TINZAPARIN SODIUM (Innohep®)
DOSING AND ADMINISTRATION GUIDELINES

Background: Tinzaparin Sodium (Innohep®) is one of the low-molecular-weight-heparins listed in the UHN Formulary. It is currently used at UHN for a number of clinical situations where treatment or prevention of venous thromboembolism (VTE), which includes deep vein thrombosis (DVT) and pulmonary embolism (PE), is required (see page 2).

A: Treatment of DVT/PE: 175 units per kg actual body weight (ABW) once daily subcutaneously (SC).

Note: *To reduce the risk of injection site bruising, limit SC injections to the abdomen whenever possible.*

Dosage Form: For patients weighing more than 110 kg, use the **20,000** units per mL 2 mL multidose vials and draw up volume required for each dose in an insulin syringe with a 25 gauge, ½ inch needle. For other patient weights, use a preloaded syringe.

Patients ABW	Dose (Volume Required)	Dosage Form
41 to 50 kg (7,175 to 8,750 units)	8,000 units (0.4 mL)	8,000 units per 0.4 mL preloaded syringe
51 to 60 kg (8,925 to 10,500 units)	10,000 units (0.5 mL)	10,000 units per 0.5 mL preloaded syringe
61 to 69 kg (10,675 to 12,075 units)	12,000 units (0.6 mL)	12,000 units per 0.6 mL preloaded syringe
70 to 85 kg (12,250 to 14,875 units)	14,000 units (0.7 mL)	14,000 units per 0.7 mL preloaded syringe
86 to 94 kg (15,050 to 16,450 units)	16,000 units (0.8 mL)	16,000 units per 0.8 mL preloaded syringe
95 kg to 110 kg (16,625 to 18,000 units)	18,000 units (0.9 mL)	18,000 units per 0.9 mL preloaded syringe
Greater than 110 kg	ABW (kg) x 175 units/kg = Dose (in units) Injection volume - Dose (in units) ÷ 20,000 units/mL = _____mL	Multidose vial

Renal Failure: (for patients with Creatinine Clearance less than 30 mL per minute)
Switch to unfractionated Heparin or titrate Tinzaparin to peak anti-Xa level (0.8-1.2) at 6 hours post SC administration. Titrate up or down by 1,000 units to achieve Anti-Xa level = 0.8-1.2

Laboratory monitoring:

Recommend	baseline	CBC, aPTT and/or Serum Creatinine
	day 3, day 7 and day 14	CBC

Routine anti-Xa level is **NOT** recommended. Discuss need with Hematology and/or Pharmacy.

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B. Prevention of VTE in Acute Spinal Cord Injury Patients:

Note: *To reduce the risk of injection site bruising, limit SC injections to the abdomen whenever possible.*

Dosage Form: For patients weighing 35 to 100 kg, use appropriate preloaded syringe as outlined in table below. For patients weighing greater than 100 kg, use the preloaded syringe if dose is 8,000 units, otherwise use multi-dose vial (**20,000 units** per mL, 2 mL multi-dose vials) and draw up volume required for each dose in an insulin syringe with a 25 gauge, ½ inch needle.

Patient's ABW	**Dose (Volume Required)**	***Dosage Form***
35-50 kg	3,500 units (0.35 mL)	3,500 units per 0.35 mL preloaded syringe
51-100 kg	4,500 units (0.45 mL)	4,500 units per 0.45 mL preloaded syringe
Greater than 100 kg	8,000 units (0.4 mL) or 75 units/kg ABW	8,000 units per 0.4 mL preloaded syringe or multi-dose vial

Renal failure: (for patients with Creatinine Clearance less than 30 mL per minute)
Suggest switch to unfractionated Heparin if prophylaxis is longer than 10 days.
Please contact Hematology and/or Pharmacy for other dosing considerations or Anti-Xa levels.

Laboratory monitoring:

Recommend	baseline	CBC, aPTT and/or Serum Creatinine
	day 3, day 7 and day 14	CBC

Routine anti-Xa level is **NOT** recommended. Discuss need with Hematology and/or Pharmacy.

TINZAPARIN PRIMARY USES AT UHN

Treatment of DVT/PE
VTE prophylaxis in Acute Spinal Cord Injury
VTE prophylaxis in Spine Surgery

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Date: September 5, 2003
Date: April 1, 2015

Approved by: Pharmacy and Therapeutics Committee, May 4, 2015
Medical Advisory Committee, June 4, 2015
Final Revision: June 8, 2015
Revision Date: June 1, 2016

TINZAPARIN SODIUM (Innohep®)
DOSING AND ADMINISTRATION GUIDELINES

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The contents of this Handbook are approved and endorsed by the UHN Cardiovascular Subcommittee of the Pharmacy and Therapeutics Committee.

1. **Purpose of the Pharmacotherapy Handbook.**

Notice to Healthcare Providers:

The Pharmacotherapy Handbook is intended to be used as a tool to aid in the appropriate prescribing and administration of cardiovascular formulary agents.

This information in this Handbook is intended for use by and with experienced physicians and pharmacists. The information is not intended to replace sound professional judgment in individual situations, and should be used in conjunction with other reliable sources of information. Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about Cardiovascular illness and the treatments in question.

Due to the rapidly changing nature of cardiovascular treatments and therapies, users are advised to recheck the information contained herein with the original source before applying it to patient care.

Notice to non-Healthcare Providers:

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Your comments on the usefulness of the resources contained in the Handbook are welcomed and may be forwarded to Amita Woods, Department of Pharmacy Services (amita.woods@uhn.ca).