

# Stress and Drug Abuse



## Myth vs. Reality

**Myth 1:** Drug abuse is harmful, but it does relieve stress.

**Reality:** Some drugs of abuse affect your brain the same way stress does. Long-term abuse of drugs makes users more sensitive to everyday stress than non-users.

**Myth 2:** All stress is bad for you.

**Reality:** Stress can help you deal with tough situations. It can also be associated with positive changes, such as a new job. However, long-term stress can lead to physical and emotional health problems.

**Myth 3:** Everyone deals with stress in the same way.

**Reality:** People deal with stress in different ways. How you deal with stress determines how it affects your body.

## The Brain Connection

You are about to take a test. The coach is announcing who made the team. Your best friend is mad at you. Most people find such situations stressful. *Stress* can be defined as an emotional or physical demand or strain (a “stressor”) that causes your body to release powerful neurochemicals and hormones. These changes help your body gear up to respond to the stressor. Your blood-sugar levels and blood pressure rise;

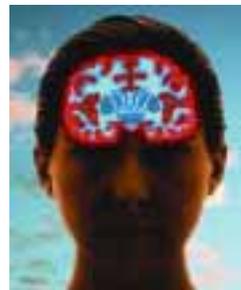
your heart beats faster; your muscles tense.

There are different levels of stress: *Short-term stress* can cause uncomfortable physical reactions, but can also help you to focus. *Long-term stress*—such as stress caused by illness, divorce, or the death of a loved one—can lead to serious health problems. Traumatic events—such as natural disasters, violence, and terrorism—can

cause *post-traumatic stress disorder* (PTSD), a serious illness.

Brain research now indicates that people exposed to stress are more likely to abuse alcohol or other drugs, or to relapse to drug addiction.

Read on to get important facts about this connection.



## How Your Body Responds to Stress

Your body’s central nervous, endocrine, immune, and cardiovascular systems are involved in responding to stress.

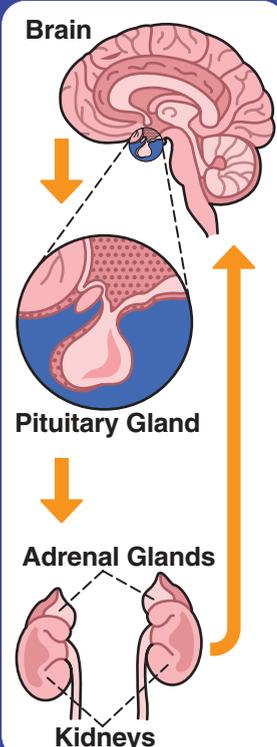
The physical responses can vary: Short-term responses can cause a racing heart, sweaty palms, and a pounding head. Long-term responses can cause back pain, high blood pressure, sleeplessness, and an inability to make decisions. Constant stress floods the body with stress hormones, which can increase the risk of serious health problems.

The hormone that initiates the body’s response to stress, CRF, is found throughout the brain. Drugs of abuse also stimulate release of CRF. See the diagram to the right for how this works.

### The Stress Hormone Cycle and Drugs

Under stress, the brain releases **CRF**, a hormone, into the bloodstream. Some drugs of abuse also stimulate the release of CRF. Through blood vessels, CRF travels to the **pituitary gland**.

Here CRF causes the release of **ACTH**, another hormone. ACTH travels to the **adrenal glands** and triggers the release of still more hormones, the most important of which is **cortisol**.



Cortisol helps you cope with stress. If stress is mild, cortisol prevents further release of CRF and ACTH. If stress is intense, the cycle continues.

## LATEST RESEARCH

NIDA researchers have found the following connections between **stress and drug abuse**:

- Stress can cause changes in the brain like those caused by addictive drugs. This suggests that some people who experience stress may be more vulnerable to drug addiction or drug relapse.

- Those who become addicted to drugs may already be hypersensitive to stress.

- Long-term potentiation (LTP) is a key brain mechanism involved in memory and learning. Researchers have shown that LTP is involved in how both drug exposure and stress affect the brain.

- Stress can put people at risk for substance abuse.

- Scientists have uncovered a rise in substance abuse among people in New York City neighborhoods affected by 9/11, which raises new questions about the public health effects of traumatic events such as disasters.

For more information, visit: [www.scholastic.com/headsup](http://www.scholastic.com/headsup) and <http://teens.drugabuse.gov>.

## Managing Stress

Anyone can learn to manage stress, but it does take practice. Here are some practical tips:



- **Take care of yourself.** Healthy foods, exercise, and enough sleep really do make you feel better and better able to cope!

- **Focus.** To keep from feeling overwhelmed, concentrate on challenges one at a time.

- **Keep calm.** Step away from an argument or confrontation by taking a deep breath. Go for a walk or do some other physical activity.

- **Move on.** If you don’t achieve something you were trying for, practice and prepare for the next time. Or check out some other activity.

- **Talk about it.** Talking to an understanding listener who remains calm can be very helpful.



*“We all must develop healthy ways to manage stress, and avoid turning to drugs or other substances to escape stressful realities.”*

Nora D. Volkow, M.D., Director, National Institute on Drug Abuse

## Stressing Out?



Read what some teens have said causes them stress:

**Being Successful:** “Between my job, homework, responsibilities at home, and studying for my SATs, it’s easy to feel stressed out and overwhelmed.”  
 —Female, Los Angeles

**Being “Perfect”:** “Having struggled with eating disorders for many years, I finally realize that I make comparisons and let the appearance/discussions of my peers sometimes alter my own body image.”  
 —Female, Chicago

**Physical Appearance:** “Television and movies influence the physical appearance and style of most teens ... the most important influence comes from the opposite sex.”  
 —Male, Los Angeles