Lab Dept: Coagulation

Test Name: PROTIME AND INR

**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

**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.

**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**

<table>
<thead>
<tr>
<th>Reference Range:</th>
<th>Test</th>
<th>All ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT:</td>
<td>8.5 – 12.4 seconds</td>
<td></td>
</tr>
<tr>
<td>INR:</td>
<td>0.79 – 1.20</td>
<td></td>
</tr>
</tbody>
</table>

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


Updates: 2/17/2005: Critical value for INR previously listed as >1.5.
7/19/2006: Removed statement, "Do not transport by pneumatic tube".
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.