

# *Diagnosis Case Studies*

## Activity 2

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# Diagnosis Criteria

Table 3.2 2012 Updated Australian guidelines for the diagnosis of ARF

	High-risk groups <sup>1</sup>	All other groups
Definite initial episode of ARF	2 major or 1 major and 2 minor manifestations <b>plus</b> evidence of a preceding GAS infection <sup>4</sup>	
Definite recurrent episode of ARF in a patient with known past ARF or RHD	2 major or 1 major and 1 minor or 3 minor manifestations <b>plus</b> evidence of a preceding GAS infection <sup>4</sup>	
Probable ARF (first episode or recurrence)	A clinical presentation that falls short by either one major or one minor manifestation, or the absence of streptococcal serology results, but one in which ARF is considered the most likely diagnosis. Such cases should be further categorised according to the level of confidence with which the diagnosis is made: <ul style="list-style-type: none"> <li>highly-suspected ARF</li> <li>uncertain ARF</li> </ul>	
Major manifestations	Carditis (including subclinical evidence of rheumatic valvulitis on echocardiogram) Polyarthriti <sup>5</sup> or aseptic mono-arthritis or polyarthralgia Chorea <sup>3</sup> Erythema marginatum <sup>1</sup> Subcutaneous nodules	Carditis (excluding subclinical evidence of rheumatic valvulitis on echocardiogram) Polyarthriti <sup>5</sup> Chorea <sup>3</sup> Erythema marginatum <sup>1</sup> Subcutaneous nodules
Minor manifestations	Monoarthralgia Fever <sup>4</sup> ESR $\geq 30$ mm/h or CRP $\geq 30$ mg/L Prolonged P-R interval on ECG <sup>6</sup>	Fever <sup>4</sup> Polyarthralgia or aseptic mono-arthritis ESR $\geq 30$ mm/h or CRP $\geq 30$ mg/L Prolonged P-R interval on ECG <sup>6</sup>

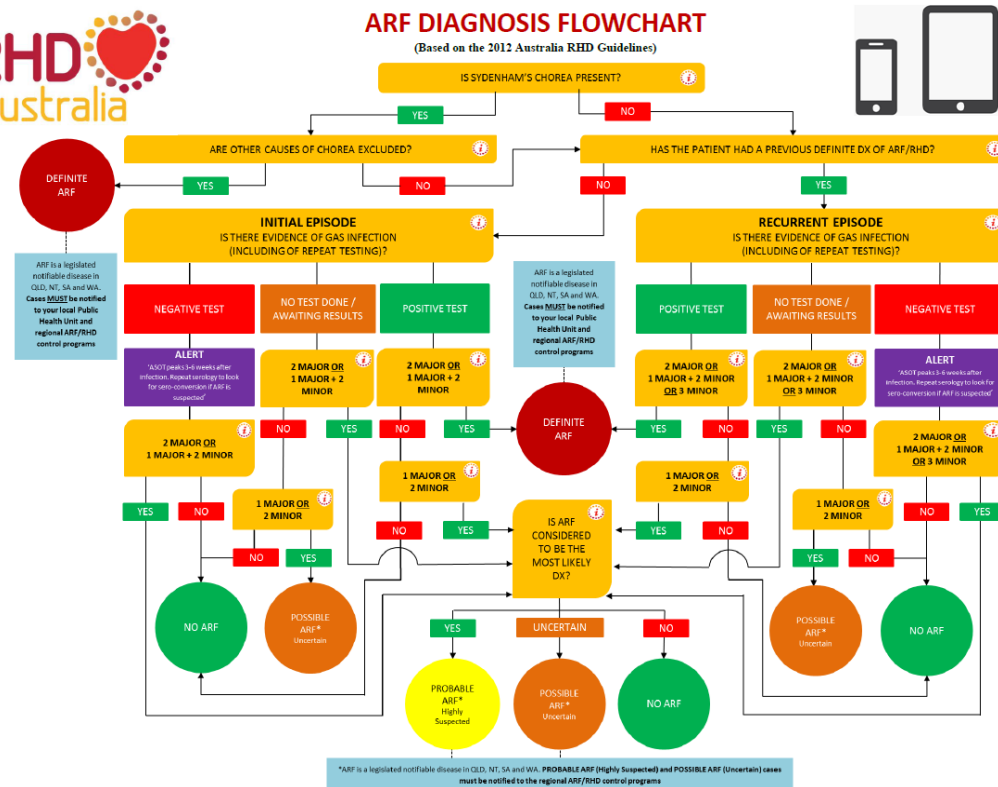
<sup>1</sup>High-risk groups are those living in communities with high rates of ARF (incidence  $>30/100,000$  per year in 5–14 year olds) or RHD (all-age prevalence  $>2/1000$ ). Aboriginal people and Torres Strait Islanders living in rural or remote settings are known to be at high risk. Data are not available for other populations, but Aboriginal people and Torres Strait Islanders living in urban settings, Maoris and Pacific Islanders, and potentially immigrants from developing countries, may also be at high risk. <sup>2</sup>Elevated or rising antistreptolysin O or other streptococcal antibody, or a positive throat culture or rapid antigen test for GAS. <sup>3</sup>A definite history of arthritis is sufficient to satisfy this manifestation. Note that if polyarthriti<sup>5</sup> is present as a major manifestation, polyarthralgia or aseptic mono-arthritis cannot be considered an additional minor manifestation in the same person. <sup>4</sup>Chorea does not require other manifestations or evidence of preceding GAS infection, provided other causes of chorea are excluded. <sup>5</sup>Care should be taken not to label other rashes, particularly non-specific viral exanthemas, as erythema marginatum. <sup>6</sup>Oral, tympanic or rectal temperature  $\geq 38^{\circ}\text{C}$  on admission, or a reliably reported fever documented during the current illness. <sup>7</sup>If carditis is present as a major manifestation, a prolonged P-R interval cannot be considered an additional minor manifestation.

CRP, C-reactive protein; ECG, electrocardiogram; ESR, erythrocyte sedimentation rate.



## ARF DIAGNOSIS FLOWCHART

(Based on the 2012 Australia RHD Guidelines)



# Case study 1

12 year old female Pacific Islander, lives in a large country town:

- No previous known ARF
- No memory of recent sore throat
- Arthritis L knee
- Sydenham's chorea
- ESR 990

Risk group

Diagnosis

# Case study 2

14 year old aboriginal male, lives in a remote community:

ARF when 11 years old, on penicillin tabs, stopped taking a year ago:

- Erythema Marginatum
- Echo shows mild MR
- Fever 39.1\*
- ESR 32
- ASOT 682

Risk group

Diagnosis

# Case study 3

22 year old Caucasian male, lives in an inner city suburb:

No history of ARF

- Erythema Marginatum
- Fever 38.2\*
- ASOT 800

Risk group

Diagnosis

# Diagnosis Calculator



# Case study 4

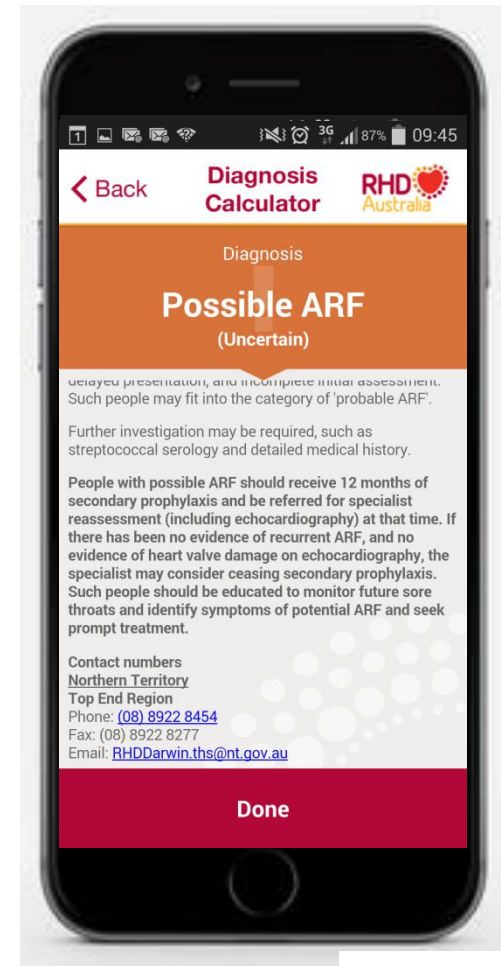
8 year old Torres Strait male, lives in a small community:

No history of ARF:

- Recent sore throat (no swab)
- Carditis
- Polyarthralgia
- Aseptic monoarthritis (R ankle)
- ASOT 100, ADNB 300

Risk group

Diagnosis



# Case study 5

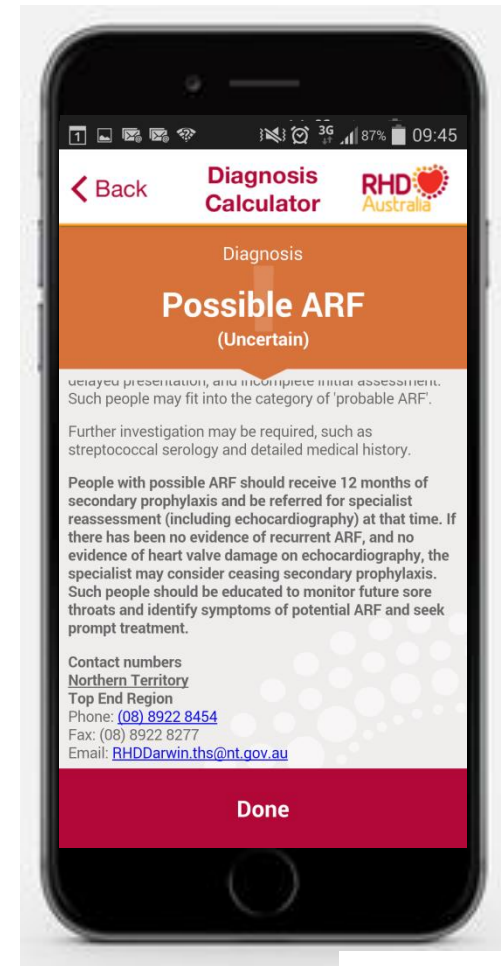
6 year old aboriginal female, lives in a large community:

History of ARF:

- Fever 38.9\*
- P-R interval on ECG 0.19 seconds
- Polyarthritis
- ASOT 120, ADNB 345

Risk group

Diagnosis





# Case study 6

14 year old aboriginal male, lives in Cherbourg:

No history of ARF:

- Recent sore throat (Swab taken, negative result)
- ASOT 133, ADNB 294

Risk group

Diagnosis

