Queensland Government

Emergency Department

Cardiac Chest Pain Risk Stratification Pathway

Facility: ....

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐ I

Clinical Pathways *never replace clinical judgement*
Care outlined in this Pathway must be altered if it is not clinically appropriate for the individual patient
Timing of referral to cardiology / medical may vary for local circumstances

- ***This pathway should be used for patients who have a complaint of chest discomfort (non-traumatic) or jaw, neck, shoulder, arm, back, or epigastric pain. Remember other atypical features (eg. diaphoresis, shortness of breath)***
- ***Always consider other critical causes (e.g. PE, thoracic aortic dissection, abdominal aortic aneurysm)***

Medical Staff to perform risk stratification on the reverse of this form →

Assessment Date: / /	Time	Initial
1. Can you clearly diagnose non-cardiac chest pain as an alternative diagnosis? ☐ Yes - clear alternative diagnosis. Stop pathway *(state reason)*: .... ☐ No - use this pathway and perform risk stratification over page		
2. Initial observations attended		
3. Oxygen, aspirin and pain relief administered as per medical order *(see Medication Guidelines below)* • Oxygen therapy if indicated • Check and document allergies and contraindications on the Medication Chart. • Ensure there is a written or standing medication order prior to drug administration. Person administering medication according to this pathway must record administration in the 'once only' section of the medication chart.		
4. 12 lead ECG performed and reviewed by MO *within 10 minutes of presentation* • If persistent ST elevation ≥ 1mm in 2 contiguous limb leads OR ST elevation ≥ 2mm in 2 contiguous chest leads OR new left bundle branch block pattern, proceed to STEMI Management Plan. Otherwise continue ECG monitoring as required. • Persistent ST elevation < identified above may represent transmural ischaemia or pericarditis and should be considered for further investigations including early angiography. • Normal ECG or other changes, proceed to risk stratification on the reverse of this form. →		
5. Pathology ordered on presentation. Insert IVC. Tests: TnI, FBC, ELFT, COAGS, random glucose		
6. Frequent observations performed until pain free, and then at 30 minute intervals: • Pulse, rhythm check, respirations, temperature, SaO_2 and BP. Continuous cardiac monitoring is recommended until first TnI result.		
7. Chest x-ray scheduled.		
8. Repeat ECG and TnI at 6–8 hours from presentation.		
9. Reassure the patient / family and provide appropriate information in regard to plan of care.		

Medications Guidelines *For Emergency Department use only*

Aspirin	300 mg, oral, stat dose. **Indication**: possible cardiac chest pain. *Aspirin should be administered unless the patient has a history of severe allergic reactions, severe active bleeding or unless already given.*
Oxygen	6 L/min, via Hudson mask, continuous. **Indications**: Patients with hypoxia (SaO_2 < 93%), or if evidence of shock.
Glyceryl trinitrate	300 mcg to 600 mcg, sublingual, every 5 mins until pain relieved unless BP < 100 mm Hg systolic. **Indication**: chest pain or equivalent up to 15 minutes then consider morphine.
Morphine sulphate	2.5 mg to 5 mg, intravenous, maximum 10 mg then MO review, every 5 mins until pain relieved unless BP < 100 mm Hg systolic. **Indication**: Chest pain or equivalent.

Signature Log *Every person documenting in this pathway must supply a sample of their initials and signature below*

Initials	Signature	Print Name	Role	Initials	Signature	Print Name	Role

Patient with chest pain
- ED Chest Pain Medical Assessment Tool

Acute Coronary Syndrome suspected/under investigation
- Cardiac Chest Pain Risk Stratification Pathway
- Intermediate Risk Chest Pain Clinical Pathway

Acute Coronary Syndrome diagnosed
- NSTEACS Mgt. Plan
- NSTEACS Pathway

OR

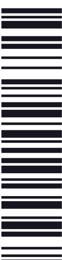
- STEMI Mgt. Plan
- STEMI Pathway

CARDIAC CHEST PAIN RISK STRATIFICATION PATHWAY

DO NOT WRITE IN THIS BINDING MARGIN

© The State of Queensland (Queensland Health) 2012 Contact CIM@health.qld.gov.au

v6.00 - 02/2012
Mat. No.: 10206033
SW030a



Contraindications for Exercise Stress Testing (EST)

☐ No contraindications

- ☐ Physical disability that precludes safe and adequate test performance
- ☐ Electrolyte abnormalities - Significant hypokalaemia < 3.0 mmol/L
- ☐ Medical disorder that may affect exercise performance (eg. infection, renal failure)
- ☐ Any tachyarrhythmia with uncontrolled ventricular rate
- ☐ Moderate or Severe stenotic valvular heart disease
- ☐ Known left main coronary stenosis (or equivalent)
- ☐ Decompensated symptomatic heart failure
- ☐ Known hypertrophic cardiomyopathy
- ☐ Haemodynamic compromise
- ☐ Pulmonary Embolism suspected
- ☐ 2nd or higher degree AV block
- ☐ Unable to/refuses consent
- ☐ Left bundle branch block
- ☐ Inability to cooperate
- ☐ Ongoing chest pain
- ☐ Active endocarditis
- ☐ AMI within 2 days

Date: Time: Initial:

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐ I

Risk Stratification Pathway for *Possible Cardiac Chest Pain*

- To be completed by medical staff **- Local referral practices apply at any stage of this pathway**

Initial Assessment	Stratify	Manage
Date: Time: Initial:	Date: Time: Initial:	Date: Time: Initial:

☐ High Risk Features

High Risk Features: Presentation with clinical features consistent with acute coronary syndromes (ACS) and one or more of the following high risk features *(tick as appropriate)*:

- ☐ Repetitive or prolonged (> 10 minutes) ongoing chest pain or discomfort
- ☐ Elevated level of at least one cardiac biomarker - TnI
- ☐ Persistent or dynamic ECG changes of ST-segment depression ≥ 0.5 mm or new T-wave inversion ≥ 2 mm
- ☐ Transient ST-segment elevation (≥ 0.5 mm) in more than two contiguous leads
- ☐ Left ventricular systolic dysfunction (left ventricular ejection fraction < 0.40)
- ☐ Haemodynamic compromise – systolic blood pressure < 90 mmHg, cool peripheries, diaphoresis, Killip Class > 1 and/or new onset mitral regurgitation
- ☐ Sustained ventricular tachycardia
- ☐ Syncope
- ☐ Prior percutaneous coronary intervention within 6 months or prior coronary artery bypass surgery

Yes → Commence high risk ACS management plan
No → Intermediate Risk Features

☐ Intermediate Risk Features

Intermediate Risk Features: Presentation with clinical features consistent with ACS and any other of the following intermediate risk features AND NOT meeting the criteria for high risk ACS *(tick as appropriate)*:

- ☐ Resolved chest pain or discomfort within the past 48 hours that occurred at rest, or was repetitive or prolonged (> 10 mins)
- ☐ Age > 65 years
- ☐ Presence of known diabetes (whether typical or atypical symptoms of ACS)
- ☐ Known coronary heart disease – prior myocardial infarct with left ventricular ejection fraction > 0.40, or known coronary lesion more than 50% stenosed
- ☐ Two or more of the following risk factors: known hypertension, family history, active smoking or hyperlipidaemia
- ☐ Prior regular aspirin use
- ☐ Chronic kidney disease - estimated GFR < 60 mL/min (whether typical or atypical symptoms of ACS)

Yes → Assessment after 2nd TnI
No → Low Risk Features

☐ Low Risk Features

- ☐ Presentation with clinical features consistent with ACS **without** intermediate risk or high risk features. *Examples:* onset of anginal symptoms within the last month *OR* worsening in severity or frequency of angina *OR* lowering in anginal threshold

Yes → Serial TnIs and ECGs

Assessment after 2nd TnI

- ☐ Positive TnI? *or*
- ☐ Recurrent pain? *or*
- ☐ Any ST / T wave changes? *or*
- ☐ Developed other high risk features?

Yes → Commence high risk ACS management plan
No → Objective testing

Objective testing

As determined by local availability. (Ideal is within 72 hours)

- ☐ Exercise stress test (EST) *or*
- ☐ Myocardial perfusion scan (MPS), stress echocardiography or CT coronary angiography (CTCA).

+ve → Commence high risk ACS management plan
-ve → Cease ACS investigation

- ☐ Serial TnIs and ECGs.

NB: Objective testing is unnecessary

+ve → Commence high risk ACS management plan
-ve → Cease ACS investigation

- ☐ Commence high risk ACS management plan after MO confirmation - eg. NSTEACS (NSTEMI / UAP) / STEMI.

- ☐ Cease ACS investigation.

Consider other causes

On discharge

- ☐ Organise GP referral with letter *and*
- ☐ Confirm objective testing arrangement (or result)
- ☐ Consider cardiology / physician OPD follow-up
- ☐ Provide Heart Foundation booklet “How to Have a Healthy Heart” (or similar) with risk factor modification advice

Additional reading: Chew P, Aroney C, Aylward P *et al*. 2011 Addendum... Guidelines for the Management of Acute Coronary Syndromes (ACS) 2006. *Heart, Lung and Circulation* 2011; 20:487-502

DO NOT WRITE IN THIS BINDING MARGIN