

**High-sensitivity troponin (hs-cTnT) FAQ Sheet for Nurses**

January 31, 2022

**What is hs-cTnT?**

Hs-cTnT is a cardiac biomarker highly sensitive and specific for the detection of myocardial injury. When used in combination with clinical findings (symptoms, ECG findings, etc.), it is possible to rule out ischemic myocardial injury rapidly and accurately in most patients. The 2021 American College of Cardiology/American Heart Association Chest Pain guidelines endorse hs-cTnT as the preferred biomarker for assessment of patients with acute chest pain because it allows rapid detection of myocardial injury and has increased diagnostic accuracy. Hs-cTnT is rapidly becoming the standard of care in hospitals across the US.

**Blood draw**

- Required draw, every attempt to be drawn on time must be made at:
  - 0 hour (baseline)
  - 1 hour
  - 3 hour
- Must use light green colored top tube for blood draw
- Must be sent in its own blood specimen tube
- Minimum blood amount for tube: 1 ml
- Nursing will receive a call from the lab for a critical result of >99 ng/L
  
- What if I cannot draw the troponin on time?
  - Do **NOT** draw prior to the 1 hour mark.
  - Troponin drawn between 1-3 hours should be treated as a “1hr troponin”
  - Troponin drawn 3-6 hours should be treated as a “3hr troponin”
  
- What if it hemolyzes?
  - Provider should not re-order lab, the lab will send a “redraw” task to the RN.

**What else do I need to know?**

- Nursing will receive a call from the lab for a critical result of >99 ng/L
- The unit of measurement is changing from ng/mL to ng/L, values will be in whole numbers
- Low risk patients (defined by negative hs-cTnT AND non-suggestive clinical evaluation) can now be discharged from ED without additional imaging (i.e. stress testing, coronary CTA)



Please refer to either ED or Inpatient Chest Pain pathways for further details. You can get to the pathways in Epic, under the pathway tab. Then search for the appropriate pathway you are looking for!

**High Sensitivity cTnT result values and interpreting results:**

Normal	Abnormal but indeterminate for ischemia	Abnormal
<b>&lt; 12 ng/L</b>	<b>12 – 51 ng/L at 0 hour</b>	<b>&gt;= 52 ng/L is at 0 hour</b>
Depending on clinical evaluation, may require further evaluation, or possibility of being discharged without further imaging.	Will require further work-up, including a repeat hs-cTnT at 1 hour.	Will require further work-up, including a repeat hs-cTnT at 1 hour, and potential admission to medicine/cardiology or cardiology consult

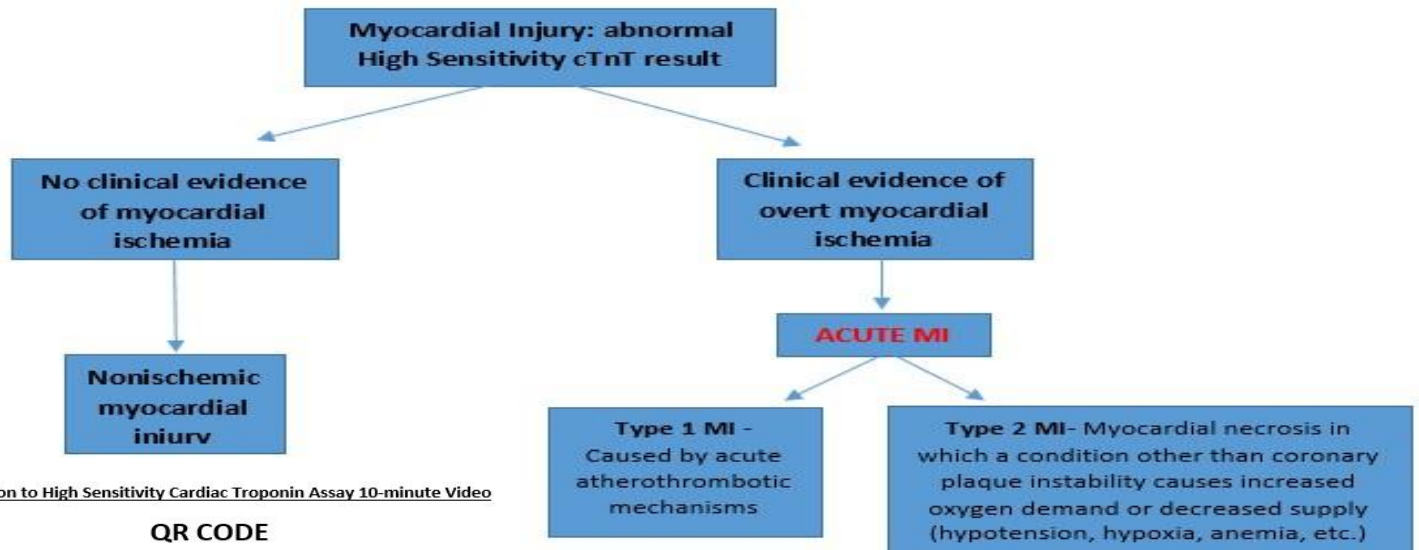
**INPATIENT:** Any change of  $\geq 10$ ng/L at 1 hour OR 3 hour from baseline may indicate myocardial Injury.

**EMERGENCY DEPARTMENT:** Any change of  $\geq 5$ ng/L at 1 hour OR  $\geq 10$ ng/L at 3 hour from baseline may indicate myocardial Injury.

**Comparison chart of troponin assay:**

4th Generation Troponin T	5 <sup>th</sup> Generation hs-cTnT
0.01 ng/ml	30 ng/L
0.03 ng/ml	53 ng/L
0.1 ng/ml	100 ng/L
1 ng/ml	1000 ng/L

Transition away from the concept of “rule in” or “rule out” to ischemic vs non-ischemic myocardial injury.



[Conversion to High Sensitivity Cardiac Troponin Assay 10-minute Video](#)

QR CODE

