

Understanding Trauma Reactions

Traumatic events and unexpected crises (such as car accidents, medical emergencies, acts of violence, and natural disasters) happen to most of us at some point in our lives.

When these types of events occur, they activate our natural threat-response system and we go into high-alert. As soon as we recognize threat (which can happen before we're even logically "aware" of what we're seeing or experiencing) our body and brain trigger a series biochemical reactions.

The stress chemicals released cause physical and mental reactions that are designed to protect us and help us handle the threat. Some of those reactions include:

- ✓ **Our heart rate increases:** This sends blood more quickly around our body to prepare us to take action—to meet the threat by fight or run away (this is where the phrase "fight or flight reactions" comes from).
- ✓ **Our breathing rate increases and small airways in our lungs open wide:** This way our lungs can take in as much oxygen as possible with each breath. Extra oxygen is also sent to the brain, increasing alertness.
- ✓ **Our blood sugar and blood pressure increase, and more blood is sent to our brain and muscles:** This all helps fuel our brain and muscles and prepare us for action.
- ✓ **Our digestive process slows down:** Digesting food is a non-critical function when we are under threat so the body puts that job on pause.
- ✓ **Our pre-frontal cortex goes "offline":** Our prefrontal cortex (which is responsible for critical and logical thinking, planning, decision-making, and other executive functions) goes "offline". This part of our brain usually functions as "Captain of the ship". However, the stress chemicals released when we perceive a strong threat cue our amygdala (the home of our emotional reactions) to temporarily assume control and take action to keep us safe. This is why it's very difficult to focus and think clearly when we're under extreme stress.
- ✓ **Our brain changes the way it records and stores memories:** Stress response chemicals also stimulate the hippocampus—the part of our brain responsible for converting sensory experience into enduring memory. This drastically alters the memory function of the brain, recording vivid sensory details related to the threat and to possible escape, while filtering out other information not directly related to the threat.

This stress response process is designed to protect us when we feel threatened. It does a very good job at that, especially when we face physical threats. However, because of all the automatic reactions that take place in response to stress chemicals, it's extremely common for people to experience a wide range of emotional and physical symptoms of stress during and after traumatic events. Experiencing these sorts of reactions often doesn't feel very good. In fact, it can feel very uncomfortable, intense, frightening, and even overwhelming.

Trauma and stress reactions may appear immediately after the event or some time later. They may last for a few days, a few weeks, or even longer. The table below shares some common trauma and stress reactions.

Body	Brain	Behavior	Beliefs
Nausea/Diarrhea and other stomach upsets	Feeling sensitive or very emotional	Withdrawing from friends and family	Guilt and/or survivor guilt
Shallow breathing	Feeling anxious or depressed	Changes from typical behavior	Feeling hopeless
Muscle twitches and sore muscles	Excessive worry about others	Emotional outbursts, loss of control	Feeling helpless
Dizziness/faintness	Feeling numb	Avoiding thoughts, feelings or situations related to the event	Feeling suspicious
Chills/sweating	Feeling irritable and angry	Changes in communication	Questions about the meaning of life
Easily startled/jittery	Confusion & memory problems	Change in sexual function	Questions about the existence or nature of God
Fatigue	Difficulty concentrating, making decisions, and paying attention	Increased consumption of alcohol or other chemicals	Questions about why people suffer
Changes in appetite	Preoccupation with the event	Loss or increase of appetite	Questions about why bad things happen to good people
Sleep disturbances and nightmares	Flashbacks	Inability to rest	
Headaches			
Grinding teeth			
Feeling uncoordinated			

If you are experiencing some of these reactions after a traumatic event, don't worry. These are normal reactions to an abnormal and unusually intense event. They will likely run their course and subside of their own accord over time.

There are also many things you can do to help your body and brain calm down and regulate after a traumatic event. Look for our companion resources on taking care of yourself after traumatic events to learn more, and seek support from a counselor or another mental health professional if you feel overwhelmed or desire additional support.