Understanding Cushing Syndrome

Cushing syndrome may occur if the body has too much cortisol. But what is cortisol? How does it affect the body? Why is too much cortisol harmful? Use this resource to help answer some common questions and makes sense of how Cushing syndrome affects the body.

What is cortisol?

Cortisol is a hormone that the body naturally makes. Because this “stress hormone” affects many parts of the body, having too much of it may cause serious problems. See page 4 for a list of symptoms.

Cortisol helps control many body functions, such as:

- Blood sugar levels
- Metabolism
- Blood pressure
- Salt & water balance
- Mood & memory
- Immune system
- Stress
- Bone health

Visit CortisolMatters.com/WhatIsCortisol to learn more about cortisol.
How is cortisol made?

Cortisol is made in the **endocrine system**, which is a series of glands that create different types of hormones.

Typically, the body makes more cortisol in the morning and less at night. This is called diurnal rhythm, and it impacts several body functions. If there is too much cortisol in the body, this rhythm may become disrupted. Some people may experience symptoms, such as insomnia, severe fatigue, and skin changes. **See page 4 to learn about other potential symptoms.**

How cortisol is made · the endocrine system:

- **The hypothalamus gland** responds to how much cortisol is in the body and directs the pituitary as needed.
- **The pituitary gland** makes the adrenocorticotropic (ACTH) hormone, which directs the adrenals.
- **The adrenal glands** make cortisol and send it to other organs.

These 3 glands (often called the HPA-axis) work together in a feedback loop. This is an ongoing cycle to maintain proper cortisol levels.

How does cortisol work step-by-step?

1. Cortisol is released into the bloodstream and delivered throughout the body
2. Cortisol attaches to a glucocorticoid receptor, or GR
3. The GR helps cortisol deliver its message to the cell, changing how the cell behaves

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If someone has too much cortisol, then too many messages are being delivered—and this may cause serious symptoms to develop.
What causes Cushing syndrome?

There are different types of Cushing syndrome that may occur when the body has too much cortisol. Excess cortisol could be caused by:

- Something inside the body, like a nodule (endogenous Cushing syndrome)
- Something outside the body, like steroids (exogenous Cushing syndrome)

Cushing syndrome (also called hypercortisolism) may occur if the body has too much cortisol—regardless if it’s caused by something inside or outside the body.

If the source of Cushing syndrome is internal (endogenous), it could be a nodule on the pituitary gland, adrenal glands, or somewhere else in the body. If the nodule is somewhere else in the body, it is called an ectopic source.

Cushing disease is a form of Cushing syndrome that can occur when someone has a nodule on the pituitary gland.

Cushing syndrome can be difficult to diagnose. That’s why the Endocrine Society recommends being seen by an endocrinologist—a doctor who specializes in conditions like Cushing syndrome.

Ask your primary care doctor if seeing an endocrinologist is right for you.

You can also visit CSRF.net for a list of doctors with experience treating Cushing syndrome.
What are the signs & symptoms of Cushing syndrome?

Because cortisol affects so many parts of the body, there are many potential symptoms of Cushing syndrome.

Below is a list of symptoms people with Cushing syndrome may experience. Cushing syndrome is different for everybody, so some people may not experience all of the symptoms on this list. Symptoms may range from a few to many.

**Mental & Emotional Symptoms**
- Anxiety
- Depression
- Forgetfulness and difficulty concentrating
- Insomnia
- Feeling short fused
- Extreme mood swings

**Physical Symptoms**
- Diabetes
- Weight gain around the center of your body
- Hard to control or uncontrolled blood sugar
- Hard to control or uncontrolled blood pressure
- Weak and/or fractured bones
- Easy bruising, fragile skin, rashes
- Trouble healing from wounds
- Thin arms or legs
- Irregular periods
- Purple stretch marks (striae)
- Fatty hump between the shoulders (buffalo hump)
- Round and reddened face (moon face)
- Unwanted hair growth or hair loss
- Muscle weakness
- Sexual dysfunction
- Excessive energy
- Blood clots
- Kidney stones
- Severe fatigue

To learn more, visit CortisolMatters.com/Symptoms.