

# Exogenous Adrenal Insufficiency

## Definition

Exogenous adrenal insufficiency is a condition in which the [adrenal glands](#) release too little of the hormone cortisol, but there is no problem with the glands themselves.

See also: [Addison's disease](#)

## Alternative Names

Drug-induced adrenal insufficiency

## Causes

Steroid medications called glucocorticoids (such as [prednisone](#), [hydrocortisone](#), and [dexamethasone](#)) are similar to the natural hormone, cortisol, which is produced by the adrenal glands. They are used to treat a variety of conditions, including many inflammatory diseases such as asthma and some forms of arthritis.

Glucocorticoids can slow down the production of adrenal hormones by acting on the pituitary gland, the master gland that controls the adrenal glands.

If glucocorticoids are stopped or decreased too quickly, the adrenal glands may not begin making cortisol again fast enough to meet the body's needs. Adrenal insufficiency may result. This condition usually occurs when glucocorticoid drugs are given by pill or injection, rather than on the skin or inhaled. Higher doses and longer treatments increase the risk of adrenal insufficiency.

Quickly stopping treatment with glucocorticoids is the most common cause of exogenous adrenal insufficiency.

Other drugs that may cause adrenal insufficiency include:

- [Aminoglutethimide](#)
- [Fludrocortisone](#)
- [Ketoconazole](#)
- [Megestrol](#)
- [Metyrapone](#)
- [Mitotane](#)

These drugs have direct effects on the adrenal glands. They decrease glucocorticoid and mineralocorticoid hormone production.

## Symptoms

Symptoms may include:

- Decreased ability to respond to emotional or physical stress
- Fatigue
- Joint pains (arthralgias)
- Low blood pressure ([hypotension](#)), which may cause light-headedness or fainting when you stand after sitting or lying down
- Muscle pains (myalgias)
- Nausea and vomiting
- [Shock](#)
- Weakness

## Exams and Tests

Someone who has been taking corticosteroids and has developed this condition will have signs similar to those of a person with [Cushing syndrome](#):

- Obesity around the waist
- Round face
- Streaks on the stomach area

The person will also have signs of adrenal insufficiency.

Tests will look for:

- [Hypoglycemia](#) (low blood sugar)
- Low [cortisol level](#)
- Low [sodium](#)
- Lower-than-normal response to [ACTH](#)

## Treatment

This condition is treated with glucocorticoids. Higher doses are needed in stressful situations (such as during infections, or before and after surgery).

## Outlook (Prognosis)

Symptoms of adrenal insufficiency usually improve quickly after treatment with glucocorticoids. The long-term outlook varies based on how dependent you are on these drugs, and any complications that occur.

If you no longer need glucocorticoid treatment for the original condition, the drugs can be very slowly tapered (dosage decreased gradually, over time), under a physician's supervision.

Tapering off the medication may take many months. Some withdrawal symptoms are possible.

## Possible Complications

Complications include:

- Dependence on steroids
- Need for glucocorticoid treatment during stressful situations -- possibly for up to a year after tapering off them

Complications from steroid use include:

- [Diabetes](#)
- [High blood pressure](#)
- [Osteoporosis](#)

A serious complication is [adrenal crisis](#), which requires immediate treatment with glucocorticoids. Symptoms include dizziness, nausea and vomiting, extreme fatigue, and low blood pressure. This usually follows a stress on the body, such as dehydration, infection, or another illness or injury. Adrenal crisis can generally be prevented by increasing (doubling or tripling) the steroid dose during illness or other physical stress.

## When to Contact a Medical Professional

Call your [health care](#) provider if you are taking glucocorticoid drugs and experience any of the symptoms of adrenal insufficiency. If the symptoms are severe, go to an emergency room or call 911 (or your local emergency number).

People with adrenal insufficiency should wear a Medic-Alert tag to alert health care professionals to this condition in case of emergency.

## Prevention

To reduce the risk of developing this condition:

- Use glucocorticoids for the shortest time possible, in the smallest dose possible
- Take steroids every other day, instead of daily
- Use steroid-sparing agents (for the treatment of asthma or arthritis, for example)

People who use inhaled steroids can reduce their exposure by using a spacer, and by rinsing out their mouth after inhaling the medication.

Stewart PM. The Adrenal Cortex. In: Kronenberg HM, Shlomo M, Polonsky KS, Larsen PR, eds. *Williams Textbook of Endocrinology*. 11th ed. Philadelphia, Pa: Saunders Elsevier;2008: chap 14.

**Reference website:** <http://www.drugs.com/enc/exogenous-adrenal-insufficiency.html>