

Should you worry about your cortisol levels?

June 19 2024, by Laura Castañón



Credit: Unsplash/CC0 Public Domain

If you've spent any time scrolling through health-related TikToks lately, you've probably heard about cortisol. High levels of the so-called "stress hormone" are being blamed for fatigue, headaches, weight gain, mood

swings, anxiety, poor sleep, and a dozen other symptoms. But cortisol isn't the bad guy, Tufts researchers said.

"All animals, including humans, produce a baseline level of cortisol or a nearly identical hormone called corticosterone," said Michael Romero, a professor of biology at Tufts University who studies stress responses. "It is absolutely critical for survival. If you remove or prevent the ability of an animal to create and secrete this into the bloodstream, they will die."

Cortisol, which is produced by our adrenal glands, helps regulate various processes throughout our body. It affects the functioning of our immune system, our metabolism, our sleep system, and more.

"It has a bewildering number of effects," Romero said. "There are estimates that maybe as much as a quarter of all of our genes are influenced by the levels of cortisol in the body."

A vital hormone

When functioning correctly, our bodies maintain a base level of cortisol that varies over the course of the day. Typically, our cortisol levels are highest in the morning, when our body needs to wake up and get going, and lower in the evening as we head toward sleep.

While having too much or too little cortisol can be a serious problem, the diseases that cause these conditions are considered to be rare.

Cushing's syndrome, which occurs when there is too much cortisol in the body, is typically caused by tumors in the pituitary gland. It can cause rapid [weight gain](#), bruising, [high blood pressure](#), and weakness and affects roughly 40 to 70 people out of every million.

Addison's disease, a disorder that occurs when [adrenal glands](#) don't

produce enough cortisol, can cause fatigue, loss of appetite, abdominal pain, and other symptoms. It affects between 100 and 140 of every million people. Both conditions need to be diagnosed and treated by a physician.

Cortisol is known as the "stress hormone" because it is also a key part of our stress response. Cortisol levels spike when we encounter stressors, giving our body the energy it needs to deal with a perceived threat.

"Cortisol helps mobilize your energy reserves, strengthen the [immune system](#), and reduce inflammation, and directs energy away from digestion, reproduction, and growth," said Jeffrey Blumberg, a research professor in the Friedman School of Nutrition Science and Policy at Tufts. "All of which are good things for dealing with acute stress."

The cortisol stress response evolved to help animals—including our own ancestors—cope with unpredictable events, whether that was responding to a bad storm or drought, fighting off a disease, escaping a predator, or squabbling over mates and food.

Our stressors today may look a little different, but cortisol still helps orchestrate our emergency response system and, once the emergency is over, cortisol levels drop back down to normal.

Dealing with chronic stress

Our bodies evolved to release cortisol and other hormones to help us deal with acute stress—threats that occur at a particular moment and then go away. When a stressor is ongoing, or many stressors start adding up, these previously helpful responses can start to take a toll.

"When stressors happen again and again, or they simply stick around, all of these systems stay ramped up and they're costly to maintain," Romero

said. "There is a lot of wear and tear on the body when maintaining all of your systems at a heightened emergency response level, and that's when stuff starts to break down."

With a long enough period of chronic stress, our immune response is suppressed instead of enhanced and we can start having problems with our metabolism, digestion, reproduction, and other systems.

The answer isn't to look for a miracle drug or supplement to lower your cortisol levels, however. It's to work on managing the stressors in your life.

"There's no magic bullet for regulating [cortisol](#) levels, but we have well-known [stress](#) management strategies, including eating a [healthy diet](#), exercising regularly, and practicing meditation or mindfulness," Blumberg said. He added that our bodies treat dehydration, extreme fluctuations in [blood sugar](#), and irregular eating patterns as additional [stressors](#).

"The power of good nutrition and a healthy lifestyle is very hard to understate."

Provided by Tufts University

Citation: Should you worry about your cortisol levels? (2024, June 19) retrieved 21 June 2024 from <https://medicalxpress.com/news/2024-06-cortisol.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--