Pathway for Acute Coronary Syndrome Assessment (PACSA) Flow Chart

NSW GOVERNMENT | AGENCY FOR CLINICAL INNOVATION

Use this Flowchart in conjunction with Pathway for Acute Coronary Syndrome Assessment (PACSA) Checklist NH700420

Pathway for Acute Coronary Syndrome Assessment (PACSA) Flowchart

Initial Assessment

Symptoms of Myocardial Ischaemia

Initial Management

Identify STEMI

Initial ECG
Perform and review within 10 minutes of clinical contact
OR
ECG transmission (Use local protocols)

STEMI on ECG? — Yes → Alternative cause of ST Elevation? — No → PACSA STEMI Reperfusion Flowchart

STEMI on ECG? — No → Alternative cause of ST Elevation? — Yes → EXIT after Senior Review

Differential Diagnosis

Alternative cause of Chest Pain? — Yes → EXIT after Senior Review

Alternative cause of Chest Pain? — No →

Clinical Risk Assessment

High Clinical Risk? — Yes → High Risk

High Clinical Risk? — No → Low Clinical Risk?

Low Clinical Risk? — No → Intermediate Risk (Not High or Low Risk)

Low Clinical Risk? — Yes → Low Risk

Troponin Risk Assessment

Initial Troponin positive: High or Intermediate Risk

Non-Ischaemic cause of raised Troponin? (e.g. Sepsis) Senior Review

Repeat Troponin positive: High Risk

ECG Risk Assessment

Dynamic ECG changes: High Risk

Summative Risk Assessment

Risk category can only be changed after **Senior Review**

Management

High Risk	Intermediate Risk	Low Risk
Admit Cardiac monitoring	**Admit** No cardiac monitoring **OR** **Discharge**	**Reassess** Treat other diagnoses **Discharge**
Admitting team advises: Anticoagulation Antiplatelet therapy Beta blockers Statins	After Senior Review Follow-up with Physician, GP or Cardiologist within one week	Follow-up by GP Exercise Stress Testing, Echo, Cardiac Perfusion and CT Angiogram are usually NOT indicated

Symptoms of Myocardial Ischaemia

Pain or tightness in chest, jaw, neck, left arm, right arm or epigastrium associated with symptoms of dyspnoea, diaphoresis or fatigue

Atypical symptoms of myocardial ischaemia occur in women, people with diabetes and the elderly

Increased risk of ACS with central obesity, autoimmune conditions, chronic renal disease, diabetes and HIV

Initial Management

Aspirin 300mg (soluble) unless already given or contraindicated
Bloods (including troponin), CXR, cardiac monitoring and analgesia
ECGs at 0 and 2 hours, when repeating troponin and every 30 minutes if ongoing symptoms
GTN: caution if SBP<100mmHg and in right-sided and inferior infarcts
O_2 not required in stable patients if SpO_2 is greater than or equal to 93%

ECG STEMI Criteria

Ongoing Chest Pain
AND ST elevation of 1mm or more in 2 or more adjacent leads except V_2 and V_3 which require ST elevation of:
- 2.5mm or more in men under 40 years
- 2.0mm or more in men aged 40 years or over
- 1.5mm or more in women

OR Left bundle branch block and haemodynamically unstable
OR Left bundle branch block and haemodynamically stable with positive modified Sgarbossa criteria
OR Posterior infarct (ST depression V_1-V_3): needs posterior ECG
OR de Winter T waves V_2-V_5

Alternative causes of ST Elevation

Intracranial bleed	Ventricular paced rhythm	Early repolarisation
Previous AMI	Left bundle branch block	Cardiomyopathy
Pericarditis	Coronary vasospasm	Brugada syndrome
Myocarditis	Left ventricular hypertrophy	Wellens syndrome
Ventricular aneurysm	Takotsubo cardiomyopathy	Hyperkalaemia

Non-Ischaemic causes of Chest Pain

Aortic dissection	Pulmonary embolus	Gastrointestinal
Pericarditis	Trauma	Musculoskeletal

High Clinical Risk Criteria

ANY of the following:
Typical or ongoing symptoms
Syncope at presentation OR SBP less than 90mmHg
Left ventricular failure (acute onset)
Significant arrhythmia (2nd or 3rd degree AV block or VT)
AMI, PCI or CABG within 6 months
Dynamic ECG: ST (>0.5mm up or down) or new T wave inversion

Low Clinical Risk Criteria

Symptom free with non-ischaemic ECGs and **ALL** the following:
Age less than 45 years (unless in High Risk Population)
Symptoms atypical for angina
No known coronary artery disease

OR Low Clinical Risk by validated risk score (Use local protocol)

High Sensitivity Troponin: perform at 0 & 2 hours

Troponin I
Siemens Vista/EXL and Atellica
- Positive if more than 50ng/L at any time
- Positive if delta (change up or down) more than 15ng/L at 2 hrs

Beckman-Coulter Access
- Positive if more than 10ng/L (Female) or 20ng/L (Male) at any time
- Positive if delta (change up or down) more than 6ng/L at 2 hrs

Abbott Architect
- Positive if more than 16ng/L (Female) or 26ng/L (Male) at any time
- Positive if delta (change up or down) more than 8ng/L at 2 hrs

Troponin T
Roche Cobas
- Positive if more than 14ng/L at any time
- Positive if delta (change up or down) more than 5ng/L at 2 hrs

Standard Sensitivity Troponin: perform at 0 & 6 hours

Troponin I
Abbott i-STAT (POCT)
- Positive if more than 0.04ug/L threshold at 0 or 6 hours

Radiometer AQT (POCT)
- Positive if more than 0.23ug/L threshold at 0 or 6 hours

Troponin T
Radiometer AQT (POCT)
- Positive if more than 0.17ug/L threshold at 0 or 6 hours

Non-Ischaemic causes of Troponin elevation

Sepsis	Heart failure	Myocarditis
Pulmonary Embolus	Arrhythmia	Cocaine
Renal failure	Cardiomyopathy	Cardiotoxic drugs

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