Atlantic Provinces Pediatric Hematology/Oncology Network
Réseau d'Oncologie et Hématologie Pédiatrique des Provinces Atlantiques

5850/5980 University Avenue, PO Box 9700, Halifax, NS, B3K 6R8
(902) 470-8888

Quick Reference Guidelines for the use of Anticoagulants and Thrombolytic agents in children

APPHON/ROHPPA supportive care guidelines are developed by Atlantic Provinces health professional specialists using evidence-based or best practice references. Format and content of the guidelines will change as they are reviewed and revised on a periodic basis. Care has been taken to ensure accuracy of the information. However, any physician or health professional using these guidelines will be responsible for verifying doses and administering medications and care according to their own institutional formularies and policies and acceptable standards of care.

The following guideline summary is for unfractionated heparin [UFH] therapy, low molecular weight heparin [LMWH], warfarin and tissue thromboplastin activator [tPA]. Nomo grams are available in the full guideline. Modifications for individual clinical circumstances may be necessary. In general, consultation from the Pediatric Hematology/Oncology Service should be obtained.

Therapy/Product	Clinical Circumstances	Dose
Unfractionated Heparin [UFH]	Therapeutic Loading Dose [IV]	75-100 units/kg IV over 10 minutes [maximum 5,000 units/ dose]. Neonates are generally bolused with 75 units/kg. - For Nomo gram see complete guideline p4
	Maintenance Dose	The initial maintenance dose of UFH is age related: - Children less than 12 months of age*: 28 units/kg/hour continuous infusion. - Children greater than or equal to 12 months of age: 20 units/kg/hour continuous infusion. - Older children and adults: 18 units/kg/hour continuous infusion. - The maximum initial rate is 1000 units/hour. *corrected for gestational age
	Bridge therapeutic subcutaneous UFH: May be used as a bridge anticoagulant in patients receiving either LMWH or warfarin therapy prior to an anticipated interruption of therapy [e.g. interventional procedure, surgery].	- UFH can be administered twice daily [q12h] as a subcutaneous injection. - The total dose is calculated based on the usual requirement per kg per hour per day.
Low molecular weight heparin [LMWH]	Conversion from UFH to LMWH	Administer subcutaneous LMWH at the same time as discontinuing the UEH infusion.
	LMWH should be considered for most patients requiring therapeutic or prophylactic anticoagulation.	**Age < 2months***: Initial Treatment dose: 1.75 mg/kg/dose q 12h Prophylactic dose: 0.75 mg/kg/dose q12h or 1.5 mg/kg/dose q 24 h **Age 2 months -18 years:** Initial Treatment dose: 1 mg/kg/dose q 12h Prophylactic dose: 0.5 mg/kg/dose q 24h *correct for gestational age -For Nomo gram see complete guideline p9.

Therapy/Product	Clinical Circumstances	Dose
Warfarin	Indicated for: Deep vein thrombosis/ pulmonary embolism[DVT/PE], Fontan, tissue heart valve, Rheumatic heart valve, atrial fibrillation, high-risk surgery, homozygous protein C or protein S definciency and mechanical prosthetic valves.	**Therapeutic:** The usual initial dose is 0.2 mg/kg orally with a single daily dose, maximum 5 mg (INR target range of 2-3). -For Nomo gram for days 2–4 and long term see complete guideline p15. **Prophylaxis**: The initial loading dose is 0.1 mg/kg given on day 1 (INR target range of 1.4-1.9).
Tissue thromboplastin activator [tPA]	Systemic thrombolytic therapy is indicated for: Arterial occlusion, massive pulmonary embolism, pulmonary embolism not responding to heparin therapy and threat of organ or limb viability. And may also be indicated for acute, extensive DVT.	1. Age <1 yr give fresh frozen plasma (10mg/kg) 30 mins before tPA infusion to ensure adequate plasminogen and fibrinogen. 2. UFH infusion @10 units/kg/hr during tPA infusion. Commence as soon as possible aiming for a number of hours of UFH prior to tPA. 3. Give tPA as an infusion @ a rate of 0.5 mg/kg/hr for 6 hours.