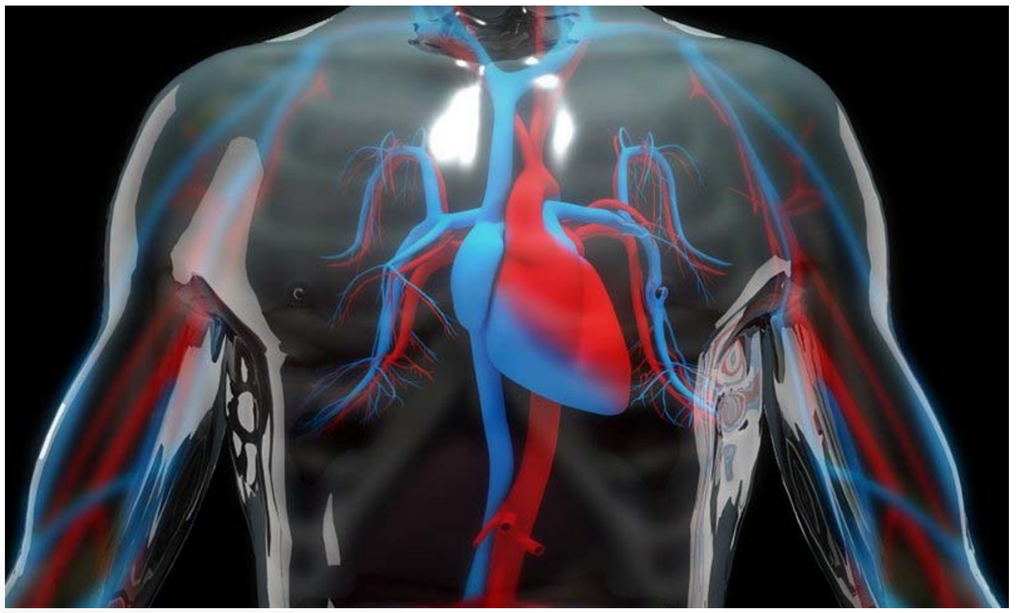
National Heart Foundation of Australia &
Cardiac Society of Australia and New Zealand

Australian Clinical Guidelines for the Management of Acute Coronary Syndromes 2016[1]



1. Chew DP, et al. Heart Lung Circ 2016; 25: 895–951.

Prevalence

- Chest pain and acute coronary syndrome (ACS) symptoms are common presenting complaints in emergency departments (EDs).
- There were 68,200 ACS events recorded in 2012[1].
- >500,000 patients present with chest pain in Australia each year, but ≥80% of all patients investigated for ACS do not have a diagnosis confirmed[1,2].
- There are significant health burdens and health sector costs associated with ACS diagnosis and assessment.

1. Australian Institute of Health and Welfare. 2014. Cardiovascular disease, diabetes and chronic kidney disease—Australian facts: Prevalence and incidence. 2. Cullen L, et al. Med J Aust 2015;202 (8):427–32.

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Background

- Aim to provide a clinical guideline to assist the management of patients presenting with chest pain, due to suspected or confirmed ACS.
- Intended to replace the NHFA/CSANZ ACS guidelines of 2006[1] , addenda 2007[2] and 2011[3].
- These guidelines should be read in conjunction with:
  - ACS Clinical Care Standards developed by the Australian Commission for Safety and Quality in Health Care (ACSQHC)[4].
  - Australian Acute Coronary Syndromes Capability Framework developed by the Heart Foundation[5].

1. ACS Guidelines Working Group. Med J Aust. 2006;184(8):S1-30. 2. Aroney CN, et al. Med J Aust. 2008;188(5):302-3. 3. Chew DP, et al. Heart Lung Circ. 2011;20(8):487-502. 4. ACSQHC. ACS Clinical Care Standard. 2014. 5. NHFA. Australian ACS capability framework. 2015.

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Working Group

- An ACS Guideline Development Working Group was facilitated by the National Heart Foundation of Australia (NHFA) in partnership with Cardiac Society of Australia and New Zealand (CSANZ).
- The Working Group included a broad mix of health professionals, including a general practitioner, general physician, cardiac surgeon, pathologist, ambulance representative, cardiologists, emergency physicians, exercise physiologists, cardiac nurses and a consumer representative.

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The process for developing the guidelines

- Literature review:
  - informed by stakeholder consultation, the working group developed clinical questions on which the literature review was based
  - conducted by an external literature reviewer, who was appointed though an open tender process (KP Health)
  - included published studies from 2010 to 2015.

The process for developing the guidelines

- Governance
  - Processes in place to ensure transparency, minimise bias, manage conflict of interest (COI) and limit other influences during development.

- Recommendations developed using:
  - NHMRC (level of evidence)
  - GRADE methodology (strong or weak).

The process for developing the guidelines

- Public consultation period of 30 days in April 2016 on the final draft.
- NHFA and CSANZ clinical committee and National Board approvals followed.
- Endorsed by key stakeholder organisations.
- Publication in peer review journals August 2016.

What is new from previous guidelines?

- Recommendations are graded on the **strength of the evidence** and the **expected value** of the intervention.
- Recommendations focus on the interventions and therapies most likely associated with **improved outcomes**.
- Use of **practice points** to highlight aspects of care that are supported by limited evidence or modest benefits.
- Focus on pathways for the **assessment** of patients with suspected ACS.

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What is new from previous guidelines?

- Guidance on:
  - **troponin testing** integrated into chest pain assessment pathways
  - patient groups not requiring **further testing**
  - duration of **cardiac monitoring**
  - prompt transfer of patients receiving **fibrinolysis** in STEMI
  - provision and timing of early **invasive management** in NSTEACS
  - reduced indication for **glycoprotein IIb/IIIa inhibition**
  - combination **antiplatelet and anti-thrombin** therapy
  - duration of **$P2Y_{12}$ inhibition**
  - reduced indication for **beta-blocker** therapy.

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Recommendations

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Initial assessment of chest pain

Recommendation		Grade
1.	It is recommended that a patient with acute chest pain or other symptoms suggestive of an ACS receives a 12-lead ECG and this ECG is assessed for signs of myocardial ischaemia by an ECG-experienced clinician within 10 minutes of first acute clinical contact.	Strong IIIC
2.	A patient presenting with acute chest pain or other symptoms suggestive of ACS should receive care guided by an evidence-based Suspected ACS Assessment Protocol (Suspected ACS-AP) that includes formal risk stratification.	Strong IA
3.	Using serial sampling, cardiac-specific troponin levels should be measured at hospital presentation and at clearly defined periods after presentation using a validated Suspected ACS-AP in patients with symptoms of possible ACS.	Strong IA

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Initial assessment of chest pain

Recommendation		Grade
1.	Non-invasive objective testing is recommended in intermediate-risk patients, as defined by a validated Suspected ACS-AP, with normal serial troponin and ECG testing and who remain symptom-free.	Weak IA
2.	Patients in whom no further objective testing for coronary artery disease (CAD) is recommended are those at low risk, as defined by a validated Suspected ACS-AP: age <40 years, symptoms atypical for angina, in the absence of known CAD, with normal troponin and ECG testing, and who remain symptom-free.	Weak IIIC
3.	The routine use of validated risk stratification tools for ischaemic and bleeding events (e.g. GRACE score for ischaemic risk or CRUSADE score for bleeding risk) may assist in patient-centric clinical decision-making in regards to ACS care.	Weak IIIB

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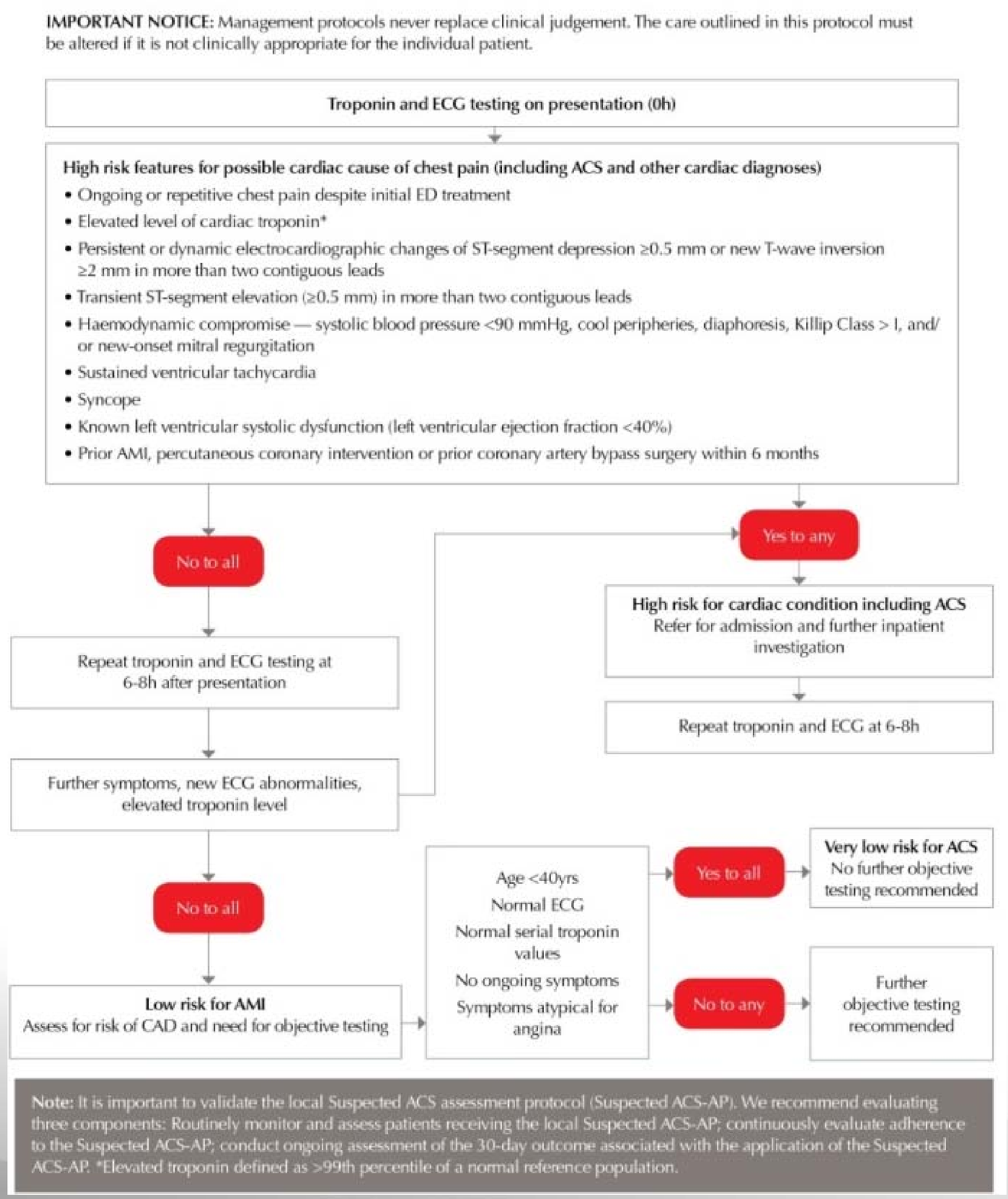
Assessment protocols for suspected ACS



- Point of care assays
- Sensitive lab-based assays
- Highly sensitive lab-based assays

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Acute reperfusion and invasive management

Recommendation		Grade
1.	For patients with ST elevation myocardial infarction (STEMI) presenting within 12 hours of symptom onset, and in the absence of comorbidities that influence the individual's overall survival, emergency reperfusion therapy with either primary percutaneous coronary intervention (PCI) or fibrinolytic therapy is recommended.	Strong IA
2.	Primary PCI is preferred for reperfusion therapy in patients with STEMI if it can be performed within 90 minutes of first medical contact; otherwise fibrinolytic therapy is preferred for those without contra-indications.	Strong IA
3.	Among patients treated with fibrinolytic therapy who are not in a PCI-capable hospital, early or immediate transfer to a PCI-capable hospital for angiography, and PCI if indicated, within 24 hours is recommended.	Weak IIA
4.	Among patients treated with fibrinolytic therapy, for those with ≤50% ST recovery at 60–90 minutes, and/or with haemodynamic instability, immediate transfer for angiography with a view to rescue angioplasty is recommended.	Strong IB

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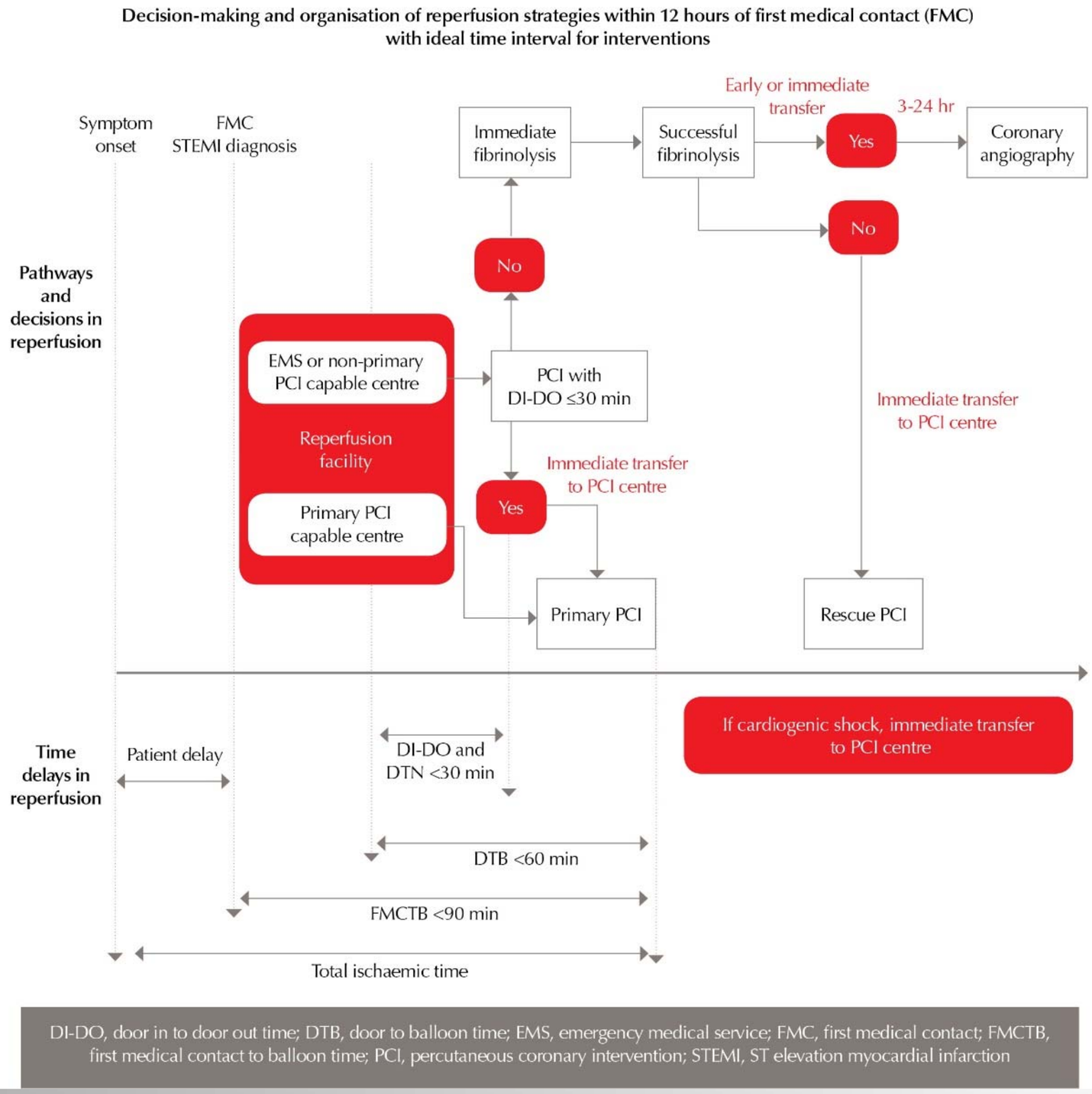
Decision-making and timing considerations in reperfusion for STEMI



Adapted from ESC. Eur Heart J 2012;33 :2569-619.

Invasive management

Recommendation		Grade
5.	Among high- and very high-risk patients with non ST elevation acute coronary syndromes (NSTEACS) (except Type 2 MI), angiography with coronary revascularisation (PCI or coronary artery bypass grafts) where appropriate is recommended.	Strong IA
6.	Patients with NSTEACS who have no recurrent symptoms and no risk criteria are considered at low risk of ischaemic events, can be managed with a selective invasive strategy guided by provocative testing for inducible ischaemia.	Strong IA
7.	Among patients with NSTEACS with very high-risk criteria (ongoing ischaemia, haemodynamic compromise, arrhythmias, mechanical complications of MI, acute heart failure, recurrent dynamic or widespread ST-segment and/or T-wave changes on ECG), an immediate invasive strategy is recommended (within 2 hours of admission).	Strong IIC
8.	In the absence of very high-risk criteria, for patients with NSTEACS with high-risk criteria (GRACE score >140, dynamic ST-segment and/or T-wave changes on ECG, or rise and/or fall in troponin compatible with MI) an early invasive strategy is recommended (within 24 hours of admission).	Weak IC
9.	In the absence of high-risk criteria, for patients with NSTEACS with intermediate-risk criteria (such as recurrent symptoms or substantial inducible ischaemia on provocative testing), an invasive strategy is recommended (within 72 hours of admission).	Weak IIC

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Pharmacology for ACS

Recommendation		Grade
1.	Aspirin 300 mg orally initially (dissolved or chewed) followed by 100–150 mg/day is recommended for all patients with ACS in the absence of hypersensitivity.	Strong IA
2.	Among patients with confirmed ACS at intermediate to very high-risk of recurrent ischaemic events, use of a $P2Y_{12}$ inhibitor (ticagrelor; or prasugrel; or clopidogrel) is recommended in addition to aspirin. (ticagrelor or prasugrel preferred).	Strong IA
3.	Intravenous glycoprotein IIb/IIIa inhibition in combination with heparin is recommended at the time of PCI among patients with high-risk clinical and angiographic characteristics, or for treating thrombotic complications among patients with ACS.	Strong IB
4.	Either unfractionated heparin or enoxaparin is recommended in patients with ACS at intermediate to high risk of ischaemic events.	Strong IA
5.	Bivalirudin (0.75 mg/kg IV with 1.75 mg/kg/hr infusion) may be considered as an alternative to glycoprotein IIb/IIIa inhibition and heparin among patients with ACS undergoing PCI with clinical features associated with an increased risk of bleeding events.	Weak IIB

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Discharge management

Recommendation		Grade
1.	Aspirin (100–150 mg/day) should be continued indefinitely unless it is not tolerated or an indication for anticoagulation becomes apparent.	Strong IA
2.	Clopidogrel should be prescribed if aspirin is contraindicated or not tolerated.	Strong IA
3.	Dual-antiplatelet therapy with aspirin and a $P2Y_{12}$ inhibitor (clopidogrel or ticagrelor) should be prescribed for up to 12 months in patients with ACS, regardless of whether coronary revascularisation was performed. The use of prasugrel for up to 12 months should be confined to patients receiving PCI.	Strong IA
4.	Consider continuation of dual-antiplatelet therapy beyond 12 months if ischaemic risks outweigh the bleeding risk of $P2Y_{12}$ inhibitor therapy; conversely consider discontinuation if bleeding risk outweighs ischaemic risks.	Weak IIC

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Discharge management

Recommendation		Grade
5.	Initiate and continue indefinitely, the highest tolerated dose of HMG-CoA reductase inhibitors (statins) for a patient following hospitalisation with ACS unless contraindicated or there is a history of intolerance.	Strong IA
6.	Initiate treatment with vasodilatory beta-blockers in patients with reduced left ventricular (LV) systolic function (LV ejection fraction [EF] ≤40%) unless contraindicated.	Strong IIA
7.	Initiate and continue angiotensin converting enzyme (ACE) inhibitors (or angiotensin receptor blockers) in patients with evidence of heart failure, LV systolic dysfunction, diabetes, anterior myocardial infarction or co-existent hypertension.	Strong IA
8.	Attendance at cardiac rehabilitation or undertaking a structured secondary prevention service is recommended for all patients hospitalised with ACS.	Strong IA

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Working group acknowledgement

- Professor Derek Chew
- Associate Professor Ian Scott
- Dr Phil Tideman
- Associate Professor Louise Cullen
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- Mr Ross Proctor
- Ms Jinty Wilson
- Professor Anne-Maree Kelly
- Professor Con Aroney

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Endorsement

- Australasian College for Emergency Medicine
- Australian Cardiovascular Health and Rehabilitation Association
- Royal College of Pathologists of Australasia
- Internal Medicine Society of Australia and New Zealand
- The Australasian Cardiovascular Nursing College
- Council of Remote Area Nurses of Australia
- Australian and New Zealand Society of Cardiac and Thoracic Surgeons
- Australian Commission on Safety and Quality in Health Care

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Publications

Executive summary in MJA

Guideline summary

National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand: Australian clinical guidelines for the management of acute coronary syndromes 2016

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Abstract

Introduction: The modern care of suspected and confirmed acute coronary syndrome (ACS) is informed by an extensive and evolving evidence base. This clinical practice guideline focuses on key components of management associated with improved clinical outcomes for patients with chest pain or ACS. These are presented as recommendations that have been graded on both the strength of evidence and the likely absolute benefit versus harm. Additional considerations influencing the delivery of specific therapies and management strategies are presented as practice points.

Main recommendations: This guideline provides advice on the standardised assessment and management of patients with suspected ACS, including the implementation of clinical assessment pathways and subsequent functional and anatomical testing. It provides guidance on the:

- diagnosis and risk stratification of ACS;
- provision of acute reperfusion therapy and immediate post-fibrinolysis care for patients with ST segment elevation myocardial infarction;
- risk stratification informing the use of routine versus selective invasive management for patients with non-ST segment elevation ACS;
- administration of antithrombotic therapies in the acute setting and considerations affecting their long term use; and
- implementation of an individualised secondary prevention plan that includes both pharmacotherapies and cardiac rehabilitation.

Changes in management as a result of the guideline: This guideline has been designed to facilitate the systematic integration of the recommendations into a standardised approach to ACS care, while also allowing for contextual adaptation of the recommendations in response to the individual's needs and preferences. The provision of ACS care should be subject to continuous monitoring, feedback and improvement of quality and patient outcomes.

Methods

The NHFA, in partnership with the CSANZ, has undertaken an update to the NHFA/CSANZ *Guidelines for the management of acute coronary syndromes 2006* and addenda of 2007 and 2011.[2,3] The updated guideline will provide a synthesis of current evidence-based guidance for health professionals caring for patients with ACS.

The ACS Guideline Development Working Group comprised an Executive and the four writing groups of which it had oversight, covering the topics of chest pain, ST segment elevation myocardial infarction (STEMI), non-ST segment elevation ACS (NSTEACS) and secondary prevention. In addition, a Reference Group included representatives from stakeholder groups, potential endorsing organisations and regional experts. The Working Group comprised a broad mix of health professionals, including a

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See Editorial, p 11

Full document in HLC

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POSITION STATEMENT

National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand: Australian Clinical Guidelines for the Management of Acute Coronary Syndromes 2016

Contents

1.Chew DP, et al. Med J Aust 2016; 205: 128-133. 2.Chew DP, et al. Heart Lung Circ 2016; 25: 895–951.

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Resources on NHFA website

- PowerPoint presentations for health professionals
  - Short and longer versions
- COI register and governance document (for the working group during development of the guidelines)
- Treatment algorithm for STEMI (print version)
- Assessment protocols for suspected ACS (print versions)
  - Using point of care, sensitive and highly sensitive assays
- Resources available at http://heartfoundation.org.au/for-professionals/clinical-information/acute-coronary-syndromes

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Questions

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