

## Post-traumatic Stress Disorder (PTSD)

Post-traumatic stress disorder (PTSD) is an extremely debilitating condition that can occur after exposure to a terrifying event or ordeal in which grave physical harm occurred or was threatened. Traumatic events that can trigger PTSD include military combat; violent personal assaults such as rape or mugging; natural or human-caused disasters such as the terrorist attacks of September 11; or accidents.

People who develop PTSD include military troops involved in combat; rescue workers; survivors of accidents, rape, physical and sexual abuse, and other crimes; immigrants fleeing violence in their countries; survivors of natural disasters; and people who witness traumatic events. 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. Particularly in a time of war, it is important for people to be aware of the causes and symptoms of post-traumatic stress disorder to ensure that they and their loved ones are getting counseling and support if needed.

### Symptoms

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 angry outbursts. Feelings of 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 one month.

### Prevalence

At least 3.6 percent of U.S. adults (5.2 million Americans) have PTSD during the course of a 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.

### Onset

PTSD can develop at any age, including in childhood. Symptoms typically begin within three 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 six months, while others may not do so for much longer.

### Treatments

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

# What You Need to Know...



## Co-occurring Illnesses

Depression, alcohol or other substance abuse, or anxiety disorders are not uncommon co-occurrences for people with PTSD. The likelihood of treatment success is increased when these other conditions are appropriately diagnosed and treated as well. Headaches, gastrointestinal complaints, immune system problems, dizziness, chest pain, or discomfort in other parts of the body are also common. Often, doctors treat the symptoms without being aware that they stem from PTSD. The National Institute of Mental Health (NIMH), encourages primary care providers to ask patients about experiences with violence, recent losses and traumatic events, especially if symptoms are recurring. When PTSD is diagnosed, referral to a mental health professional who has had experience treating people with the disorder is recommended.

## Likelihood of Developing PTSD

People who have been abused 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.

## Research

NIMH and the Veterans Administration sponsor a wide range of basic, clinical and genetic studies of PTSD. In addition, NIMH has a special funding mechanism, called RAPID Grants, which 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.

Research has shown that PTSD clearly alters a number of fundamental brain mechanisms. Because of this, abnormalities have been detected in brain chemicals that mediate coping behavior, learning and memory among people with the disorder. Recent brain imaging studies have detected altered metabolism and blood flow as well as anatomical changes in people with PTSD.

## The following are also recent research findings:

- Some studies show that debriefing people 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 quickly were doing much better two years later than those who did not.
- People with PTSD tend to have abnormal levels of key hormones involved in response to stress. Cortisol levels are lower than normal, and epinephrine and norepinephrine are higher than normal. Scientists have also found that people with this condition have alterations in the function of the thyroid and in neurotransmitter activity involving serotonin and opiates.
- 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.
- It used to be believed that people who tend to dissociate themselves from a trauma were showing a healthy response, but now some researchers suspect that people who experience dissociation may be more prone to PTSD.
- Animal studies show that the hippocampus -- a part of the brain critical to emotion-laden memories -- appears to be smaller in cases of PTSD. Brain imaging studies indicate similar findings in humans. Scientists are investigating whether this is related to short-term memory

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problems. Changes in the hippocampus are thought to be responsible for intrusive memories and flashbacks that occur in people with this disorder.

- Research to understand the neurotransmitter system involved in memories of emotionally charged events may lead to discovery of drugs that, if given early, could block the development of PTSD symptoms.
- Levels of CRF, or corticotropin releasing factor—the ignition switch in the human stress response—seem to be elevated in people with PTSD, which may account for the tendency to be easily startled. Because of this finding, scientists now want to determine whether drugs that reduce CRF activity are useful in treating the disorder.

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