

CHE: High Sensitivity Troponin Education

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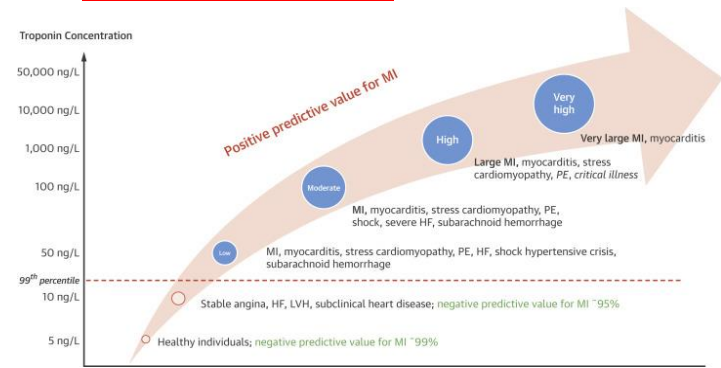
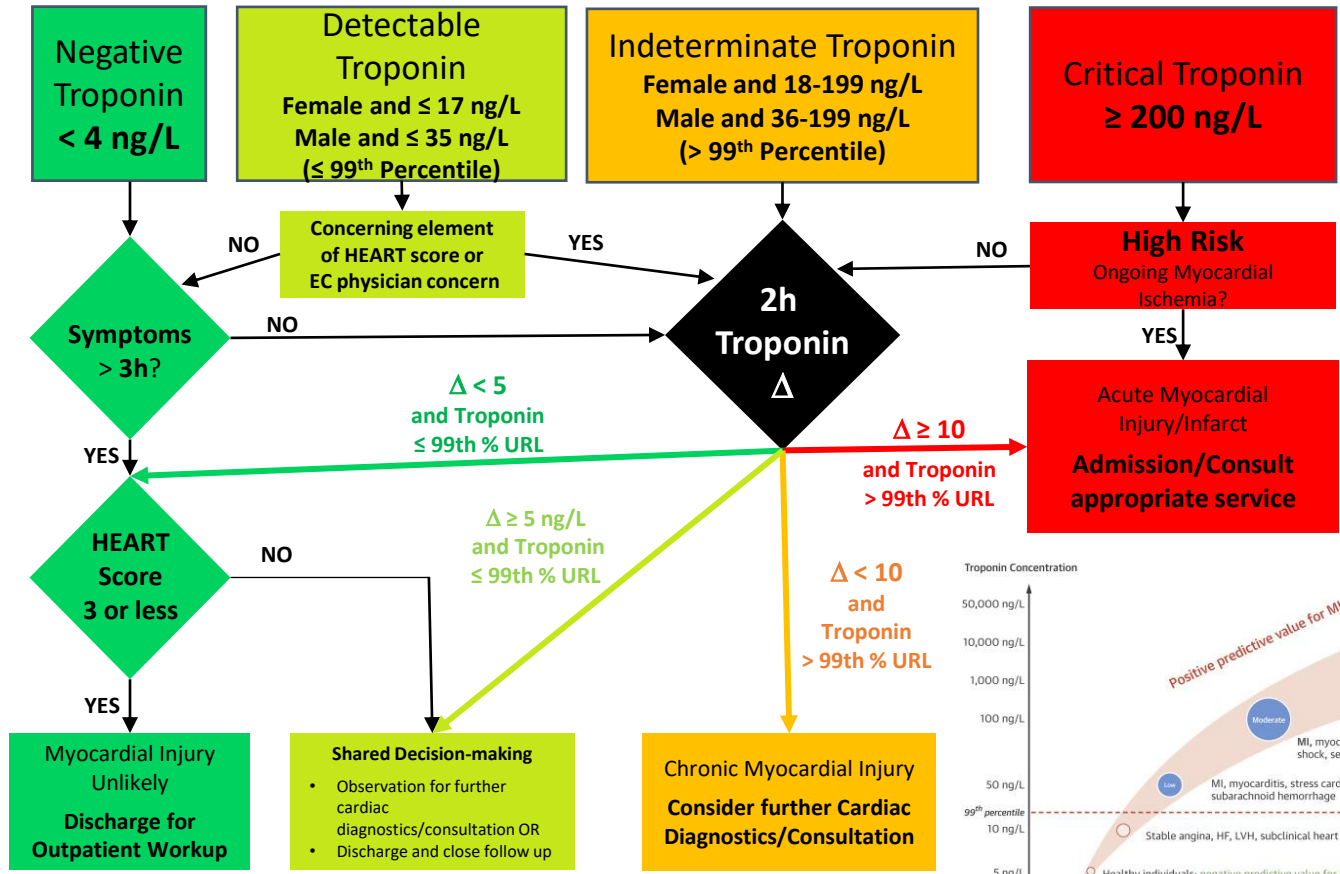
AUGUST 2023

The Why

- Multidisciplinary guidelines support hsTrop^{1,2} and transitioning from conventional Troponin (cTrop) -> hsTrop is recommended for optimal patient care³
- CHE will use hsTrop-I (utilizing Abbott assay); For simplicity, a cTrop-I of 0.02 (x 1000) is a hsTrop of 20. hsTrop permits detection and trending within the previously undetectable range. cTrop units are ng/mL while hsTrop units are in ng/L
- CHE will use an order which reflexively includes a repeat draw at 2-hours, this reflex 2nd draw will be needed for many patients and can be cancelled if unnecessary. The timing of the repeat draw at 2-hours for hsTrop is the same as the timing of the repeat draw CHE has used for cTrop
- A new high sensitivity Troponin (hsTrop) assay will **go-live on 9/12/23** at CHE, after multidisciplinary meetings have been underway since 2/2022
- CHE sites at Taylor/Trenton/Wayne/Canton will remain on cTrop at this time until updates to lab equipment/space are completed

The Algorithm

Corewell Health East - High Sensitivity Troponin I Algorithm (Emergency Department)



Universal Definitions

Universal Definitions


- Elevated Troponin in and of itself does **NOT** = Myocardial Infarction
- Elevated Troponin in and of itself = Myocardial Injury

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EXPERT CONSENSUS DOCUMENT

Fourth Universal Definition of Myocardial Infarction (2018)



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The Executive Group on behalf of the Joint European Society of Cardiology (ESC)/American College of Cardiology (ACC)/American Heart Association (AHA)/World Heart Federation (WHF) Task Force for the Universal Definition of Myocardial Infarction

Universal Definitions

Criteria for myocardial injury


Detection of an elevated cTn value above the 99th percentile URL is defined as myocardial injury. The injury is considered acute if there is a rise and/or fall of cTn values.

Clinical criteria for MI

The clinical definition of MI denotes the presence of acute myocardial injury detected by abnormal cardiac biomarkers in the setting of evidence of acute myocardial ischaemia.

Universal Definitions

- Detection of a rise and/or fall of a biomarker (preferably cardiac troponin) in serial samples, with at least one value above the 99%ile reference limit **and at least one of the following;**

- 
- Symptoms of acute myocardial ischemia
 - New ischemic ECG changes
 - Development of pathologic Q waves
 - Imaging evidence of new myocardial viability loss or new regional wall motion abnormality
 - Identify coronary thrombus by angiography

- **You need to have one of these findings to make a diagnosis of acute coronary syndrome/AMI.**

The Order in Epic


High Sensitivity Troponin I Baseline with Reflex to 2 hour HS Troponin I ✓ Accept ✗ Cancel

Reference Links:

- [Lab Test Directory](#)

Frequency:

At

 Symptom Duration:


Comments: [+ Add Comments](#)

Specimen Type:

Specimen Source:

Add-on: This procedure does not allow add-ons

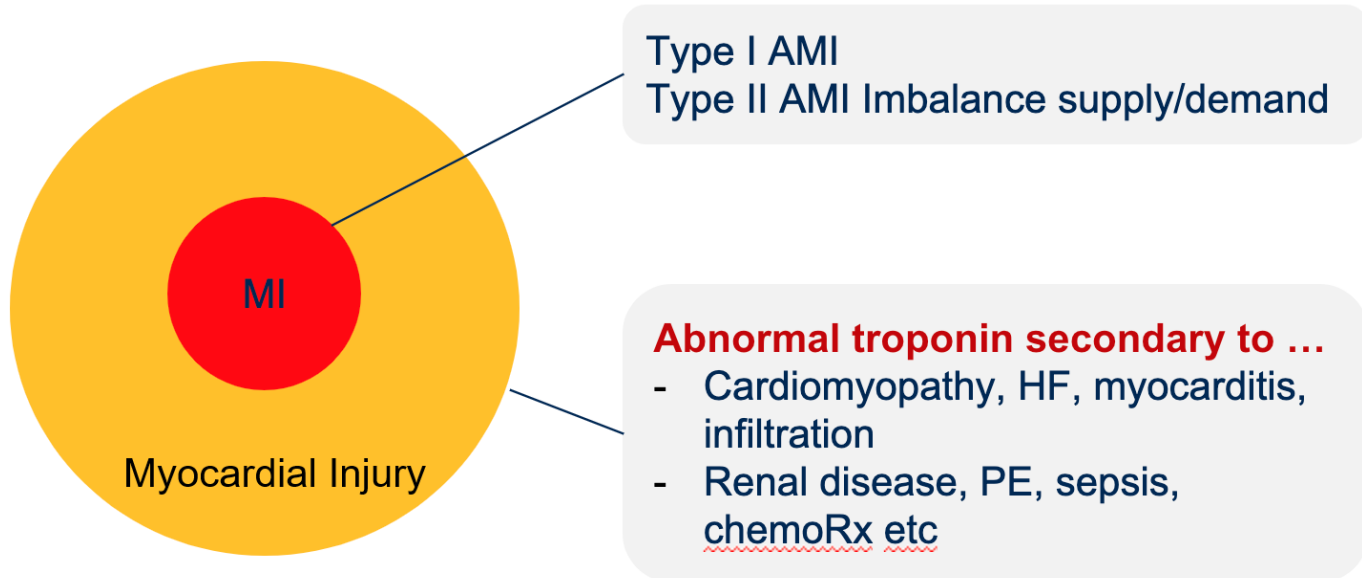
Phase of Care:

 [Next Required](#) [Link Order](#) ✓ Accept ✗ Cancel

Tips & Tricks

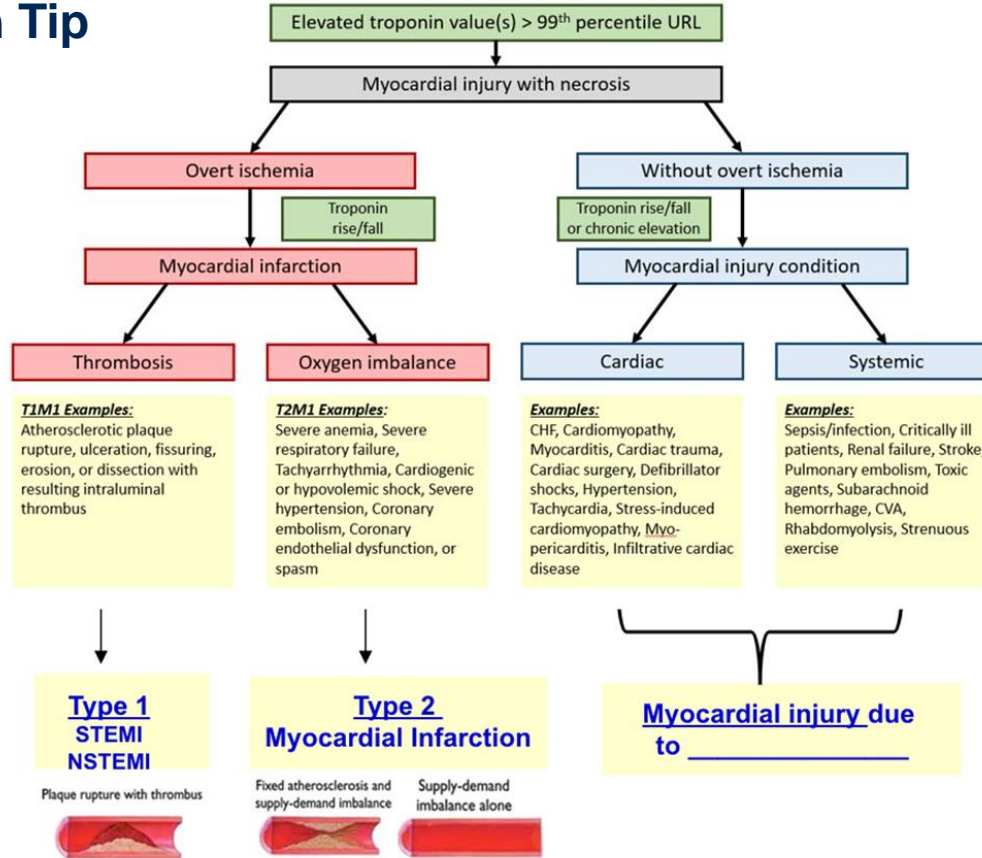
Documentation Tip

Abnormal Troponin



New ICD codes 2023 for non-ischemic myocardial injury

Documentation Tip



References

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* CHE greatly appreciates the expertise and content-sharing from CHW/CHS leaders including but not limited to Dr Cummings/Nolan from Emergency Medicine and Dr Decker from Cardiology