Lab Dept:	**Coagulation**
Test Name:	**THROMBIN TIME**

General Information

Lab Order Codes:	TT
Synonyms:	Fibrin Time; Fibrinogen screen, Thrombin Time, TT
CPT Codes:	85670 – Thrombin Time, plasma
Test Includes:	Thrombin Time reported in seconds.

Logistics

Test Indications:	Useful at some institutions for monitoring heparin therapy or aiding in the diagnosis of disseminated intravascular coagulation (DIC), fibrinolysis, and the presence of inhibitors.
Lab Testing Sections:	Coagulation
Phone Numbers:	MIN Lab: 612-813-6280 STP Lab: 651-220-6551
Test Availability:	Daily, 24 hours; Testing is performed in the Minneapolis Laboratory only.
Turnaround Time:	2 hours
Special Instructions:	Deliver immediately to the laboratory

Specimen

Specimen Type:	Whole blood
Container:	Light Blue top tube (Buffered Na Citrate 3.2%)
Draw Volume:	1.8 mL blood (in 2 mL tube) or 2.7 mL blood (in a 3 mL tube).
Processed Volume:	Minimum 0.9 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 mL of dead-space.

Test within:
● Four (4) hours when stored 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 samples; overfilled tubes; under-filled tubes, mislabeled or unlabeled specimens

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Interpretive

Reference Range:

<20 seconds

Critical Values:

>25 seconds

Limitations:	Affected by concentration and reactivity of fibrinogen, increased amounts of fibrin degradation products (FDP), and the presence of inhibitory substances, such as heparin. Use of this test to monitor heparin will be unreliable if hypofibrinogenemia is present or if fibrin breakdown products (FDP) have been generated by a process of DIC.
Methodology:	Clotting measured photo-optically after addition of exogenous thrombin
Contraindications:	Patients on heparin therapy
References:	Harmening DH (1997) Clinical Hematology and Fundamentals of Hemostasis
Updates:	7/19/2006: Removed statement "Do not transport through pneumatic tube". 8/20/2013: Updated specimen stability information. 9/15/2014: Addition of off campus collection info. 7/18/23: Updated special processing instructions. Testing performed at Minneapolis lab only.