Assessment protocol for suspected ACS using a sensitive lab-based assay

IMPORTANT NOTICE: Management protocols never replace clinical judgement. The care outlined in this protocol must be altered if it is not clinically appropriate for the individual patient.

Troponin and ECG testing on presentation (0h)

High risk features for possible cardiac cause of chest pain (including ACS and other cardiac diagnoses)
- Ongoing or repetitive chest pain despite initial ED treatment
- Elevated level of cardiac troponin*
- Ischaemic ECG changes
- Haemodynamic compromise — systolic blood pressure <90 mmHg, cool peripheries, diaphoresis, Killip Class > I, and/or new-onset mitral regurgitation
- Sustained ventricular tachycardia
- Syncope
- Known left ventricular systolic dysfunction (left ventricular ejection fraction <40%)
- Prior AMI, percutaneous coronary intervention or prior coronary artery bypass surgery within 6 months

No to all

TIMI Score = 0

Yes

No

Repeat troponin and ECG testing at 2h after presentation

Repeat troponin and ECG testing at 6h after presentation

Further symptoms, new ischaemic ECG abnormalities, elevated troponin level

Low risk for AMI

Assess for risk of CAD and need for objective testing

Yes to any

High risk for cardiac condition including ACS
Refer for admission and further inpatient investigation

Repeat troponin and ECG at 6h

Very low risk for ACS
No further objective testing recommended

Age <40yrs
Normal ECG
Normal serial troponin values
No ongoing symptoms
Symptoms atypical for angina

Yes to all

No to any

Further objective testing recommended

Note: It is important to validate the local Suspected ACS assessment protocol (Suspected ACS-AP). We recommend evaluating three components: Routinely monitor and assess patients receiving the local Suspected ACS-AP; continuously evaluate adherence to the Suspected ACS-AP; conduct ongoing assessment of the 30-day outcome associated with the application of the Suspected ACS-AP. *Elevated troponin defined as >99th percentile of a normal reference population. AMI, acute myocardial infarction; CAD, coronary artery disease; ECG, electrocardiogram; ED, emergency department

This figure has been reproduced from National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand (NHFA and CSANZ); Chew DP, Scott IA, Cullen L et al. NHFA and CSANZ: Australian clinical guidelines for the management of acute coronary syndromes 2016. Heart Lung Circ 2016; 25:895–951.

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