



Adrenal Insufficiency Coalition
Working together to promote change.

STEROIDS and ADRENAL SUPPRESSION

Taking Steroids for any Illness
can cause Adrenal Suppression
and Adrenal Insufficiency

WITHDRAWAL AND TAPERING

Steroids, such as Prednisone, are similar to cortisol, a hormone naturally made by the adrenal glands. Taking steroids for more than a few weeks leads to a decreased cortisol production (suppression).

Stopping prescribed steroids (tablets, inhalers, injections etc.) abruptly can cause withdrawal symptoms.

Symptoms correspond to those of adrenal suppression / insufficiency. The most common are:

- Severe fatigue
- Weakness
- Body aches/joint pain
- Extreme nausea/vomiting

In addition, the body may not be able to produce extra cortisol needed to respond to stress situations such as trauma, injury or infections. This can put the patient at risk for an adrenal crisis, a potentially life-threatening event.

Steroid treatments must be reduced slowly to avoid adrenal crisis. They should never be stopped abruptly.

A gradual reduction in steroid dosage, also called weaning or tapering, gives the adrenal glands time to resume their normal function. The amount of time it takes to taper off steroids depends on the disease being treated, dose and duration of use, and other medical considerations. A full recovery can take anywhere from a week to several months.

Tapering should only be done with doctor supervision. Patients should contact their doctor if experiencing withdrawal symptoms.

GUIDELINES AND RECOMMENDATIONS

- Patients need to be aware of low cortisol symptoms and the danger of an adrenal crisis.
- Patients should never taper without a doctor's supervision. Doctors and patients should discuss a tapering schedule and a crisis prevention plan.
- Severe symptoms while tapering indicates the need for HPA axis testing. Physicians may order morning cortisol and ACTH baseline tests to assess progress.
- Illness, accident, surgery, or severe emotional stress can cause an adrenal crisis. Patients may need additional steroid coverage for these circumstances.

For more information about Adrenal Insufficiency including research papers, published guidelines, and compilations of information, visit:

www.adrenalinsufficiency.org



P.O. Box 354, Smith Center, KS 66967 - USA
www.adrenalinsufficiency.org

ADRENAL SUPPRESSION AND INSUFFICIENCY

SYMPTOMS

What is Cortisol?

Cortisol is an essential hormone and responsible for maintaining blood pressure, blood glucose, and energy levels during times of physiological stress, such as illness, surgery, injury, or emotional stress.

The secretion of cortisol is controlled by three inter-communicating regions of the body: the hypothalamus and pituitary gland in the brain as well as the adrenal glands.

Together they form the body's central stress response system and are commonly referred to as the hypothalamic-pituitary-adrenal axis (HPA axis, figure 1).

What are Steroids?

Steroids (a shortened term for corticosteroids) such as Prednisone are man-made drugs that closely resemble cortisol. Steroids are commonly prescribed (and often essential) to treat illnesses such as asthma.

Adrenal Suppression and Adrenal Insufficiency

Taking steroids can influence the HPA axis and suppress the normal cortisol production: The pituitary gland and hypothalamus stop signaling the adrenals to produce cortisol. This mechanism is called Adrenal Suppression. Over time, the adrenals can atrophy and are no longer able to produce adequate amounts of cortisol, causing Secondary Adrenal Insufficiency.

Secondary Adrenal Insufficiency (SAI) can be an unfortunate outcome for patients being treated with any form of steroids, such as

- Joint and muscle steroid injections
- Topical applications
- Oral tablets
- Inhaled steroids
- Intravenous steroids

Patients taking steroids for longer than two weeks are at risk of adrenal suppression. Short treatments (e.g. over 3-days), do not pose a significant risk.

Incidence

Although considered rare in the past, the number of SAI patients is rising rapidly and now outweighs the incidence of Primary Adrenal Insufficiency by 2:1.

Treatment for other illnesses with steroids is the leading cause of SAI.

What are the symptoms?

The clinical presentation of Adrenal Suppression and Adrenal Insufficiency is highly variable. Symptoms are often non-specific and may include:

- Weakness & fatigue
- abdominal pain
- diarrhoea
- Malaise
- headache
- muscle & joint pain & spasms
- Nausea
- Possible growth retardation in children

With suppressed or insufficient adrenals, the body is not able to produce extra cortisol needed to respond to stress situations. This can put the patient at risk for an **adrenal crisis**, a potentially life-threatening event.

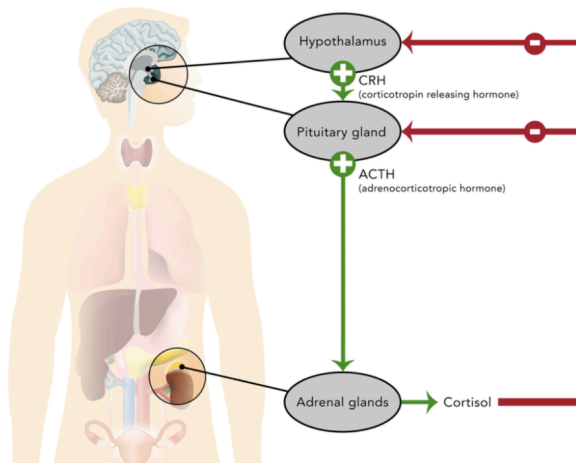


Figure 1: The HPA axis. The amount of cortisol produced by the adrenal glands is precisely balanced through complicated hormonal feedback loops.

Important facts about Steroids and Adrenal Suppression / Insufficiency

Learn more at www.adrenalinsufficiency.org

- Taking steroids, although essential in the treatment of many diseases, can cause Adrenal Suppression and Adrenal Insufficiency.
- Patients taking steroids for longer than two weeks are at risk of adrenal suppression.
- Steroid treatment should never be stopped abruptly. Steroid treatments must be reduced slowly to avoid adrenal crisis.