LUPUS
Causes, Symptoms and Treatments
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What is Lupus?

There are many types of lupus. The most common is systemic lupus erythematosus (SLE), a chronic autoimmune disease, which means the body attacks and damages its own tissues. As a result, inflammation can occur in the skin, joints, kidneys, heart, lungs, blood vessels and the nervous system. The condition can vary in severity. A person may experience active periods, commonly known as flares or flare-ups, and times where there is decreased activity or even inactivity (remission).

SLE affects about one in every 1,000 Canadians. Men, women and children can all be diagnosed with lupus but it is far more common in women (nine times more women than men are diagnosed).

Other types of lupus include discoid lupus erythematosus (DLE) and sub-acute cutaneous lupus (SCLE), where skin rashes and sun sensitivity are the primary symptoms. Some people with skin lupus (cutaneous) also develop systemic lupus but most do not.
Symptoms of lupus

Lupus can have non-specific symptoms such as flu-like symptoms and fatigue, weight loss, severe headaches, hair loss, hives, high blood pressure or changes in the colour of fingers in the cold.

The symptoms of lupus are different for each person. These symptoms can be mild or severe and may include:

- A red rash across the cheeks and nose (butterfly rash).
- Sensitivity to sunlight or ultraviolet light.
- Small, painless sores in the mouth or nose (mucosal ulcers).
- Arthritis in the hands, arms, shoulders, feet,

Facts on lupus

- Systemic lupus erythematosus (SLE), the most common form of lupus, affects one in every 1,000 Canadians.
- Women in their childbearing years (age 15 to 45) are nine times more likely to develop lupus than men.
- Like most chronic diseases, there is currently no cure for lupus; however, there are effective medications available to treat symptoms.
What is Lupus?

knees, hips and/or other joints. The joints may be warm, red and/or swollen.
• Disturbance in mental functioning, which results in the loss of touch with reality.
• Decreased blood cell count (lower amounts of circulating red blood cells, white blood cells or platelets).
• Autoantibodies (proteins in the body that abnormally attack healthy body tissue) can be detected by blood tests.
• Inflammation in the lining of the lungs or inflammation of the lining of the heart, which will cause chest pain when lying down or taking deep breaths.
• A mild or severe decrease in kidney function, which can cause weight gain or swelling of the feet and legs.

How is lupus diagnosed?

Your doctor will make a diagnosis based on your symptoms, a physical examination and laboratory test results. A definite diagnosis may be tricky at first, as lupus can involve almost any single or combination of organs or tissue in the body. Signs and symptoms of lupus can be different for every person with the disease.

A primary test to help detect autoimmune disorders is the anti-nuclear antibody (ANA) test. It is important to note that a positive ANA is very common. It is rarely negative in SLE, but it is positive in SLE as well as commonly positive in healthy people. There is no blood test that makes a diagnosis of SLE.
Lupus and pregnancy

While most women with lupus are able to deliver healthy babies, some lupus pregnancies are considered high-risk. Specifically, women with lupus carry an increased risk of miscarriage, premature delivery and preeclampsia (a condition that pregnant women develop, marked by high blood pressure and a high level of protein in the urine) as well as heart problems in the baby. To ensure the best outcome for you and your baby, the first step is to meet with your doctor about a year in advance of when you plan to become pregnant so that you can discuss ideal timing and a treatment plan. For instance, your doctor may recommend you stop taking certain medications and that you schedule meetings with other health-care specialists, such as an obstetrician that specializes in high-risk pregnancies. Generally, the safest time to become pregnant is when lupus is inactive. Drugs such as anti-malarials and azathioprine and low dose prednisone are considered safe, whereas mycophenolate mofetil and ACE-inhibitors should not be used during pregnancy.
**What is Lupus?**

There are many treatments that can help you manage the symptoms of lupus. Treatment is based on the type of symptoms and their severity. You can live well with lupus, but a treatment tailored to you is important. Regular check-ups with your health-care provider(s) are necessary, so that you (and they) can detect any early warning signs of a flare, leading to earlier and more effective treatments.

**Body parts affected by lupus**

- Joints
- Skin
- Cell counts (white cells, red cells, platelets)
- Kidneys
- Heart and lung lining
- Blood vessels (uncommon)
- Brain (uncommon)
- Other (muscles, organs, etc...)

**Risk factors**

The cause of lupus is unclear, but researchers believe it results from a combination of genetic and environmental factors. In genetically susceptible people, there are various external/environmental factors that can provoke an immune response. Possible triggers likely include sun exposure, common viruses and certain drugs. It is important to avoid smoking, eat healthy, exercise and manage stress effectively.
Managing Lupus

Each person’s pattern of lupus is unique. However, most people with lupus can look forward to leading a regular life if they follow the advice of their doctor(s), take medication(s) as prescribed and seek help for new symptoms or medication side effects.

Controlling flares is important in the day-to-day management of lupus. Adopting a healthy lifestyle is essential. This includes a nutritious diet, exercise, keeping an ideal body weight, not smoking, getting enough sleep, wearing sunscreen and keeping stress levels down.

Additionally, medications are generally needed to bring lupus symptoms under control. The goal of prompt treatment is to avoid permanent tissue damage. For more information on medication, see page 14.

SLE presents an increased risk of heart attacks and strokes due to inflammation related to the disease. It may also increase your risk of high blood pressure, high cholesterol and diabetes. These comorbidities (two or more diseases existing at the same time in the body) are more common in SLE sometimes due to treatment such as prednisone. For these reasons, be sure to check your cholesterol, blood pressure and blood sugar regularly. Young women with SLE also require regular Pap tests as abnormal Pap tests are more common in SLE.
Sun exposure

People with lupus have sun sensitive skin, also known as photosensitivity. This means exposure to sun and even artificial lighting can cause those living with lupus to experience increased disease activity with symptoms such as joint pains, weakness and fatigue. In fact, sun exposure may even cause a flare among previously unaffected internal organs, including the kidneys, lungs and brain. Try to avoid prolonged sun exposure and be especially careful at mid-day, when ultraviolet light is strongest. Use a sunscreen with an SPF 15 or higher and SPF 30 if you work outdoors or plan to be outside most of the day. Also remember to reapply sunscreen liberally and frequently after spending time outside or in water. Other UVA protection can be provided by wearing sun protective clothing and using sun shields on your house and car windows. Avoid tanning beds altogether.

Physical activity

Exercise can help promote general well-being. It may also help fight depression and even reduce your risk of serious health problems like a heart attack.

Physical activity protects joints by strengthening the muscles around them. Strong muscles and tissues support those joints that have been weakened and damaged by arthritis. A properly designed program of physical activity (with advice from a health-care provider, such as a physician or a physiotherapist/occupational therapist) may improve mobility, strength and overall fitness as well as alleviate depression. Note, however, when you are experiencing a flare and/or your joint(s) is swollen and hot, you should rest the joint(s) and only perform light range-of-motion exercise.
There are different types of exercises you can do that may lessen your pain and stiffness:

**Range of motion (also called stretching or flexibility exercises):** Exercises that reduce pain and stiffness and keep your joints moving. To achieve the most benefit, these exercises should be done daily. Also, visit arthritis.ca/videos to view our “Simple Stretches” video.

**Strengthening:** Exercises that maintain or increase muscle tone and protect your joints. These exercises include weight training movements done with a set of “free” weights, your own body weight or weight machines.

**Endurance:** Exercises that strengthen your heart, give you energy, control your weight and help improve your overall health. These exercises include walking, swimming and cycling. It is best to avoid high-impact exercises like step aerobics, jogging or kickboxing.

There are many low-impact exercise options that can benefit people living with lupus. Consult your healthcare provider to find an exercise(s) that is suitable to you and your particular condition. Examples include:

**Tai chi:** Tai chi, an ancient Chinese martial art, is a combination of movements performed in a slow, focused manner. Though it has many variations and styles, Tai chi is a low-impact exercise and is reminiscent of both yoga and meditation. Tai chi could improve pain and physical function in some people as well as alleviate depression and contribute to health-related quality of life.

**Yoga:** Numerous studies have been done on the benefits of yoga on stress and anxiety. The practice of breath control, simple meditation and stretching can improve a person’s state of mind and help them better manage their pain. Regular yoga under the guidance of a
certified instructor can also boost one’s general health and increase energy levels.

**NOTE:** Most people living with arthritis should avoid strenuous yoga routines, such as Bikram and power yoga.

**Aerobic exercise:** Low-impact aerobic exercise that gets your heart pumping, such as swimming, biking and brisk walking, can help improve your sleep, keep weight under control and alleviate stress and depression that is sometimes linked to lupus.

**NOTE:** For more exercise tips, check out our *Physical Activity and Arthritis* guide, available at arthritis.ca/publications.

**Healthy eating**

Healthy eating will give you the energy to complete your daily activities as well as to promote a strong immune system and bone and tissue health. Sometimes you may have dietary restrictions, especially if you have high blood pressure, kidney damage or gastrointestinal problems.

Three ways to improve your nutrition include:

1. **Reduce sugar intake:** Sugar added to foods contributes calories, but few other nutritional benefits. This refers to white, brown, cane and raw sugar as well as syrup and honey. Use dried fruits like raisins or dates to sweeten food since they provide vitamins, minerals and fibre. Also watch out for “hidden” sugar, such as glucose, sucrose and high-fructose corn syrup, which can be found in products like cereal, jams, jellies, relish, ketchup and salad dressings.
2. **Eat more vegetables and fruit**: Vegetables and fruit should make up the largest part of your diet. Try to have at least one vegetable or fruit at every meal and as a snack. Besides being an excellent source of energy, vegetables and fruit boost your fibre intake, which in addition to whole grains are relatively filling and help with effective weight management.

3. **Choose “healthy fats”**: The type and amount of fat you eat is important. You need some fat in your diet, but too much can be bad for your health. Fat is high in calories and some types of fat (saturated and trans fats) may increase risk of developing heart disease. Polyunsaturated and monounsaturated fats are recommended as the main source of fat in your diet. Monounsaturated fat is found naturally in olive and canola oil, avocados and nuts like almonds, pistachios and cashews. Polyunsaturated fats include omega-3 and/or omega-6 fatty acids and can be found in cold-water fish (e.g. char, mackerel, salmon and trout), walnuts, sunflower seeds and flaxseeds. Fats that should be limited include trans fats, which are found in fried and processed foods, and saturated fats, which mainly come from animal sources of food, such as red meat, poultry and full-fat dairy products.

**Corticosteroids and nutrition**

Corticosteroid pills (e.g., prednisone), when taken long-term, can decrease bone strength and increase your risk of fracture. It is important to follow a highly nutritious diet with plenty of calcium and vitamin D. Doctors usually recommend calcium and vitamin D supplements when taking high-dose corticosteroids.

Most women need supplemental vitamin D. People with SLE who avoid...
the sun should also consider regular vitamin D supplements. Consult your health-care provider about how much to take.

**NOTE:** For more healthy eating tips, check out our *Nutrition and Arthritis* guide, available at arthritis.ca/publications.

### Lupus Management — Quick Tips:

- Consult your health-care provider about birth control and discuss the best time for pregnancy
- Talk to your health-care provider when considering complementary therapies to manage lupus
- Seek support and counseling for stress
- Get immunized regularly, including the annual flu shot, HPV vaccination (females and males aged nine to 26 years), tetanus vaccination every 10 years and check with doctor if you should get the pneumococcal vaccination and shingles vaccination
- Exercise and eat a well-balanced diet
- Apply sunscreen regularly
- Don’t smoke

### Complementary therapy

People with a chronic disease like lupus may decide to try complementary and alternative therapies to help them manage the symptoms of their condition. Complementary and alternative therapies are treatments that fall outside the scope of traditional North American medicine. Examples include naturopathic medicine, acupuncture and meditation.

Before trying any of these treatments, inform your health-care provider of any complementary and alternative therapies you are taking, receiving or would like to try. Your health-care provider can offer valuable advice about these treatments, especially how they may affect other medications and treatments.
NOTE: These therapies should not be substituted for western medicine, but could be complementary.

Acupuncture

Acupuncture, an ancient Chinese therapy, involves pricking the skin or tissues with needles to alleviate pain and treat various physical and mental health conditions. There is some research showing that acupuncture can relieve pain and in turn may reduce stress. If you are interested in trying it, it is important to find a certified practitioner.

Massage

Massaging of muscles and other soft tissues, by a professional massage therapist, may lead to a decrease in stiffness and pain. Other benefits may include a reduction in stress and anxiety as well as improved mobility and overall function of the joints. If you have lupus symptoms that primarily affect the skin (e.g., cutaneous lupus (S克莱)), you may want to avoid intense massage that can lead to pain or even bleeding underneath the skin.

Dietary supplements

Fatty acids have been shown in some studies to reduce inflammation.

- **Omega-3**: Omega-3 polyunsaturated fatty acids, particularly as found in cold water fish (e.g., salmon and trout) and the oil produced from them, can be helpful for inflammatory arthritis. However, be aware that omega-3 fatty acids can interact with medication you may be taking for arthritis or other conditions, such as high blood pressure. For instance, it can increase the risk of bleeding, especially in people who take aspirin. These fatty
acids may lower cholesterol and improve moods, but are not substitutes for usual drug treatment. It is best to consult your doctor or pharmacist before taking omega-3 supplements.

• **Omega-6**: Omega-6 fatty acid, which is found in the oil from seeds of several plants including evening primrose, borage and black currant, is used to reduce symptoms of lupus. However, there is no evidence as to whether these fatty acids actually reduce inflammation.

• **Vitamin D**: Low levels of vitamin D are associated with autoimmune diseases and since people with lupus may need to avoid sun exposure, this can increase that deficiency. Some research has shown that having vitamin D in the blood can lower lupus disease activity. Consult your health-care provider about appropriate dosage amounts of vitamin D supplements.

**Meditation**

Meditation is a mind-body practice intended to quiet the mind by focusing on your breathing. Some studies have found that meditation, if practiced regularly, can ease pain and anxiety in individuals with lupus. It can also offer people a heightened sense of calmness and control.

**NOTE**: For more information on complementary therapy, check out *Complementary and Alternative Therapies*, available at arthritis.ca/publications.
What medications are used for lupus?

The type and dosage of medications used to treat lupus will depend on the severity of the condition. Generally, medications are used to relieve symptoms by reducing inflammation and pain. Treatment may also be changed or adjusted as symptoms “flare-up” up or decrease.

In some cases, medications may bring about a remission. Prompt treatment may also reduce the chance of permanent tissue damage.

**Corticosteroids**

Cortisol is a hormone produced naturally by the body’s adrenal glands that has many functions in our bodies. One of cortisol’s important actions is its anti-inflammatory function. Cortisol can be considered the “brake” for our immune system, preventing it from overreacting to infections, injuries and trauma. Corticosteroids, such as prednisone, mimic the anti-inflammatory action of cortisol in our bodies and help to relieve pain and swelling from arthritis. Corticosteroids are commonly referred to as steroids.

Prednisone is a steroid pill used to treat inflammatory types of arthritis, such as lupus. Prednisone acts quickly and effectively to decrease inflammation, but side effects are a major limitation to long-term use. Some of the side effects include weight gain, sleep disturbance, mood changes, easy bruising, thinning bones (osteoporosis), increased risk of infection, high blood pressure and sometimes diabetes. The risk of many side effects increases with higher doses and longer term therapy. However, it is important to remember that not all side effects occur in everyone. Many side effects are more commonly associated with use of higher doses and often disappear with the decrease and discontinuation of prednisone (which should always be done carefully under the guidance of your specialist). The dose of prednisone varies widely and is based on your disease
and the goals of treatment established by you and your health-care provider. Therefore, there is really no standard dose.

**Acetaminophen**

Acetaminophen is found in a number of other over-the-counter medications, such as cough and cold products and prescription medications for pain relief. However, it is not an anti-inflammatory drug. It can be used with SLE medications. It is also important not to exceed the maximum daily dose of acetaminophen.

**Non-steroidal anti-inflammatory drugs (NSAIDs)**

Non-steroidal anti-inflammatory drugs (NSAIDs) are a class of medication used to treat the pain and inflammation of arthritis. They do not contain steroids, hence the name “non-steroidal.” NSAIDs are a very large category of medications, some of which you can obtain without a prescription, such as acetylsalicylic acid (ASA) (e.g., Aspirin®, Entrophen®, Novasen®), ibuprofen (e.g., Motrin® or Advil®) and naproxen (Aleve®). The list of NSAIDs is long, with more than 20 currently available. NSAIDs are often used when acetaminophen does not control the pain. NSAIDs are often used for joint pain and inflammation. Consult your doctor(s) before taking any over-the-counter drug that contains an NSAID.

**Disease-modifying anti-rheumatic drugs (DMARDs)**

Disease-modifying anti-rheumatic drugs (DMARDs) are a class of medications used to treat inflammation long-term. Hydroxychloroquine (HCQ) is a drug that can help treat and prevent flares in systemic lupus erythematosus (SLE) flares. HCQ is generally well tolerated. Potential side effects associated with HCQ include upset stomach and/or diarrhea. Studies have
also shown that lupus patients taking HCQ early after a diagnosis experienced less cumulative organ damage. Anyone taking this or a similar drug should see an ophthalmologist (eye doctor) every six to 12 months to ensure eye health (a rare but important complication). Speak to your doctor about this.

**Immunosuppressants**

Drugs that suppress the immune system may be helpful in many cases of lupus. Some examples include azathioprine (Imuran), mycophenolate (CellCept, Myfortic) and methotrexate (Aminopterin). Potential side effects may include an increased risk of infection, low cell counts and liver inflammation. Your doctor will tell you which lab tests need to be monitored to be sure you are having none of these side effects.

Cyclophosphamide is used when lupus affects major organs. It can increase the risk of infection, cause drops in blood counts and irritation of the liver, kidneys or bladder. High doses over time can increase the risk of bladder cancer and some other lymph cancers but this is very rare.

There is another class of drugs known as “biologics” that are sometimes used to treat lupus. A newer medication, belimumab (Benlysta), reduces lupus symptoms in some people. Side effects could include infusion reactions, nausea, diarrhea and fever. Other biologics are sometimes used to treat SLE and more are currently under investigation.

**NOTE:** For more information on arthritis medications, check out *Arthritis Medications: A Reference Guide*, available at arthritis.ca/publications.
The Arthritis Society has been setting lives in motion for over 65 years. Dedicated to a vision of living well while creating a future without arthritis, The Society is Canada’s principal health charity providing education, programs and support to the over 4.6 million Canadians living with arthritis. Since its founding in 1948, The Society has been the largest non-government funder of arthritis research in Canada, investing over $190 million in projects that have led to breakthroughs in the diagnosis, treatment and care of people with arthritis.

Become a Volunteer

Help others through meaningful work. By volunteering with The Arthritis Society, you can give back to your community, learn new skills, gain work experience and meet new friends. Visit arthritis.ca or call 1.800.321.1433.

Donate Online

Donations to The Arthritis Society support vital research and services that help improve the lives of people with arthritis. There are many ways to give, visit arthritis.ca/donate to make a contribution and learn more.
The Arthritis Society offers free education, programs and support to Canadians living with arthritis.

- **Programs and services:** Join us for adult and child educational sessions, such as the Chronic Pain Management Workshop (arthritis.ca/cpmw) and various public forums.

- **Online self-management courses:** Try e-learning programs like *You and Your Health-Care Provider: A Guide for Effective Conversations* and *Overcome Fatigue* (arthritis.ca/education).

- **Publications:** We publish several information booklets to help people living with arthritis understand more about their condition and treatment options as well as tips on how to self-manage. For a list of arthritis conditions and related resource materials, including a digital copy of this information, visit arthritis.ca/publications.

Learn more and connect with our online community at arthritis.ca.