

ACRE II Project Newsletter



Accelerated Chest pain Risk Evaluation

High-Sensitivity Troponin Assay Issue, Jan 2019

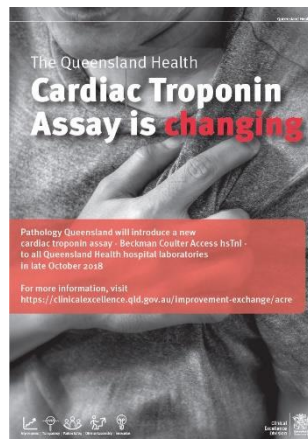
At the end of last year, the ACRE Project team had a busy few months working with Pathology Queensland (PQ) to help facilitate the smooth implementation of the new High-sensitivity cardiac Troponin assay.

High-sensitivity troponin assays have been a topic of conversation in ACRE Project circles for several years and has often been raised by clinicians in meetings and education sessions during the rollout of both ADAPT and ImpACT. Everyone knew it was coming, we just didn't know exactly when!

With great excitement and a certain amount of trepidation the ACRE Team partnered with PQ to spread the news and conduct clinical education sessions about the new assay. Between August and October 2018, we contacted all QH hospitals with onsite laboratories, provided customised 1-page information sheets and conducted 12 videoconference information sessions. All credit to Louise Cullen for presenting the same information 12 times in a short space of time!

With the help of the Clinical Excellence Division (now Clinical Excellence Queensland) communications team and in collaboration with PQ, we also developed and distributed through HHS communications and Statewide Clinical Networks, a suite of tools about the new assay. This included:

- Poster
- Screensaver
- Newsletter article
- Pathology Queensland Newsletter
- Video – if you haven't yet seen this: <https://vimeo.com/290590187/4f25ad91cd>



Feedback indicates that except for a few minor issues, the introduction of the new assay on **Wednesday 24th October**, rollout went smoothly. PQ reported significantly fewer hotline calls than expected.

Thanks to everyone who took the time to engage with us, and in particular to attend one of the VC information sessions. We are happy to continue to field any clinical queries regarding the new assay.

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Happy New Year from the ACRE team!

About the New Troponin Assay

The new assay is the **Beckman Coulter Access hsTnI**, and results must be interpreted differently from the old assay (which is no longer available).

Key points are:

- Values reported in whole numbers (ng/L)
- Sex-specific reference ranges with normal ranges of:
 - ✓ 0-10 ng/L for females
 - ✓ 0-20 ng/L for males
- Z Scores are reported – see P2 for more information

No Change to i-STAT Troponin

There has been some minor confusion around whether POC testing has changed.

The i-STAT test remains exactly the same.

- There is no opportunity to accelerate patient care with this test.
- Using i-STAT, all patients (including low-risk) must undergo serial testing at arrival and 6-8 hours, as per guidelines.
- **Important!** - different troponin assay results cannot be compared. Serial testing must be conducted using the same assay for all tests.
- The ACRE Project Team has ACS Clinical pathways for hospitals without 24hr pathology laboratories. Please contact us if you would like these.

Recent Presentations

International Hospital Federation World Congress, Oct 2018, Brisbane

Louise Cullen showcased the implementation of Impact in Rockhampton utilising the Statewide Tele-EST service in a session titled "Bright Sparks – the cutting edge of innovation". The subsequent panel discussion covered some very interesting topics, including how provision of data to frontline clinicians can facilitate service improvements.



Statewide Emergency Department Nurse Educator Committee (SWENEC) Forum, Oct 2018, Cairns

Laura Foran co-presented with Cairns based Virginia Campbell and Karlie Proctor, covering ACRE as well as the Aboriginal and Torres Strait Islander research study we are conducting in Cairns.

Queensland Emergency Department Strategic Advisory Panel (QEDSAP) Forum, Oct 2018, Brisbane

Sarah Ashover presented 6.5 years of ACRE (in 5 minutes!), followed by a panel discussion on dissemination of research into QH Emergency Departments.

NHMRC Symposium on Research Translation, Nov 2018, Sydney

Louise Cullen presented a poster showcasing ACRE as an example of successful research translation.

Queensland Health Data Linkage Symposium, Nov 2018, Brisbane

Sarah Ashover presented ACRE as an example of how access to linked data can be used to improve healthcare services.

The team has been busy!

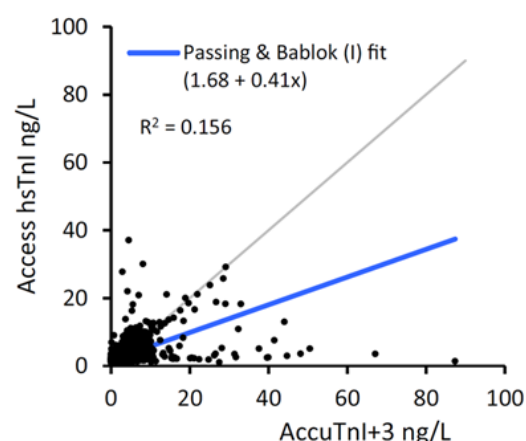
Comparison of Cardiac Troponin Assays

Different troponin assays, although all measuring cardiac troponin **cannot** be compared. They are immunoassays, and each individual assay measures different antigens (epitopes) on the enzyme. This is true whether you look at troponin T vs troponin I, or at different assays measuring for example, troponin I.

The reference ranges are specific only to the individual assay. For over 10 years, the International Federation of Clinical Chemists has been unable to define a way to standardise reporting of Troponin.

For example, the graph shows correlation of the old (Accu) and new (Access) Beckman assays. There is a line of best fit, but this is not very accurate.

Patients require serial sampling using the **same assay** when trying to ascertain if there is a change (rise/fall) in results.



In practice, this means that sites using I-STAT *and* lab based assays need to define periods of use. E.g. if the lab closes at 5pm, then a patient presenting after 1pm may need both tests run on an I-STAT as the second lab-based results will not be available for comparison.

Confused about z-scores?

There is some confusion around the use of the z-scores reported with the new hsTnI and we have heard of several instances where they have not been interpreted as intended in determining patient care.

Z-scores serve as an additional tool, and do not replace or 'trump' troponin values. Their main use is to detect a significant difference (i.e. a change) between 2 serial troponin results.

If a patient has a troponin value above the relevant sex-specific reference range, that patient must be considered to have myocardial injury and managed accordingly. Patients with 2 elevated troponin values but a normal z-score must be investigated to determine the cause of the elevated troponin.

In the case of 2 troponin values within the reference range and an abnormal z-score – a third sample should be taken immediately to see if the troponin has risen and is now elevated.

In summary: Elevated troponin TRUMPS z-score!