

Patient information from BMJ

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Rheumatic fever

Rheumatic fever is a rare but serious condition that can happen after bacterial infection. It mainly affects children. There is no cure but treatments can relieve the symptoms and help prevent further problems. Symptoms usually disappear in a few weeks, but some people might have long-term complications.

What is rheumatic fever?

Rheumatic fever is an illness that can happen after getting an infection from a bacteria called **group A streptococcus**. If the infection isn't treated properly with antibiotics, it can lead to rheumatic fever.

The symptoms of rheumatic fever are caused by the body's reaction to the streptococcus infection. The **immune system**, which usually fights off infections, attacks some of the body's own tissues while trying to fight the streptococcus infection.

This can cause problems with the joints, brain, skin, and heart. Most of these problems are temporary and will go away by themselves, but **heart problems** can be more serious.

Rheumatic fever can cause inflammation of the heart (doctors call this **carditis**). It can damage the valves in the heart, making it harder for the heart to pump blood properly. Damage to the heart will most likely be **permanent**.

Who gets rheumatic fever?

Some things can make it more likely for a person to get rheumatic fever:

- **Age:** Rheumatic fever affects children much more often than adults.
- **Where you live:** Rheumatic fever happens more often in resource-poor countries where medical treatment might not be easily available.
- **Household overcrowding:** Streptococcal infections spread more easily when lots of people live close together.
- **Family history:** Rheumatic fever is more likely to happen if someone else in the family has had it before.
- **Ethnic background:** Some studies show that rheumatic fever is more common among Aboriginal Australian or Polynesian (including Māori, Samoan, and Hawaiian) families.

What are the symptoms of rheumatic fever?

As the name suggests, the main symptom of rheumatic fever is a **raised temperature**.

Other possible symptoms include:

- **Swollen or painful joints:** Your joints might be swollen and feel warm or stiff. They might be very painful. If your legs are affected it could be too painful to walk. The knees, ankles, wrists, elbows and hips are most commonly affected.
- **Chest problems:** You might feel chest pain or discomfort, or find it difficult to catch your breath. You might feel palpitations, where your heart feels like it's beating harder or faster than usual.
- **Chorea:** You might have chorea, which is when your arms, legs or face move or twitch on their own without your control. You might make random, jerky movements, or you might feel more clumsy than normal. Most people don't have chorea, but it's more common in females.
- **Skin problems:** You might have a pink, wavy rash, which might not be obvious if you have dark skin. You might also have firm, painless lumps under the skin. Most people don't have skin problems.

Your doctor might suspect you have rheumatic fever if you have recently had a sore throat, skin infection, or scarlet fever. They will listen to your heart for any signs of weakness, unusual heart rhythm, or heart murmurs.

If your doctor thinks you have rheumatic fever, you will be admitted to hospital straight away. You will have other tests, such as a chest x-ray, to check for possible damage to your heart. You might also have a blood test to check for streptococcus infection.

What are the treatment options for rheumatic fever?

Rheumatic fever affects people in different ways. Treatment depends on how serious it is and which parts of the body are affected.

Treating the infection and pain

Apart from the damage to the heart, the symptoms of rheumatic fever usually clear up by themselves after a few weeks. But doctors will still recommend treatments to help you get better more quickly. The first treatment will be **antibiotics** to get rid of the infection.

You will be given pain medicine to treat the joint pain caused by rheumatic fever. This may be a simple painkiller such as paracetamol, or an anti-inflammatory such as ibuprofen or naproxen, which can help reduce joint swelling as well as pain.

Treating heart inflammation

Rheumatic fever can cause inflammation of the heart. If you have mild inflammation, you won't need any medicine to help your heart. If you have severe inflammation, your heart can stop working properly. Doctors call this **heart failure**.

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If you have heart failure, you will be given medicines called diuretics in hospital to help remove extra fluid around the heart. You will also be given medicine to help blood flow normally through the heart. You might need surgery to repair your heart valves, but this is very rare.

Any damage to the heart caused by rheumatic fever will most likely be **permanent**. There is no cure for this damage, but there are treatments to help stop the rheumatic fever from coming back and causing more problems.

Treating chorea

Chorea usually goes away on its own after a few weeks or months.

You normally don't need any medical treatment, just reassurance, and a calm, quiet environment to rest and relax.

Sometimes, chorea can be severe or last a long time, making everyday life more difficult. Medicines called **anticonvulsants** can help. But these are usually a last resort as they can cause side effects.

Ongoing antibiotics

People who have had rheumatic fever once are likely to get it again. This is dangerous because it may cause more heart damage over time. To avoid this happening, doctors recommend that people who have had severe rheumatic fever get antibiotic treatment **regularly**, often over many years.

If your rheumatic fever was severe the first time, you will need to have an **antibiotic injection** every 3 or 4 weeks. Your doctor will discuss with you how this schedule will work.

What happens next?

With treatment the symptoms of rheumatic fever usually clear up after a week or two. Most people can leave hospital within 2 weeks. If the rheumatic fever affected your heart, you might need to stay in hospital a little longer.

You will need to have blood tests for a while until the signs of the infection are gone. This will probably be once a week to begin with, then gradually less often. You may also need check-ups with a specialist heart doctor (a **cardiologist**), every 6 months to start with, then every 1 or 2 years after that.

The danger of rheumatic fever is not the fever itself, but the possible heart damage if you have another episode in the future. For the best chance of preventing another attack it's important to stick to the **long-term antibiotic treatment** that your doctor recommends.

You should also take special care of your oral health. This is to prevent you from getting another episode of streptococcus infection. You should:

- Clean your teeth carefully and regularly
- Not delay treatment for any dental or oral problems

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- Not miss scheduled dental appointments, and
- Make sure sore throats are treated early.

Some people who have had rheumatic fever need to have antibiotics before any major dental work. It's important to let your dentist know if you have a history of rheumatic fever.

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