

TECHNICAL

December 30, 2020 (Revised)

High Sensitivity (hs) Troponin T testing

Background:

Effective Tuesday December 15th, the hospital laboratories throughout Methodist Healthcare System (Methodist Hospital, Methodist Jennie Edmundson Hospital, and Methodist Women's Hospital) will be switching to hs Troponin T (hsTnT) 5th Generation assay by Roche.

Troponins are released during myocyte necrosis and/or increased permeability of the cell wall. Generally they are cardiac specific, however are not specific for acute myocardial infarction (AMI). 5th Generation troponin T is a high sensitivity troponin T test and is the biomarker of choice to rule out possible myocardial injury. Elevation begins early after myocardial injury and may remain elevated for more than 14 days. Interpretation and risk stratification requires the integration of clinical data. Elevated values may not be due to acute myocardial infarction however may indicate myocardial injury (acute or chronic). A rising and/or falling pattern distinguishes acute from chronic myocardial injury.

There will be NO transition period:

Beginning December 15th at approximately 10:00 am all new troponin orders will be performed as hsTnT. For patients whose series begin prior to the go live time and date the series will be completed with the standard troponin (current assay).

Order:

The order has changed to **hs Troponin T (hsTnT)**

Order set for series (0hr + 2hr + 6hr) will be available (when 6hr draw not needed – cancel the outstanding order).

A single level test order will also be available.

Specimen Requirements and test performed:

5 mL Lithium heparin plasma.

The test will be performed 24/7 and the expected turnaround time (TAT) is <1 hour.

Reporting (Revised 12/30/20):

1. There is change in units (ng/mL to ng/L); hsTroponin is reported in **ng/L**, which is 1000 times larger than the current standard troponin test.
2. There will be sex specific reference ranges upper limit of normal (ULN):
Female <=14 ng/mL
Male <=22 ng/mL
3. **As of 12/30/20**, hsTnT of greater than or equal to 52ng/L will be used as critical value for males and females at **NMH and WH Hospitals only**. For MJE Hospital only, the Upper Limit of Normal (ULN) will be used as critical value.

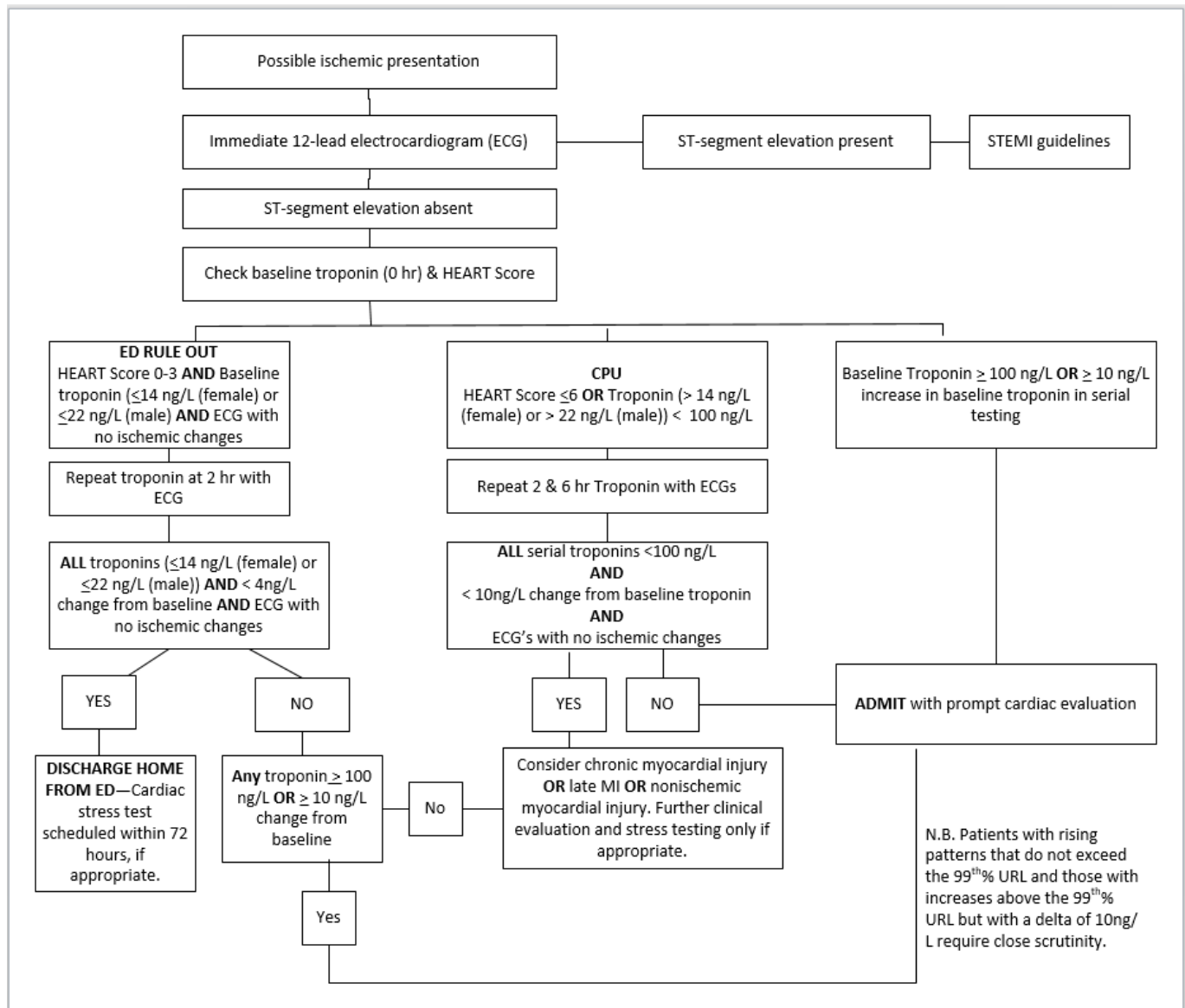
Note: only the first critical value will be called.

4. More myocardial injury will be detected with hsTnT :

The assay is able reliably to detect lower levels than prior assays and in doing so, there may be a measurable amount of cardiac injury even in patients who present due to non-AMI situations. Results will be reported out with the following comment:

Other causes that may result in increased hs troponin (excluding ACS) include sepsis, renal failure, acute respiratory failure, shock/hypotension/hypoperfusion, heart failure, pulmonary embolism, stroke, severe hypertension, malignancy as well as numerous less common diseases.

Algorithm for evaluation of acute coronary syndrome (ACS):



Please direct any questions Re: the assay to Dr. George Bedrnicek at 402 955-5528 or to Dr. Deborah Perry at 402 354-4559.

For additional information visit

<https://thepathologycenter.org/tools-and-resources/high-sensitivity-troponin-t/>

Methodist Fremont Health plans to convert to high sensitivity Troponin I assay in early 2021.