

Technical Bulletin

Laboratory Care Delivery System

HIGH SENSITIVITY TROPONIN I

Effective **Wednesday, March 17, 2021**, KPSC will begin a gradual transition by area medical center to a new high-sensitivity Troponin I (hsTnI) test, that will replace our current assay (see table for implementation schedule).

Like the standard assay used for years, the new hsTnI test has high specificity for the cardiac form of troponin. What has improved is the precision of the assay when very low concentrations of TnI are present. It precisely quantifies TnI not just in people having a heart attack, but also in healthy people, such that many will have detectable but normal hsTnI values even in the absence of myocardial injury. Some key changes for the hsTnI test are listed below:

- The new hsTnI reporting units will change 1000-fold from ng/mL to pg/mL (e.g., 0.5 ng/mL will be 500 pg/mL in the new units), so don't be misled by the larger numbers.
- Because of the improved lower detection range, men and women will no longer share a single reference range. Each result will be reported in sex-specific ranges (hsTnI females ≤ 12 pg/mL, males ≤ 20 pg/mL), and the more conservative female range will be used to flag abnormal results for "unknown" sex.
- Ability to reliably detect small increases or decreases in hsTnI values over time, so that even an early acute myocardial injury (increase in hsTnI of ≥ 11 pg/mL after 2 hours) can be distinguished from chronic heart conditions (change in hsTnI of ≤ 5 pg/mL after 2 hours).

As a result of these changes, many patients who present more than 3 hours after their symptoms have started will benefit from a single hsTnI result for rule-out purposes ("TROPONIN I, HIGH SENSITIVITY [84484M]"), because a normal hsTnI result will not need to be tested again. However, patients who have had symptoms for less than 3 hours will benefit from repeat testing ("TROPONIN I, HIGH SENSITIVITY W REFLEX TO REPEAT [84484L]"), even after an initial normal hsTnI result.

Our [HEART algorithm](#) has evolved to take advantage of the new hsTnI test characteristics. To ensure a smooth transition, regional CME is available on the [SCPMG Physician Portal](#). Click inside the "Education & Training" tab on the link for "Online Learning," where the course title is "Implementing High-Sensitivity Troponin."

IMPLEMENTATION SCHEDULE

Medical Center	Implementation
Los Angeles & West Los Angeles	March 17, 2021
Orange County	April 21, 2021
San Diego	May 19, 2021
Fontana, Moreno Valley, Ontario, Riverside	June 16, 2021
Antelope Valley, Kern County, Woodland Hills, Panorama City, Baldwin Park, Downey, South Bay	August 18, 2021

TEST INFORMATION		
KPHC Order Display Name [Code]	A) TROPONIN I, HIGH SENSITIVITY [84484M]	B1) TROPONIN I, HIGH SENSITIVITY W REFLEX TO REPEAT [84484L] B2) TROPONIN I, HIGH SENSITIVITY W DELTA (collected after 2 hours from first test, reflex only, non-orderable)
RMS Procedure Name [Code]	A) TROPONIN, HIGH SENS [8448406]	B1) TROPONIN, HIGH SENS W REFLEX [8448402] B2) TROPONIN, HIGH SENS W DELTA [8448404]
Order Availability & Testing Location	<ul style="list-style-type: none"> Inpatient/ED: Hospital Labs Outpatient: Urgent Care Labs 	<ul style="list-style-type: none"> Inpatient/ED: Hospital Labs
Specimen Source	Blood – PST4	Blood – PST4
CPT Code(s)	84484	84484
Collection Label Mnemonic	A) hsTnl	B1) hsTnl Rfx B2) .hsTnl Dlta
Result Components <ul style="list-style-type: none"> Component Name [CID] - Base Name 	A) <ul style="list-style-type: none"> TROPONIN I, HIGH SENSITIVITY [12430399] - TROP 	B1) <ul style="list-style-type: none"> TROPONIN I, HIGH SENSITIVITY [12430399] – TROP B2) <ul style="list-style-type: none"> TROPONIN I, HIGH SENSITIVITY [12430399] – TROP TROPONIN I, HIGH SENSITIVITY, DELTA VALUE [12430400] – TROPDELTA

ADDITIONAL RESULT INFORMATION		
Result Component [CID]	Reference Range	Critical value
TROPONIN I, HIGH SENSITIVITY [12430399]	Females, all ages: <=12 pg/mL Males, 0-17 years: <=12 pg/mL Males, >=18 years: <=20 pg/mL	Females, all ages: >=76 pg/mL Males, 0-17 years: >=76 pg/mL Males, >=18 years: >=101 pg/mL
TROPONIN I, HIGH SENSITIVITY, DELTA VALUE [12430400]	Delta: <=5 pg/mL	Delta: >=11 pg/mL

QUESTIONS?
<ul style="list-style-type: none"> Local Medical Center Laboratory Client Service Center: 1-888-4LAB NFO, or tie line 8-397-7077