Clinical Practice Guidelines: 
Cardiac/Acute coronary syndrome

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<tr>
<th>Date</th>
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<td>Purpose</td>
<td>To ensure consistent management of patients with Acute coronary syndrome.</td>
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<td>Scope</td>
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</tbody>
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Acute Coronary Syndrome (ACS) refers to the spectrum of conditions resulting from myocardial ischaemia. It encompasses ST-elevation myocardial infarction (STEMI), non-ST elevation myocardial infarction (NSTEMI) and unstable angina (UA). ACS should be clearly distinguished from stable angina that is typically aggravated by exertion or emotional stress and is relieved quickly with rest and/or sublingual glyceryl trinitrate (GTN) administration.[1]

ACS will usually present with chest pain and/or discomfort however, certain groups of patients may present with atypical symptoms (e.g. women, elderly and patients with diabetes mellitus, congestive cardiac disease or renal failure).[2,3] Diagnosis of ACS is based on history, 12-Lead ECG changes and cardiac enzymes.

Complications of ACS include arrhythmia, cardiac failure, acute valvular or septal rupture, cardiogenic shock and death. Early diagnosis and aggressive treatment is vital, including time-critical reperfusion therapy for patients with STEMI.[4,5]
**Risk Assessment**

**High risk features on assessment include:**\(^4\)

- Repetitive or prolonged (> 10 minutes) ongoing chest pain and/or discomfort
- Persistent or dynamic ST-depression (≥ 0.5 mm) or new T-wave inversion (≥ 2 mm)
- Transient ST-segment elevation (≥ 0.5 mm) in more than 2 contiguous leads
- Hypotension (< 90 mmHg systolic)
- Sustained VT
- Syncope
- Left ventricular dysfunction
- Prior PCI (within 6 months) or history of coronary artery bypass graft
- Presence of known diabetes mellitus or renal impairment.

**Risk factors for ACS include:**

- Male
- Advancing age
- Smoking
- Hypertension
- Hyperlipidaemia
- History of prior ischaemic heart disease
- Family history of ACS

**Right ventricular myocardial infarction (RVMI)**

Approximately one third of patients with inferior STEMI will have a concurrent RVMI.\(^6,7\) Patients with haemodynamically significant RVMI will present with hypotension, jugular vein distension and clear lung fields. ST-elevation in V4R, is indicative of RVMI and correlates closely with occlusion of the proximal right coronary artery.

In RVMI the maintenance of preload is vital and appropriate volume loading to maintain cerebral perfusion is indicated if haemodynamic compromise occurs. Similarly, pharmacological agents which reduce preload (e.g. GTN) should be used with extreme caution to prevent detrimental side effects.

**Additional information**

- The terminology used to describe ACS continues to evolve with STEMI also being known as ’ST-segment-elevation acute coronary syndrome’ (STEACS) and NSTEMI also being known as ‘non-ST-elevation acute coronary syndrome’ (NSTEACS).
- All STEMI cases mandate CCP or ACP2 (ESoP) involvement where available and facilitation of early reperfusion therapy.
- A normal 12-Lead ECG, clinical assessment and vital signs, does not rule out ACS. All patients with chest pain (typical or atypical) should be transported to hospital.
Additional information (cont.)

- Very high risk NSTEMI (NSTEMACS) patients can benefit from early pPCI[^8]. Where possible, patients presenting with recurrent dynamic or widespread ST-segment and/or T-wave changes associated with any of the following high risk criteria should where possible be transported to an Emergency Department of a hospital with pPCI capabilities:
  - ongoing ischaemia;
  - haemodynamic compromise;
  - arrhythmias; and/or
  - acute heart failure.
- All cases where a STEMI has been identified or suspected by a paramedic with a clinical level of ACP2 or above (including those not trained in reperfusion) are subject to specific data collection. This should be facilitated by the completion of a STEMI Capture Form by the treating paramedic and adherence to the following process:
  - On the eARF select final assessment as ‘Acute Myocardial Infarction’ and complete documentation in accordance with current standards.
  - Forward the appropriate pPCI Referral Checklist, eARF, STEMI Capture Form and 12-Lead ECG to:

  Manager, Cardiac Outcomes Program
  Information Support, Research & Evaluation Unit
  Mail Cluster 10.1
  Queensland Ambulance Service
  PO Box 1425
  BRISBANE, QLD 4001

Note: Officers are only to perform procedures for which they have received specific training and authorisation by the QAS.