

# Ambulance services: Assessment of possible myocarditis or pericarditis and redirection to primary care

For patients within 7 days of vaccination with mRNA vaccine (Moderna or Pfizer) who are at low cardiovascular risk (defined by age less than 35 and 1 or less cardiovascular risk factors) - Initial investigations including troponin request and ECG should be performed in the primary care setting

Emergency Ambulance service should not, in most circumstances, be required to take these patients to emergency departments, but should instead refer them to their GP for assessment within 24 hours.

The referring practice should aim to obtain and review the results of bloods and ECG urgently (Ideally within 6-8 hours) - to keep patients out of the ED unless acutely unwell, please consider checking results out of hours and telephoning your patient with advice.

Patients should immediately be referred to ED if:

- they are acutely unwell e.g. with shortness of breath, arrhythmia or syncope
- Patients with elevated troponin (above upper limit of normal) or abnormal ECG (any of the features in the below table) should be referred to hospital.

**Table: Initial diagnostic evaluation of myocarditis and pericarditis**

Investigation	Findings	
	Myocarditis	Pericarditis
12-lead ECG	<ul style="list-style-type: none"><li>• ST or T-wave abnormalities*, Q waves</li><li>• Premature atrial complexes</li><li>• Premature ventricular complexes</li><li>• Can be normal</li></ul>	<ul style="list-style-type: none"><li>• Widespread ST elevation (typically concave up)</li><li>• PR depression</li><li>• Can be normal or atypical</li></ul>
Troponin	<ul style="list-style-type: none"><li>• Commonly raised, however absence of elevation does not exclude myocarditis</li></ul>	<ul style="list-style-type: none"><li>• May be increased (suggestive of myopericarditis)</li></ul>
Inflammatory markers: CRP, ESR	<ul style="list-style-type: none"><li>• Commonly raised (although nonspecific)</li></ul>	<ul style="list-style-type: none"><li>• Commonly raised (although nonspecific)</li></ul>
Chest X-ray	<ul style="list-style-type: none"><li>• Heart size can be normal or enlarged (in children; cardiothoracic ratio &gt;0.5)</li></ul>	<ul style="list-style-type: none"><li>• Typically normal</li><li>• Rarely, large pericardial effusion can lead to cardiomegaly</li></ul>

\*N.B. T wave inversion in anterior leads can be normal in people aged ≤ 16 years

## Referral & Management

- Patients with normal investigations should be managed symptomatically. Non-specific chest pain is relatively common post Pfizer and Moderna vaccines and usually resolves completely within 24-48 hours.
- Note that myocarditis and pericarditis following mRNA vaccines is most commonly seen following the 2<sup>nd</sup> dose, in males aged 12-24 years
- To report a possible adverse event following immunisation in Victoria, the vaccinee can use this link: <https://mvec.mcri.edu.au/references/saefvic/>