

DVT PROTOCOL Pharmacist's Activities

- 1) **When initial call comes in,**
 - A. Gather as much info as possible and
 - B. Screen patient for exclusion criteria/risk factors over phone.
 1. if exclusion criteria/risk factors present and MD still wants to enroll,
 - a. may page Hematologist on call for further consultation.
 - b. may also contact Dr. Tom Deloughery pager: 1-2206, or
 - c. call Anticoag clinic 4-7631 and consult with Sara Pascoe, ANP

- 2) **Review patient information and labs on LCR.**

- A. Complete Patient Monitoring Form
- B. Review patient chart.

- 3) **Coordinate writing of inpatient orders with treating MD:**

*Note: Preprinted orders for LMWH Tx of DVT are available on some floors
Or*

- Order for admit labs, if not already ordered: CBC, aPTT, INR, serum Creatinine, LFTs
- Order for daily labs, if not already ordered: INR
- If patient on heparin drip, order to DC heparin drip
 - enoxaparin may be started at time of DC of heparin drip or 1 hour later
- If patient not already on LMWH, order to start LMWH (enoxaparin) therapy 1 mg/kg SC q 12 hr based on total body weight. (*See Guidelines for the dosing of enoxaparin in renal insufficiency and in obesity located on Pharmacy webpage for further assistance in these patient populations.*)
- If patient already receiving LMWH, check for appropriate dosing and whether enoxaparin levels are indicated.
 - Draw enoxaparin level if: renal insufficiency, obesity, patient at high risk of bleeding, pregnant patient, pediatric patient (*See Guidelines for the dosing of enoxaparin in renal insufficiency and in obesity located on Pharmacy webpage for further assistance in these patient populations.*)
 - Enoxaparin level should be drawn 4 hours after the 3rd dose (or after 2nd dose if patient is to be discharged before 3rd dose)
 - Usual time schedule 0900 – 2100, however check with patient to determine best times for patient at home
 - Order LMWH transition dose if indicated (*see Patient Monitoring Form*), or instruct patient to give enoxaparin dose one hour earlier or later each dose until they reach desired time schedule (*e.g. First dose at 3 PM and patient wants 7 AM - 7 PM schedule: next doses will be 4 AM, 5 PM, 6 AM, then 7 PM – 7 AM*).
- If patient is to start warfarin, order tonight's warfarin dose, if not already ordered (*wait at least 2 hours after 1st enoxaparin dose to start warfarin*).
 - Usually 5 mg po hs
 - Higher dose if was previously on warfarin at higher dose or drug interaction that decreases INR

4) **DC planning:**

- It is important to ensure that there is an adequate follow-up plan. (*Patients have been sent out without clear follow-up instructions and show up a week later with an INR of 18!*)
 - NOTE: this can be problematic if occurs on a Friday afternoon, weekend or holiday; may be difficult to coordinate follow-up care. Patients on warfarin may still need daily INR even if falls on the weekend.)
- Patients on warfarin will require follow-up care of daily INR for first week (can wait 2 days for 1st INR), then continued follow-up for long-term anticoagulation plan.
- If lab work will fall on a weekend, and needs to be done at OHSU, have the patient go to ED Urgent Care. Weekend lab draws can be avoided if the initiation of warfarin is delayed to Saturday evening.
- Ask MD who will follow patient once discharged (PCP, Anticoag Clinic)
 - If OHSU Anticoag Clinic call x4-7631 or 4-5434 (M-Th = full days, Fri = AM only) to set up appt time. Communicate this time to patient during teaching session.
 - OHSU Family Practice likes to follow own
 - PCP – MD or Case Manager to set up. Ensure this is done by speaking with MD or contacting Case Manager and letting them know when patient should go in for next INR. You do not need to call PCP yourself.
 - Other places I have referred patients to have included SHAPES AC Clinic in Salem (503-370-5238), Kaiser Home Infusion if Kaiser patient (503-499-5305), or Providence Portland Anticoag Clinic (503-215-2284). The Anticoag RNs can also provide phone numbers to other Anticoag Clinics.

5) **Coordinate anticoagulation DC Rx's with treating MD:**

- Check patient's insurance to see if covered for enoxaparin, if we can fill here, or if need prior authorization.
 - Best resource is Anne Barth in the Outpatient Pharmacy (x4-1844 direct line, or x4-7570).
 - If covered but we can't fill Rx, ask patient where they want Rx filled and call the outside pharmacy to see if they have supply and call in Rx's.
 - If they don't have any Lovenox, or cannot get it before the patient needs next dose, call pharmacies from "orange list" (at Anna's desk) to find a pharmacy to fill the Rx.
 - If insurance requires prior auth notify MD or Case Manager so they can call the authorization in to the insurance company.
 - If patient has no insurance (or has Medicare only which does not cover Lovenox), check if they qualify for MAP program (x4-1457).
- Rx for enoxaparin 1 mg/kg SC q 12 hr X estimated days therapy (usually 5 days for new DVT – order #10 syringes and one refill). *NOTE: OHSU Hematologists now prefer to treat PE's for 10 days with heparin or LMWH so order #20 syringes plus one refill. Delay initiating warfarin until day 5-6.*
 - 60, 80, 100, 120, and 150 mg syringes have graduation marks on them and can be used to provide "odd doses" (e.g. for 75 mg dose, order 80 mg syringe and teach patient to "shoot down" to correct dose).
 - Note: 30 and 40mg syringes are not graduated.
 - Also note that the 120 and 150 mg syringes are a different concentration (150 mg/ml instead of 100 mg/ml).
 - A multiple dose vial is now also available, but we do not stock it yet.
- Rx for warfarin 5 mg, as directed, #30 with 2 refills

6) Provide patient education: Take to teaching (*all supplies, except drug, at Anna's desk*):

- Coumadin booklet
 - Fill in date, dose and INR info in tracking section (p.23)
- Pill box for Coumadin (optional)
- Lovenox Continue Care box (has video, sharps container, and alcohol wipes)
- "OHSU Patient Education: Outpatient Treatment of DVT", or blue patient education book from Aventis "Treatment of DVT". *Note: if patient does not have clot (e.g. bridging therapy), do not need this book*
- dose of Lovenox and alcohol wipe (if it is not time for Lovenox dose, take TB syringe and 10 ml vial of NS. May teach patient with NS)
- Have patient or caregiver administer injection (preferred in abdomen; if not possible next best sites are the thighs, then the upper arm).
 - Sometimes RN has already taught patient to give injection.
 - Check with RN if patient has already been taught, or
 - if you are called and the patient is not going home until the next day, ask the RN to teach injection technique – this may save you some time!

7) Document Education and Protocol Enrollment in Medical Record

- Leave Brief note or SOAP note in Progress Notes (examples from Anna).
- Note to include: Date, Time: Anticoagulation Service Note
 - **SOAP Note**
 - **S/O:** reason for consult.
 - Patient comments about therapy or Dx.
 - Description of patient and Dx.
 - Relevant labs.
 - Enoxaparin and warfarin dosing ordered.
 - Education provided (treatment goals; medication MOA, use, side effects, drug and diet interactions, and monitoring; bleeding warning signs; DVT/PE warning signs) and injection technique taught.
 - If enoxaparin self-administered as part of teaching, time dose given.
 - **A:** Evaluation of patient suitability for protocol.
 - Target INR and expected duration of Tx.
 - Patient understanding of education.
 - Others present at time of education.
 - Follow-up plan (medications, who will administer drug if not patient, where labs and continued follow-up will occur).
 - Any anticipated problems.
 - **P:** Patient readiness for DC.
 - Next dose and time due for enoxaparin and warfarin.
 - Who will follow patient after DC (scheduled appt with whom if known).
 - Name and pager #

- **Brief Note:** Essential information in brief note include enoxaparin and warfarin dosing ordered, what was discussed with patient and/or caregiver (e.g. “Discussed medication purpose, dosing, injection technique, side effects, diet and drug interactions, need for laboratory monitoring and when to seek medical attention”);
 - whether patient able to perform injection;
 - Patient understanding of therapy; follow-up plan;
 - any other pertinent info.
 - Sign with name and pager #.

- 8) Document Dose Administration
 - Communicate dose was administered to RN caring for patient and ask him/her to chart on eMAR

- 9) Communicate Readiness for DC
 - Inform RN of completed activities. Also inform treating physician, and/ or Case Manager if necessary
 - If patient is to be followed by OHSU Anticoag Clinic, call Clinic with information about patient