

# New Troponin Assay

## Emergency Department Information

### Information for Emergency Clinicians

Pathology Queensland (PQ) is introducing a new highly sensitive cardiac troponin (hs-cTnI) assay to all Queensland Hospital laboratories during 2022. This new assay will replace the existing assay, which will no longer be available.

**New assay:** Siemens Atellica IM High-Sensitivity Troponin I assay

### Why Now?

The instruments PQ currently use to test troponin need replacement. New instruments are being installed and this will mean a change in the troponin assay used in Queensland Health laboratories. The roll out of the assay is occurring in stages across Queensland Hospital and Health Services.

*This means for a short time two different troponin assays will be in use at facilities across QH.*

### New Values

The sex-specific cut-points (99<sup>th</sup>%) for the Siemens Atellica IM High Sensitivity Troponin I assay are different to the current assay.

| Elevated values | Old       | New     |
|-----------------|-----------|---------|
| Female          | >10 ng/L  | >34ng/L |
| Male            | > 20 ng/L | >54ng/L |

### New Pathway

A new process for assessment of emergency patients with suspected ACS (page 2) risk stratifies patients at high-, intermediate- or low-risk for ACS. It is based on previously published research (<https://heart.bmj.com/content/105/8/616>). The safety of the pathway has been validated in a recent, yet to be published, multicenter clinical research study that recruited over 2000 patients from five Queensland Hospitals.

**NOTE:** Traditional cardiac risk factors (e.g. hypertension, diabetes) are not included as part of this pathway. Evidence shows that traditional risk factors are useful to determine long-term population risk for CAD but are less helpful in determining the acute risk for an individual emergency patient in diagnosing ACS. These risks factors are no longer part of the guidance for assessment.

### Online Clinical Support Tool – suspected AMI in Emergency (SAMIE)

Available on all Queensland Health computers at implemented sites or from your personal device:

**Software Centre:** Search for 'SAMIE'.

**URL:** <https://healthserviceportal.health.qld.gov.au/edtools?id=samie>

**QR Code:**



Suspected AMI in Emergency

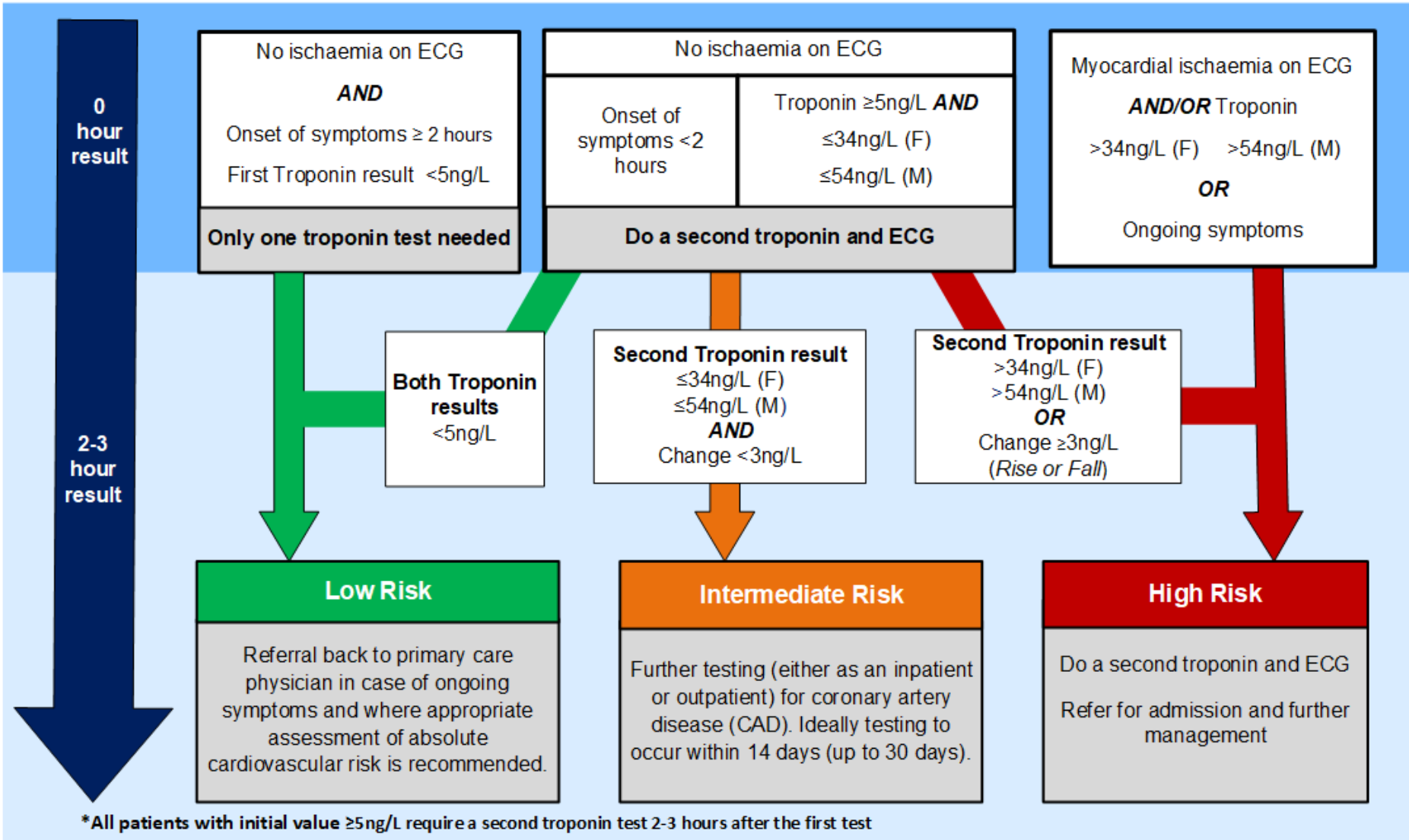
### More Information

Email: [NewTroponin@health.qld.gov.au](mailto:NewTroponin@health.qld.gov.au)

# Suspected ACS: recommendations for ED clinical use

ALWAYS consider other life-threatening causes of symptoms e.g. Aortic dissection, PE

Clinical pathways never replace clinical judgement. Care outlined on this pathway must be altered if not clinically appropriate for the patient



# Clinical interpretation of High sensitivity Cardiac Troponin

## Serial testing for suspected acute coronary syndrome\*

If any elevated troponin value - increased above upper reference limit (URL): >34ng/L in females or >54ng/L in males

STEP 1: Identify significant change in serial testing?

Acute myocardial injury

Yes

No

Troponin level stable

STEP 2: Identify evidence for acute myocardial ischemia?

Myocardial infarction

Yes

No

STEP 3: Identify cause of myocardial ischemia?

Evidence of acute coronary atherothrombosis

Clinical context and mechanisms for oxygen demand and supply imbalance

Type 1 MI

Type 2 MI

Acute myocardial injury

Chronic myocardial injury

Type 1 MI triggers

- Plaque rupture
- Plaque erosion

Type 2 MI examples

- Severe hypertension
- Sustained tachyarrhythmia

Examples

- Acute heart failure
- Myocarditis

Examples

- Structural heart disease
- Chronic kidney disease

Suspected AMI in Emergency (SAMIE) • \*This chart is only suitable for use when assessing patients with the Atellica IM High-Sensitivity Troponin I Assay

NewTroponin@health.qld.gov.au • SAMIE application @ <https://qlddesignconnect.service.nsw.com/edtools?id=main>