

# Post-Traumatic Stress Disorder

Post-traumatic stress disorder (PTSD) is an anxiety disorder that can develop after exposure to a terrifying event or ordeal in which grave physical harm occurred or was threatened. Traumatic events that can trigger PTSD include violent personal assaults such as rape or mugging, natural or human-caused disasters, accidents, or military combat. PTSD can be extremely disabling.

Military troops who served in the Vietnam and Gulf Wars; rescue workers involved in the aftermath of disasters like the terrorist attacks on New York City and Washington, DC; survivors of the Oklahoma City bombing; survivors of accidents, rape, physical and sexual abuse, and other crimes; immigrants fleeing violence in their countries; survivors of the 1994 California earthquake, the 1997 North and South Dakota floods, and hurricanes Hugo and Andrew; and people who witness traumatic events are among those at risk for developing PTSD. Families of victims can also develop the disorder.

Fortunately, through research supported by the National Institute of Mental Health (NIMH) and the Department of Veterans Affairs (VA), effective treatments have been developed to help people with PTSD. Research is also helping scientists better understand the condition and how it affects the brain and the rest of the body.

## What Are the Symptoms of PTSD?

Many people with PTSD repeatedly re-experience the ordeal in the form of flashback episodes, memories, nightmares, or frightening thoughts, especially when they are exposed to events or objects reminiscent of the trauma. Anniversaries of the event can also trigger symptoms. People with PTSD also experience emotional numbness and sleep disturbances, depression, anxiety, and irritability or outbursts of anger. Feelings of intense guilt are also common. Most people with PTSD try to avoid any reminders or thoughts of the ordeal. PTSD is diagnosed when symptoms last more than 1 month.

## How Common Is PTSD?

About 3.6 percent of U.S. adults ages 18 to 54 (5.2 million people) have PTSD during the course of a given year. About 30 percent of the men and women who have spent time in war zones experience PTSD. One million war veterans developed PTSD after serving in Vietnam. PTSD has also been detected among veterans of the Persian Gulf War, with some estimates running as high as 8 percent.

## When Does PTSD First Occur?

PTSD can develop at any age, including in childhood. Symptoms typically begin within 3 months of a traumatic event, although

occasionally they do not begin until years later. Once PTSD occurs, the severity and duration of the illness varies. Some people recover within 6 months, while others suffer much longer.

## What Treatments Are Available for PTSD?

Research has demonstrated the effectiveness of cognitive-behavioral therapy, group therapy, and exposure therapy, in which the patient gradually and repeatedly relives the frightening experience under controlled conditions to help him or her work through the trauma. Studies have also shown that medications help ease associated symptoms of depression and anxiety and help promote sleep. Scientists are attempting to determine which treatments work best for which type of trauma.

Some studies show that giving people an opportunity to talk about their experiences very soon after a catastrophic event may reduce some of the symptoms of PTSD. A study of 12,000 schoolchildren who lived through a hurricane in Hawaii found that those who got counseling early on were doing much better 2 years later than those who did not.

## Do Other Illnesses Tend to Accompany PTSD?

Co-occurring depression, alcohol or other substance abuse, or another anxiety disorder are not uncommon. The likelihood of treatment success is increased when these other conditions are appropriately identified and treated as well.

Headaches, gastrointestinal complaints, immune system problems, dizziness, chest pain, or discomfort in other parts of the body are common. Often, doctors treat the symptoms without being aware that they

stem from PTSD. NIMH encourages primary care providers to ask patients about experiences with violence, recent losses, and traumatic events, especially if symptoms keep recurring. When PTSD is diagnosed, referral to a mental health professional who has had experience treating people with the disorder is recommended.

## Who Is Most Likely to Develop PTSD?

People who have suffered abuse as children or who have had other previous traumatic experiences are more likely to develop the disorder. Research is continuing to pinpoint other factors that may lead to PTSD.

It used to be believed that people who tend to be emotionally numb after a trauma were showing a healthy response, but now some researchers suspect that people who experience this emotional distancing may be more prone to PTSD.

## What Are Scientists Learning From Research?

NIMH and the VA sponsor a wide range of basic, clinical, and genetic studies of PTSD. In addition, NIMH has a special funding mechanism, called RAPID Grants, that allows researchers to immediately visit the scenes of disasters, such as plane crashes or floods and hurricanes, to study the acute effects of the event and the effectiveness of early intervention.

Studies in animals and humans have focused on pinpointing the specific brain areas and circuits involved in anxiety and fear, which are important for understanding anxiety disorders such as PTSD. Fear, an emotion that evolved to deal with danger, causes an automatic, rapid protective

response in many systems for the body. It has been found that the body's fear response is coordinated by a small structure deep inside the brain, called the amygdala. The amygdala, although relatively small, is a very complicated structure, and recent research suggests that different anxiety disorders may be associated with abnormal activation of the amygdala.

The following are also recent research findings:

- In brain imaging studies, researchers have found that the hippocampus—a part of the brain critical to emotion—appears to be different in cases of PTSD. Scientists are investigating whether this is related to short-term memory problems. Changes in the hippocampus are thought to be responsible for intrusive memories and flashbacks that occur in people with this disorder.
- People with PTSD tend to have abnormal levels of key hormones involved in response to stress. Some studies have shown that cortisol levels are lower than normal and epinephrine and norepinephrine are higher than normal.
- When people are in danger, they produce high levels of natural opiates, which can temporarily mask pain. Scientists have found that people with PTSD continue to produce those higher levels even after the danger has passed; this may lead to the blunted emotions associated with the condition.

- Research to understand the neurotransmitter system involved in memories of emotionally charged events may lead to discovery of medications or psychosocial interventions that, if given early, could block the development of PTSD symptoms.



**For more information about post-traumatic stress disorder and other anxiety disorders, contact:**

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For additional information on PTSD,  
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