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Acute Rheumatic Fever and Rheumatic Heart Disease

Acute rheumatic fever (ARF) is an autoimmune inflammatory reaction to group A streptococcal (GAS) infection, primarily pharyngitis and impetigo, which can lead to long-term cardiac sequelae known as rheumatic heart disease (RHD). Although rare in most Australian settings, ARF and RHD remain significant health issues in Aboriginal and Torres Strait Islander communities, particularly in rural and remote areas. GP registrars must be able to recognise ARF early, initiate appropriate management, and understand their role in both primary and secondary prevention. As well, understanding key social determinants is critical for effective management and advocacy.

TEACHING AND LEARNING AREAS		• Epidemiology of, and risk factors for, ARF/RHD in Australia, especially in Aboriginal and Torres Strait Islander peoples • Clinical features and diagnostic criteria • Investigations and management of ARF and RHD • Prevention strategies - primary (streptococcal infection control) and secondary (prophylaxis) • Culturally safe practice in Aboriginal and Torres Strait Islander patients • Referral pathways • Practice systems - recall/prophylaxis register, multidisciplinary care coordination
PRE- SESSION ACTIVITIES		• Read AIHW 2024 Acute rheumatic fever and rheumatic heart disease in Australia
TEACHING TIPS AND TRAPS		• The incidence and severity of ARF/RHD is closely linked to the early recognition and treatment of GAS infections • While predominantly a disease of children, about 10% of cases occur in adults • Arthritis is the most common presentation in patients with ARF in Australia, typically presenting as an asymmetrical migratory polyarthritis affecting the large joints • ARF arthritis is characterised by characterised by tenderness and pain that is out of proportion to clinical signs • In people at high risk of ARF, sore throats should be managed with a throat swab and empirical antibiotic therapy • Penicillin treatment is effective in reducing infectivity of the primary case • The primary GAS infection usually pre-dates ARF symptoms by 2-3 weeks • Over half of all patients with ARF progress to RHD within 10 years • A culturally safe approach is essential for good clinical care • Use the Menzies ARF/AHD app for teaching
RESOURCES	**Read**	• RHDAustralia. 2020 Australian Guideline for Prevention, Diagnosis and Management of Acute Rheumatic Fever and Rheumatic Heart Disease (3rd ed) • RACGP. National guide to preventive health care for Aboriginal and Torres Strait Islander people • RHDAustralia App: ARF/RHD Guideline
	Listen	• Australian Prescriber 2022 podcast. Rheumatic fever and heart disease
FOLLOW UP/ EXTENSION ACTIVITIES		• Undertake the clinical reasoning challenge and discuss with supervisor

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Clinical Reasoning Challenge

Axel, aged 13, presents to you with a two day history of acute onset joint pain and swelling involving his knees and ankles. Axel describes an episode of a sore throat approximately three weeks before this presentation. Axel and his family identify as Aboriginal.

QUESTION 1. You are concerned about acute rheumatic fever. What diagnostic criteria would you seek on further assessment to assist in making this diagnosis?

QUESTION 2. Further history and examination support your diagnosis of ARF. What are your next management steps?

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ANSWERS

QUESTION 1. You are concerned about acute rheumatic fever. What diagnostic criteria would you seek on further assessment to assist in making this diagnosis?

- Based on revised Jones criteria and 2020 Australian RHD Guidelines.
  - Major manifestations: carditis, polyarthritis, chorea, erythema marginatum, subcutaneous nodules
  - Minor: fever, raised ESR/CRP, ECG: prolonged PR interval.
- Supporting evidence: preceding streptococcal infection (ASOT, anti-DNase B, or positive throat culture).

QUESTION 2. Further history and examination support your diagnosis of ARF. What are your next management steps?

- Hospital admission for acute episode
- Benzathine penicillin/phenoxymethylpenicillin
- Anti-inflammatory treatment
- Echocardiogram
- Notification to ARF/RHD register (jurisdiction-specific).

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