

**lupus**  **FACT SHEET**

Lupus Canada

## An Introduction to Corticosteroids and Anti-Malarial Drugs

**C**orticosteroids, such as prednisone, methylprednisolone and prednisolone, are often prescribed to treat systemic lupus erythematosus (SLE or lupus). (Note: corticosteroids are not to be confused with anabolic steroids, which are popular with weightlifters for building muscle.)

Cortisone is a steroid manufactured naturally by the body's adrenal glands. It has a distinct anti-inflammatory effect. Synthetic steroids reduce inflammation caused by lupus and suppress immune system activity, but they also cause a variety of side effects, some of which can be quite serious. Side effects occur more frequently when high doses of steroids are taken over a long period of time.

When prescribing steroids, your doctor will choose a dose that minimizes the risk of side effects while keeping lupus symptoms under control. Many short-term side effects are reversible and/or treatable. There are also many preventative measures to reduce the risks of several long-term side effects.

### Types of steroids

Prednisone is the most frequently prescribed steroid used in the treatment of lupus. Taken orally, the synthetic corticosteroid preparation comes in 1, 5, 10 and 20 milligram (mg) tablets. It may be taken as often as four times each day or as infrequently as once every other day. Ten mg per day or less is generally considered a low dose; 11 to 40 mg daily is a moderate dose; and 41 to 100 mg daily is a high dose.

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Other steroids can be applied topically as a cream or injected into the skin for discoid rashes. Some may be injected directly into joints to reduce inflammation. Occasionally, very large doses of steroids may be administered for a short period of time intravenously (pulse) to achieve results quickly. Your doctor may also prescribe steroids in combination with other medications, such as anti-malarials, non-steroidal anti-inflammatory drugs (NSAIDs) and cytotoxic drugs.

### Short-term side effects

The lower the dosage of steroids given over a shorter period of time, the less likely a patient will experience severe side effects. Changes in appearance and mood are more apparent with high doses. Remember that you are unlikely to experience all of these side effects. Taking medication in the morning may help reduce side effects.

Short-term conditions could include the following:

- Weight gain caused by an increase of appetite. To manage weight gain, eat a healthful diet and stay active. Talk to your doctor before beginning any exercise program.
- Redistribution of fat cells, causing the appearance of extra weight in the face, abdomen and upper back, and reduced weight in the arms and legs
- Puffy, round, moon-shaped face, often called “chipmunk cheeks”
- Water retention (edema). To reduce water retention, avoid salty foods.
- Acne
- Facial hair and body hair growth
- Mood swings including irritability, agitation, euphoria or depression
- Insomnia

- Easy bruising due to fragile, thinning skin
- High blood pressure (hypertension).
- High blood sugar (hyperglycemia); symptoms include blurred vision, thirst and more frequent urination
- Increased risk of infection
- Stomach ulcers and upset stomach. To protect the stomach, take steroids with food.
- Hyperactivity

### **Long-term side effects**

- Osteoporosis (thinning of the bones). Calcium and vitamin D supplements and other medications can help prevent osteoporosis.
- Glaucoma and cataracts
- Muscle weakness
- Adrenal insufficiency
- Osteonecrosis (or avascular necrosis), damage to the bones caused by impaired blood flow. It most often occurs in the hips, but can also affect the shoulders, knees and other joints, sometimes requiring joint replacement.
- Premature arteriosclerosis. In combination with other risk factors including lupus itself, long-term use of corticosteroids can lead to a narrowing of the blood vessels by fat (cholesterol) deposits, which can cause heart attacks and strokes.

### **Managing your medication**

If you have a question about your steroids, ask your doctor. It is important that you understand what steroids do, how much you should take and when.

If you've forgotten to take your steroids, take it as soon as you remember. Don't wait until the next day, and do not double the medication you take to make up for a missed dose. Use a pill organizer to keep track of your pills, to remind you when to take the medications, and to help you recognize when you've missed a dose.

When tapering your medication, it's a good idea to ask your doctor to write down your tapering schedule. Use a calendar or tape the directions to your refrigerator or cupboard door. Refer to it when you refill your pill organizer each week. It is also wise to wear a MedicAlert bracelet or carry a card that provides information about the medications you are taking. Since it is common for your steroid dosages to change, especially if you are tapering your medication, keep the card up to date. You will need to know this information for all of your different doctor's appointments.

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*Adjusting your dosage of corticosteroids without your doctor's supervision is risky*

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Adjusting your dosage of corticosteroids without your doctor's supervision is risky. Abruptly stopping the medication is also very dangerous and could be fatal. Since corticosteroids used to treat SLE, such as prednisone, are very similar to cortisone produced naturally by the body's adrenal glands, the body may stop producing the hormones that drive the natural production of cortisone while on a synthetic steroid. Usually, as the steroid dose is slowly tapered, the body resumes producing normal levels of these hormones. However, after prolonged use of the drug, your glands may have trouble returning to normal. If you have persistent fatigue, lightheadedness or nausea as your dose is reduced, alert your doctor.

### **Conclusion**

Researchers are hard at work developing new therapies that will, it is hoped, have fewer side effects than steroids.

For the time being, prednisone and other steroids are the first-line therapy for lupus because they are extremely effective when taken properly.

## Introduction to anti-malarial drugs

Anti-malarial drugs, such as hydroxychloroquine (Plaquenil), chloroquine (Aralen) and quinacrine (Atabrine), have been used in the treatment of systemic lupus erythematosus since the 1950s. Originally used to protect against the infectious disease malaria, anti-malarial drugs also provide relief from some skin conditions and joint pain. Anti-malarials are effective in controlling lupus arthritis, skin rashes, mouth ulcers, inflammation of the heart lining (pericarditis) and lung lining (pleuritis), and other symptoms, such as fatigue and fever. It is not effective in treating more severe symptoms of lupus, such as organ involvement. Anti-malarials are low-toxicity drugs, but they are also slow-acting. It can take weeks or months to see results.

## Short-term side effects

These side effects are usually temporary. If they persist, contact your doctor.

- Upset stomach
- Abdominal bloating and cramps
- Loss of appetite
- Nausea, vomiting, loose stools and diarrhea
- Muscle aches and weakness
- Some people note changes in their hair and skin, have more headaches, but this is not common

These uncommon, but potentially important side effects should be

reported immediately to a physician:

- Blurred vision
- Extreme nervousness, irritability, dizziness, or difficulty focusing
- Confusion and seizures
- Muscle aches and weakness

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*It is extremely important that you have a thorough eye examination when starting treatment with this drug and every 6 – 12 months after that*

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## Long-term side effects

A major potential side effect of anti-malarial use is damage to the retina of the eye. The low doses currently used in the treatment of lupus are rarely associated with this condition; permanent loss of vision has only occurred in a very small number of patients. Still, it is extremely important that you have a thorough eye examination when starting treatment with this drug and every six to 12 months after that, and that your eye doctor be made aware that you are taking anti-malarials. He or she should provide a piece of paper with an Amsler grid, which you should use once a week. Tape the grid to your refrigerator and add it to a chore (for example, do laundry and check eyes).

## WHAT IS THE AMSLER GRID?

The Amsler Grid is a screening test to assess the macula, which is the centre of the retina. The Grid is a block of evenly spaced vertical and horizontal lines (usually black lines on white paper) with a small dot in the middle. The patient is asked to focus on the small dot, but also to watch for any grid lines in the peripheral vision that are not straight or areas of the grid that are missing in the line of vision. Notify your doctor if any changes in the Amsler Grid home screening test are noticed.

This is a condensed list from the Lupus Medications Fact Sheet. See this Fact Sheet for more details on medications to treat lupus and tips to manage your treatments.

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*Anti-malarial drugs provide relief from some skin conditions and joint pain...and other symptoms such as fatigue and fever*

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### Managing your medication

Your dosage of anti-malarials is based on your ideal body weight. Never take more than what has been prescribed by your doctor.

Most rheumatologists now believe it is safe to use hydroxychloroquine during pregnancy. However, you should discuss all potential medical risks, including medications, with your doctor when planning a pregnancy. Do not smoke, as this lessens the effectiveness of the drug.

### Conclusion

As with any medication, anti-malarials must be taken properly in order to be effective. Speak with your doctor or pharmacist if you are unsure how or when to take your medication.



## QUICK TIPS

- When taking any medication, make sure you follow the directions
- Try to take your medication at the same time(s) each day
- Ask which side effects are considered serious enough to require immediate medical attention
- Do not adjust dosages without the input of a physician
- Use a days-of-the-week pill container to organize your medication
- Always inform every doctor you see about your lupus and all of the medications you're taking
- Keep your drugs away from children and pets, and store them in a cool, dry place
- Do not take any new medications, over-the-counter, naturopathic or otherwise, until you've consulted your rheumatologist.

### FOR MORE INFORMATION



- Lupus Canada: [www.lupuscanada.org](http://www.lupuscanada.org). This site includes electronic versions of the *Living Well with Lupus* fact sheets.
- *Lupus: The Disease with a Thousand Faces*, edited by Dr. Sasha Bernatsky and Dr. Jean-Luc Senécal, Key Porter Books (2004) ISBN 1-55263-603-8. Contact Lupus Canada to order this book.

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#### Disclaimer

*Systemic lupus erythematosus is an autoimmune disease that affects thousands of Canadians, mostly women in their childbearing years. Symptoms vary greatly from person to person and treatment is highly individualized. Patients are urged to contact their physician or healthcare professional with any questions or concerns they might have.*

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