



# HOW STRESS MAKES YOU SICK

By Dr Mercola  
December 17, 2015

Stress often starts in your head with a worry or a fear, but those feelings of [anxiety](#), and perhaps even panic, don't stay there. When you feel stressed, your body ramps up production of the stress hormones cortisol, adrenaline, and norepinephrine.

This triggers the start of the stress response, and, like a snowball rolling down a mountain, it gains traction and speed until you're ready for the proverbial attack.

Adrenaline, for instance, increases your heart rate, causing your heart to beat faster and ultimately raising blood pressure. Cortisol can interfere with the function of the inner lining of your blood vessels, triggering plaque buildup in your arteries, and increasing your risk of heart disease and stroke.

Meanwhile, your brain communicates with your gut, sending the news that you're stressed, and your gut responds in suit, altering what it would normally be doing so your body can collectively work to fight off this imminent stressor (whether it's really an imminent stressor or not).

This stress response can be quite beneficial if you need to run from a predator, or even quickly cram for a big exam. Things get messy, however, when you feel stressed all or most of the time.

While an occasional stress response is normal and even healthy, ongoing, constant stress is not. On the contrary, it's the recipe for sickness, from chronic diseases to acute infections.

## What Happens When You're Chronically Stressed?

In the video by Emory University professor of medicine Sharon Bergquist shows what happens in your body when you're under [chronic stress](#). Let's say, you lose your job or are struggling from post-traumatic stress disorder (PTSD) from abuse you suffered as a child.

Excess stress hormones are released far too often. Your stress response becomes imbalanced; it's not shutting off. Your immune system suffers as a result, and epigenetic changes are rapidly occurring.

The stress is triggering systemic low-grade inflammation, and suddenly your blood pressure is up, your asthma is flaring, and you keep getting colds. That cut on your leg just doesn't seem to want to heal, and your skin is a mess.

You're having trouble sleeping and, on an emotional level, you feel like you're nearing burnout. That's when you notice that you've put on some weight, and you're having digestive troubles too. Even your intimate life is suffering.

Stress clearly affects your whole body, but according to neurobiologist Robert Sapolsky in the documentary "[Stress: Portrait of a Killer](#)," the following are the most common health conditions that are caused by or worsened by stress:

Cardiovascular disease	Hypertension	Depression
Anxiety	Sexual dysfunction	Infertility and irregular cycles
Frequent colds	Insomnia and fatigue	Trouble concentrating
Memory loss	Appetite changes	<a href="#">Digestive problems and dysbiosis</a>

## How Stress Messes with Your Gut

Chronic stress (and other negative emotions such as anger, anxiety and sadness) can trigger symptoms and full-blown disease in your gut. As Harvard researchers explained:

*"Psychology combines with physical factors to cause pain and other bowel symptoms. Psychosocial factors influence the actual physiology of the gut, as well as symptoms.*

*In other words, stress (or depression or other psychological factors) can affect movement and contractions of the GI tract, cause inflammation, or make you more susceptible to infection.*

*In addition, research suggests that some people with functional GI disorders perceive pain more acutely than other people because their brains do not properly regulate pain signals from the GI tract. Stress can make the existing pain seem even worse."*

The stress response causes a number of detrimental events in your gut, including:

- Decreased nutrient absorption
- Decreased oxygenation to your gut
- As much as four times less blood flow to your digestive system, which leads to decreased metabolism



- Decreased enzymatic output in your gut as much as 20,000-fold!

## Your Gut and Your Brain Are in Constant Communication

One reason why your mental stress can be detrimental to your gut is because your gut and your brain are in regular communication.

In addition to the brain in your head, embedded in the wall of your gut is your enteric nervous system (ENS), which works both independently of and in conjunction with the brain in your head.

This communication between your "two brains" runs both ways, and is the pathway for how foods affect your mood or why anxiety can make you sick to your stomach, for instance.

Jane Foster, PhD, an associate professor of Psychiatry and Behavioral Neurosciences at McMaster University, described to Medicine Net the multiple ways your [gut microbes](#) communicate with your brain – and the role that stress can play.

*"... [G]ut bacteria can alter how the immune system works, which can affect the brain. The gut bacteria are involved in digestion, too, and the substances they make when they break down food can affect the brain.*

*And under certain conditions, such as stress or infection, potentially disease-causing gut bacteria, or bad bugs, can leak through the bowel wall and enter the bloodstream, enabling them and the chemicals they make to talk with the brain through cells in blood vessel walls.*

*Bacteria could also communicate directly with cells in certain regions of the brain, including those located near areas involved in stress and mood ..."*

## Your Brain and Your Heart Suffer When You're Stressed

Prolonged stress can also damage your brain cells and make you lose the capacity to remember things. The brain cells of stressed rats are dramatically smaller, especially in the area of their hippocampus, which is the seat of learning and memory.

Stress disrupts your neuroendocrine and immune systems, and appears to trigger a degenerative process in your brain that can result in [Alzheimer's disease](#). Stress-induced weight gain is also *real*, and typically involves an increase in belly fat, which is the most dangerous fat for your body to accumulate, and increases your [cardiovascular risk](#).

During moments of high stress, your body releases hormones such as norepinephrine, which can even cause the dispersal of bacterial biofilms from the walls of your arteries. This dispersal can allow plaque deposits to suddenly break loose, thereby triggering a heart attack.

Plus, when stress becomes chronic, your immune system becomes increasingly desensitized to cortisol, and since inflammation is partly regulated by this hormone, this decreased sensitivity *heightens* the

inflammatory response and allows inflammation to get out of control. Chronic inflammation is a hallmark of heart disease and *many* chronic diseases.

## Tips to Overcome Stress

Regular stress management is crucial for just about everyone. For some, this might include staying away from negative or overly stressed individuals, or at the very least turning off the nightly news if it is too upsetting, to avoid feeling [empathic stress](#).

Ultimately, however, what you do for [stress relief](#) is a personal choice, as your stress-management techniques must appeal to you and, more importantly, *work* for you. If a round of kickboxing helps you get out your frustration, then do it. If meditation is more your speed, that's fine too.

Even having a good cry now and then may be beneficial, as tears that are shed due to an emotional response, such as sadness or extreme happiness, contain a high concentration of adrenocorticotrophic hormone (ACTH) — a chemical linked to stress.

One theory of why you cry when you're sad is that it helps your body release some of these excess stress chemicals, thereby helping you feel more calm and relaxed.

In my interview with James Redfield, author of “The Celestine Prophecy,” in which he discusses meditation and other methods of stress relief (and motivation, which is important since chronic stress can also kill your motivation) he suggests is to meditate first thing in the morning, even before you get out of bed, to take advantage of your mind being in a quiet zone (although other people find it's easy to meditate in other places, like the shower, for instance).

In addition, you're more vulnerable to the adverse effects of stress if you feel like you have no control, no way out, feel like things are getting worse, and have little social support. If you don't have a friend or family member to confide in, consider joining a local support group or even an online forum.

You can also seek professional support as well to address existing emotional scars and traumas that can adversely affect your health. Chronic stress is akin to emotional scarring in that it may also cause ongoing damage to your cells if it's not addressed.

Another *key* strategy is to make sure you get [adequate sleep](#), as sleep deprivation dramatically impairs your body's ability to handle stress. That, along with regular physical activity and a [healthy diet](#), are the foundational elements your body needs to bounce back from a stressful event.