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**Lab Dept:** Chemistry

**Test Name:** TROPONIN I LEVEL

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***General Information***

**Lab Order Codes:** PICU/CVCC/ED (iSTAT POC): PTROP

**ALL OTHER NON-CRITICAL CARE DEPARTMENTS:** TRPO

**Off Site locations** (Aligned Clinics ONLY): Miscellaneous Test, Troponin I

**Synonyms:** TnI, Point of Care Cardiac Troponin I

**CPT Codes:** 84484 – Troponin, quantitative

**Test Includes:** Troponin I level reported in ng/mL.

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***Logistics***

**Test Indications:** Troponin is detectable 4 - 6 hours after AMI (Acute Myocardial Infarction) with peak levels occurring at approximately 12 hours, and return to normal in 3-10 days. Troponin offers the following advantages over CK-MB:

Increased cardiac specificity; avoids clinical interference from skeletal muscle damage and renal insufficiency.

Provides a tool for late presenting patients and for perioperative and postoperative patients at risk for AMI; is comparable in cost.

Troponin testing utilizing the iSTAT will be used as a diagnostic test to look for acute changes over time (0,6 hours) as well as chronic elevations. The iSTAT cTnI method is not as analytically sensitive as some laboratory instrumentation and may have a false negative rate of 15% at initial draw (time 0). At 6 hours, the negative predictive value is 99% and the sensitivity of the assay increases to over 90%. Therefore, if there is sufficient clinical suspicion to obtain cTnI, **a second level at 6 hours is strongly recommended**. A physician override will be required in order to cancel the 6-hour level.

**Lab Testing Sections:** **Offered Point of Care in PICU, CVCC, ED:** Run on the iSTAT Analyzer by Trained Personnel Only

**Laboratory (Core Lab) for non-critical patients:** Run on the iSTAT by Trained Laboratory Personnel Only

**Off-site locations/Aligned Clinics:** Miscellaneous Test (Comment Troponin I send out). Sample will be sent to UMMC Fairview Core Lab.

**Phone Numbers:** **CVCC, PICU, ED:** Respiratory Therapy/ED staff will receive notification of the test upon order.

**All other departments on the hospital campuses and Off-site Clinics:**

MIN Lab: 612-813-6408  
STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** **CVCC, PICU, ED:** Testing takes 10 minutes to complete on the iSTAT analyzer Point of Care. Results are immediately available from the instrument upon completion and sent via interface to the patient's EMR.

**Non-Critical Care Departments:** 30 minutes (tested in lab)

**Offsite/Aligned clinics:** 24 hours, testing will be referred to UMMC Fairview Core Lab

**Special Instructions:** N/A

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***Specimen***

**Specimen Type:** Whole blood, venous or arterial

**Container:** **In house:** Heparinized blood gas syringe

**Offsite/Aligned clinics:** Green (Lithium Heparin, gel) or Green (Lithium Heparin, no gel)

**Draw Volume:** **In house:** Minimum 0.2 mL

**Offsite/Aligned clinics:** 2.5 mL blood

**Processed Volume:** **In house:** ISTAT Analyzer volume: 65 uL blood

**Offsite/Aligned clinics:** 1.25 mL plasma, minimum 0.2 mL plasma

**Collection:** **In house:** Fresh whole blood collected in a heparinized blood gas syringe labeled with proper patient ID. **Capillary samples are NOT recommended for Troponin I testing. Test Troponin I within 30 minutes of sample draw.**

**Offsite/Aligned clinics:** Routine blood collection

**Special Processing:** **Offsite/Aligned clinics:** Centrifuge specimen, remove serum/plasma aliquot into a screw-capped round bottom plastic vial. Store and ship at refrigerated temperatures. Forward promptly.

**Main Lab:** Forward to UMMC Fairview Core Lab, refrigerated w/in 24 hours.

**Patient Preparation:** None

**Sample Rejection:** Hemolysis; mislabeled or unlabeled specimens

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**Interpretive**

**Reference Range:**

0.00 – 0.08

Normal, healthy adult individuals

**Note:** Because no pediatric reference range data is published, the adult reference range of 0.00-0.08 ng/mL will be utilized as this represents 99% of healthy adults.

**Critical Values:** N/A

**Limitations:** Decreased values occur in grossly hemolyzed samples and rare antibodies to troponin.

**Methodology:** **In house:** ISTAT  
**Offsite/Aligned Clinics:** Electrochemiluminescence immunoassay (ECLIA)

**References:** **In house:**  
i-STAT Procedure Manual, 714336-00S, March 18 2024  
iSTAT cTnl Cartridge IFU, 715595-00V, April 18 2023

**Offsite/Aligned Clinics:**  
UMMC Fairview Core Lab

**Updates:** 6/21/2011: Update turnaround time information.  
3/5/2012: Test changed from Troponin T to Troponin I. Troponin T is no longer available.  
3/15/2012: Tube type changed from red top to green top.  
12/9/2020: iSTAT sample type changed to heparin syringe only. Add details of in house/send out testing. Update references  
1/12/2021: Updated for non-critical testing by laboratory staff.  
  
6/26/25: Update send out lab to UMMC Fairview Core Lab, update send out lab specimen requirements.