

# Steroid Side Effects: How to Reduce Corticosteroid Side Effects

## How to Reduce Drug Side Effects

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Corticosteroids, often called just steroids, are anti-inflammatory drugs. Most are synthetic forms of cortisone, a hormone naturally made in your adrenal glands. These include: prednisone (sold under many brand names, such as Deltasone and Sterapred), methylprednisolone (Medrol), prednisolone (Prelone, Pediapred), dexamethasone (Decadron, Hexadrol), and hydrocortisone (Acticort, Cortef).

*Note: This article and the information below do not refer to "androgenic" or "anabolic" steroids, which are properly used only to treat a deficiency of sex hormones in men, but are often abused for muscle-building. They share some chemical similarities but act quite differently - and are not used in treating inflammation.*

Corticosteroids come in many forms; these medications can be taken orally or injected (into a joint, into a muscle, or via intravenous infusion) - all of which may be used in inflammatory arthritis. They may also be applied to the skin as a cream or ointment, used for rashes including those of lupus, or inhaled, as is done for asthma and nasal allergy.

### Understanding Corticosteroid Side Effects

Steroids are often extremely effective in relieving the pain and other symptoms of inflammatory arthritis and other forms of rheumatic disease. In some cases, they may be life-saving.

However, like all drugs, corticosteroids can have negative side effects. The degree to which they occur is usually dose-dependent: the higher the daily dose and the longer the period of time you take the drug, the greater your risk of side effects. ***If your dose is low, your risk of serious side effects is quite small, especially if you take the precautions below and any others your physician recommends.*** Sometimes your physician will arrange for you to take steroids on alternate days, which can decrease side effects.

Reading about these side effects may make you uncomfortable about taking steroids. While you should be fully aware of the risks before starting these medications, please be reassured that many people take steroids with

minor or no side-effects. If any of the suggestions here is unclear, or seems irrelevant to you, please discuss it with your physician.

With long-term use, corticosteroids can result in the following side effects. But taking care of yourself as discussed below may reduce the risks.

### 1. **Altered Response to Physical Stress**

If you have taken steroids for more than two weeks, even if you then stop, your body may have a decreased ability to respond to physical stress - because your adrenal glands may not react as they should normally. This effect can last as long as a year after steroid discontinuation. If you have a surgical procedure, develop a new serious illness, or experience serious trauma (such as a car accident), your body may not be able to respond to the physical stress. Your blood pressure could drop, and other physical effects can occur, which at times can be very serious. This condition, called adrenal insufficiency, can be avoided by taking "stress dose steroids" should such illness or injury occur while you are taking steroids or during the year after you have been on them. The stress dose makes up for the sluggishness of your adrenal glands and provides your body with the steroid it needs to handle the physical stress. After a year off steroids, essentially all patients have been shown to have recovery of adrenal gland function and are able to respond properly to the physical stress of surgery or major illness.

#### *Self-care tips:*

If you are taking or have taken steroids in the past two years, be sure to tell your doctor or dentist. You may need a higher dose of steroid at times of major stress, such as surgery or very extensive dental work or serious infection. Discuss this possibility with the surgeon or dentist, etc., taking care of you at the time.

### 2. **Steroid Withdrawal Syndrome**

Rapid withdrawal of steroids, particularly if you have taken these medications for more than two weeks, may cause a syndrome that could include fatigue, joint pain, muscle stiffness, muscle tenderness, or fever. These symptoms could be hard to separate from those of your underlying disease. That's why steroids should never be withdrawn suddenly, but rather must be tapered slowly.

#### *Self-care tips:*

If you get symptoms like these when you taper your steroids, discuss them with your doctor. Your physician will work with you to continually try to taper your steroid dose, at a safe rate of decrease. On each visit, discuss with your physician whether it is possible to decrease your steroid dose. Even if you develop a side effect that requires stopping or rapidly reducing your steroid therapy, you still need to taper the dose-never stopping or decreasing the dose abruptly. The adverse effects of an abrupt decrease of steroid dose are often worse than the side effect you were concerned about.

### 3. Infection

Long-term steroids can suppress the protective role of your immune system and increase your risk of infection.

#### *Self-care-tips:*

Have a yearly flu shot as long as you are on steroids. If you are on steroids for a prolonged period of time, discuss with your doctor the possibility of getting Pneumovax - a vaccination against a certain type of pneumonia. Get immediate medical attention for signs of possible infection, such as high fever, productive cough, pain while passing urine, or large "boils" on the skin. If you have a history of tuberculosis, exposure to tuberculosis, or a positive skin test for tuberculosis, report this to your doctor.

### 4. Gastrointestinal Ulcers or Bleeding

Steroids may increase your risk of developing ulcers or gastrointestinal bleeding, especially if you take these medications along with non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen or aspirin.

#### *Self-care tips:*

Take the steroid medication after a full meal or with antacid as this may help reduce irritation of the stomach. If you experience frequent heartburn, discuss it with your doctor. An acid-reducing medicine may be prescribed. Call your doctor right away if you have any severe, persisting abdominal pain or black, tarry stools.

### 5. Osteoporosis

Thinning of the bones, with an increase in fracture risk, can be a result of steroid therapy. At the beginning or before the start of steroid therapy, many physicians ask their patients to have a bone density test, especially if the steroid dose is high. The test will be repeated in the future, to assess the effectiveness of measures to prevent bone loss.

#### *Self-care tips:*

- Take calcium supplements and milk products, like cheese or yogurt, to get your calcium intake to at least 1500 mg of calcium a day. It is essential that calcium be taken throughout steroid therapy, since one can lose 10-20% of bone mass within the first 6 months of corticosteroid therapy.
- Take a multivitamin to be sure you get a minimum of 400 IU of vitamin D a day, because it helps the absorption of calcium. Some physicians recommend 800 IU of vitamin D a day.
- Smoking and alcohol increase the risk of osteoporosis, so reduce or eliminate these habits as much as possible.

- Weight-bearing exercises, such as walking, running, and dancing, are helpful in stabilizing bone mass. Exercise will also improve your balance and flexibility and decrease your risk of falls. Ask your doctor about which kinds of exercises are appropriate for you.
- Other bone-preserving medications that your doctor may prescribe depending on your individual medical history include: alendronate (Fosamax), calcitonin (Miacalcin), raloxifene (Evista), and risedronate (Actonel). If women have hot flashes after menopause and are treated with estrogen, this will also help preserve bone density.
- Assess your risk of falls. Thoroughly examine your home and correct situations that might result in a fall, such as eliminating scatter rugs and any obstacles between bedroom and bathroom, and installing night-lights.

## 6. **Weight gain**

Steroids affect your metabolism and how your body deposits fat. This can increase your appetite, leading to weight gain, and in particular lead to extra deposits of fat in your abdomen.

### *Self-care tips:*

Watch your calories and exercise regularly to try to prevent excessive weight gain. But don't let weight gain damage your self-esteem. Know that the weight will come off - and your stomach return to its normal size - relatively easily in the six months to a year after you discontinue steroids.

## 7. **Insomnia**

Steroids may impair your ability to fall asleep, especially when they are taken in the evening.

### *Self-care tips:*

Ask your physician if you can take your entire daily dose in the morning. Try to establish a regular hour for getting into bed and small rituals that help you prepare for sleep. Make sure your bedroom is cool and dark and free of noise. Learn relaxation exercises to help you get rid of the day's tension. If all of this doesn't work, ask your doctor about other options.

## 8. **Mood Changes**

Especially in doses over 30 milligrams per day, steroids can affect your moods. Some people can feel depressed, some extremely "up" and others go up and down for no apparent reason. You also may feel irritable or anxious.

### *Self-care tips:*

Just being aware that steroids can do this sometimes makes it less of a problem, but this side effect at times

requires that the steroid dosage be decreased. When the steroid dose is absolutely necessary, sometimes another medication can be added to help with the mood problem. Make sure your family and friends know about this possible side effect - so they will know what's going on if you respond in an unexpected way. Ideally, tell your family and friends about this possible side effect as you start the medication, so that they can help you detect any changes in your behavior.

#### **9. Fluid Retention and Elevated Blood Pressure**

Because cortisone is involved in regulating the body's balance of water, sodium, and other electrolytes, using these drugs can promote fluid retention and sometimes cause or worsen high blood pressure.

##### *Self-care tips:*

A low sodium diet helps reduce fluid accumulation and helps control blood pressure. Look for low-salt versions of typically high-salt foods, such as chips, soups, canned vegetables, salad dressings, and prepared foods. You'll get more salt "taste" if you salt food at the table rather than during cooking. Watch for swelling of your ankles, and report it to your doctor. Have your blood pressure checked regularly, especially if you have a history of hypertension. In some instances, your physician may prescribe diuretics (water pills) or other medications to manage these problems.

#### **10. Elevated Blood Sugar:**

Since cortisone is involved in maintaining normal levels of glucose (sugar) in the blood, long-term use may lead to elevated blood sugar or even diabetes.

##### *Self-care tips:*

See your doctor regularly for blood sugar checks while you are on steroids. If you already have diabetes, follow your prescribed medical and dietary regimen with care, including regular monitoring of your sugar levels, ideally both at home and in your physician's office.

#### **11. Eye Problems:**

Steroids can sometimes cause cataracts or glaucoma or worsen these conditions if they are already present.

##### *Self-care tips:*

If you have a history of glaucoma or cataract, tell your ophthalmologist if you are started on steroids because a special schedule of check-ups may be needed. If you develop any visual problems while on steroids, see your ophthalmologist promptly. Some steroid-caused blurred vision may be temporary and not serious. However, ophthalmology evaluation should always be arranged for any new visual symptoms while on steroids. Let your ophthalmologist decide if the symptom is serious.

## 12. Atherosclerosis (Hardening of the Arteries)

Steroids may increase the rate of development of atherosclerosis, which could increase your risk of heart disease. This risk is probably much more significant if steroids are taken for more than a year, and if taken in high dose.

### *Self-care tips:*

Follow a heart-healthy lifestyle - a low-cholesterol and low-fat diet, regular exercise, and stress management. If you develop signs suggesting a heart problem, such as chest pain, get medical attention quickly. Make sure that your cholesterol and blood pressure have been checked and treated if necessary.

## 13. Aseptic Necrosis

Steroids, particularly at higher doses, can sometimes lead to a form of damage to bones called "aseptic necrosis" - the death of parts of bone. This can occur in a number of bones, but the bone at the hip joint is the most common.

### *Self-care tips:*

Hip pain, especially if you have no hip arthritis, could be an early sign of this damage. Remember, *your hip joint is actually in your groin* - so that's where the pain would occur - not on your outer buttocks. If you develop groin pain, report it to your doctor immediately so tests can be done to detect the problem.