



## Reprints

A single copy of this article may be reprinted for personal, noncommercial use only.

# Prednisone and other corticosteroids

By Mayo Clinic staff

---

**Original Article:** <http://www.mayoclinic.com/health/steroids/HQ01431>

---

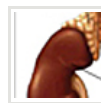
## Weigh the benefits and risks of corticosteroids, such as prednisone, when choosing a medication.

By Mayo Clinic staff

Corticosteroid medications — including cortisone, hydrocortisone and prednisone — have great potential in the treatment of a variety of conditions, from rashes to lupus to asthma. But corticosteroids also carry a risk of side effects. Working with your doctor, you can take steps to reduce these medications' side effects so that the benefits of treatment outweigh the risks.

## How do corticosteroids work?

Corticosteroids mimic the effects of hormones your body produces naturally in your adrenal glands, which sit on top of your kidneys. When prescribed in doses that exceed your body's usual levels, corticosteroids suppress inflammation. This can reduce the signs and symptoms of inflammatory conditions, such as arthritis and asthma.



Adrenal glands

Corticosteroids also suppress your immune system, which can help control conditions in which your immune system mistakenly attacks its own tissues.

## How are corticosteroids used?

Corticosteroid medications are used to treat rheumatoid arthritis, lupus, asthma, allergies and many other conditions. They also treat conditions such as Addison's disease, in which the adrenal glands don't produce enough steroids, and help prevent organ rejection in transplant recipients.

You can take corticosteroids:

- **By mouth.** Tablets, capsules or syrups help treat the inflammation and pain associated with certain chronic conditions, such as rheumatoid arthritis and lupus.
- **By inhaler and intranasal spray.** These forms help control inflammation associated with asthma and nasal allergies.
- **Topically.** Creams and ointments can help heal many skin conditions.
- **By injection.** This form is used to treat such signs and symptoms as the pain and inflammation of tendinitis.

## What side effects can corticosteroids cause?

Like all medications, corticosteroids carry a risk of side effects. Some side effects can cause serious health problems. When you know what side effects are possible, you can take steps to control their impact on your health.

### Side effects of oral corticosteroids

Because oral corticosteroids affect your entire body instead of just a particular area, this form is the most likely to cause significant side effects. Side effects depend on the dose of medication you receive and may include:

- Elevated pressure in the eyes (glaucoma)
- Fluid retention, causing swelling in your lower legs
- Increased blood pressure
- Mood swings
- Weight gain, with fat deposits in your abdomen, face and the back of your neck

When taking oral corticosteroids longer term, you may experience:

- Clouding of the lens in one or both eyes (cataracts)
- High blood sugar, which can trigger or worsen diabetes
- Increased risk of infections
- Thinning bones (osteoporosis) and fractures

- Suppressed adrenal gland hormone production
- Thin skin, easy bruising and slower wound healing

### Side effects of inhaled corticosteroids

When using inhaled corticosteroids, some of the drug may deposit in your mouth and throat instead of making it to your lungs. This can cause:

- Fungal infection in the mouth (oral thrush)
- Hoarseness

If you gargle and rinse your mouth with water — don't swallow — after each puff on your corticosteroid inhaler, you may be able to avoid mouth and throat irritation. Although some researchers have speculated that inhaled corticosteroid drugs slow growth rates in children who use them for asthma, studies show that they don't affect children's final adult height.

### Side effects of topical corticosteroids

Topical corticosteroids can lead to thin skin, red skin lesions and acne.

### Side effects of injected corticosteroids

Injected corticosteroids can cause side effects near the site of the injection. Side effects may include pain, infection, shrinking of soft tissue and loss of color in the skin. Doctors usually limit corticosteroid injections to no more than three or four a year, depending on your specific situation.

## Reduce your risk of corticosteroid side effects

To get the most benefit from corticosteroid medications with the least amount of risk:

- **Try lower doses or intermittent dosing.** Newer forms of corticosteroids come in varying strengths and lengths of action. Ask your doctor about using low-dose, short-term medications or taking oral corticosteroids every other day instead of daily.
- **Switch to nonoral forms of corticosteroids.** Inhaled corticosteroids for asthma, for example, reach lung surfaces directly, reducing the rest of your body's exposure to them and leading to fewer side effects.
- **Make healthy choices during therapy.** When you're on corticosteroid medications for a prolonged period, talk to your doctor about ways to minimize side effects. You may need to reduce the number of calories you eat or increase your physical activity to prevent weight gain. Exercise can help reduce muscle weakness and osteoporosis risks. And taking calcium and vitamin D supplements and

prescription bone-building drugs can minimize bone thinning due to corticosteroids.

- **Take care when discontinuing therapy.** If you take oral corticosteroids for prolonged periods, your adrenal glands may produce less of their natural steroid hormones. To give your adrenal glands time to recover this function, your doctor may reduce your dosage gradually. If the dosage is reduced too quickly, you may experience fatigue, body aches and lightheadedness.

## Weigh the risks and benefits of corticosteroids

Although they may cause a range of side effects, corticosteroids may also relieve the inflammation, pain and discomfort of many different diseases and conditions. If you work with your doctor to make choices that minimize side effects, you may achieve significant benefits with a reduced risk of such problems.

### References

---

Dec. 1, 2012

HQ01431

© 1998-2013 Mayo Foundation for Medical Education and Research (MFMER). All rights reserved. A single copy of these materials may be reprinted for noncommercial personal use only. "Mayo," "Mayo Clinic," "MayoClinic.com," "EmbodyHealth," "Enhance your life," and the triple-shield Mayo Clinic logo are trademarks of Mayo Foundation for Medical Education and Research.