

## Steroid Side Effects

Steroid medications, which are prescribed in many different forms for many different conditions, have a multitude of side effects.

Corticosteroid medications—often just called **steroids** by clinicians and patients—are used to reduce inflammation and inhibit the immune system. They are also associated with many side effects.

Corticosteroid medications are synthetic versions of the human steroid hormone **cortisol**, which is produced in the adrenal glands. These are different from the synthetic versions of the human steroid hormone **testosterone** used by some athletes (anabolic steroids) or the synthetic versions of the human steroid hormone **estrogen** used by some women after menopause (hormone therapy).

### Formulations

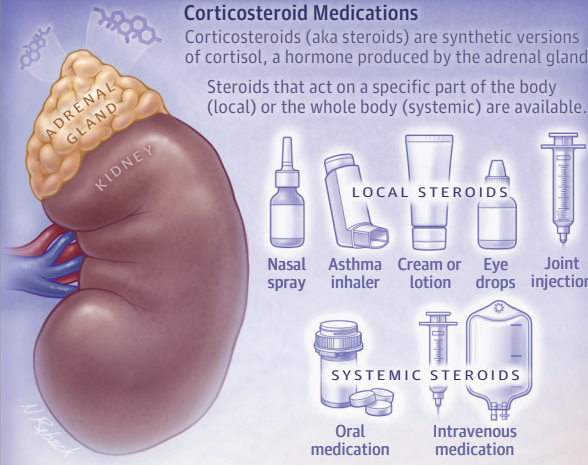
Steroids can be taken as a tablet for simple rashes or mild asthma attacks or given intravenously for flares of autoimmune diseases such as inflammatory bowel disease or rheumatoid arthritis. To minimize the side effects of oral or intravenous steroids, steroid treatments that act locally were developed. Examples include

- Topical application to the skin for conditions like eczema or psoriasis
- Nasal inhalation for allergy symptoms
- Inhalation into the lungs to control asthma symptoms
- Injection into joints to reduce pain and inflammation
- Eye drops to reduce swelling after eye surgery

### Side Effects

Some patients find taking steroids to be difficult because of side effects; other patients like how steroids make them feel. Side effects are most common with oral or intravenous steroids, but sometimes enough locally directed steroid is absorbed systemically to cause side effects. Life-threatening side effects include

- **Infection:** Steroids are effective in treating autoimmune diseases because they reduce the ability of the immune system to function (**immunosuppression**). Patients taking steroids are not only more susceptible to infections but more likely to have severe or unusual infections. These patients should be aware of their increased risk of infection, and their physicians may recommend additional anti-infective medications.
- **Adrenal crisis:** Cortisol is produced in the adrenal glands. It has many effects throughout the body, including regulating blood pressure. Because steroids are so similar to cortisol, prolonged use of systemic steroids at higher doses can cause the adrenal glands to stop making cortisol. If the systemic steroid is stopped suddenly, this **adrenal suppression** and resulting lack of steroid can cause a wide range of symptoms, such as dangerously low blood pressure.



**Corticosteroid Medications**  
Corticosteroids (aka steroids) are synthetic versions of cortisol, a hormone produced by the adrenal gland. Steroids that act on a specific part of the body (local) or the whole body (systemic) are available.

**LOCAL STEROIDS**  
Nasal spray, Asthma inhaler, Cream or lotion, Eye drops, Joint injection

**SYSTEMIC STEROIDS**  
Oral medication, Intravenous medication

**Side effects of corticosteroids**  
Side effects are common and are seen with both systemic and local steroids.

Short term	Long term
Increased appetite	A round face (moonface)
Weight gain	High blood pressure, high blood sugar
Unusual fat distribution around the abdomen or across the upper back (buffalo hump)	Increased risk of infection
Upset stomach	Cataracts, glaucoma
Insomnia, depression, euphoria, confusion	Bone thinning (osteoporosis) and fractures
	Adrenal crisis
	Thinning of the skin, bruising, stretch marks, poor wound healing
	Muscle weakness

Health care practitioners are cautious in prescribing steroids because of the side effects. They prescribe them only when necessary and for as short a time as possible. Local rather than systemic therapy is preferable and prescribed when possible. If a patient needs to stop taking a systemic steroid after taking it for a long time, they are prescribed a gradually reduced dose to give the adrenal glands time to "wake up" and start producing cortisol again. When longer courses of higher-dose systemic steroids are necessary, as in some autoimmune conditions, the patient is monitored closely for side effects.

### FOR MORE INFORMATION

US National Library of Medicine  
[medlineplus.gov/steroids.html](https://medlineplus.gov/steroids.html)

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