# Acute coronary syndromes treatment algorithm Updated September 2011



PCI or

**CABG** 

Medical





Immediate 12-lead ECG

## Does patient meet indications for reperfusion therapy

# Symptom onset



Patients in whom fibrinolysis is contraindicated, or with ongoing symptoms or instability after fibrinolysis, should be transferred for PCI.

not routinely recommended after 12 hours from symptom onset if the patient is asymptomatic and haemodynamically

## \* Contraindications for fibrinolysis

• Active bleeding or bleeding diathesis (excluding menses)

- Significant closed head or facial trauma within 3 months Suspected aortic dissection
- Any prior intracranial haemorrhage
- Ischaemic stroke within 3 months
- Known structural cerebral vascular lesion • Known malignant intracranial neoplasm

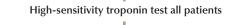
#### Relative

· Current use of anticoagulants

- Noncompressible vascular punctures
- Recent major surgery (< 3 weeks)
- Traumatic or prolonged (> 10 min) CPR • Recent internal bleeding (within 4 weeks)
- Active peptic ulcer • History of chronic, severe, poorly controlled hypertension
- Severe uncontrolled hypertension on presentation (systolic ≥ 180 mmHg or diastolic ≥ 110 mmHg)
- Ischaemic stroke > 3 months ago. dementia or known intracranial abnormality (not covered in 'absolute contraindications')
- Pregnancy

Evolving risk stratification: clinical assessment, troponin assessment and time

Careful clinical history, examination, ECG, chest X-ray and investigations to diagnose other causes of chest pain and evaluate clinical likelihood of evolving ACS\*





Repeat

troponin

≥ 99th percentile or ≥ 50% increase

MI likely: seek

cardiac consultation

and further

investigation

Repeat troponin to evaluate cause of troponin elevation

No change in

troponin level

Not early MI: consider

late MI or other

causes of chronic

troponin elevation

Significant change

in troponin level<sup>‡</sup>

<sup>†</sup> Substantial early elevations in troponin may indicate evolving MI or other diagnoses associated with increased risk – immediate evaluation is required. Management decisions should not be delayed for repeat troponin testing at six hours. \* Significant change: the Universal Definition of MI has recommended a change of 20% (3 SD) from baseline be considered significant with

**Myocardial infarction** 

(MI) unlikely: proceed

to early 'rule-out'

CAD testing

embolus). Where other diagnoses are evident, management should be directed at these conditions.

\* Due to the increased sensitivity, a change of 50% or more may be required to make the diagnosis of evolving MI using the newer assays, but

\* This algorithm applies to patients with suspected ACS, in the absence of other plausible causes of troponin elevation (e.g. sepsis, pulmonary

the clinical significance of changes from very low baseline levels is uncertain. Research, currently ongoing, will clarify this recommendation. Note: This algorithm is based upon high-sensitivity troponin tests. If high-sensitivity troponin testing is unavailable, assessment should be based

### **High-risk NSTEACS**

Presentation with clinical features consistent with ACS and

- repetitive or prolonged (> 10 minutes) ongoing chest pain/ discomfort
- elevation of at least 1 cardiac biomarker (troponin or CK-MB) • 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
- haemodynamic compromise: systolic blood pressure < 90 mmHg, cool peripheries, diaphoresis, Killip class > 1 and/or new onset mitral regurgitation
- sustained ventricular tachycardia
- LV systolic dysfunction (LVEF < 40%)
- prior PCI within 6 months or prior CABG surgery
- presence of known diabetes (with typical symptoms of ACS)
- chronic kidney disease estimated GFR < 60 mL/min (with typical symptoms of ACS).

#### **Intermediate-risk NSTEACS**

Presentation with clinical features consistent with ACS and

- chest pain or discomfort within past 48 hours that occurred at rest, or was repetitive or prolonged (but currently resolved) • age > 65 years
- known CHD: prior MI with LVEF ≥ 40% or known coronary lesion > 50% stenosed
- no high-risk ECG changes (see above)
- two or more of: known hypertension, family history, active smoking or hyperlipidaemia
- presence of known diabetes (with atypical symptoms of ACS)
- chronic kidney disease estimated GFR < 60 mL/min (with atypical symptoms of ACS)
- prior aspirin use.

**And not** meeting the criteria for high-risk NSTEACS.

## **Low-risk NSTEACS**

Presentation with clinical features consistent with ACS without intermediate- or high-risk features, for example **one** of the following:

- onset of anginal symptoms within the last month
- worsening in severity or frequency of angina
- lowering in anginal threshold.

# ECG) Discharge with Appropria period of urgent cardiac follow-up (on upgraded medical therapy

#### 1. Based on expert opinion

Based on the '2011 Addendum to the National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand Guidelines for the Management of Acute Coronary Syndromes (ACS), 2006', published in Heart, Lung and Circulation, 2011:20:487–502. For more information, refer to this article or call our Health Information Service on 1300 36 27 87.

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3 hours after presentation

and at least 6 hours after

the onset of symptoms

6 hours after

presentation

ISBN: 978-1-921748-69-1

#### POS-035 IPM 9/11

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All patients with ACS should be given a written chest pain action plan and referred to comprehensive ongoing prevention and cardiac rehabilitation services.