Preventing and Treating Deep Vein Thrombosis with Enoxaparin (Lovenox®)

What is deep vein thrombosis?
Deep vein thrombosis (DVT) is a blood clot in the veins of one leg or arm. Symptoms of DVT include:
- Swelling
- Tenderness or pain
- Redness and warmth

Some patients with DVT do not have symptoms. Blood clots are dangerous because a piece can break off (embolism) and travel in the blood stream to the lungs (pulmonary embolism). This can be life threatening.

How can DVT be prevented or treated?
Patients who have DVT, or are at risk for it, can be treated with medicines known as anticoagulants or “blood thinners.” Anticoagulants prevent blood clots from forming. If a clot has formed, anticoagulants keep the clot from growing or traveling while your body dissolves it. First, a short-acting anticoagulant called enoxaparin (Lovenox®) is given by injection (shot) under the skin twice a day. A nurse will show you or your family how to give these shots at home. Patients who need long-term treatment are started on a pill called warfarin (Coumadin). This will replace the enoxaparin shots when the warfarin has reached a safe level in your blood.

How do I give myself a Lovenox® injection?
1. Wash your hands with soap and water. Dry your hands with paper towel or clean linen.

2. Sit or lie in a comfortable position so you can easily see the area of your stomach where you will be giving the shot. A lounge chair, recliner, or bed (with your head propped up on pillows) is ideal.

3. Select an area on the right or left side of your stomach, at least 2 inches from your belly button and out toward your sides.

4. Clean the area you have selected with an alcohol swab. Allow the area to dry.

5. While the area is drying, carefully pull off the needle cap from the enoxaparin syringe and throw away the cap. To keep the needle sterile once the cap is off, do not set the needle down or touch the needle.

6. Hold the syringe in the hand that you write with (like a pencil). With the other hand, gently pinch the cleansed area of your stomach between your thumb and forefinger to make a fold in the skin. Be sure to hold the skin fold throughout the injection.

7. Insert the full length of the needle at a 90° angle – straight up and down – into the skin fold.

8. Press down on the plunger with your finger. This will send the medicine into the fatty tissue of your abdomen/belly. Be sure to hold the skin fold throughout the injection.

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9. Remove the needle by pulling it straight out. You can now let go of the skin fold. **To avoid bruising, do not rub site after you finish giving the shot.**

10. Pointing the needle downward, firmly push the plunger to work the safety device. The protective shield will then cover the needle. You will hear a “click” when this step is complete.

11. Drop the used needle – needle first – into a sharps container (leak-proof and puncture resistant). Close the lid tightly and place the container out of the reach of children. When it is full, take the container to your doctor or pharmacy to throw it away. **Do not put it in your household trash.**

**Reminders**

- Keep your shots about 2 inches from your belly button and away from scars or bruises.
- Switch the sites of your shots between the left and right sides of your stomach.
- Enoxaparin (Lovenox®) should never be injected into muscle, as it could cause bleeding into the muscle. Pinching the skin between your fingers will allow the medicine to enter the fatty tissues under the skin, rather than the muscle.
- If you are left-handed, hold the syringe with your left hand.

**What minor bleeding problems can occur while I am taking these medicines?**

Cuts will bleed longer. To stop bleeding from cuts, you may need to apply firm pressure for ten minutes. Bruising will occur more easily. You may have minor bruising and pain at the site of the shot.

**What major bleeding problems can occur?**

If the blood’s clotting ability is reduced too much, serious bleeding can occur. **Call your doctor right away if you have any of these warning signs:**

- Bleeding from a surgical wound
- Bleeding from the site of a shot
- Nose bleeds that won’t stop
- Blood in the urine
- Coughing up blood

- Cuts that will not stop bleeding
- Blood in the stool or black, tarry stool
- Bleeding from the gums

**What can I do to avoid bleeding problems?**

- Take your medicines exactly as instructed. If you have a question or concern, call your doctor or nurse. **Do not** stop or change how you take the medicines unless you are told to.
- Tell any doctor, dentist, or nurse you see (for any reason) that you are taking enoxaparin or warfarin. Your dosage may need to be changed for certain procedures.
- Keep all appointments with your doctor and for your blood tests.
- Follow these guidelines at home:
  - Brush with a soft bristle toothbrush.
  - Wear shoes or slippers to prevent foot injuries.
  - Be careful with sharp objects. Try using an electric razor rather than a blade razor.
  - Protect yourself from falls. Put a non-skid mat in your tub or shower. Remove throw rugs.
  - Ask your nurse for more information about ways to prevent falls after you go home.
  - Keep your eating habits the same. Do not make big changes in your diet.

**Can I take other medicines or herbal pills?**

Do not take any of the following unless you check with your doctor, nurse or pharmacist:

- Aspirin (found in many cough and cold products)
- Ibuprofen (e.g., Advil®)
- Ketoprofen (Orudis®)
- Naproxen (e.g., Alleve®)
- Vitamins (especially those high in vitamin K)
- Herbal pills - Some herbs work like blood thinners, such as:
  - Ginkgo (Ginkgo Biloba)
  - Garlic (Allium Sativum)
  - Ginger (Zingiber Officinale)
  - Feverfew (Tanacetum Parthenium)
  - Dang Gui

Keep taking your other prescription medicines as usual. If you have any questions about your regular medicines, ask your doctor.
Can blood clots get worse or come back again?
In a small number of people, anticoagulants do not stop blood clots from forming. People who have had blood clots are at greater risk for getting them again. Be sure to watch for symptoms including:
• Swelling
• Tenderness or pain
• Redness and warmth

In rare cases, a blood clot can break off (embolism) and travel in the blood to the lungs (pulmonary embolism). This can be life threatening. Seek medical care right away if you have any of these symptoms of pulmonary embolism:
• Shortness of breath
• Chest pain
• Rapid heart beat
• Cough (especially if blood is noticed)

What can I do to prevent blood clots?
• Do not smoke.
• Wear compression (T.E.D.) stockings as ordered by your doctor, to prevent blood clots and permanent damage to the leg veins.
• Walk as much as possible. Exercise keeps your blood moving and helps prevent clots.
• Try not to sit or stand for long periods. Move and raise your legs when sitting or in bed.
• Do not cross your ankles for long periods.
• Avoid bumping or injuring your legs.
• Avoid tight clothing, especially around the knee.
• Deep massage and heating pads may be harmful if used when blood clots are present. Ask your doctor about these treatments before use.

Enoxaparin Dosing Schedule

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The information presented is intended for general information and educational purposes. It is not intended to replace the advice of your health care provider. Contact your health care provider if you believe you have a health problem.