

# RHEUMATIC FEVER

## Disease name

Disease	Indicate whether this is an initial (i.e first) attack of rheumatic fever or a recurrent attack (an episode in a person with known past history of acute rheumatic fever (ARF) or previously diagnosed rheumatic heart disease).
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## Basis of diagnosis

<b>Jones criteria</b>			
Jones criteria	<p>The Jones criteria for the diagnosis of ARF divide the clinical features into major and minor manifestations, based on their prevalence and specificity. The diagnosis of rheumatic fever requires evidence of a preceding group A streptococcal infection and the case classification is then based on the presence of major and minor manifestations.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><b>Major manifestations:</b></p> <ul style="list-style-type: none"> <li>• carditis</li> <li>• polyarthritis or aseptic monoarthritis (as defined in the NHF Guidelines)</li> <li>• erythema marginatum</li> <li>• chorea (can stand alone for ARF diagnosis)</li> <li>• subcutaneous nodules</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <p><b>Minor manifestations:</b></p> <ul style="list-style-type: none"> <li>• polyarthralgia</li> <li>• fever</li> <li>• elevated acute phase reactants: erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP)</li> <li>• prolonged PR interval</li> </ul> </td> </tr> </table> <p>Notes:</p> <ul style="list-style-type: none"> <li>• if carditis is present as a major manifestation, a prolonged PR interval cannot be considered an additional minor manifestation;</li> <li>• if polyarthritis or monoarthritis is present as a major manifestation, polyarthralgia cannot be considered an additional minor manifestation.</li> </ul>	<p><b>Major manifestations:</b></p> <ul style="list-style-type: none"> <li>• carditis</li> <li>• polyarthritis or aseptic monoarthritis (as defined in the NHF Guidelines)</li> <li>• erythema marginatum</li> <li>• chorea (can stand alone for ARF diagnosis)</li> <li>• subcutaneous nodules</li> </ul>	<p><b>Minor manifestations:</b></p> <ul style="list-style-type: none"> <li>• polyarthralgia</li> <li>• fever</li> <li>• elevated acute phase reactants: erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP)</li> <li>• prolonged PR interval</li> </ul>
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<b>Major manifestations</b>			
Major manifestations	Ideally, obtain information on all of the clinical features listed. If the feature was present, record by ticking the “Yes” box. If not, tick the “No” box. If not known or unavailable then tick the “Unknown” box.		
<b>Minor manifestations</b>			
Minor manifestations	Ideally, obtain information on all of the features listed. If the feature was present, record by ticking the “Yes” box. If not, tick the “No” box. If not known or unavailable then tick the “Unknown” box.		

<b>Supporting laboratory criteria for streptococcal infection</b>	
Evidence of preceding group A streptococcal infection	<p>Indicate whether there is evidence of a preceding group A streptococcal infection. If not known or unavailable then tick the “Unknown” box. If “Yes”, provide details for each laboratory method. If the laboratory test result was positive tick the “Yes” option, if negative tick the “No” option. If the test was not carried out tick “Not Done” or if not known then tick the “Unknown” option. For information on the current antibody titre cut-off levels see:</p> <p style="text-align: center;">Elevated or rising antistreptolysin O or other streptococcal antibody (<i>New Zealand Guidelines for Rheumatic Fever: 1: Diagnosis, management and secondary prevention</i>, National Heart Foundation 2006, p 19)</p>
Antibody titre results	If serological antibody tests were done, specify the antibody titre results for the first and second (if applicable) tests - whether or not they meet the current level of evidence for preceding streptococcal infection.
<b>Previous history of rheumatic fever (recurrences only)</b>	
Previous attacks	Indicate the number of previous attacks. Note the dates when the first and most recent previous attacks occurred and specify the hospitals where the patient was diagnosed. If either of the dates is unknown, then tick the “Date unknown” box.
Evidence of previous rheumatic heart disease	Indicate whether there was evidence of previously diagnosed rheumatic heart disease prior to this attack. If there was evidence, tick the “Yes” box, if not, tick the “No” box. If not known or unavailable tick the “Unknown” box.

## Classification

Classification	<p><b>Under investigation</b> - a case that has been notified but information is not yet available to classify it as suspect, probable or confirmed.</p> <p><b>Suspect</b> -</p> <p><u>Initial attack</u>; requires <b>all</b> of the following:</p> <ul style="list-style-type: none"> <li>• strong clinical suspicion of ARF</li> <li>• insufficient signs and symptoms to fulfil diagnosis of confirmed or probable ARF</li> <li>• no known past history of ARF.</li> </ul> <p><u>Recurrent attack</u>; requires <b>all</b> of the following:</p> <ul style="list-style-type: none"> <li>• strong clinical suspicion of ARF</li> <li>• insufficient signs and symptoms to fulfil diagnosis of confirmed or probable ARF</li> <li>• a past history of ARF or previously diagnosed rheumatic heart disease.</li> </ul>
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**Probable -**

Initial attack; requires **all** of the following:

- evidence of preceding group A streptococcal infection from positive throat culture or rapid antigen test
- two major, or one major and two minor, manifestations
- no known past history of ARF

OR

- serological evidence of a preceding group A streptococcal infection (i.e. elevated or rising streptococcal titres)
- one major and one minor manifestation
- no known past history of ARF.

Recurrent attack; requires **all** of the following:

- evidence of preceding group A streptococcal infection from positive throat culture or rapid antigen test
- two major, or one major and two minor, manifestations
- a past history of ARF or previously diagnosed rheumatic heart disease

OR

- serological evidence of a preceding group A streptococcal infection (i.e. elevated or rising streptococcal titres)
- one major and one minor manifestation
- a past history of ARF or previously diagnosed rheumatic heart disease.

**Confirmed -**

Initial attack; requires **all** of the following:

- serological evidence of a preceding group A streptococcal infection (i.e. elevated or rising streptococcal titres)
- two major, or one major and two minor, manifestations
- no known past history of ARF

OR

- chorea (other major manifestations or evidence of group A streptococcal infection not required).

Recurrent attack; requires **all** of the following:

- serological evidence of a preceding group A streptococcal infection (i.e. elevated or rising streptococcal titres)
- two major, or one major and two minor, or three minor, manifestations
- a past history of ARF or previously diagnosed rheumatic heart disease.

**Not a case** – a case that has been investigated, and subsequently found not to meet the case definition.

## Risk factors

<b>Recent sore throat (initial attack only)</b>	
Sore throat history	<p>Indicate whether there was a history of sore throat in the 4 weeks prior to the hospital admission or the clinic visit where the rheumatic fever diagnosis was made.</p> <p>Indicate whether the case sought medical attention for a sore throat. If yes, indicate whether they were seen at a school throat swabbing clinic and/or a designated sore throat rapid response clinic. If no, select the reasons for not seeking attention. Tick all that apply and specify if another reason applies that is not listed.</p>
Throat swabs prior to admission	Indicate whether throat swabs were taken in the 4 weeks prior to the hospital admission or the clinic visit where the rheumatic fever diagnosis was made. If yes, provide the date the swab was taken and the results. If positive for group A streptococcus tick the "Yes" box, if negative, tick the "No" box. If not known or unavailable then tick the "Unknown" box.
Antibiotics prior to diagnosis	<p>Indicate whether the case received antibiotics for a sore throat in the 4 weeks prior to diagnosis. If yes, provide details of the antibiotic(s), dose, frequency and duration, and indicate whether or not the full course was taken. If not known or unavailable then tick the "Unknown" box.</p> <p>Note: the reason for not taking the full course of antibiotics can be entered in the comments section at the end of the form if needed.</p>
<b>Clinical diagnosis of rheumatic fever</b>	
Rheumatic fever symptoms	Indicate whether the case saw a doctor for symptoms of acute rheumatic fever in the three months prior to the hospital admission. If yes, state how many times.
Throat swabs taken after admission	Indicate whether throat swabs were taken in the week after hospital admission. If yes, provide the date the swabs were taken and the results. If positive for group A streptococcus tick the "Yes" box and also record the Emm type. If negative, tick the "No" box. If not known or unavailable then tick the "Unknown" box.
<b>Family history of rheumatic fever (initial attack only)</b>	
Family history	Indicate whether any family members have had rheumatic fever in the past. If yes, state their relationship to the case (e.g. mother, sister etc.).
<b>Additional factors (initial attack only)</b>	
Case or household referred to housing service	Indicate whether the case or their household has been referred to a local service to assess overcrowding or housing. If yes, state which service and the date when they were first referred.
Household contact with a Pacific engagement strategy worker	Indicate whether the case's household has ever had contact with a Pacific engagement strategy community worker. If yes, provide the date when they first had contact.
Case attends a throat swabbing school	Indicate whether the case attends a throat swabbing school. If the case is too old or too young to attend school, or if they are home schooled, tick the "Not at school" box.

## Protective factors - recurrences only

Case already on rheumatic fever register	Indicate whether the case was already on a rheumatic fever register or secondary prevention patient management system (PMS). If "Yes", state the name of the register or PMS (i.e. what district or region and organisation). If not known or unavailable then tick the "Unknown" box.
Case receiving antibiotic prophylaxis	Indicate whether the case was receiving antibiotic prophylaxis prior to the recurrence. If yes, complete the details on the frequency, regularity and type of prophylaxis. Also provide dates for the most recent two doses.

## Management

<b>Case management</b>	
Case on rheumatic fever register	Indicate whether the case was placed on a rheumatic fever register or secondary prevention patient management system (PMS). If not placed onto a register or PMS, state the reason. If not known or unavailable then tick the "Unknown" box.
Delivery antibiotic prophylaxis	Indicate whether arrangements have been made for the delivery of antibiotic prophylaxis. If not known or unavailable then tick the "Unknown" box.  State the length of prophylaxis planned. If the case is a recurrence, this should be the length of prophylaxis remaining.
Person administering prophylaxis	Record the name and occupational group of the person responsible for administering prophylaxis.
Case under specialist care	Indicate whether the case is under specialist care. If "Yes", give the name of the specialist(s) and their specialty area. If not known or unavailable then tick the "Unknown" box.
Case's dentist advised	Indicate whether the case's dentist has been notified of the case's condition. If "Yes", give the name of the dentist. If not known or unavailable then tick the "Unknown" box.
<b>Contact management</b>	
Household contacts swabbed	Indicate whether household contacts had throat swabs taken. If yes, record the number swabbed and then the number swabbed who were positive for group A streptococcus.  For those contacts with a positive group A streptococcus swab, record the Emm type in the spaces provided.