

Adults: Monitoring of Anticoagulant Therapy

Drug Name	Indication	Monitoring Test	Therapeutic Range
Heparin (unfractionated)	Anticoagulation	APTT	60-105 seconds
	Stroke/Post-Thrombolytic ⁴	APTT	60-85 seconds ⁴
	Prolonged baseline APTT (LA present)	Anti-Heparin Xa	0.30-0.70 IU/mL
	Prophylaxis	Anti-Heparin Xa	0.10-0.30 IU/mL
	PTCA patients	ACT-low range	ACT 300-340 CE
	Post-angioplasty	ACT-low range	ACT 180-200 CE
	Cardiopulmonary bypass	ACT-high range	ACT >500 CE
Low Molecular Weight Heparin (Enoxaparin, Dalteparin)	Treatment, BID dosing ¹	Anti-heparin Xa	0.6-1.0 IU/mL
	Treatment, daily dosing ¹	Anti-heparin Xa	1.0-2.0 IU/mL
	Prophylaxis ¹	Anti-heparin Xa	0.2-0.6 IU/mL
Pentasaccharide (Fondaparinux)	VTE Treatment VTE Prophylaxis	Anti-heparin Xa	Refer to Lab Report
Oral Anticoagulant Therapy (Coumadin)	Low intensity: e.g. VTE treatment, prophylaxis atrial fibrillation	PT-INR	2.0-3.0
	High intensity: e.g. prosthetic heart valves	PT-INR	2.5-3.5
Direct Thrombin Inhibitors (Lepirudin, Bivalirudin)	Anticoagulation in patients with HIT and associated thromboembolism (kidney required for excretion)	APTT	60-105 seconds
Direct Thrombin Inhibitors (Argatroban)	Anticoagulation in patients with HIT and associated thromboembolism (cleared by hepatic metabolism and renal excretion)	APTT	60-105 seconds

Pediatrics: Monitoring of Anticoagulant Therapy⁷ (Chest 2012)

Drug Name	Indication	Monitoring Test	Therapeutic Range
Heparin, unfractionated	Anticoagulation (Pediatrics)	APTT	65-105 seconds (corresponds to Xa 0.35-0.70)
Low Molecular Weight Heparin (Enoxaparin, Dalteparin)	BID dosing <i>sample taken 4-6 h after subcutaneous injection</i>	Anti-heparin Xa	0.5-1.0 IU/mL
Low Molecular Weight Heparin (Enoxaparin, Dalteparin)	Prophylaxis <i>sample 4-6 h after subcutaneous injection</i>	Anti-heparin Xa	0.1-0.3 IU/mL

APTT: Activated Partial Thromboplastin Time

LA: Lupus Anticoagulant

ACT: Activated Clotting Time

PTCA: Percutaneous Transluminal Coronary Angioplasty

CE: Celite Equivalents

DVT: Deep Venous Thrombosis

PT-INR: Prothrombin Time-International Normalized Ratio

HIT: Heparin Induced Thrombocytopenia

NOTES:

- For specimen collection information, please refer to the Coagulation Specimen Collection Guidelines located in the Legacy Laboratory Services Test Table.
- APTT unfractionated heparin range for pediatric patients is extrapolated from adult data as supported by the June 2008 AACC Chest Supplement. Refer to references.
- Therapeutic ranges are subject to update. Refer to patient chart/report for the most current ranges at the time of testing.**

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