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**Lab Dept:** Coagulation

**Test Name:** PROTIME AND INR

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***General Information***

**Lab Order Codes:** PT

**Synonyms:** PT; Protime; Prothrombin Time and INR

**CPT Codes:** 85610 - Prothrombin time

**Test Includes:** PT reported in seconds and INR

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***Logistics***

**Test Indications:** Useful for evaluating the extrinsic and common pathways of the coagulation system; aid in screening for congenital deficiencies of factors II, V, VII, and X, dysfibrinogenemia, afibrinogenemia, coumarin effect, liver disease, disseminated intravascular coagulation (DIC), and vitamin K deficiency.

**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:**

- Patient's with hematocrit levels >55% must have a special tube made to adjust for the hematocrit; contact the laboratory for special tube.
- Depending on the patient's hematocrit, up to 3 assays can be determined using one 1.8 mL light blue top tube.

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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:** 1 mL (Minimum: 0.5 mL) plasma

**Collection:**

- A clean venipuncture is essential, avoid foaming.
- Entire sample must be collected with 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 lab for a special tube.
- Mix thoroughly by gentle inversion. Deliver immediately to the laboratory at room temperature via courier or pneumatic tube.

**Off campus collections:**

- Must be tested within 24 hours.
- Do not refrigerate.
- If not received in our lab within 24 hours of collection, sample must be centrifuged and \*platelet-poor plasma removed from cells and transferred to an aliquot tube. Freeze at -20°C and deliver to the lab on dry ice within 2 weeks.

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

**Special Processing:**

Lab staff: Centrifuge in Stat Spin for 5 minutes or 10 minutes at 3000 rpm at room temperature. For primary tube testing, leave plasma on cells OR remove plasma and place in a 4 mL plastic cup; allow for 100 uL of deadspace.

Test within:

- Twenty-four (24) hours when stored as plasma remaining in the capped tube above the packed cells 18 to 24°C.
- Four (4) hours as plasma that has been separated from cells by centrifugation when stored 2 to 8°C or 18 to 24°C.
- Two (2) weeks when stored -20°C.
- Six (6) months when stored -70°C (rapidly frozen).
- Plasma must be frozen if testing cannot be completed within four (4) hours.
- Frozen plasmas are thawed at 37°C for three (3) minutes, test immediately.

**Patient Preparation:**

None

**Sample Rejection:**

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

**Interpretive****Reference Range:**

Test	All ages
PT:	8.5 – 12.4 seconds
INR:	0.79 – 1.20
INR Therapeutic Ranges for Oral Anticoagulants	
Prophylactic dose:	1.4 – 1.9

Standard dose:	2.0 – 3.0
High dose:	2.5 – 3.5
Note: Extremely high results will be reported as PT >120.0, INR >9.0	

**Critical Values:**

PT: >17.0 seconds

INR: >1.7

**Limitations:**

N/A

**Methodology:**

Placental Thromboplastin

**References:**

Harmening DH (1997) Clinical Hematology and Fundamentals of Hemostasis

**Updates:**

2/17/2005: Critical value for INR previously listed as >1.5.  
7/19/2006: Removed statement, "Do not transport by pneumatic tube".  
7/25/2006: Added Oral Anticoagulant therapeutic ranges.  
1/30/2008: Edited reference ranges: PT previously reported as: 10.6 – 15.5 seconds, critical value previously reported as: >21.2  
8/19/2013: Updated specimen stability information.  
9/25/2014: Added Off Campus collection info.