What is cortisol?

Cortisol is a hormone that is naturally produced by your body in the adrenal glands, which are located at the top of the kidneys. Cortisol plays a role in many body functions.\(^3\)

Because cortisol has such an important impact on your body, persistently elevated levels can have many negative implications.\(^8\)

What Is Hypercortisolism?

Hypercortisolism is caused when your body is exposed to an excess amount of a hormone called \textit{cortisol}.\(^1\) Hypercortisolism may also be referred to as Cushing Syndrome.\(^2\)

**THE EFFECT OF CORTISOL ON THE BODY**

- **Cardiovascular system**
  - Control of blood pressure\(^4,5\)

- **Bone**
  - Impact on bone growth and development\(^6\)

- **Immune system**
  - Impact on the body’s ability to fight off disease\(^7\)

- **Central nervous system**
  - Impact on sleep/wake cycle and short-term memory\(^7\)

- **Liver**
  - Changing proteins, carbs, and fats into energy\(^8\)

- **Pregnancy**
  - Fetal Development\(^8\)
What causes hypercortisolism?

Cortisol secretion is controlled by a set of tissues and glands in the brain and at the top of the kidneys, called the hypothalamic-pituitary-adrenal (HPA) axis.²,⁸,¹⁰

- The hypothalamus (1) triggers the pituitary gland (2) to release adrenocorticotropic hormone (ACTH) (3), which activates the adrenal glands (4) to release cortisol (5) into the blood stream²

- A feedback loop (6) ensures that proper levels of cortisol are maintained.² When the HPA axis works normally, cortisol in the blood rises and falls regularly over 24 hours¹,¹⁰

Sometimes, something from outside your body, such as glucocorticoid medicines (e.g., steroids) can cause exogenous hypercortisolism.¹¹ Other times, cortisol excess is caused by something inside your body, such as a tumor; this is called endogenous hypercortisolism.¹¹ Depending on its location the tumor can be either adrenal, pituitary, or ectopic (7) (located somewhere else).¹¹,¹³

What are the signs and symptoms of hypercortisolism?

Not all people will have the same signs and symptoms. Common features can include

- High blood pressure⁷,¹⁴
- Diabetes¹⁴
- Problems sleeping⁷
- Mood change⁷,¹⁴
- Buildup of fat in abdomen, neck, and shoulder blades, with thin arms and legs³,¹¹
- Round face³,¹¹
- Easy bruising⁷
- Severe tiredness¹¹
- Muscular weakness¹¹
- Bone weakness¹⁴
- Reddish or purplish streaks on the skin³,¹¹
- Abnormal facial or body hair⁷

What are the consequences of excess cortisol?

Too much cortisol in the body can lead to serious health consequences. If left untreated, hypercortisolism can result in weight gain,³,¹¹ development or worsening of diabetes,⁸ cardiovascular events,³,⁴ depression,⁷ anxiety,⁷ osteoporosis,¹⁵ and more.

Effects of excess cortisol on the body

With this in mind, it’s important to partner with your healthcare provider to manage this condition.
The goal of treatment is to reduce the negative effects of excess cortisol. This often noticeably improves symptoms associated with excess cortisol.

Treatment options include:

- **Surgery** — to remove the tumor
- **Radiation** — to reduce the tumor size
- **Medicine** — to help manage the signs and symptoms of the disease

The earlier treatment begins, the better the chances are for improvement in the signs and symptoms of cortisol excess. It is important to remember that high cortisol levels physically change the body, so reversing these changes may take time.

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**Can hypercortisolism be treated?**

Knowing how hypercortisolism affects your body is an important step toward managing your condition and understanding how to remedy it.

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**References:**


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