



HELP TO PREVENT RHEUMATIC FEVER

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What are the risks and prevention strategies for rheumatic fever and rheumatic heart disease for children in New Zealand, aged 5-14 years of age?

WHAT IS RHEUMATIC FEVER?

Acute rheumatic fever is a serious but preventable disease that commonly affects New Zealand children. Rheumatic fever often starts with a sore throat by an autoimmune response to a group A streptococcal throat infection. Rheumatic fever can result in an inflammation of the brain, joints and skin. If it progresses, it can lead to rheumatic heart disease, causing inflammation of the heart resulting in damage and deformities of the heart valves.

PREVENTION OF RHEUMATIC FEVER

Sore throat

Not seen by
doctor or nurse

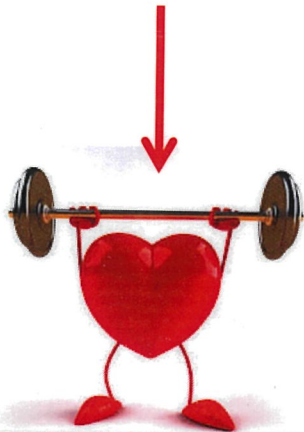
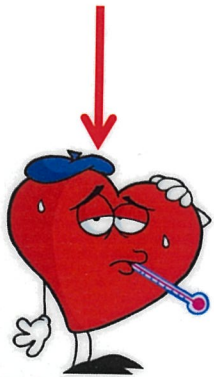
Throat swab culture taken.
Identified group A
streptococcal throat infection

No treatment

Antibiotic penicillin is given for
10 days. If recurrent rheumatic
fever injection given every 28
days for
at least 10 years or until 30
years

Rheumatic fever may
develop. This may lead
to damage to heart
valves = rheumatic
heart disease

Echocardiography is an
ultrasound-screening tool used to
detect valve lesions of rheumatic
heart disease



SIGNS AND SYMPTOMS

- Sore throat
- Sore and swollen joints (knees, elbows, ankles and wrists)
- Jerky movements
- Stomach pain
- A skin rash
- An ongoing fever that lasts a few days

RISK FACTORS

- Children 5-14 years old
- Peak age is 9-12 years old
- Māori and Pacific children
- Low socioeconomic status
- Household crowding
- Environment: poor living conditions
- Education: Public awareness of this illness is poor

NEW ZEALAND HEART FOUNDATION RECOMMENDATIONS

- Health promotion
- Housing improvement
- Reduction of household crowding
- Address poverty and social deprivation inequalities

SORE THROATS MATTER



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PECOT Category	Information Relating to Question	Explanation
Population	Age: Children aged between 5-14 years of age. Peak age is 9-12 years of age.	Age: Children younger than the age of 5 have yet to develop and autoimmune response therefore are less likely to develop rheumatic fever.
Exposure (Intervention)	<p>Throat swabs: Throat swab culture.</p> <p>Antibiotics: Penicillin is the chosen antibiotic to use for primary and secondary prevention of rheumatic fever and rheumatic heart disease.</p> <p>Surgery: In severe circumstances the patient will require a heart valve replacement. This can common with the complications that are associated with rheumatic fever experienced later in life.</p>	<p>Throat swabs: To identify if the child has group A streptococcal throat infection. If this swab culture comes back positive the patient will be started on a course of antibiotics.</p> <p>Antibiotics: The World Health Organization recommends the use of regular benzathine penicillin administration (Grayson, S., Horsburgh, M., & Lennon, D., 2006).</p>
Comparison/ Control	Children living with and children without the determinants (ethnicity, socioeconomic deprivation, overcrowding).	<p>Maori children and Pacific children have an increased risk for rheumatic fever, in comparison with New Zealand European children (Dale et al., 2011).</p> <p>Incidences of rheumatic fever are high where population groups are experiencing low socioeconomic status conditions.</p>
		Overcrowding increases the rate and spread of transmission due to substandard and unsanitary conditions.
Outcome	<p>Full health</p> <p>Decreased number of cases of rheumatic fever reported in this high risk population/ areas identified</p>	<p>The government has committed to delivering better public services. This includes aiming to reduce the incidence of rheumatic fever by two thirds by June 2017 (Ministry of Health, 2013).</p>
Time	Does not apply to question.	
Research Question:	What are the risks and prevention strategies for rheumatic fever and rheumatic heart disease for children in New Zealand, aged 5-14 years of age?	