Hume Region Management of Chest Pain or Suspected Acute Coronary Syndrome

CONTACT TELEPHONE NUMBERS
AWH Emergency 0260584576
0260584503
NHW Emergency 0357225261
Ambulance Victoria 000
ARV 1300 36 86 61

ALPINE HEALTH
BRIGHT MT BEAUTY MYRTLEFORD

Patient presents to the Urgent Care Centre with symptoms suggestive of Acute Coronary Syndrome

- **RECOGNISE:** Assign an Emergent triage score and contact Doctor
- Administer Oxygen only if needed to maintain $Sp0^2$ > 94%. Aspirin 300 mg & sublingual nitrates. Insert IV cannula.
  Clinical assessment, ECG & bloods must be performed by an ALS trained RN within 10 minutes of presentation. Record & interpret 12 lead ECG within **10 mins of arrival** (if assistance required contact NHW or AWH or GVH)
- Admit to an acute observation cubicle with routine haemodynamic obs. Continuous ECG monitoring, repeat 12 lead ECG at 15 minute intervals if ongoing chest pain. Obtain blood samples for: U & E's, ELEC, FBE, LFT, GLU, Troponin
  Check iStat Hb / U & E / Gluc / Troponin.
- Collect medical history, perform physical examination and record risk factors
- **Take pathway:** **1 = Observation Protocol (Low but not 'No' risk)**
  2 = Unstable Angina / Non-ST Elevation ACS Protocol
  3 = ST Elevation ACS Protocol * Doctor/Nurse capable of reliable recognition of acute ST elevation ACS protocol

- No ECG changes AND
- Initial bedside Troponin Negative ≤ 0.08 ug/L

Monitoring Protocol

- Angina at rest and prolonged > 20 mins **OR**
- New onset angina **OR**
- Recent acceleration of anginal pattern **OR**
- ECG changes-new ST ↓ or T ↓ **OR**
- Initial bedside Troponin Positive ie ≥ 0.08ug/L

REFER - Unstable Angina/Non ST Elevation ACS Protocol

- New or presumed new ST elevation ≥1 mm in 2 or more contiguous limb leads & 2 mm in ≥ 2 contiguous anterior chest leads
- New LBBB
- New ST ↓ in V1-V2 consistent with acute posterior MI

REFER - ST Elevation ACS Protocol

Monitor in Urgent Care Centre

Initial Medications
- Aspirin 300 mg stat ONLY if not already given.
- If Aspirin allergy discuss with ED
- Sublingual GTN Spray PRN for ongoing pain
  BEWARE of hypotension with use of GTN

Protocol MUST be completed even if a non-cardiac cause of symptoms is established

For on-going or recurrent chest pain:
- Repeat ECG (up to 15 minutely until chest pain relieved)
- Compare serial ECGs to identify potential ischaemic changes
- If pain is not relieved 30 mins post presentation, contact ED **NHW or AWH or GVH**

Time 6 hr: ECG
- ECG for serial comparison
- 6 hr bloods for Troponin

POS Troponin or new ECG changes / *Recurrent chest Pain or new ECG changes or Troponin +ve*

Ensure differential diagnoses have been constructed & worked through

Change to NSTEACS Pathway
REFER / Transfer
Consultation with ED required for consideration for immediate transfer

REFER for Stress Test
As indicated

Discharge Home Checklist
- No on-going chest pain
- No new ECG changes
- No Troponin elevation
  (Refer to GP)
- Recurrent chest pain advice provided
- Local Medical Officer follow up arranged
- Patient comfortable with health plan

All patients should receive CVD risk management (5 or 10 yr) and advice/referred regarding cardiovascular risk reduction strategies

Whilst Awaiting For Transfer to NHW or AWH or GVH

Initial Medications Intermediate Risk ACS Patients
- Aspirin 300 mg stat ONLY if not already given.
- If Aspirin allergy discuss with ED
- Clexane **Loading Dose: < 75 years** = 30 mg IV Bolus plus 1 mg/kg SC. Max. 100 mg dose
  ≥ 75 years: = 0.75 mg/kg SC (No IV Bolus). Max. 75 mg dose.
- GTN Spray PRN for ongoing pain or Morphine 2.5 mg increments IV PRN for ongoing pain
  Beware of hypotension with use of GTN

For on-going or recurrent chest pain:
- Repeat ECG (up to 15 minutely until chest pain relieved)
- Compare serial ECGs to identify potential ischaemic changes
- Treat ongoing pain with IV morphine
- If pain is not relieved 30 mins post presentation, transfer NHW or AWH or GVH for further advice

Troponin Positive or Otherwise High Risk
- Persistent or dynamic ECG changes of ST segment depression greater than or equal 0.5 mm in 2 or more contiguous leads
- Sustained ventricular tachycardia
- Syncope
- Haemodynamic compromise – systolic BP < 90 mmHg, cool peripheries, diaphoresis, Killip Class(see note) >1, and/or new onset mitral regurgitation
- Left ventricular dysfunction (EF < 0.40)
- Prior PCI within 6 months or prior CABG
- Diabetes
- Chronic kidney disease (GFR < 60 mL/min)

Contact NHW / AWH / GVH & Arrange immediate TRANSFER

Time 6 hr: Troponin ECG

POS Troponin or new ECG changes / *Contact ED at NHW/AWH/GVH ASAP*

Initial Medications – High Risk ACS Patients
- Aspirin 300 mg ONLY if not already given
- GTN if BP > 100 mmHg then GTN spray.
  BEWARE of hypotension with use of GTN
- Clexane Loading Dose:
  < 75 years = 30 mg Bolus plus 1 mg/kg SC. Max. 100 mg dose ≥75 years: 0.75mg/kg SC (No IV Bolus). Max. 75 mg dose.
- Consider other antiplatelet therapy after discussion with ED eg Ticagrelor or Clopidogrel

Adjunctive Medications
- β Blocker: Initial dose Metoprolol 25 mg twice daily
- Statins: Recommended for all patients

Early Invasive Management Indicated. Continue established therapy

Whilst awaiting transfer or for conservative management

NEG Troponin & no ECG changes / *LOW RISK*

REFER to GP for further evaluation

Monitor for:
- On-going or recurrent chest pain
- Haemodynamic instability (shock)
- CHF
- Arrhythmia – VT / VF / AF
- Bleeding

One or more present

REFER / Retrieval
ARV (1300 36 86 61)

None present: Continue established therapy whilst waiting if transfer delayed.

Time 6 hr: Troponin, ECG, CP Observations

Coronary angiography +/- revascularisation

All patients should have access to, and be actively referred to, comprehensive ongoing prevention and cardiac rehabilitation services

Whilst Awaiting for TRANSFER
Administer Thrombolytics < 30 mins if indicated
Contact ED at NHW or AWH or GVH
Consider for immediate transfer

Initial Medications
- Within 30 mins Tenecteplase 0.5 mg/kg over 30 seconds (max dose 50mg)
- Discuss with ED use of Ticagrelor or Clopidogrel.
- If Aspirin allergy &/or Aspirin in previous 24/24 discuss with ED. 300 mg ONLY if not already given
- Clexane: See dosage table (right)
- GTN spray PRN for ongoing pain or Morphine 2.5 mg IV PRN for pain
  Beware of hypotension with first ever use of GTN

Clexane Dosage
Loading Dose
< 75 years:
30 mg IV Bolus plus 1 mg/kg SC
Max. 100 mg dose
≥ 75 years:
0.75 mg/kg SC
(No IV Bolus)
Max. 75 mg dose

If renal impairment reduce dose Discuss with ED

REFER
Early Transfer for Coronary Angiography indicated

NO / YES

Monitor & Observe while awaiting transfer:
- ECG Monitor Pulse, BP, O2 saturation
- 30, 60, 90 min ECG
- 6 hr ECG, CK (repeat Troponin if initial Troponin ≤ 0.08ug/Lg)
- Treat ongoing pain with IV morphine

Post Clexane Loading Dose
< 75 years:
1 mg/kg SC 12hr
Max. dose: 100 mg for first post-loading dose
≥ 75 years
0.75 mg/kg SC 12hr
Max. dose: 75 mg for first post-loading dose

Post Clexane Loading Dose
1mg / kg SC daily if renal impairment

ARRANGE TRANSFER

Contraindications to Invasive Treatment
- Significant co-morbidity eg. renal failure, dementia, , frail
- Known severe CAD and designated not for further revascularisation attempts
- Respecting patient's choices

Non Invasive Medical Treatment
Discuss with ED if transfer delayed
Discharge Medications may include:
Ticagrelor or Clopidogrel
Aspirin β Blocker
Nitrates Statin
ACE inhibitors

RESUSCITATE
If condition changes
- Request Emergency MICA transfer to NHW / AWH / GVH
- Failed reperfusion (< 50% ST-segment resolution at 60–90 min, and ongoing chest pain)
- Arrhythmia
- CCF
- Bleeding / Stroke
- Significant co-morbidity increasing risk of medical transport
- If cardiogenic shock – transfer immediately

REFER / Retrieval ARV 1300 36 86 61

All patients should have access to, & be actively REFERRED to, comprehensive ongoing prevention & cardiac rehabilitation services

KILLIP CLASS SCALE: ***Class I:*** No evidence of heart failure ***Class II:*** Findings of mild to moderate heart failure (S3 gallop, rales & half-way up lung fields or elevated jugular venous pressure ***Class III:*** Pulmonary edema
Class IV: Cardiogenic shock defined as systolic blood pressure < 90 & signs of hypoperfusion such as oliguria, cyanosis, and sweating.

Alpine ACS Alg V:7.0 Dec 2016