO has been used; follow recommended titration schedules. A lower or less frequent dose may be considered in the geriatric adult. Mean effective dosage: 40 mg/day PO. Fluoxetine has been effective for a wide variety of traumatic stressors, including combat. Max: 80 mg/day PO. May divide daily dose into 2 doses, given morning and at noon, if the dosage is more than 20 mg/day.
    - Venlafaxine [5]
      - Immediate release
        - Venlafaxine Hydrochloride Oral tablet; Adults: Initially, 75 mg/day PO, given in 2 or 3 divided doses. If needed, daily dose may be increased by 75 mg/day no less than every 4 days. Outpatient Max: 225 mg/day PO in divided doses. Institutional Max: 375 mg/day PO, given in 3 divided doses.
      - Extended release
        - Venlafaxine Hydrochloride Oral tablet, extended release; Adults: Initially, 37.5 mg PO once daily for 4 to 7 days to allow for tolerability before increasing to 75 mg PO once daily. If needed, may increase further by 75 mg/day at intervals of no less than every 4 days. Recommended Max: 225 mg/day PO.
- Nondrug and supportive care
  - Educative and supportive care (most useful for managing the acute aftermath of a traumatic event) [4]
    - Education should focus on the following:
      - Expected physiologic and emotional response to trauma
      - Strategies for decreasing secondary or continual exposure to the trauma
      - Ways to reduce stress (eg, breathing, physical exercises)

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        - Importance of remaining mentally active
        - Importance of self-care
    - Prolonged exposure therapy[6]
        - Consists of 8 to 15 sessions for 60 to 90 minutes per session either weekly or biweekly
            - First few sessions focus on teaching the patient relaxation breathing exercises and providing psychoeducation about the symptoms of posttraumatic stress disorder and the role of avoidance in maintaining treatment
            - Next several sessions focus on imaginal exposure, during which time the patient describes the traumatic event out loud for a prolonged time (eg, 30-45 minutes)
            - Includes in vivo exposure, which involves teaching the patient how to manage trauma-related situations that were previously avoided
            - Between sessions, patients are expected to listen to recordings of sessions and practice in vivo exposures
        - Application of the treatment should be culturally informed[4]
        - Dropout rate ranges from 10% to 38%[6]
    - Cognitive processing therapy[6]
        - Typically 12 sessions in individual or group format
        - Similar to prolonged exposure therapy, includes psychoeducation and education about the role of avoidance in maintaining the disorder
        - Early in the process, the patient writes down and discusses the impact the traumatic event had on his or her life
        - Through discussion, the therapist probes the patient for potential maladaptive thinking patterns and helps to develop strategies for developing more effective thinking patterns
        - Dropout rates are approximately 20%[6]
    - Eye movement desensitization and reprocessing[6]
        - Length of treatment depends on the patient's ability to manage emotions
        - Initially, patients are trained to manage negative emotions (reprocessing)
            - Patient is asked to list emotionally significant experiences and the distorted beliefs related to those experiences and desired beliefs
            - Patient is asked to think about a visual representation of the experience and to focus specifically on the physical sensations of the memory while engaging bilateral/saccadic eye movements
            - Patient then practices thinking the desired belief with the visual image of the trauma
        - Shown to be effective for both acute and chronic disease[4]
    - Cognitive behavioral therapy[26]
        - Consists of 12 to 16 sessions and may be in an individual or group format
            - May also be provided through a computer or mobile device facilitated by a therapist (internet-based cognitive behavioral therapy)
                - Some data suggest computer delivery is as effective as in-person delivery and may be indicated for patients for whom in-person interventions are not possible or declined[5]
                - Expert opinion is divided owing to concerns of substantial selection bias in trials
        - Focuses on the relationship among the patient's thoughts, feelings, and behaviors with the goal of helping the patient maintain a sense of control and reducing avoidance behaviors
        - May include exposure to trauma narrative or reminders of the trauma and psychoeducation about how trauma may affect a person; may also include stress management techniques
    - Brief eclectic psychotherapy[27]
        - Focuses on changing the patient's emotions to reduce shame and guilt and emphasizes the patient-therapist relationship
        - Consists of 16 weekly sessions for 45 minutes to 1 hour each
            - Therapy is initiated with psychoeducation and rationale for the therapy
            - First several sessions are focused on getting the patient to talk about the event in the present while being taught relaxation exercises
            - Final sessions are focused on exploring how the event has affected the patient and what can be learned from it
    - Narrative exposure therapy[28]
        - Based on the patient establishing a chronologic narrative of his or her life focusing on the traumatic event, but including positive experiences to contextualize the memories of the trauma
        - Therapist concludes therapy by presenting the patient with a written biography of his or her life
        - Often used in community settings or for individuals who experience a trauma related to political, cultural, or social forces[28]
- Comorbidities
    - Sleep disturbances
        - Present in nearly all veterans with posttraumatic stress disorder[5]

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  - For patients with posttraumatic stress disorder and insomnia, cognitive behavioral therapy for insomnia should be considered first line treatment, with medication considered a second line intervention [5]
  - Data are inconclusive for recommending a specific treatment for nightmares [5]
- Substance use disorders
  - Patients with posttraumatic stress disorder and a substance use disorder (including nicotine/tobacco use disorder) can both tolerate and benefit from concurrent treatment for both conditions [5]
  - Presence of a substance use disorder should not prevent concurrent treatment with evidence-based, trauma-focused therapy for posttraumatic stress disorder [5]
  - Combining medications and psychotherapy may be an effective strategy for treating posttraumatic stress disorder and a co-occurring substance use disorder [5]
- Other mental disorders, including depression and anxiety disorders
  - Patients are 80% more likely to have another mental disorder compared with those without posttraumatic stress disorder; patients should be screened for these [1]
- Traumatic brain injury
  - Among veterans deployed to the wars in Afghanistan and Iraq, co-occurrence of traumatic brain injury is 48% [1]

- Special populations
- Older individuals
  - Symptoms of disease may be exacerbated in this population by declining health, decreasing cognitive function, and social isolation [1]
  - Older adults may be reluctant to report traumatic events or admit to emotional or psychological problems

MONITORING

- Monitor patient status throughout treatment
- Monitor for appearance of, or changes in, destructive impulses toward self or other [4]
  - For those with increased destructive impulses, consider inpatient care or more intensive treatment
- Monitor treatment success
  - PTSD Checklist for *DSM-5* (PCL-5) can be used for this purpose
    - 5- to 10-point change suggests reliable change after treatment has begun [11]
  - Reevaluate the treatment plan if patient develops new symptoms, there is significant deterioration in functional status, or the condition does not respond to treatment for long periods of time [4]

COMPLICATIONS AND PROGNOSIS

COMPLICATIONS

- Children and adolescents
- Problems in school or with peer relationships owing to irritable and/or aggressive behavior [1]
- Injury to self or others owing to reckless behavior

- Adults
- Social, occupational, or physical disability [1]
  - Patients may lose their jobs owing to interference of symptoms with daily work or because of an inability to cope with reminders of the traumatic event(s) that they may face at work
  - Work absenteeism [1]
  - Poor social relationships and family relationships, including social withdrawal
- Secondary psychological disorders, such as:
  - Substance use disorders (eg, alcohol, drugs, nicotine), potentially leading to dependence
  - Depression
  - Panic disorder
- Suicidal ideation and risk for suicide attempts [1]
  - When assessing the patient, it is important to evaluate the risk for suicide, including extent of planning for suicide, lethality of considered methods, and means for suicide [4]
  - Individuals who suffered childhood abuse may self-harm without the intention of suicide [4]
  - Suicide risk is greater in patients with comorbid depression, substance use, panic attacks, and severe anxiety [4]
- Higher risk of somatization, chronic pain, and poor physical health

PROGNOSIS

- Duration of symptoms varies, with approximately 50% of patients recovering fully within 3 months, whereas others may experience symptoms for many years [1]
- Symptoms may recur with reminders of the original trauma or in other stressful circumstances [1]
- Interpersonal and intentional trauma (eg, torture, sexual assault) are associated with more severe or long-lasting disease [1]

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- Whereas psychotherapy is associated with symptom stabilization or improvement after completion of treatment, discontinuation of selective serotonin reuptake inhibitors typically causes relapse, regardless of the length of treatment[6]
- Sudden relapses may occur, even in individuals previously determined to have a stable and positive clinical response to therapy; this is often due to events that reactivate traumatic concerns[4]

SCREENING AND PREVENTION

SCREENING

- At-risk populations
  - Because of the availability of sound screening measures and the potential benefits of early identification of posttraumatic stress disorder, the US Department of Veterans Affairs and Department of Defense recommend screening after separation from military service and during deployment[5]
    - Department of Veterans Affairs recommends annual screening for the first 5 years after separation from service and every 5 years after that
    - Department of Defense recommends routine screening throughout cycles of deployment
    - A single screening is not recommended, because the disorder can have a fluctuating course, with delayed onset and periods of remission and recurrence
    - No screening method should be the sole basis for diagnosis; a more structured assessment is required
- Screening tests
  - Primary Care PTSD Screen for *DSM-5* (PC-PTSD-5)[10,17]
    - 5-item questionnaire with "yes"/"no" responses[17]
      - Have you ever experienced an especially frightening, horrible, or traumatic event; for example, a serious accident or fire, a physical or sexual assault or abuse, an earthquake or flood, a war, seeing someone be killed or seriously injured, or having a loved one die through homicide or suicide?
        - If the patient answers "yes," move on; if "no," then the test result is negative
      - In the past month, have you:
        - 1. Had nightmares about the event(s) or thought about the event(s) when you did not want to?
        - 2. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
        - 3. Been constantly on guard, watchful, or easily startled?
        - 4. Felt numb or detached from others, activities, or your surroundings?
        - 5. Felt guilty or unable to stop blaming yourself or others for the event(s) or any problems the event(s) may have caused?
      - Test result is positive if the patient answers "yes" to any 3 questions
        - Optimal sensitivity is reached if a 3-question cutoff is used
        - Optimal efficiency of the test is reached if a 4-question cutoff is used
  - PTSD Checklist for *DSM-5* (PCL-5)[29]
    - 20-item questionnaire
      - Questions:
        - In the past month, how much were you bothered by:
          - 1. Repeated, disturbing, and unwanted memories of the stressful experience?
          - 2. Repeated, disturbing dreams of the stressful experience?
          - 3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?
          - 4. Feeling very upset when something reminded you of the stressful experience?
          - 5. Having strong physical reactions when something reminded you of the stressful experience (eg, heart pounding, trouble breathing, sweating)?
          - 6. Avoiding memories, thoughts, or feelings related to the stressful experience?
          - 7. Avoiding external reminders of the stressful experience (eg, people, places, conversations, activities, objects, situations)?
          - 8. Trouble remembering important parts of the stressful experience?
          - 9. Having strong negative beliefs about yourself, other people, or the world (eg, "I am bad," "there is something seriously wrong with me," "no one can be trusted," "the world is completely dangerous")?
          - 10. Blaming yourself or someone else for the stressful experience or what happened after it?
          - 11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?
          - 12. Loss of interest in activities that you used to enjoy?
          - 13. Feeling distant or cut off from other people?
          - 14. Trouble experiencing positive feelings (eg, being unable to feel happiness or have loving feelings for people close to you)?
          - 15. Irritable behavior, angry outbursts, or acting aggressively?

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- 16. Taking too many risks or doing things that could cause you harm?
- 17. Being "superalert," watchful, or on guard?
- 18. Feeling jumpy or easily startled?
- 19. Having difficulty concentrating?
- 20. Trouble falling or staying asleep?

- Scoring
  - 0 = not at all
  - 1 = a little bit
  - 2 = moderately
  - 3 = quite a bit
  - 4 = extremely
  - An overall score of 33 correlates well with the *DSM-IV* and *DSM-5* diagnostic criteria; a score of 38 is considered to be more specific[5]

PREVENTION

- There are no prevention strategies for the general population
- Selective prevention in the immediate posttrauma period
  - Limited evidence that trauma-focused psychotherapy in the emergency department within hours of trauma exposure may be beneficial[30]
  - For life-threatening medical traumas, hydrocortisone administration is associated with significantly less posttraumatic stress disorder and depression symptoms at 3 months; these findings may not be generalizable to nonmedical trauma events[31, 32, 5]
- Indicated prevention is geared towards individuals who have been exposed to trauma and ***have*** developed symptoms of acute stress disorder but have not (yet) developed posttraumatic stress disorder
  - Brief trauma-focused psychotherapy is effective in reducing incidence of posttraumatic stress disorder at 6 and 12 months[33, 34]
  - Treatment with escitalopram was not effective in preventing posttraumatic stress disorder[35, 36]

SYNOPSIS

KEY POINTS

- Risk factors for posttraumatic stress disorder include occupational exposure to trauma (eg, military personnel, firefighters, police officers); threatened or actual physical or sexual assault; being kidnapped or held hostage, a prisoner of war, or tortured; experiencing natural or man-made disaster, a severe motor vehicle crash, or a sudden medical catastrophic event; or witnessing a very stressful or traumatic event
- *DSM-5* criteria for diagnosis require exposure to a qualifying traumatic event followed by the onset of symptoms lasting longer than 1 month that interfere with social or occupational functioning; these symptoms are of 4 types:[1]
  - Intrusion symptoms (eg, reexperiencing the trauma via thoughts, dreams, or flashbacks)
  - Persistent avoidance of trauma-related stimuli
  - Negative changes in cognitions and mood
  - Heightened levels of arousal and reactivity
- When suspected based on patient history, primary care clinicians can identify probable posttraumatic stress disorder with a validated screening questionnaire, such as PC-PTSD-5 (Primary Care PTSD Screen for *DSM-5*). Ideally, the diagnosis is confirmed by a psychologist or psychiatrist, often aided by a semistructured interviewing tool[15, 14]
- First line treatment is a trauma-focused psychotherapy; evidence-based therapeutic modalities include prolonged exposure therapy, cognitive processing therapy, and eye movement desensitization and reprocessing[5, 20]
- If the patient prefers, a serotonin reuptake inhibitor or venlafaxine may be an effective alternative, although it may be less effective than psychotherapy and may result in relapse when discontinued[22, 21, 18]
- Comorbid conditions and posttraumatic stress disorder complications can cause significant distress. These include substance abuse disorder, sleep difficulties, depression, anxiety, and social and occupational dysfunction[1]
- Prognosis varies; many patients recover within months while some have symptoms that persist for years. Relapses may occur with reminders of the traumatic event or other life stressors[1]

PITFALLS

- Patients with symptoms of posttraumatic stress disorder may never have connected their symptoms to a traumatic incident, particularly if the trauma occurred many years before, thus making it difficult to diagnose
- Older adults may be reluctant to report traumatic events or admit to emotional or psychological problems

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