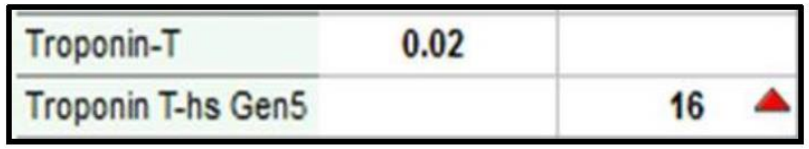
PHS Troponin T-hs Gen5 Interpretive Guidelines (updated 3/28/2018):

Note these guidelines apply to the Troponin T high sensitivity (Gen 5) assay implemented at BWH, BWFH, MGH, NSMC, and NWH on 4/4/2018.

Viewing New High Sensitivity Troponin Results



1. The troponin T high sensitivity results will appear in a **new row in Epic Results Review**, just below the troponin assay

2. The **Units** used for high sensitivity troponin T will be reported in **ng/L** (previously ng/ml) and as **whole numbers**. Thus, due to the change in units, reported values will be **1000 times the value of the prior assay**.

NOTE: As an example, because of the units and assay change, a troponin T measured and reported with the old assay of **0.03 ng/ml** will be measured and reported using the new assay as **52 ng/L**.

3. There are **gender specific reference intervals**: range is **0-9 ng/L for women** and **0-14 ng/L for men**. Value 10 and higher for women and 15 and higher for men will be flagged as "**High**" in Epic.

Guidance: Emergency Department

For patients presenting to the Emergency Department with chest pain onset at least 3 hours prior, obtain troponin and **repeat 1 hour later.**

- Rule-in: ANY troponin ≥ 52 ng/L, OR 1 hour Δ > 5 ng/L
- Rule-out: troponin < 10 ng/L for women or < 12 ng/L for men, AND 1 hour Δ < 3 ng/L
- If after 1 hr troponin neither rule-in or rule-out, obtain 3 hr troponin
- **See pages 2 and 3 below for Full ED Chest Pain Accelerated Diagnostic Protocol (ADP)**

Guidance: Inpatient and Peri-Operative

For admitted patients and peri-op patients with chest pain, obtain troponin and **repeat 3 hours later**.

The diagnosis of acute myocardial infarction requires **all three of the following:**

- An elevation > 99th percentile (≥ 10 ng/L for women or ≥ 15 ng/L for men), **AND**
- An increase of > 7 ng/L between baseline and 3 hours, **AND**
- At least one of the following: symptoms of ischemia, ischemic ECG changes, non-invasive or invasive testing consistent with coronary artery disease.

Emergency Department Chest Pain ADP

[1]Applies to patients with an initial concern for ACS EXCEPT those with:

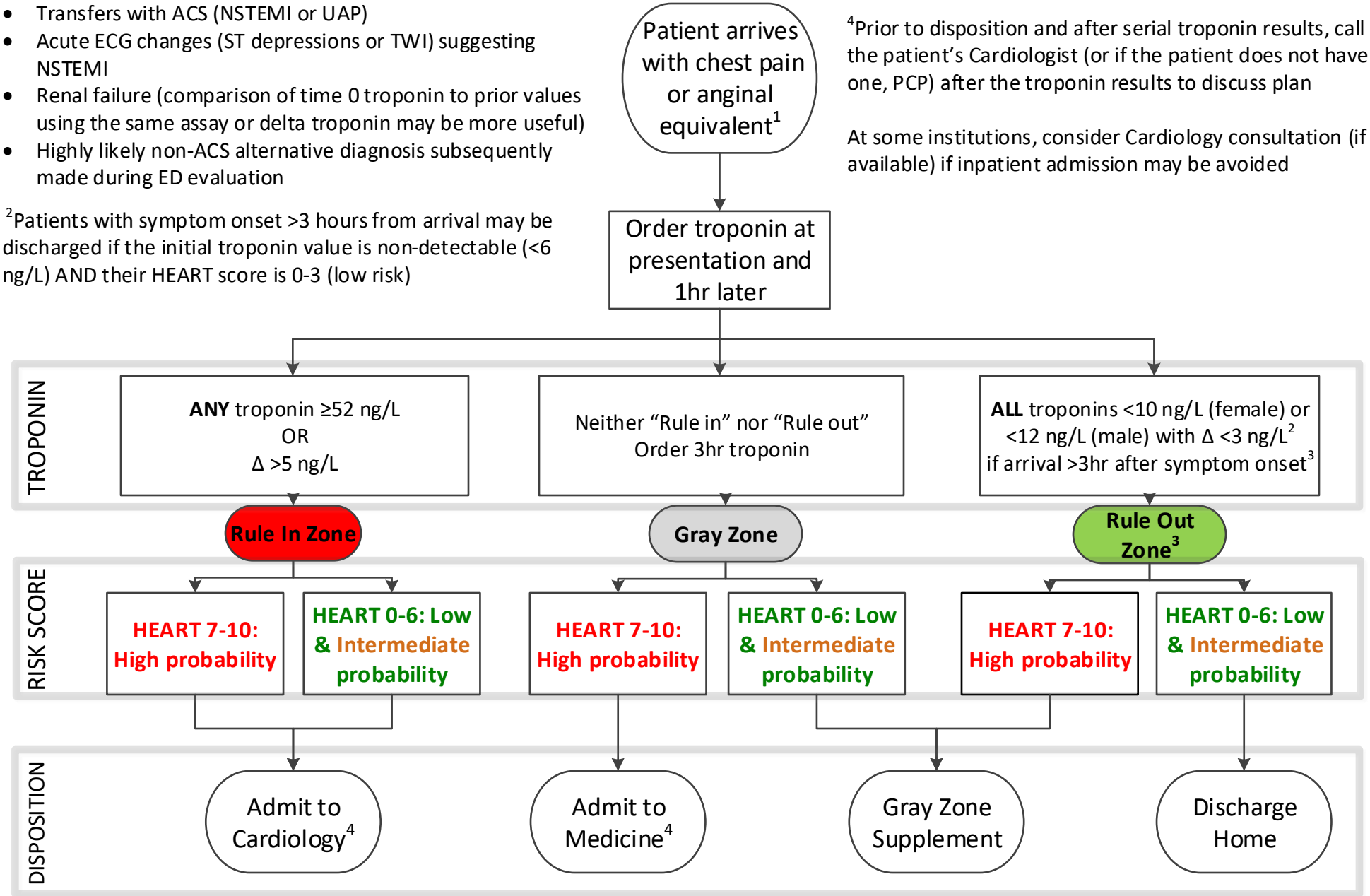
- STEMI
- Transfers with ACS (NSTEMI or UAP)
- Acute ECG changes (ST depressions or TWI) suggesting NSTEMI
- Renal failure (comparison of time 0 troponin to prior values using the same assay or delta troponin may be more useful)
- Highly likely non-ACS alternative diagnosis subsequently made during ED evaluation

[2]Patients with symptom onset >3 hours from arrival may be discharged if the initial troponin value is non-detectable (<6 ng/L) AND their HEART score is 0-3 (low risk)

[3]If patient arrival <3hr since symptom onset, send to Gray Zone, regardless of risk or initial troponin result

[4]Prior to disposition and after serial troponin results, call the patient's Cardiologist (or if the patient does not have one, PCP) after the troponin results to discuss plan

At some institutions, consider Cardiology consultation (if available) if inpatient admission may be avoided



Gray Zone Supplement

[5]Patients with anticipated need for stress test or cardiac imaging can be placed in ED Observation prior to 3hr troponin result

[6]Concern for NSTEMI and/or unstable angina based on clinical scenario; assumes all patients with "high" concern have fallen out of pathway and have been admitted to an inpatient team

[7]Consider prior cardiac risk stratification testing – how long ago was the test, adequacy of the test, and results? If previous testing was an exercise tolerance test, consider myocardial perfusion testing or a cardiac CTA

[8]The availability of guaranteed follow-up within 72 hours may vary among institutions. If unable to confirm outpatient follow up within 72 hours, consider same-visit cardiac imaging