

### What is posttraumatic stress disorder (PTSD) and who is at risk?

Combat, sexual assault, and surviving a natural disaster or an attack are examples of traumatic psychological events that can cause PTSD. These severely traumatic events often have a direct physical impact on a person's safety. Veterans who have been injured in combat are at high risk for PTSD because they have sustained a direct injury in a violent setting. Survivors of rape have experienced physical and emotional trauma which is associated with very high rates of posttraumatic responses.

These events can be a single occurrence in a person's lifetime or occur repeatedly, such as ongoing physical abuse or an extended or repeated tour of duty in a war zone. The severity of traumatic events and duration of exposure are critical risk factors for the risk of developing PTSD.

### What happens when we are involved in a traumatic event?

Humans have a set of adaptive, life-saving responses in times of stress. During the "fight or flight" response when faced with terror, less critical body functions (e.g., the parts of the brain where memory, emotion and thinking are processed) get "turned off" while the body prioritizes immediate physical safety. As a result, the traumatic experiences are not integrated. Unprocessed feelings associated with the terror and memories of the trauma can appear unexpectedly and unpredictably, causing complex problems. People living with PTSD may experience abnormal responses to the normal flow of emotion such as the following:

- **Hypoarousal** is a numbness and avoidance of events or feelings that represent self-protective efforts by the brain to keep overwhelming feelings under control.
- **Hyperarousal** is a heightened "startle response" to triggers seen as threatening. This state is an attempt to prevent a repeat traumatic experience.

These states demonstrate the difficulty people living with PTSD have in regulating their emotional and physical responses. Brain imaging studies show that these psychological problems are biologically controlled. The area of the brain involved in emotional processing (hippocampus) is reduced in size, the brain's "alarm system" (amygdala) is over-reactive, and its integration system (prefrontal cortex) is under-reactive.

### How is PTSD diagnosed?

The *DSM-V* criteria for identifying PTSD requires that symptoms must be active for more than one month after the trauma and associated with a decline in social, occupational or other important area of functioning. The three broad symptom clusters can be summarized as follows:

- 1. Persistent Re-experiencing.** A person experiences one or more of the following: recurrent nightmares or flashbacks, recurrent images or memories of the event, intense distress at reminders of trauma, or physical reactions to triggers that symbolize or resemble the event.
- 2. Avoidant/Numbness Responses.** A person experiences three or more of the following: efforts to avoid feelings or triggers associated with the trauma; avoidance of activities, places or people that remind the person of the trauma; inability to recall an important aspect of the trauma; feelings of detachment or estrangement from others; restricted range of feelings; or difficulty thinking about the long-term future.
- 3. Increased Arousal.** A person experiences two or more of the following: difficulty falling asleep or staying asleep, outbursts of anger/irritability, difficulty concentrating, increased vigilance that may be maladaptive, or exaggerated startle responses.

### What are the treatment options for coping with PTSD and achieving recovery?

Treatment strategies should be customized to the individual's needs and preferences. The stage of recovery is important because interventions that are useful immediately after a trauma may not be appropriate years later.

- Psychological first aid includes support and compassion and is critical immediately after the traumatic event.
- Medications can play a role in reducing symptom intensity but are usually not enough alone.
- Avoidance of use of substances to attempt to moderate the experience is important.
- Psychotherapy that includes structured interventions and is very supportive seems to work best for people with PTSD:
  - Cognitive behavior therapy (CBT) employs tailored exposure to the traumatic event by increasing tolerance and gradually reducing anxiety and symptoms.
  - Exposure therapy and eye movement desensitization and reprocessing (EMDR) may also be useful for some people.
  - Group therapy with other survivors of trauma is supportive and uplifting.
  - Service dogs are becoming increasingly common, especially for veterans.

*Reviewed by Ken Duckworth, M.D., April 2013*