Post-traumatic Stress Disorder

Stress is a feature of everyday life. Definitions vary but, in essence, it is the autonomic ‘alarm’ response to perceived threat in the environment, involving heightened arousal, adrenaline (epinephrine) production facilitating short-term ‘fight-or-flight’ resistance, followed by physical and mental exhaustion. Stress is commonly understood as a mismatch between the external demands on an individual and their ability to cope. Many attribute their physical illness to it, from headache to cancer.

Individuals vary in their resilience to stress. Some actively search for and thrive in stressful environments, seeking out extreme sports or highly demanding careers. Others shun it and ‘stress’ at work often means an inability to cope, leading to unhappiness, absenteeism and actual illness. Life events such as bereavement, divorce and unemployment are all important ‘stressors’ and may have consequences for mental health but it is important not to ‘medicalise’ normal adjustment reactions to these types of events. Post-traumatic stress disorder (PTSD) has a different magnitude and develops in response to stress of a severe and abnormal nature.

The National Institute for Health and Care Excellence (NICE) highlights the difference: [1]

PTSD develops following a stressful event or situation of an exceptionally threatening or catastrophic nature, which is likely to cause pervasive distress in almost anyone. PTSD does not therefore develop following those upsetting situations that are described as ‘traumatic’ in everyday language - for example, divorce, loss of job or failing an exam.

PTSD was recognised in the First World War in men who had been subjected to prolonged and intensive bombardment including gas attacks. It was called ‘shell shock’ and many soldiers on both sides were discharged to a pitiful existence with severe psychiatric problems. It was poorly managed and misunderstood and, in some instances, afflicted soldiers were executed as ‘deserters’.

It was not until 1980, following the traumas of the Vietnam War, that the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) recognised PTSD formally as a medical entity. Combat exposure increases the risk of PTSD by approximately three-fold compared to non-deployed troops but PTSD is not exclusive to military or civilian populations exposed to warfare and can be caused by a multiplicity of traumatic events. [2]

Research suggests that the neurobiology of PTSD involves the autonomic system and the hypothalamic-pituitary-adrenal axis and that noradrenaline (norepinephrine) is the main neurotransmitter involved in this pathway. [3] Reconsolidation - the means by which the brain reconstructs memories and associated emotional responses - appears to be an important process in the development of PTSD. [4] An understanding in the underlying neurophysiology of PTSD opens up possibilities for novel treatments of this condition.

Epidemiology

One study of UK armed forces personnel deployed to Afghanistan found that 2.8% were classified as having probable PTSD in 2010 and 1.8% in 2011. [5] A household survey of UK adults estimated a prevalence of 2.6% in men and 3.3% in women. [6]

Risk factors [7]

- Usually the precipitating event is, or is perceived as, life-threatening. Examples include serious accidents, hostage taking, natural disasters, terrorist incidents and violent assault. However, it can also result from sexual assault, following rape or child sexual abuse. The trauma can also be ongoing such as domestic violence, recurring sexual abuse or systematic abuse by a rogue regime.
- Refugees and asylum seekers are likely to have experienced the sort of trauma that would predispose to PTSD and are at much higher risk than the general population in their new countries of settlement. [8]
- First responders - eg, police, ambulance personnel - are by definition more likely to be exposed to traumatic events.. The fact that they have selected such an occupation suggests some inherent resilience. Amongst the military, risk factors for PTSD include: [9]
  - Duration of combat exposure.
  - Low morale.
  - Poor social support.
  - Lower rank.
  - Unmarried.
  - Low educational attainment.
  - History of childhood adversity.
- A history of previous psychiatric disorders increases the risk of PTSD.
- One study found that females were as much as twice as likely to develop PTSD as men were - the degree of gender difference, however, depending on the circumstances. Women were more vulnerable to PTSD after disasters and accidents, followed by loss and non-malignant diseases. In violence and chronic disease, the gender differences were smallest. [10]
- Approximately 1-2% of women have PTSD postnatally. [11]
History

Recognition is often a challenge:

- Many people are denied treatment for PTSD because the condition is unrecognised. If a patient presents with PTSD symptoms, depression, drug or alcohol misuse or anger, make sensitive enquiry about traumatic experiences in the past. Make similar enquiries of frequent attenders with unexplained physical symptoms.
- Ask children directly about their experiences.
- Comorbidities are common - eg, depression, anxiety, substance abuse.
- Although the problem starts soon after the event, in 85% it may present later so that the relationship with the event is less obvious, especially if features are less specific, such as anxiety, depression, insomnia or hypochondria with frequent attendance.
- It may be necessary to distinguish PTSD from traumatic or complicated grief reactions that may develop a year or more after a bereavement, with symptoms of intense, intrusive thoughts, pangs of severe emotion, distressing yearnings, feeling excessively alone and empty, excessively avoiding tasks associated with the deceased, unusual sleep disturbances and loss of interest in personal activities. The two conditions can, of course, co-exist.\[12\]

PTSD symptoms fall into three categories.\[1\]

Re-experiencing

- Flashbacks where it seems as if the event were happening again.
- Nightmares, which are common and repetitive.
- Distressing images or other sensory impressions from the event, which intrude during the waking day.
- Reminders of the traumatic event provoke distress.

Avoidance or rumination

Those with PTSD avoid reminders of the trauma, such as people, situations or circumstances resembling the event or associated with it. They may try to suppress memories or avoid thinking about the worst aspects. Many others ruminate excessively and prevent themselves from coming to terms with the experience.

- Why did it happen to me?
- Could it have been prevented?
- How can I take revenge?
Hyperarousal or emotional numbing
This may manifest as:

- Hypervigilance for threat.
- Exaggerated startle responses.
- Irritability.
- Difficulty concentrating.
- Sleep problems.
- Difficulty experiencing emotions.
- Feeling of detachment from others.
- Giving up previously significant activities.
- Amnesia for salient aspects of the trauma.

Children
Developmentally, children may have more limited verbal skills and different means of reacting to stress compared to adults and thus will present differently with PTSD. Alternative criteria have been suggested for the diagnosis of PTSD in children. In children and adolescents, it has been suggested that Avoidance symptoms are more diagnostically significant than Re-experience and Arousal. Guilt may be a significant symptom associated with trauma-exposed youth. Children may re-enact the traumatic experience with joyless repetitive play or have frightening dreams without recognisable content, sometimes presenting as sleep disturbance. They may have other behavioural problems.

Time of onset
Usually the disorder strikes soon after the event but in a small minority it may be delayed. Delayed onset greater than a year post-trauma is thought to be very rare. After the Vietnam War, onset of symptoms occurred within six years and onset of awareness of PTSD within 20 years in 90% of individuals.

Cultural modification
There are cultural expectations that predispose an individual’s response to trauma. All modern wars have been associated with a syndrome characterised by medically unexplained symptoms. The form that these assume, the terms used to describe them and the explanations offered by servicemen and doctors seem to be influenced by advances in medical science, changes in the nature of warfare and underlying cultural forces.

Screening
Screening for PTSD is of value. A voice-based automated system has been developed with a detection accuracy of 95.88%. Only those at high risk should be screened; for example:

- After a major disaster, consideration should be given to the routine use of a brief screening instrument for PTSD, at one month after the disaster, to identify those most at risk of PTSD.
- Refugees and asylum seekers at high risk of developing PTSD should be given a brief screening instrument for PTSD as part of the initial refugee healthcare assessment. This should be a part of any comprehensive physical and mental health screen.

Differential diagnosis

- Depression.
- Specific phobias.
- Acute stress reaction.
- Adjustment disorders.
- Personality disorders.
- Enduring personality change after catastrophic experience.
- Dissociative disorders.
- Neurological injury or disease.
- Psychosis.
- Complicated grief reaction.
- Malingering.

Management
Much more detail about the nature of various types of management, including psychological therapies, can be found in the NICE full guidelines.

General principles

- Single-session interventions, often referred to as debriefing, immediately after the event, have been deemed at best ineffective and at worst harmful in the treatment of PTSD. However, some authorities argue that such sessions may be of value when used in selected groups. A Cochrane review found the evidence for debriefing sessions after childbirth to be equivocal with respect to preventing psychological trauma including PTSD.
- If symptoms are mild and the event was less than a month previously, watchful waiting is appropriate.
- For those with severe symptoms in the first month, trauma-focused cognitive behavioural therapy (TF-CBT) should be offered. See separate Cognitive and Behavioural Therapies article.
The evidence from one study which reviewed the effectiveness of CBT delivered in a group setting to patients experiencing postnatal depression was equivocal. However, a recent Cochrane meta-analysis looking at a wider range of patients supported its use.

Alternative psychological treatments to TF-CBT include eye movement desensitisation and reprocessing (EMDR) and stress management. EMDR may be better than TF-CBT for patients with intrusion or arousal symptoms. Non-trauma-focused interventions such as relaxation or non-directive therapy, that do not address traumatic memories, should not routinely be offered to people who present with PTSD symptoms within three months of a traumatic event. Comorbid conditions such as depression, general anxiety or alcohol or substance misuse are often secondary to the PTSD. The PTSD should be treated first and then the comorbid condition, especially depression, will usually improve. However, if the comorbid condition is sufficiently severe to interfere with treatment of the PTSD, it should take precedence in treatment.

**EMDR therapy**

CBT is discussed in its own article but EMDR requires more explanation. It is an integrative psychotherapy approach with a set of standardised protocols, principles and procedures. One technique uses eye movements to help the brain process traumatic events, although this is only one part of the entire therapy. The goal of EMDR is to reduce distress in the shortest period of time. It should only be conducted by an appropriately trained therapist.

**Children**

- There is evidence for the effectiveness of psychological therapies, particularly CBT, for treating PTSD in children and adolescents. At this stage, there is no clear evidence for the effectiveness of one psychological therapy compared to others.
- NICE concludes that there is currently no good evidence for widely used treatments such as play therapy, art therapy, or family therapy for PTSD.

**Drug treatment**

- Drug treatment is considered second-line and should not be used in preference to psychological therapy.
- NICE says paroxetine and mirtazepine may be considered as potential treatments for PTSD but evidence for the effectiveness of other drugs is lacking.
- Hypnotics may be considered to help insomnia but they should not be used for more than a month and, if required for longer, should be replaced by an antidepressant.
- Clonidine has recently been explored as a potential treatment. It is thought to act by blocking the reconsolidation process.

**Procedures**

Stellate ganglion block has in the last few years been used for the treatment of PTSD. The rationale for this treatment is a reduction in the action of adrenaline (epinephrine), the main neurotransmitter associated with fear conditioning. One study of its use in the treatment of severe treatment-refractory post-combat PTSD found it safe and effective.

**Complications**

Those with PTSD are more likely to abuse drugs or alcohol and to have medical problems with general medical conditions, musculoskeletal pain, cardiopulmonary symptoms and their gastrointestinal health. There is an association with cardiovascular disease and PTSD in older patients.

**Prognosis**

- A substantial proportion of those who experience serious trauma will develop some features of PTSD but 80-90% will recover spontaneously.
- Symptoms may still be present many years after the event. One study found that people exposed to war-related trauma were at a high risk of having PTSD symptoms a decade later if no treatment was initiated.
- The severity of symptoms two weeks after trauma is a good predictor of the degree of severity at six months.
- The benefit from treatment does not decline with the lapse of time since the traumatic event.

**Prevention**

We cannot eliminate risk, fear and unpleasant events and most of us will experience at least one major trauma in our lives. Traditional ‘Health and Safety’ approaches to risk management, which attempt to reduce exposure, have not been successful and may actually increase risk aversion and reduce resilience. People are not intrinsically risk-averse, provided they can see purpose in accepting risk. Exposure to risk is not inevitably harmful. Claims for compensation delay recovery. Culturally, we need to respect courage and resilience but not to stigmatise breakdown. PTSD is not just a medical but a social and political issue too.

There is some evidence that cortisol given within the first few hours after a traumatic event (the ‘golden hours’) may have a prophylactic effect on the subsequent development of PTSD. However, uncertainties about its exact role and reports that it can increase the risk of emotional memory means that it cannot be recommended as standard preventative treatment at the moment.

**Further reading & references**


