

Serum Sickness



Serum sickness is an immune system reaction. It's triggered by antiserums or antivenins, and by certain types of proteins in medicines used to treat an infection or condition. People with serum sickness often have a rash, fever, and joint pain. Serum sickness occurs in both adults and children. It's seen more often in adults.

A different but related condition is called serum sickness-like reaction (SSLR). SSLR is also an immune system reaction. But it occurs more often in children. And SSLR symptoms are less severe.

What causes serum sickness?

Serum sickness occurs when a person's immune system mistakenly attacks the proteins in certain medicines and antiserums or antivenins. These proteins don't come from human sources. In most cases, they come from animals. The body thinks these nonhuman proteins are harmful. When the immune system and these proteins combine, they bind together and can build up in the blood. When this happens, symptoms occur.

Serum sickness can be caused by:

- Antiserums or antivenins such as:
 - Treatments for poisonous snakebites
 - Treatment for rabies
- Monoclonal antibody medicines used for cancer treatment, such as rituximab
- Rabies vaccine

In some cases, insect stings, such as bee stings, have been linked to serum sickness.

Symptoms of serum sickness

Symptoms of serum sickness often appear within 2 weeks after the first exposure to the medicine or substance. If a person has had symptoms before when taking the medicine or substance, then symptoms can be more severe the next time. They may also appear sooner, in a few days.

Symptoms can include:

- Fever
- Skin rash (often itchy)
- Overall feeling of tiredness (malaise) or being ill
- Joint pain, including the knees, wrists, shoulders, and ankles
- Headache
- Blurry vision
- Facial swelling
- Redness or swelling of lower legs or hands
- Swollen lymph nodes
- Enlarged spleen

Diagnosing serum sickness

To diagnose serum sickness, the healthcare provider will:

- Do a physical exam
- Take your health history
- Ask about symptoms
- Ask about events or illness that may have occurred 2 weeks before symptoms started, such as:
 - Any illness or feeling sick
 - Use of antibiotics or any other medicines
 - Recent vaccines, especially for snakebites or rabies

Lab tests may be needed, such as:

- Blood tests. These are done to look for a hidden (underlying) illness or condition.
- Urine test. This is done to look for an underlying condition.
- Skin biopsy (rare). A small tissue sample of the rash may be taken and tested.

Testing may also be done to rule out other conditions that may cause symptoms similar to serum sickness, such as:

- Lyme disease
- Infections (bacterial, viral)
- Fever (scarlet fever and acute rheumatic fever)
- Arthritis (systemic juvenile idiopathic arthritis, reactive arthritis, acute rheumatic fever)
- Conditions with sores or rashes (Kawasaki disease, Sweet syndrome, Stevens-Johnson syndrome)
- Other medicine reactions

Treatment for serum sickness

For most mild to moderate cases of serum sickness, the main treatment is simply to stop taking the medicine or substance that likely caused the immune reaction. Then symptoms will typically go away. Often the rash won't leave any scarring.

The healthcare provider will decide if it's OK to take the medicine or substance again in the future. Symptoms can be more severe, and appear sooner, the next time. It's important to share this information with all of your or your child's healthcare providers. Be sure it's added to all medical records or charts as well.

The healthcare provider may advise additional treatment to help with symptoms, such as:

- Corticosteroids. These medicines may be taken by mouth or applied as a cream, as prescribed.
- Nonsteroidal anti-inflammatory drugs (NSAIDs). These medicines may help ease joint pain. They may be prescribed or available over the counter.
- Antihistamines. These may be prescribed to help ease the rash and itching.
- Cold packs. Using these can help ease itching.

When to call your healthcare provider

Call your healthcare provider if any of these symptoms occur:

- Rash or joint pain doesn't go away in 2 weeks
- Symptoms get worse
- New symptoms occur
- Fever of 100.4°F (38°C) or higher, or as advised by the provider

Call

Call right away if any of these occur:

- Feeling of doom
- Trouble breathing or shortness of breath
- Other symptoms as advised by your healthcare provider

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