



# Panic:

## Understanding the Body's Response to Stress

### What is the Stress Response?

We inherited the stress response from our ancestors. It's hard-wired into our biology and has been crucial for keeping human beings alive since we arrived on the planet. The stress response is often called the **"Fight, Flight, Freeze, or Faint Response."** It involves a chain of physical and chemical reactions that get the body prepared to stay alive in the face of a serious threat.



Our ancestors lived in harsh environments where they were vulnerable to attack from wild animals, invading tribes, and other physical threats that we typically do not have to face in our lives today. However, our brains and bodies are still wired the way our ancestors' were.

This means that we can be vulnerable to panic – an anxious stress response that is more intense than necessary. Panic is often triggered by negative thinking – predicting catastrophe despite facts suggesting that it is not likely. In a case like this, the brain tells the body to go on alert mode. This sort of thinking can lead to a very uncomfortable and scary set of bodily reactions, especially if you don't know what caused them.

#### Panic symptoms can include:

- Rapid breathing
- Increased heart rate
- Increased blood pressure
- Increased muscle tension
- Cold hands and feet
- Dry mouth
- Nausea/loss of appetite
- Increased waste elimination
- Increased sweat production
- Dilated pupils
- Distorted sense of time



#### The Brain-Body Connection

The mind and body are connected. That means that the **"Fight, Flight, Freeze, or Faint Response"** is not something that we need to consciously decide to coordinate; it happens on autopilot and feels almost like a reflex. It is run through a part of the nervous system called the **Autonomic Nervous System (ANS)**. The ANS has two main branches: the **Sympathetic Branch** and the **Parasympathetic Branch**.

In simple terms, you can imagine that the Sympathetic Branch is the "on switch." It is designed to get you revved up – to help you in times of crisis to either fight off a threat, run from it, or stay tense and still while you assess options for escape (Fight, Flight, or Freeze).

The Parasympathetic Branch is the "off switch." It helps you relax and recharge. To be more precise, the vagus nerve of the Parasympathetic Branch has two parts – the ventral branch and the dorsal branch. Stimulation of the ventral vagus nerve helps you relax, while stimulation of the dorsal vagus nerve leads you to Faint in the face of danger.

## What Happens and Why?

In the face of threat...

1. Breathing increases in order to add more oxygen to the blood supply.
2. Sugar is released from storage and added to the blood stream.
3. The heart beats more rapidly to send this oxygenated, energy-rich blood to target areas in the body like the large muscle groups needed to run from a threat (e.g., a bear, an attacker with a spear, etc.) or fight against it.
4. To help blood get to target areas more quickly, the blood vessels constrict, and blood pressure increases.
5. The large muscle groups needed to fight or run (like the legs, arms, and chest) become filled with blood, which is why they feel tense.
6. Fine motor skills are not as necessary as gross motor skills are, so blood does not go to the fingers and toes – that's why they get cold.
7. Because we might not live to eat another meal when we're under threat, resources are conserved by temporarily shutting down the digestive system; this causes dry mouth, nausea, and loss of appetite.
8. If we need to run from a threat, it helps to be lighter on our feet so we can move faster; we might vomit or become incontinent to lose unnecessary weight.
9. We sweat in order to prevent overheating; perspiration on our skin also makes us more slippery – harder for an attacker to grab.
10. The pupils dilate and let in more light; this way we might be able to see other threats or opportunities for escape.
11. Time seems to slow down, and we get tunnel vision; that helps us focus on survival without any other distraction.

These symptoms make a lot of sense when you think about them. In a truly life-threatening situation they could be perfect to ensure survival. This means that the uncomfortable feelings associated with panic are not a sign that our body is letting us down. In fact, the body is doing what it is designed to do – keep us alive.

Problems occur when we mistakenly conclude that we are under a threat. The body has gotten orders to go into crisis mode due to a false alarm.

## Managing the Stress Response

The goal is to access your stress response in *very limited circumstances* and hang out in relaxation mode most of the time. If you can learn to do this, you can avoid many of the health-related complications of living under chronic stress – headaches, sleep problems, muscle aches, ulcers, etc.

Personality and lifestyle changes, medication, relaxation training, and therapy (e.g., CBT, ERP, etc.) can be helpful to calm the body and turn on the relaxation response. Developing skills such as belly breathing, meditation, and challenging negative thinking can be means to prevent or de-escalate panic.

## Self-Help Resources

Bourne, E.J. (2010). *The Anxiety and Phobia Workbook, Fifth Edition*. New Harbinger Publications.

<http://www.drdansiegal.com> (more information on neuroscience related to stress response)

**Anxiety Management Self-Help Apps:** Panic Relief (Apple, Android), Mindshift™ (Apple, Android), Calm (Apple, Android)



### Psychological and Counseling Services (PACS)

3 Garrison Avenue, Smith Hall - 3<sup>rd</sup> Floor, Durham, NH 03824

Tel: 603-862-2090 Website: [www.unh.edu/pacs](http://www.unh.edu/pacs)