

Acute Rheumatic Fever

Acute rheumatic fever (ARF) is a notifiable disease that can occur following an infection caused by the Group A Streptococcus bacterium (Strep). If untreated, a Strep infection (ie a 'strep throat' or skin infection) can lead to inflammation in other parts of the body, particularly the joints, brain and heart. Without regular antibiotic treatment, further episodes of ARF can lead to serious damage of the heart valves. This is known as rheumatic heart disease (RHD).

Risk groups for ARF

At high risk

- Living in an ARF-endemic setting (e.g. ARF incidence >30/100,000 per year in 5 to 14-year-olds, or RHD prevalence >2/1000)
- Aboriginal and/or Torres Strait Islander peoples living in rural or remote settings;
- Aboriginal and/or Torres Strait Islander peoples, and Maori and/or Pacific Islander peoples living in metropolitan households affected by crowding and/or lower socioeconomic status
- Personal history of ARF/RHD and aged <40 years
- Family or household recent history of ARF/RHD

May be at high risk/additional considerations

- Family or household recent history of ARF/RHD.
- Household overcrowding (2 or more people per bedroom) or low socioeconomic status.
- Migrant or refugee from low- or middle-income country and their children.
- Prior residence in or frequent recent travel to a high ARF risk setting.
- Aged 5 to 20 years (peak years for ARF).

Strep infections, ARF and RHD are preventable with improved housing and living conditions and early antibiotic treatment.

Signs and Symptoms:

The typical initial symptoms include:

- fever,
- one or more painful, swollen joints (which may present as sudden refusal to bear weight or to use a limb),
- unusual, uncontrolled jerky movements (Sydenham Chorea),
- rash (erythema marginatum),
- chest pain.

Investigations and Treatment

Someone suspected of having acute rheumatic fever should be hospitalised. There is no specific test to diagnose ARF. However, a number of tests will be done including an electrocardiogram or (ECG) to examine the rhythm of the heart and an echocardiogram (echo) which is a scan of the heart to check on the heart valves.

Treatment includes:

- paracetamol, with or without codeine, for joint pain. Avoid non-steroidal anti-inflammatory drugs (Aspirin or other anti-inflammatory drugs) as they may mask joint symptoms,
- penicillin (usually given by injection) to ensure that any remaining Strep bacteria are cleared,
- bed rest may be required when the heart is affected.

Prevention:

It is essential that anyone who has had an episode of ARF and their family, are made fully aware of the importance of early treatment of all Strep infections, what is ARF, RHD and how to prevent damage to the heart valves and developing RHD.

The most important measure to prevent further Strep infections (and therefore further episodes of ARF) is a penicillin injection every 3 to 4 weeks. These injections will need to be continued for many years, until a specialist doctor advises that they can be stopped. It is also very important that someone who has had ARF receives regular medical and dental check-ups and an annual influenza vaccine.

A coordinated multi-discipline approach is essential for the effective long-term management of ARF and RHD patients. For this reason, a Rheumatic Heart Disease Register and Control Program has been established in Queensland.

Health outcome:

URL: <http://conditions.health.qld.gov.au/HealthCondition/condition/14/33/160/acute-rheumatic-fever>

Version number: 10

Date published: 11/02/2021

Date generated: 30/01/2023

Once the initial acute illness has resolved, ARF leaves no lasting damage to the joints or skin however, any remaining damage to the heart valves causes rheumatic heart disease (RHD).

Without strict adherence to antibiotic prophylaxis, a person who has had an episode of ARF is likely to get another one. Repeated episodes of ARF inevitably lead to the development or worsening of RHD. Severe RHD usually requires open heart surgery to repair or replace the valves.

Other resources:

For further information contact your healthcare provider and visit [RHDAustralia](https://www.rhdaustralia.org.au/) (<https://www.rhdaustralia.org.au/>)

Related Content

[The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease \(3rd edition\): 2020](https://www.rhdaustralia.org.au/arf-rhd-guideline) (<https://www.rhdaustralia.org.au/arf-rhd-guideline>)

healthdirect:

[Rheumatic Fever](https://www.healthdirect.gov.au/rheumatic-fever) (<https://www.healthdirect.gov.au/rheumatic-fever>)