Low-Molecular-Weight Heparin (enoxaparin)

For VTE Prophylaxis, VTE Treatment, and ACS

INDICATIONS (See sidebar for CONTRAINDICATIONS and CAUTIONS)

The low-molecular-weight heparin (LMWH) **enoxaparin** is the first-line therapy for patients requiring injectable anticoagulation, such as for:

- Venous thromboembolism (VTE) prophylaxis (see table 1)
- VTE treatment (see table 2)
- Acute coronary syndrome (ACS) (see table 3 and *Acute Coronary Syndrome (ACS)* CPM)

DOSAGE AND ADMINISTRATION

TABLE 1. Enoxaparin Dosing for VTE Prophylaxis

Risk level	Normal renal function (CrCl ≥ 30 mL/min)	Renal insufficiency (CrCl < 30 mL/min)	BMI > 40 kg/m²
Standard risk (e.g., medical inpatients)	40 mg SQ once daily	30 mg SQ once daily	0.5 mg/kg every 12 hours **OR** 40 mg SQ every 12 hours
High risk (e.g., major orthopedic surgery)	30 mg SQ twice daily **OR** 40 mg SQ once daily		

TABLE 2. Enoxaparin Dosing for VTE Treatment

Normal renal function (CrCl ≥ 30 mL/min)	Renal insufficiency* (CrCl < 30 mL/min)
1 mg/kg SQ every 12 hours	1 mg/kg SQ once daily

*Consider using IV unfractionated heparin in dialysis patients, or those with CrCl ≤ 15 mL/min.

TABLE 3. Enoxaparin Dosing for ACS

Age (years)	STEMI		Non-STEMI	
	(CrCl ≥ 30 mL/min)	(CrCl < 30 mL/min)*	(CrCl ≥ 30 mL/min)	(CrCl < 30 mL/min)*
< 75	30 mg IV bolus followed 15 minutes later by 1 mg/kg SQ every 12 hours (max 100 mg first 2 doses)	30 mg IV bolus followed by 1 mg/kg SQ once daily (max 100 mg first 2 doses)	1 mg/kg SQ every 12 hours	1 mg/kg SQ once daily
≥ 75	**No bolus.** 0.75 mg/kg SQ every 12 hours (max 75 mg first 2 doses)	**No bolus.** 1 mg/kg SQ once daily (max 75 mg first 2 doses)		

*Consider using IV unfractionated heparin in dialysis patients, or those with CrCl ≤ 15 mL/min.

See page 2 for guidelines regarding conversion to oral anticoagulation therapy.

CONTRAINDICATIONS

- **Hemodialysis** (see *Heparin Low-Dose Unfractionated Guideline for VTE Prophylaxis* and *Heparin Unfractionated Guideline for VTE Treatment*)
- **Active major bleeding**
- **Recent or planned epidural or dural anesthesia** (see *Anticoagulant Epidural Guideline*)
- **Recent intracranial hemorrhage** (within the previous 4 – 12 weeks)
- **Known or suspected heparin-induced thrombocytopenia (HIT):**
  - **Do not use heparin or LMWH**
  - Use a HIT-specific anticoagulant (see *Diagnosis and Pharmacologic Management of Suspected and Confirmed Heparin-Induced Thrombocytopenia* guideline)

CAUTIONS

- **Thrombocytopenia** (platelet count < 100,000/mm³) or known bleeding diathesis.
- **Recent episode of major bleeding** (e.g., bleeding requiring a transfusion or hospitalization within the previous 30 days).
- **Recent surgery, major trauma, or thrombotic stroke** (within the previous 2 weeks).
- **Acute peptic ulcer disease.**
- **Renal insufficiency** (creatinine clearance < 30 mL/min). The bleeding risk of LMWH in patients with renal insufficiency is increased. Consider using unfractionated heparin (UFH) in these patients (see *Heparin Low-Dose Unfractionated Guideline for VTE Prophylaxis and Heparin Unfractionated Guideline for VTE Treatment*).
- **Weight < 45 kg for women or < 57 kg for men or weight > 190 kg.** IV UFH may be a more suitable choice for therapeutic anticoagulation; however, the American Society of Hematology guidelines do not suggest an upper weight limit for LMWH.

These guidelines apply to common clinical circumstances, and may not be appropriate for certain patients and situations. The treating clinician must use judgment in applying guidelines to the care of individual patients.

Conversion to oral anticoagulation therapy

- **Warfarin:** Follow *Warfarin Initiation and Maintenance Guidelines*. Overlap enoxaparin with warfarin for a minimum of 5 days and until a therapeutic INR is documented on 2 occasions at 24 hours apart.
- **Direct oral anticoagulant (DOAC):** Stop LMWH and give the first dose of DOAC at the time the next dose of LMWH would have been due. **Note:** The DOAC selected alters the choice of dose and the number of days on LMWH before conversion (see *Transitioning to Direct Oral Anticoagulants* clinical guideline).

LABORATORY MONITORING

Perform the following laboratory testing to monitor patients on LMWH:

- Draw a baseline BMP, aPTT STAT (include CBC, PT/INR if not done within the previous 7 days).
- Draw CBC every other day while hospitalized (therapeutic dose). No platelet monitoring is needed for prophylactic dosing.
- Monitor BMP if clinical situation suggests a risk of decline in renal function.

Intermountain® Healthcare

 Clinical Program approval 07/19. Patient and Provider Publications CGL012 - 07/19