

**A STEP A - Assess for Myocardial Infarction and 30-day risk of cardiac event**  
 For all patients being discharged, complete *both* STEP A and STEP B (pg2)

**USE ONLY IF CARDIAC ISCHEMIA IS THE PRIMARY CONCERN** (requiring TnI testing - not for myopericarditis, heart failure, arrhythmias)  
 Do not use if inpatient admission or investigation for another potential diagnosis is required.

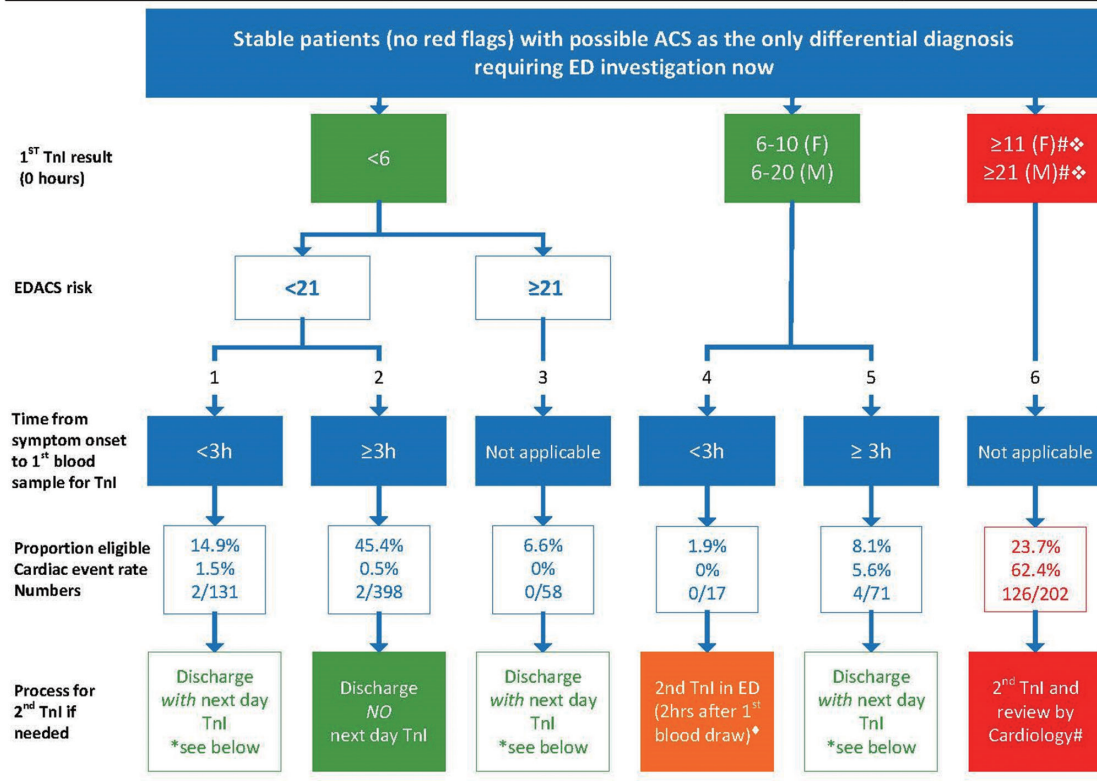
**Include:** Is suspected ischemic cardiac chest pain the MAIN presenting problem requiring investigation today and if it was excluded could the patient be discharged to outpatient follow-up? δ use this pathway

**Exclude:** Can myocardial infarction be excluded based on history and examination only, without measuring TnI (e.g. clearly musculoskeletal)? δexit this pathway

Patients referred by GP to Cardiology ⇒ seen by Cardiology. ED team can initiate blood tests and resuscitate as required.  
 Patients self-presenting ⇒ seen by ED.

**CONSIDER RED FLAGS**

SCREEN FOR STEMI and consider alternative causes, e.g.	Screen for high-risk features of aortic dissection (see HealthPathways) and ACS Red Flags:	<b>Red flag(s) present = Not for low-risk pathway</b> Manage as clinically indicated
<ul style="list-style-type: none"> <li>Pulmonary embolism</li> <li>Pneumothorax</li> <li>Abdominal cause e.g., Pancreatitis</li> <li>Oesophageal rupture</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing chest pain thought likely to be ischaemic</li> <li>Haemodynamic instability</li> <li>History suggestive of crescendo angina (increasing severity or frequency)</li> <li>Ischaemic changes on ECG, not known to be old</li> </ul>	

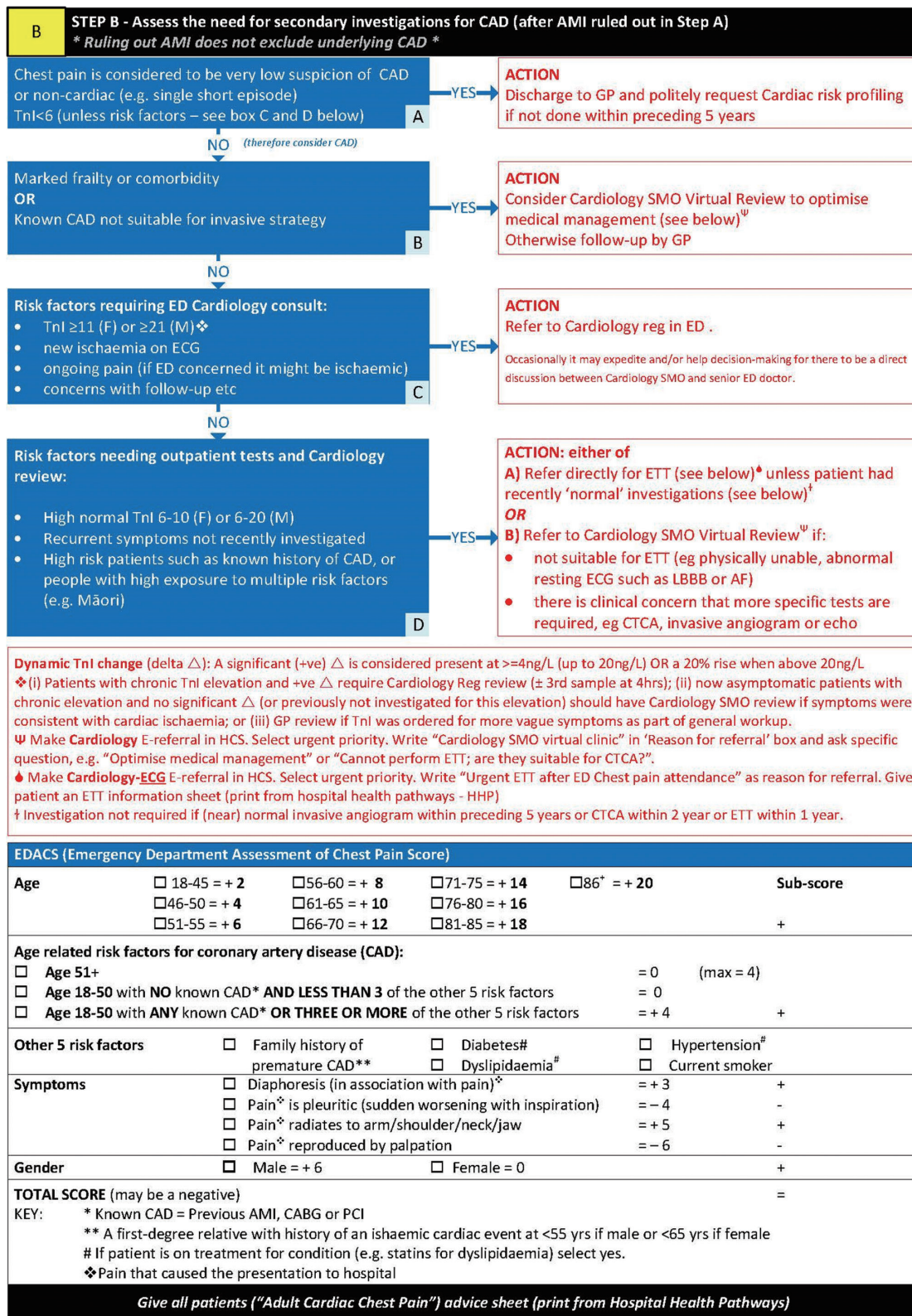


Now proceed to Step B on page 2

CTCA: CT coronary Angiogram    ETT: Exercise Treadmill Test    TnI: High-sensitivity cardiac troponin I

\*Next day TnI via Acute Demand Nursing. It is *essential* to make e-referral and make telephone call to 0800 111 900.  
 \*Give patient blood test form and information sheet. (See Hospital HealthPathway – ACS for further guidance and printable forms)  
 \*Consider patient convenience and ability to attend when planning next day troponin (a repeat test in ED is a potential alternative).  
 ♦ If 2<sup>nd</sup> TnI positive, ≥11 (F), ≥ 21 (M) or change between 1<sup>st</sup> and 2<sup>nd</sup> TnI samples ≥4 patient should be discussed with Cardiology.  
 # Consider Gen Med referral for patients with frailty, comorbidity, or known CAD not suitable for invasive strategy.  
 ♦ See guidance for chronic troponin elevation on following page

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**Figure S1** Application of Pathway utilising EDACS score (reproduced with permission of Dr. Martin Than, Christchurch Hospital).

## ACS Rule-in Rule-out Pathway (0-1h) Southland ED

For risk stratification of patients with undifferentiated non-traumatic chest pain that may represent ACS, whereby patients who are low risk (<1% 30 day MACE rate) may be safe for discharge.

NB: The term "chest pain" can include other potentially ischaemic symptoms (eg chest heaviness, arm/jaw pain, SOB, etc), at the discretion of the clinician

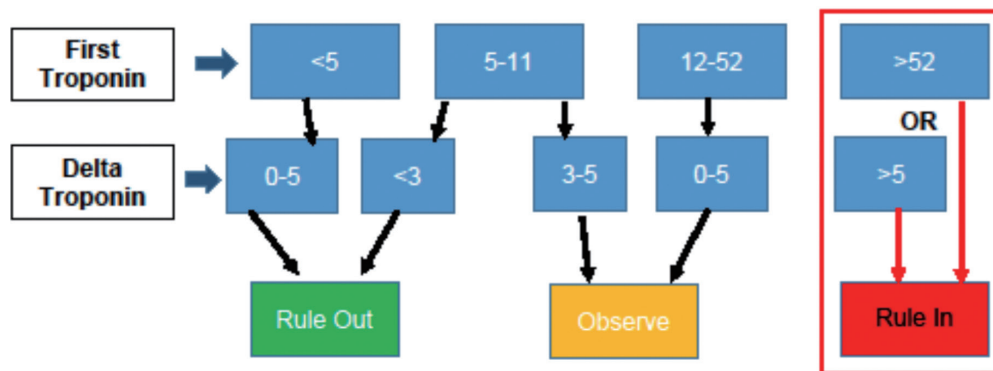
Inclusion	Exclusion
<ul style="list-style-type: none"> <li>Episode of continuous symptoms &gt;5 mins</li> <li>Age &gt;20 years</li> </ul>	<ul style="list-style-type: none"> <li>STEMI</li> <li>Haemodynamic instability (arrhythmia, hypotension, APO)</li> <li>Suspected alternative diagnosis such as PE or dissection</li> <li>Acute ischaemic changes on ECG</li> <li>Crescendo angina, persistent or recurrent pain in ED</li> <li>Known cause of symptoms (eg pneumonia)</li> </ul>

First TnT = blood draw on arrival is time zero. Second TnT is taken at 1 hour after first blood draw

$\Delta$  (delta) TnT = absolute difference between 0-1 hour results

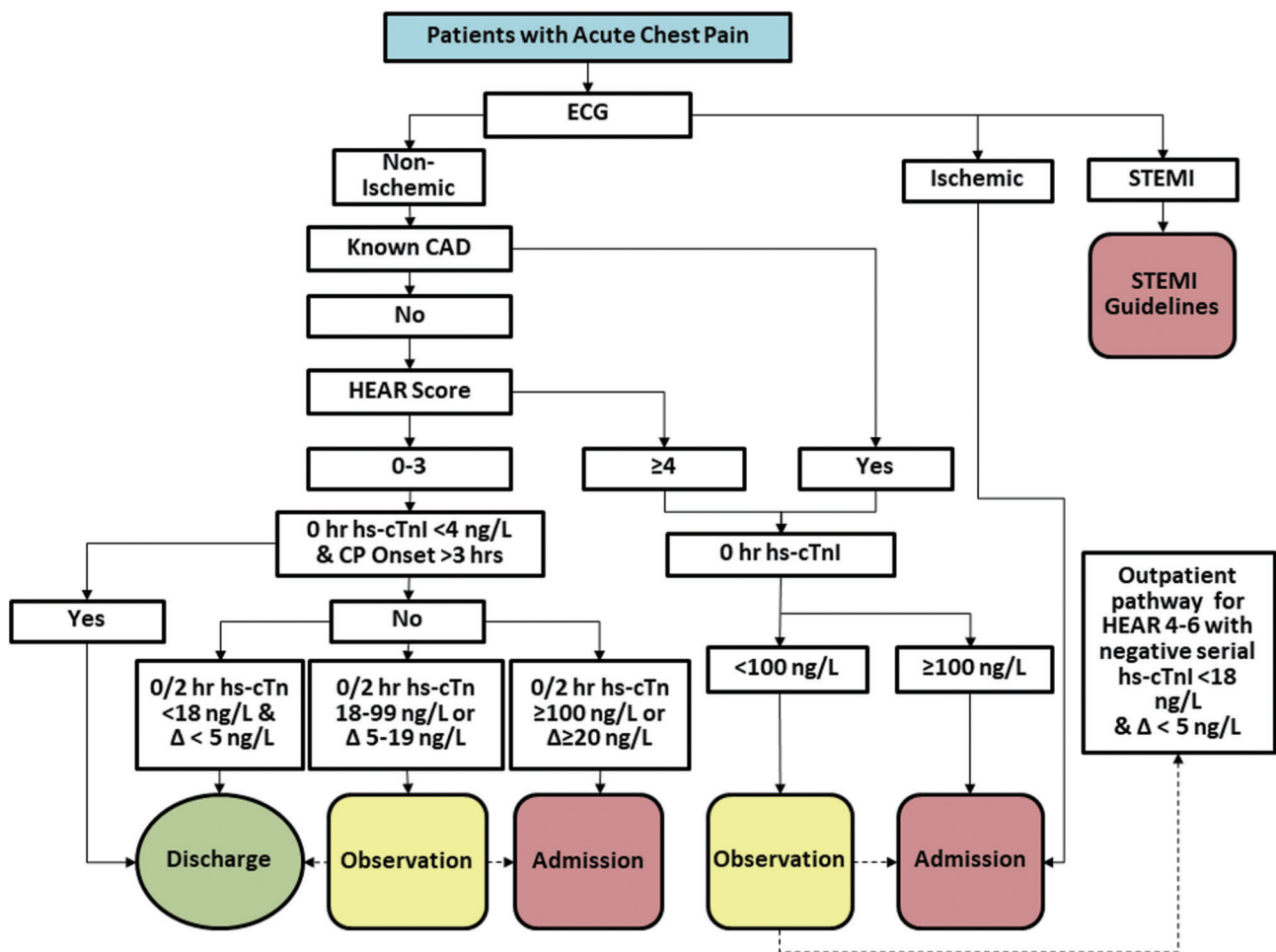
**Disposition is decided by a combination of the first Troponin and the Delta**

**NB: if first Tn is >52 OR the  $\Delta$  is >5, patient is Rule IN**



- Rule Out** (0h <5 or 0h <12 +  $\Delta$ <3)
  - <1% prevalence of AMI, <1% 30 day MACE rate)
  - Confirm differential diagnoses considered
  - Chest Pain handout
  - Discharge home
  - GP review in 1-2 weeks to review CAD risk factors
- Rule In** (0h >52 or  $\Delta$ >5)
  - (60-70% prevalence of AMI)
  - Admit
  - Consider early ACS treatment
- "Observe"** (Any other result)
  - (10-20% prevalence of AMI)
  - 3h troponin: if all three <15 = **Rule Out**. Otherwise discuss with ED Consultant

Figure S2 Application of ESC-based pathway (reproduced with permission of Dr. Chris Johnstone, Invercargill Hospital).



**Figure S3** Application of HEART-based pathway (reproduced with permission of Dr. Simon Mahler, Wake Forest Baptist Health, Winston-Salem, USA).

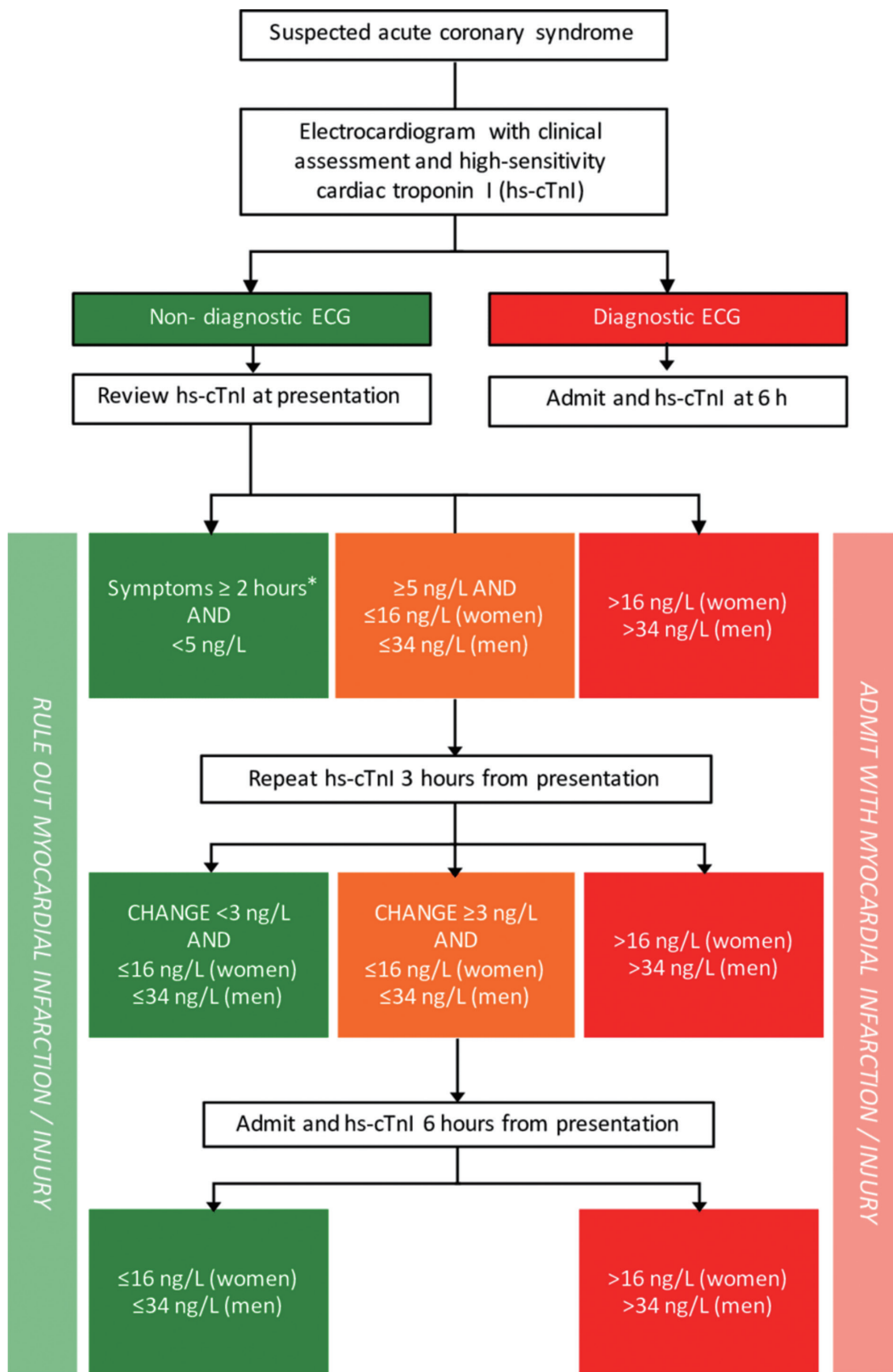


Figure S4 Application of High-STEACS-based pathway.