

---

**Lab Dept:** Coagulation

**Test Name:** PTT

---

***General Information***

**Lab Order Codes:** PTT

**Synonyms:** APTT; Partial Thromboplastin Time; Activated PTT

**CPT Codes:** 85730 – Thromboplastin time, partial (PTT); plasma or whole blood

**Test Includes:** PTT reported in seconds.

---

***Logistics***

**Test Indications:** Useful for screening of the intrinsic and common pathways in the coagulation system (factors II, V, VIII, IX, X, XI and XII); screening for dysfibrinogenemia disseminated intravascular coagulation (DIC), congenital hypofibrinogenemia K deficiency, HMWK deficiency and prekallikrein 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:** 0.9 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 4 hours.
- Do not refrigerate.
- If not received in our lab within 4 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:

- Four (4) 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 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:**

The following specimens will be rejected: Improper tube, clotted sample, overfilled tube, underfilled tube, mislabeled or unlabeled specimens

**Interpretive**

**Reference Range:**

Age	Range (seconds)
0 - 3 months:	25.0 - 43.6
3 – 6 months:	23.2 - 40.1
>6 months:	20.0 - 34.4

Note: Extremely high values will be reported as PTT >120.0 seconds.

<b>Critical Values:</b>	>48 seconds
<b>Limitations:</b>	It is recommended that this test not be used to monitor heparin therapy at Children's Hospitals and Clinics due to the variation in response between individuals. This is caused by different plasma levels of heparin neutralizing proteins and age-related variations in levels of intrinsic pathway factors. The PTT may be in the normal range in patients with mild factor deficiencies, especially Factor IX.
<b>Methodology:</b>	Micronized silica
<b>Contraindications:</b>	Patient on heparin therapy
<b>References:</b>	Harmening DH (1997) Clinical Hematology and Fundamentals of Hemostasis
<b>Updates:</b>	2/17/2005: Critical value previously listed as >51.0 seconds. 7/19/2006: Removed statement, "Do not transport by pneumatic tube". 1/30/2008: 0 - 3 months: 1.3 – 54.5 sec, 3 – 6 month: 29.0 – 50.1 sec, >6 months: 25.0 – 43.0 sec, Critical value previously listed as >60 sec. 8/20/2013: Updated specimen stability information. 9/15/2014: Added off campus collection info.