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**Lab Dept:** Coagulation

**Test Name:** HEPARIN ASSAY, UNFRACTIONATED

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***General Information***

**Lab Order Codes:** HEPU (unfractionated heparin)

**Synonyms:** Anti-Xa Assay

**CPT Codes:** 85520 – Heparin assay

**Test Includes:** Heparin level reported in IU/mL.

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***Logistics***

**Test Indications:** Measurement of unfractionated heparin levels in patients treated for thrombotic disease. Recommended for use in place of the APTT at Children's Hospitals and Clinics.

**Lab Testing Sections:** Coagulation

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 2 hours

**Special Instructions:** **Do Not** draw through a heparinized line.

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***Specimen***

**Specimen Type:** Whole blood

**Container:** Light Blue top (Buffered Na Citrate 3.2%) tube

**Draw Volume:** 1.8 mL or 2.7 mL blood

**Processed Volume:** 0.9 mL (Minimum: 0.5 mL) plasma

**Collection:**

- A clean venipuncture is essential, avoid foaming.
- Entire sample must be collected with a single collection, pooling of sample is unacceptable.
- Capillary collection is unacceptable.
- Patient's with a hematocrit level >55% must have a special tube made to adjust for the hematocrit; contact laboratory for special tube.
- Mix thoroughly by gentle inversion. Deliver immediately to the laboratory at room temperature via courier or pneumatic tube.

**Off campus collection:**

- Must be tested within 30 minutes of collection.
- Do not refrigerate.
- If not received in our lab within 30 minutes of collection, sample must be centrifuged and \*platelet-poor plasma removed from cells and transferred to an aliquot tube. Plasma must be received in lab within 4 hours of collection or frozen at 20°C and delivered to lab on dry ice within 2 weeks.

**\*Validation of your lab's centrifuge for platelet poor plasma is required.**

**Special Processing:**

Lab Staff: Samples should be centrifuged within 1 hour of collection. Remove plasma, store in a plastic screw top vial. Send frozen if testing will not be completed within 4 hours.

**Patient Preparation:**

None

**Sample Rejection:**

Improper tube; clotted specimens; underfilled tubes; hemolyzed specimens; mislabeled or unlabeled specimens

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***Interpretive***

**Reference Range:**

Normal: <0.01 IU/mL (patient not on heparin)  
Therapeutic Range: 0.3 to 0.7 IU/mL

**Critical Values:**

>1.00 IU/mL

**Limitations:**

The test cannot distinguish between unfractionated and low molecular weight heparin. The correct assay must be requested for the type of heparin the patient is receiving or the results will be off by a factor of 2 to 3. The plasma cannot be treated for heparin removal.

**Methodology:**

Chromogenic Anti-Xa

**References:**

Rosborough TK (1997) Comparison of Anti-Factor Xa Heparin Activity and Activated Partial Thromboplastin Time in 2773 Plasma Samples from Unfractionated Heparin-Treated Patients, AJCP 108:6, 662-668

Bick RL (1996) Heparin Therapy and Monitoring Guidelines and Practice Parameters for Clinical and Laboratory Approaches, Clin Appl Thrombosis Hemostasis, 2 (Suppl) 512-520

**Updates:**

9/15/2015: Added Off Campus collection info.

3/10/2015: Special processing update, previously 30 minutes.