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By Chris at 3:28 pm, Dec 21, 2015

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## Systemic lupus erythematosus

Systemic lupus erythematosus (SLE) is an autoimmune disease in which the body's immune system mistakenly attacks healthy tissue. It can affect the skin, joints, kidneys, brain, and other organs.

### Causes

The underlying cause of autoimmune diseases is not fully known.

SLE is much more common in women than men. It may occur at any age, but appears most often in people between the ages of 10 and 50. African Americans and Asians are affected more often than people from other races.

SLE may also be caused by certain drugs.

### Symptoms

Symptoms vary from person to person, and may come and go. Almost everyone with SLE has joint pain and swelling. Some develop arthritis. The joints of the fingers, hands, wrists, and knees are often affected.

Other common symptoms include:

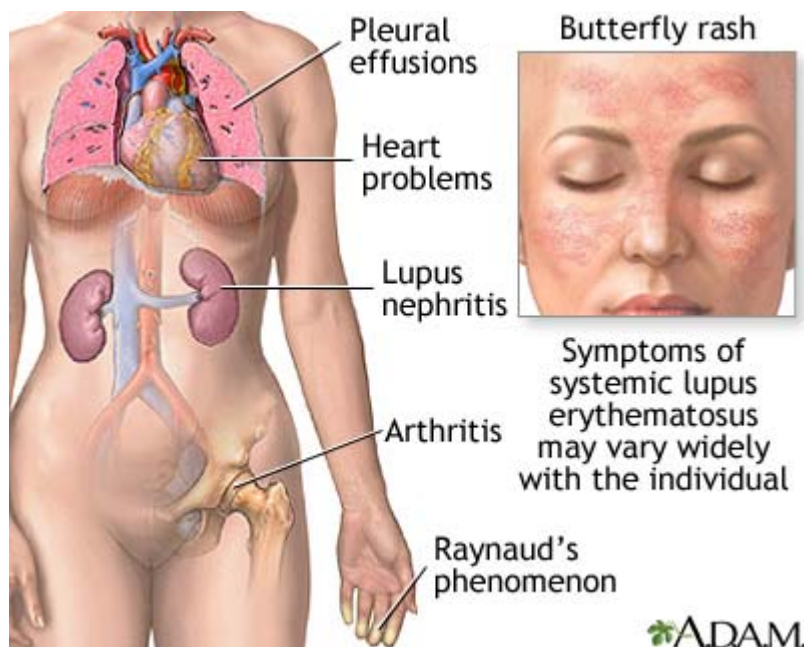
- Chest pain when taking a deep breath
- Fatigue
- Fever with no other cause
- General discomfort, uneasiness, or ill feeling (malaise)
- Hair loss
- Mouth sores
- Sensitivity to sunlight

- Skin rash. A "butterfly" rash in about half people with SLE. The rash is most often seen over the cheeks and bridge of the nose, but can be widespread. It gets worse in sunlight.
- Swollen lymph nodes

Other symptoms depend on which part of the body is affected:

- Brain and nervous system: headaches, numbness, tingling, seizures, vision problems, personality changes
- Digestive tract: abdominal pain, nausea, and vomiting
- Heart: abnormal heart rhythms (arrhythmias)
- Lung: coughing up blood and difficulty breathing
- Skin: patchy skin color, fingers that change color when cold (Raynaud phenomenon)
- Kidney: swelling in the legs, weight gain

Some people have only skin symptoms. This is called discoid lupus.



## Exams and Tests

To be diagnosed with lupus, you must have 4 out of 11 common signs of the disease. Nearly all people with lupus have a positive test for antinuclear antibody (ANA). However, having a positive ANA alone does not mean you have lupus in most cases.

The health care provider will do a physical exam and listen to your chest. An abnormal sound called a heart friction rub or pleural friction rub may be heard. A nervous system exam will also be done.

Tests used to diagnose SLE may include:

- Antinuclear antibody (ANA)
- CBC with differential
- Chest x-ray
- Serum creatinine
- Urinalysis

You may also have other tests to learn more about your condition. Some of these are:

- Antinuclear antibody (ANA) panel
- Complement components (C3 and C4)
- Coombs' test - direct
- Cryoglobulins
- ESR
- Kidney function blood tests
- Liver function blood tests
- Rheumatoid factor
- Antiphospholipid antibodies
- Kidney biopsy

## Treatment

There is no cure for SLE. The goal of treatment is to control symptoms. Severe symptoms that involve the heart, lungs, kidneys, and other organs often need treatment from specialists.

Mild forms of the disease may be treated with:

- NSAIDs for joint symptoms and pleurisy (Talk to your provider before taking these drugs.),
- Low doses of corticosteroids such as prednisone
- Corticosteroid creams for skin rashes
- A drug also used to treat malaria (hydroxychloroquine) and low-dose corticosteroids for skin and arthritis symptoms
- A biologic drug named belimumab may be helpful in some people.

Treatments for more severe SLE may include:

- High-dose corticosteroids

- Immunosuppressive drugs (drugs which dampen or suppress the immune system): These medicines are used if you do not get better with corticosteroids, or if your symptoms get worse when you stop taking them. Side effects from these drugs can be severe, so you need to be monitored closely if you take them. These drugs include methotrexate, azathioprine, cyclosporine, mycophenolate and cyclophosphamide.

If you have SLE, it is also important to:

- Wear protective clothing, sunglasses, and sunscreen when in the sun.
- Get preventive heart care.
- Stay up-to-date with immunizations.
- Have tests to screen for thinning of the bones (osteoporosis).

## Support Groups

Counseling and support groups may help with the emotional issues involved with the disease.

## Outlook (Prognosis)

The outcome for people with SLE has improved in recent years. Many people with SLE have mild symptoms. How well you do depends on how severe the disease is.

The disease tends to be more active:

- During the first years after diagnosis
- In people under age 40

Many women with SLE can get pregnant and deliver a healthy baby. A good outcome is more likely for women who receive proper treatment and do not have serious heart or kidney problems. However, the presence of SLE antibodies raises the risk of miscarriage.

## Possible Complications

Some people with SLE have abnormal deposits in the kidney cells. This leads to a condition called lupus nephritis. People with this problem may go on to develop kidney failure and need dialysis or a kidney transplant.

SLE can cause damage in many different parts of the body, including:

- Blood clots in arteries or veins of the legs, lungs, brain, skin, or intestines
- Destruction of red blood cells or anemia of chronic disease

- Fluid around the heart (pericarditis), or inflammation of the heart (myocarditis or endocarditis)
- Fluid around the lungs and damage to lung tissue
- Pregnancy problems, including miscarriage
- Stroke
- Severely low blood platelet count (platelets are needed to stop any bleeding)
- Inflammation of the blood vessels

## When to Contact a Medical Professional

Call your health care provider if you have symptoms of SLE. Also call if you have this disease and your symptoms get worse or a new symptom occurs.

## Alternative Names

Disseminated lupus erythematosus; SLE; Lupus; Lupus erythematosus

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## Update Date 1/20/2015

Updated by: Gordon A. Starkebaum, MD, professor of medicine, division of rheumatology, University of Washington School of Medicine. Also reviewed by David Zieve, MD, MHA, Isla Ogilvie, PhD, and the A.D.A.M. Editorial team.



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U.S. Department of Health and Human Services National Institutes of Health

Page last updated: 02 December 2015