

# STRESSED OUT?

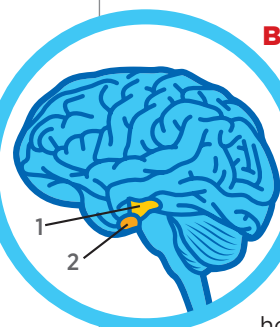
Learn how the body responds to stress—and healthy ways to cope

## Your Body Under Pressure

Think of a time you were stressed. You may remember your heart racing, palms sweating, shoulders tensing up.

These reactions are part of the body's natural stress response. When the brain perceives a situation to be threatening, it triggers a surge of hormones that prepare the body for the challenge.

Known as “fight or flight,” the stress response evolved to help us survive. But it is also triggered by events that aren't life-threatening. This can include academic and relationship pressures, or even stress from being over-connected to technology and social media. Some stress is helpful, like keeping you energized to study for a test. But constant stress can take a toll on a person's emotions and body, which can lead to serious health problems.

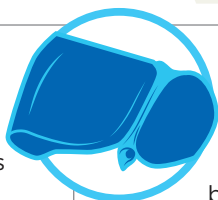


**BRAIN:** The body's stress response is triggered when the brain's hypothalamus (1) sends a signal to the pituitary gland, located at the base of the brain (2). This gland then signals the adrenal glands (located above the kidneys) to release stress hormones. These hormones change how organs and systems act to prepare the body to fight or take flight.

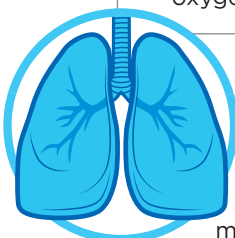
**Fast Fact:** Adrenaline, norepinephrine, and cortisol are the body's major stress hormones.



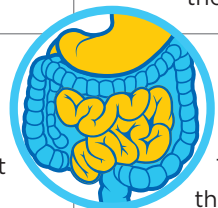
**HEART:** Heart rate and blood pressure increase so that blood travels through the body faster. This helps deliver oxygen to power muscles.



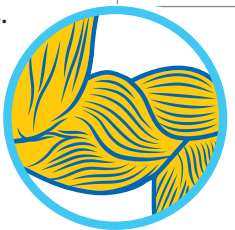
**LIVER:** The liver causes more glucose (blood sugar) to be released into the bloodstream. This powers cells in the body.



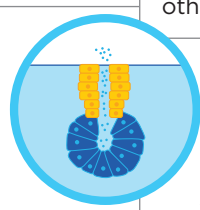
**LUNGS:** Breathing rate increases to deliver more oxygen throughout the body to power muscles and tissues.



**STOMACH/INTESTINES:** Digestion decreases. This redirects energy that would be used to break down food to power other parts of the body.



**MUSCLES:** Muscles tense up to prepare the body for action.



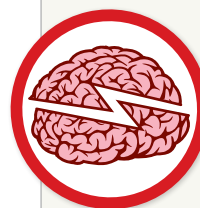
**SWEAT GLANDS:** Stress-triggered sweat is chemically different from sweat that cools the body. Stress sweat interacts with bacteria on the skin to cause body odor. Researchers aren't exactly sure why we sweat when stressed.

## Chronic Stress

Ongoing, or chronic, stress does not allow the body's stress hormones to return to normal levels. This can lead to health problems. Chronic stress can:

- \* Increase the risk of getting sick because stress can weaken your immune system
- \* Cause sleep problems because of the energy surge brought on by stress hormones
- \* Lead to injuries or migraine headaches from constant muscle tension
- \* Increase the risk of certain mental health problems, such as anxiety and depression
- \* Lead to problems with learning and memory
- \* Increase the risk for chronic health problems such as heart disease, obesity, and diabetes

## Stress and Misusing Drugs: Not a Good Mix



Some people may think that drugs can help them deal with stress. But drugs can actually make it harder to cope by causing the body's stress response to be hyperactive. Here are some examples:

\* Some drugs, such as stimulants, have similar effects to stress. These effects include increased heart rate, blood pressure, and feelings of anxiety. This can cause a stronger reaction to stressful events.

\* Some drugs such as alcohol may be calming at first, but frequent use can raise stress hormone levels. This increases irritability and anxiety. Short-term withdrawal, such as a hangover, can have the same effect.

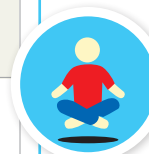
\* Both stress and drug use can make a person more impulsive and impair decision making. They can also change how the brain perceives pleasure. These effects increase the risk for drug use and for developing an addiction.

## Tips to Help You Cope



### MOVE YOUR BODY:

Regular aerobic exercise activates the body's stress response. But this is actually “good stress” and helps the body cope with psychological stress.



### MEDITATE:

Meditation and deep breathing exercises can decrease blood pressure and improve symptoms of anxiety and depression.



### TAKE A TIME-OUT:

Stepping away from distractions, such as social media and texting, may be stressful at first, but with practice can help you relax.



### DO ONE THING AT A TIME:

If you feel overwhelmed with multitasking, try to tackle one challenge at a time.



### GET SUPPORT:

If you are stressed, ask for help from your family, friends, or a professional, such as a doctor or school counselor.

**DID YOU KNOW?** If you experience stress during a test, you may feel your mind “go blank.” This happens because norepinephrine—a stress hormone—may temporarily disrupt brain circuits that are used to recall memories.

Tip: If you experience your mind going blank, pause for a moment, take a deep breath, and try to relax to help the hormone surge ease off. *You've got this.*

► **More Info:** For additional facts about health, visit [scholastic.com/headsup](http://scholastic.com/headsup) and [teens.drugabuse.gov](http://teens.drugabuse.gov).

From Scholastic and the scientists of the National Institute on Drug Abuse, National Institutes of Health, U.S. Department of Health and Human Services