

Acute rheumatic fever (ARF) is a complication of a bacterial throat infection. Episodes of ARF can cause permanent damage to the heart valves, which is known as Rheumatic heart disease (RHD). People with ARF and RHD need long-term treatment to prevent repeat episodes of ARF that may cause further damage to the heart.

Acute Rheumatic Fever and Rheumatic Heart Disease

Information for health care workers

Last updated: 1 October 2015

What is Acute Rheumatic Fever?

ARF is a complication of infection by the bacterium group A Streptococcus (GAS), which most commonly causes throat and skin infections. ARF occurs in a minority of people days to weeks after an untreated GAS throat infection. ARF is characterised by a generalised inflammatory response that affects certain parts of the body including the heart, joints, brain and skin. There is no lasting damage to the joints, brain or skin but repeated episodes of ARF can cause permanent damage to the heart valves.

What is Rheumatic Heart Disease?

When ARF involves the heart, it can cause damage to the heart valves and this is known as RHD.

What are the symptoms of ARF?

The symptoms of ARF include:

- Fever
- A non-itchy rash
- Painless skin lumps
- Swollen, red or painful joints
- involuntary movements or twitches of the body (chorea)
- Weakness
- Tiredness
- Chest pain
- Breathlessness
- Heart murmur
- Rapid heartbeat

Symptoms of ARF may be preceded by a sore throat or sometimes a skin infection.

Who is at risk?

ARF can affect any age group but most commonly affects children and young adults between the ages of 5 and 24 years. If a person has already had ARF, they are more likely to have another attack.

ARF occurs in people from all backgrounds, but higher rates of ARF and RHD occur in some groups including Aboriginal and Torres Strait Islander people, Maori and Pacific peoples and people born outside of Australia, particularly those from South-east Asia and Africa. Higher rates are also seen in women and in people living in disadvantaged conditions and where access to health services is poor.

How is it prevented?

For people who have already had one episode of ARF, a repeat episode can be prevented through the administration of a penicillin injection every 21 to 28 days. This treatment stops people having further episodes of ARF and prevents further damage to the heart. This treatment should be continued for a minimum of 10 years following the last episode of ARF. It is important that patients are commenced on

treatment as soon as possible following diagnosis, continue treatment for the recommended period and receive treatment before the 28 day period has elapsed.

ARF can be prevented by improving factors, such as living standards, that increase the risk of GAS infection and improving access to health care. Prompt treatment of sore throat and skin sores in people at risk of ARF can also reduce the risk of an attack.

How is it diagnosed?

Currently, there is no single diagnostic laboratory test for ARF. Diagnoses of ARF and RHD are based on clinical signs and symptoms. Australian guidelines for the diagnosis and management of ARF can be found on the [Rheumatic Heart Disease Australia website](#).

All people with ARF and suspected RHD should have an echocardiogram. Other tests may include:

- Medical history
- Physical examination
- Throat swabs to test for the presence of GAS bacteria
- Blood tests to look for streptococcal antibodies and markers of inflammation
- Electrocardiogram (ECG) to monitor the electrical activity of the heart
- Chest x-rays to look at the heart for signs of inflammation and/or enlargement.

It is important that clinicians serving populations considered at risk for ARF and RHD consider these conditions when treating children and adults with any of the symptoms.

How is it treated?

There is no specific treatment for an acute episode of ARF. Supportive treatment can be given with the aim of reducing joint pain, swelling, and fever.

Treatment for RHD is aimed at treating the secondary complications that may follow, such as congestive heart failure, infective endocarditis or atrial fibrillation. In people with severe RHD, damaged heart valves may need heart surgery to repair or replace the affected valves.

It is therefore important that people with new or repeat episodes of ARF and RHD are identified and added to the NSW Rheumatic Heart Disease Register to assist with their long term follow-up. In addition to preventative antibiotic treatment, people with ARF and RHD will need:

- Regular check-ups with their doctor
- Regular check-ups with a heart specialist
- Regular check-ups with their dentist to promote good oral health and reduce the risk of oral bacteria entering the blood stream and causing inflammation or infection of the heart and heart valves (endocarditis).
- Vaccinations against influenza and pneumococcal infection.

Women with RHD need specialised prenatal care as they are at higher risk of complications during pregnancy as a result of additional changes their bodies go through during pregnancy.

What is the public health response?

Clinicians must notify all new confirmed and probable episodes of ARF, including recurrences, and all cases of RHD in people aged less than 35 years to the local public health unit. NSW Health has established a register for people with ARF and RHD to improve the long-term clinical care and follow-up of these patients.

For more information:

For further information please call your local Public Health Unit on 1300 066 055.

Further information ARF and RHD can be found on the [Rheumatic Heart Disease Australia website](#).