

# New Troponin Assay

## General Information

### Information for 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.

**Caution should be taken with interhospital transfers.**

Different troponin assay results cannot be compared.

### 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

### Interpretation of troponin

An elevated troponin value alone does not diagnose acute myocardial infarction (AMI). It detects myocardial injury. Further evaluation may be needed (page 2).

### Emergency Department risk stratification of patients with suspected ACS

A new risk stratification process will be utilised (page 3). An online app (*SAMIE*) will support this change.

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

### Important Note

- The new assay and assessment strategy has been validated in a prospective multi-centre trial including >2000 patients conducted across six Queensland Hospitals.
- The Queensland trial was a validation study of previously published research (<https://heart.bmj.com/content/105/8/616>).
- The change ONLY applies to laboratory-based Troponin results.

### More Information

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

# 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://qld.surgeryconnectservice.nsw.com/ed/ed/2d/samie>

# 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

