



<b>Department:</b>	Laboratory and Blood Bank ( Haematology)		
<b>Document:</b>	Internal Policy and Procedure		
<b>Title:</b>	Prothrombin Time Manual		
<b>Applies To:</b>	All Laboratory Staff		
<b>Preparation Date:</b>	January 06, 2025	<b>Index No:</b>	LB-IPP-045
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## 1. PURPOSE:

1.1 Prothrombin time (PT) measure the clotting time of plasma in the presence of tissue extract (thromboplastin ) and is an indicator to The overall efficiency of the extrinsic clotting system (factor V, VII and X ).

## 2. DEFINITONS:

N/A

## 3. POLICY:

3.1 Measurement of prothrombin time as an indicator to overall efficiency of the extrinsic, clotting system.

## 4. PROCEDURE:

- 4.1 Check temperature of water –bath and level of water
- 4.2 Centrifuge patient sample for 12min at 3000 rpm.
- 4.3 Follow manufacturer's guides for reconstitution of thromboplastin and control.
- 4.4 Warm up adequate amount of thromboplastin to perform control and tests in duplicate for 5 min.
- 4.5 To two glass tube add 0.1 ml of normal control and warm in the water –bath for 3 min
- 4.6 Following this incubation, add 0.2 ml of warmed thromboplastin and simultaneously start the stopwatch
- 4.7 Mix and gently title the tube back and forth until a gel –like clot forms. Stop the timer and record the time in seconds.
- 4.8 Repeat the same steps for abnormal control and patient's sample
- 4.9 Record all results in logbook and report average of duplicate times along with the normal control result
- 4.10 For patients on warfarin who require the INR, read end record the INR from the thromboplastin INR conversion table.
- 4.11 Normal Values
  - 4.11.1 11- 16 seconds, INR 0.8 – 1.2.
- 4.12 INTER PRETATION: The causes of prolonged PT
  - 4.12.1 DIC
  - 4.12.2 Liver disease.
  - 4.12.3 Vit.K deficiency.
  - 4.12.4 Administration of anticoagulant drugs
  - 4.12.5 Deficiencies of factor VII, X, V.

## 5 MATERIALS AND EQUIPMENT:

- 5.1 Normal plasma
- 5.2 Patients plasma
- 5.3 PT reagents

5.4 Equipment

- 5.4.1 Water bath 37°C.
- 5.4.2 Glass tubes
- 5.4.3 Pipette (0.1 ml and 0.2 ml).
- 5.4.4 Stopwatch.
- 5.4.5 Centrifuge.
- 5.4.6 Thromboplastin
- 5.4.7 Normal and abnormal control obtained commercially with known values
- 5.4.8 Patient blood sample collected into (Use freshly collected blood take into 0.11 mol/l trisodium citrate in the Ratio 9 parts blood to 1 part anticoagulants.

## 6 RESPONSIBILITIES:

- 6.1 The assigned technician.

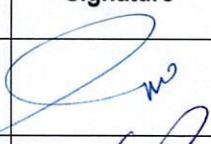
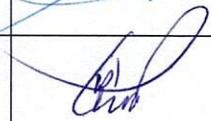
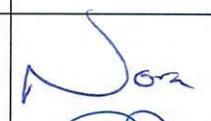
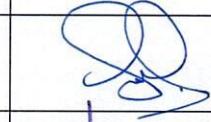
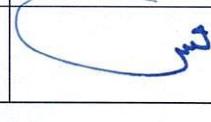
## 7 APPENDICES:

N/A

## 8 REFERENCES:

- 8.1 Loeliger, E, A Van Den Besselaar A, M, H, P And Reliability and Clinical Impact of the Prothrombin Time In
- 8.2 Oral anticoagulant control F.K Schattauer Verlag GmbH, 1985. 8.2. Colman R.W. Hirsh J, Marder V.J. Salzman E.W. Haemostasis and Thrombosis Basic Principles and Clinical Practices .J.B Lippincott 1994.I
- 8.3 A Manual Laboratory & Diagnostic Tests ( Lippincott Williams & Wilkins
- 8.4 Medical Encyclopedia ( Medline Plus )
- 8.5 Clinical Laboratory Methods/ John D. Bauer – MD- Mosby
- 8.6 Practical Hematology (Sir John V. Dacie)

## 9 APPROVALS:

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