Emergency Department Pathway for patients with suspected Acute Coronary Syndrome (ACS)

Clinical Leads
Professor Derek Chew
Associate Professor Chris Zeitz
ED Pathway for patients with suspected ACS

The Transforming Health (TH) Emergency Department (ED) Pathway for patients with suspected ACS (Heart Attack) provides a standardised clinical pathway based on the current local and international evidence and best practice.

Currently in SA the ED’s do not have a common standardised pathway for patients with suspected ACS.

The Australian Commission on Safety & Quality, ACS Clinical Care Standards recommends that a patient presenting with acute chest pain or other symptoms suggestive of ACS receives care guided by a documented chest pain assessment pathway.

Low-risk chest pain pathway trialled in SALHN in 2013.
ED Pathway for patients with suspected ACS

- Announced as a TH Project on 1 June 2015.
- A workshop was held on 3 July 2015.
- 62 Workshop participants.
- Expert Work Group (EWG) formed.
## ACS – Expert Work Group Membership

<table>
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<th>Title and Affiliation</th>
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Patient presents to ED with symptoms suggestive of ACS (1)
Triaged category 1, 2, or 3

ED Nurse to complete ECG, Cardiac Biomarker (Troponin) blood test & Observations

ED Assessment

ECG ABNORMAL

ECG NORMAL

STEMI

EDG

Acute Ischemia

Consider Admission or close Ambulatory Observation

ECG abnormality seek senior review of ECG for interpretation and/or management plan

Initial Cardiac Biomarker blood test (Troponin)

Troponin ELEVATED (2)

Troponin NEGATIVE

Known Coronary Artery Disease

Repeat Cardiac Biomarker blood test (Troponin)

3hrs after initial Troponin, minimum 4hrs after onset of Chest Pain
Repeat Troponin not needed if chest pain >6 hrs before initial Troponin

Repeat Troponin ELEVATED

Repeat Troponin NEGATIVE

Repeat ECG

Repeat ECG ABNORMAL

Repeat ECG NORMAL

Senior Review (Consultant or Advanced Trainee)
Consider Alternative Diagnosis

Age <65 years and/or < 3 Risk Factors for CAD (3)
Low Risk Chest Pain Pathway
DISCHARGE with Review within 72 hours

Alternative Diagnosis
ED Management
Inpatient / OPD / GP referral as appropriate

TIMI Risk Score=0 or aspirin use only
DISCHARGE
GP / ACCHS follow up

(1) ACS symptoms
Pain, pressure, heaviness, tightness in: Chest, neck, jaw, arms, back, shoulders. May also feel: nauseous, a cold sweat, dizzy, short of breath.

(2) Reasons for acutely elevated Troponins
ACS
Pulmonary Embolus
Acute aortic dissection
Hypertension / shock
ARDS
Take-home cardiomyopathy
Radiofrequency catheter ablation
Sympathomimetic drugs

Acute Heart Failure
Stroke
Tachyarrhythmias
Sepsis
Pericarditis
Strenuous exercise
Cardiac contusion
Chemotherapy

(3) CAD risk factors
Hypertension
Diabetes
Cholesterol elevation
Family history CAD/MI
History of tobacco use

Senior Review can occur at any point in the Pathway.
Any medical or nursing concerns at any stage should prompt immediate senior review. Patients who are unstable, shocked, hypotensive, have suspected PE etc are NOT suitable for the low risk chest pain pathway. Presence of a tachycardia (HR>100) & / or hypotension (BP<100) with normal ECG and negative Troponin should prompt a search for an alternative diagnosis.
Draft Principles / Minimum Standards for the Statewide Pathway

A key design feature of the pathway is a set of minimum standards or principles to enable flexibility for each service / LHN to implement the Pathway for their individual service requirement and environment.

These are:

• Standardised rapid assessment of the ACS patient should be available 24 hours a day, 7 days a week.

• Assessment in the Emergency Department (ED) to include patient history, 12 lead ECG and Troponin blood levels.
Draft Principles / Minimum Standards for the Statewide Pathway

• Minimum level of staffing for competent assessment and interpretation of ECG’s and Troponin results are:
  – Advance Trainee in Emergency Medicine,
  – Advance Trainee Physician, and or
  – Credentialed Chest Pain Nurse: A Registered Nurse with both the following credentials:
    • Five years postgraduate cardiac nursing experience,
    • A post graduate qualification in cardiac nursing.

• For patients who are discharged but requiring review back at the hospital should be given a follow up appointment to be seen within 72 hours of discharge.
Draft Principles / Minimum Standards for the Statewide Pathway

• Follow up appointments (within 72 hours) should be available 5 days a week in the ambulatory setting with access to further testing (if applicable) and decision making.

• Minimum criteria for staffing follow up appointment within 72 hours: Credentialed Chest Pain Nurse.
Draft Pathway KPI’s and Performance Indicators

1 KPI & 6 Outcome / Performance Indicators have been developed.

An ACS ED Dashboard developed to feedback to clinicians.

Review of data monthly stratified by hospital & ED.
Draft ED Pathway for patients with suspected ACS

Implementation will involve the following LHN’s and sites and services:

- CALHN: TQEH, RAH.
- NALHN: LMH, MPH.
- SALHN: FMC & NHS

The units / services:

- Emergency Departments,
- Cardiology Services / Units,
- Medical Services / Units,
- Outpatient Departments,
- Inpatient Services.
Draft ED Pathway for patients with suspected ACS

Benefits as demonstrated in SALHN trial:

• Standardised pathway based on evidence and best practice,
• Reduction in median ED length of stay for chest pain,
• Reduction in double handling between inpatient teams and ED,
• Efficient use of medical and nursing fte,
• Improved capacity for general ED business,
• Decrease in hospital admissions,
• No significant change to 30 day end points of: death, new recurrent ACS and re-presentation to ED.
Where is the Project up to?

• Draft Pathway completed.

• KPI’s and a ACS ED Dashboard reviewed by Heads of ED’s 19 Feb 2016.

• In May 2016 the draft Pathway will go out for consultation to ACS Workshop attendees.

• After a consultation period the draft Pathway will go to MCAG for endorsement.