Accelerated Diagnostic Pathway for Suspected Acute Coronary Syndrome (HS-TROPONIN I)

Applies to patients with an initial concern for ACS **EXCEPT** those with the following:

- STEMI
- Transfers with ACS (NSTEMI or UAP)
- Acute ECG changes (ST depressions or TWI) suggesting NSTEMI
- For patients with chronic elevation of HS-TROPONIN I (CKD/ESRD, CHF, etc.), a change in HS-TROPONIN I value >/=20% is concerning for acute myocardial injury and consultation with Cardiology AND/OR admission to telemetry is warranted.
- Highly likely non-ACS alternative diagnosis subsequently made during ED evaluation.

- Delta troponin values that **INCREASE or DECREASE** over the range specified may be concerning for myocardial injury/ischemia.
- The availability of 72 hours cardiology follow-up may vary among institutions. If further ischemic evaluation considered in the ED, consult cardiology for recommended testing.
- Consider prior ischemic workup (i.e. stress testing, coronary CTA, catheterization) - How long ago was the test? Was the test adequate? Results?

General information regarding the Abbott ALINITY HS-TROPONIN I assay:

- Limit of Detection = 0.9 ng/L
- Limits of Quantitation = 2.7 ng/L
- Upper Limit Normal (UNL) 99th percentile:
  Females: < 14 ng/L
  Males: < 35 ng/L

History	**Slightly suspicious** 0		
	Moderately suspicious +1		
	Highly suspicious +2		
EKG 1 point: No ST deviation but LBBB, LVH, repolarization changes (e.g. digoxin); 2 points: ST deviation not due to LBBB, LVH, or digoxin	**Normal** 0		
	Non-specific repolarization disturbance +1		
	Significant ST deviation +2		
Age	**<45 0**	45-64 +1	≥65 +2
Risk factors Risk factors: HTN, hypercholesterolemia, DM, obesity (BMI >30 kg/m^2), smoking (current, or smoking cessation ≤3 mo), positive family history (parent or sibling with CVD before age 65); atherosclerotic disease: prior MI, PCI/CABG, CVA/TIA, or peripheral arterial disease	**No known risk factors** 0		
	1-2 risk factors +1		
	≥3 risk factors or history of atherosclerotic disease +2		

Patient Arrives with Chest Pain or Anginal Equivalent

Order Initial HS-TROPONIN I at Presentation

HS-TROPONIN I

TROPONIN
≥ 63ng/L (Male)
≥ 30ng/L (Female)

TROPONIN
6 - 62ng/L (Male)
6 - 29ng/L (Female)
Grey Zone: (Neither "Rule in" or "Rule out")

TROPONIN
≤ 5ng/L

Repeat 1 hour Troponin

HEAR(T) ≥ 4

HEAR(T) 0-3

Δ TROPONIN

Δ ≥ 6

Δ < 6

<3hrs since chest pain

>3hrs since chest pain

Repeat 1 hour Troponin

Rule In Zone

Grey Zone Algorithm

Repeat 3 hour Troponin (Δ = hr 0 - hr 3)

Δ ≥ 2

Δ <2

Consider Cardiology Consult

Δ > 8

Δ 5-8

Δ < 5

Rule Out Zone

RISK SCORE

HEAR(T) ≥ 4

HEAR(T) 0-3

HEAR(T) ≥ 4

HEAR(T) 0-3

DISPOSITION

Admit to Telemetry vs. CCU based on clinical status

Consider same day ischemic work up (i.e. ED vs RETU)

Note: Patients without a significant delta troponin may have other etiologies of troponinemia. Consider further investigation or admission to non-cardiac floor

Consider discharge if chest pain has resolved and other serious causes of chest pain were excluded. Schedule 72 hour follow up with cardiology.

Consider RETU if unable to obtain rapid cardiology follow up.

Consider discharge if chest pain has resolved and other serious causes of chest pain were excluded.

Patient can follow up with PCP and/or cardiology.

Consider discharge if chest pain has resolved and other serious causes of chest pain were excluded.

Patient can follow up with PCP and/or non-urgent cardiology. Rapid cardiology follow-up is not indicated.