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PHARMACY AND THERAPEUTICS NEWSLETTER

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Vancouver General Hospital, UBC Hospital, GF Strong

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In This Issue...

Additions

1. **Duloxetine 30 mg, 60 mg delayed release capsules (Cymbalta®)**

- Antidepressant: Serotonin/Norepinephrine Reuptake Inhibitor (SNRI)
- Duloxetine is also effective for management of concomitant peripheral neuropathy

Deletions

1. **Abciximab injection (ReoPro®)**

- Discontinued by manufacturer
- Alternative: Eptifibatide injection

2. **Etidronate plus calcium carbonate kit (DIDROCAL®)**

- Discontinued by manufacturer
- Alternative: Alendronate + calcium

BCHA Changes

1. **ENOXAPARIN FOR VTE PROPHYLAXIS AND TREATMENT**

All enoxaparin restrictions have been removed. Enoxaparin will now replace dalteparin as the predominant low molecular weight heparin (LMWH) for both prophylaxis and treatment of venous thromboembolism (VTE). All VTE prophylaxis pre-printed orders (PPOs) were updated in May 2019 to reflect the switch from dalteparin to enoxaparin.

Dalteparin will remain on formulary as an alternative to enoxaparin, but restricted to:

- VTE prophylaxis for:
  - ⇒ Ortho trauma and spinal cord injury patients
  - ⇒ Patients with an indwelling epidural/ intradural catheter. Dalteparin should be switched to enoxaparin 24 hours after epidural/intradural catheter removal.
- VTE treatment in cancer patients

Enoxaparin Dosing

Prophylaxis: The usual VTE prophylaxis dose is 40 mg subcutaneous daily in patients with normal renal function (eGFR 30 mL/min or greater) and of average weight (41 to 100 kg). See Table 1 for dosage adjustments with renal dysfunction and under/overweight patients. Heparin subcutaneous is the preferred anticoagulant for patients with eGFR < 10 mL/min or who are on dialysis.

Table 1. Enoxaparin Subcutaneous Dosing for VTE Prophylaxis[1]

Weight (kg)	eGFR 30 mL/min or greater	eGFR 10 to 20 mL/min
< 41 kg	30 mg daily	30 mg daily
41 to 100 kg	40 mg daily	30 mg daily
101 to 140 kg	40 mg Q12H	40 mg daily
> 140 kg	60 mg Q12H	60 mg daily

[1]major orthopedic trauma or spinal cord injury: 30 mg BID

All unit-based clinical pharmacists have the authority to independently switch any patient from

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dalteparin to the equivalent enoxaparin dose for VTE prophylaxis. For patients with an epidural/ intradural catheter, pharmacists can switch dalteparin to the appropriate enoxaparin dose 24 hours after epidural/intradural catheter removal.

Treatment: VTE treatment dose for normal renal function (eGFR 30 mL/min or greater) is 1.5 mg/kg subcutaneous daily or 1 mg/kg subcutaneous BID. For larger patients (> 100 kg), twice daily dosing is recommended. For patients with eGFR less than 30 mL/min, the dose is 1 mg/kg subcutaneous daily. Enoxaparin is available in pre-filled syringes of 40 mg, 60 mg, 80 mg, 100 mg, 120 mg and 150 mg. See Table 2 for dose banding.

Table 2. Enoxaparin Subcutaneous Dose Banding for VTE Treatment

Weight (kg)	eGFR > 30 mL/min	eGFR 10 to 29 mL/min
	Dose: 1 mg/kg BID or 1.5 mg/kg daily	**Dose: 1 mg/kg daily**
35 to 45	60 mg daily	40 mg daily
46 to 59	80 mg daily	60 mg daily
60 to 72	100 mg daily	60 mg daily
73 to 88	120 mg daily	80 mg daily
89 to 100	150 mg daily	100 mg daily
101 to 114	100 mg BID	100 mg daily
115 to 139	120 mg BID	120 mg daily
140 to 160	150 mg BID	150 mg daily
For weight > 160 kg or eGFR < 10 mL/min, contact pharmacist, physician or hematologist to discuss use of unfractionated heparin infusion		

2. HEPARIN IV BAG CONCENTRATION CHANGE TO 100 units/mL AND PPO UPDATE

Effective May 29, 2019 the concentration of heparin IV infusions was changed from 50 units/mL to **100 units/mL (25,000 units/250 mL)** throughout VCH-PHC. All pre-printed orders (PPO) for heparin infusions have been revised to align with CST standardization. Major changes include:

- PPO Title changes:
  - ⇒ "Lower Target Heparin Protocol" renamed "**Heparin Low PTT Target**"
  - ⇒ "Heparin Standard Target Protocol" renamed "**Heparin Therapeutic PTT Target**"
- PPO Deletions
  - ⇒ The 2 Cardiology double strength heparin PPOs have been deleted as all new heparin infusions are supplied as 100 units/mL
- Additional weight ranges have been added for the initial bolus and infusion rate. Boxes have also been added before the initial bolus and infusion within each weight range.
  - ⇒ If a bolus dose is required, the box must be checked off (Note, this differs from the previous PPO where a box was checked only if a bolus dose was not desired).
  - ⇒ For the "Heparin Low PTT Target" PPO, a bolus dose will need to be checked for both initial therapy and if subsequent boluses are desired for low PTT results.
  - ⇒ For the "Heparin Therapeutic PTT Target" PPO, only the initial bolus needs to be selected (checked) if it is required. The subsequent bolus dose for low PTT results is automatically chosen.
- PTTs can be drawn in 6 +/- 1 hour after a dose change

Pharmacy did a sweep of all nursing units to replace the old heparin infusion PPOs with the May 2019 versions. Please make sure that all old heparin infusion PPOs have been destroyed.

For any questions or concerns, please contact karen.shalansky@vch.ca.

3. PALIPERIDONE TABLET RESTRICTION REMOVAL

There are no longer any restrictions for prescribing paliperidone (INVEGA®) tablets.

4. TIAZAC® OR TIAZAC XC® INTERCHANGE

All diltiazem extended release orders for TIAZAC® or TIAZAC XC® brands will be interchanged to diltiazem extended release CARDIZEM CD® or equivalent at the same dose given once daily.

Pharmacy Awards

Dr. Mildred Tang and **Dr. Karen Dahri** were the Storyboard winners of the VA Quality Forum 2019. Their poster was entitled: "Clinical pharmacy interventions during emergency department medication reviews in high risk patients". Co-investigator is Kevin Wong, B.Sc. (Pharm.).

Dr. Jerrold Perrott was honoured with the "Veteran Preceptor of the Year" award by the Lower Mainland Pharmacy Services (LMPS) Residency program.