



Thrombosis Canada

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# Low Molecular Weight Heparin

## What is low molecular weight heparin?

Low molecular weight heparin (LMWH) is an anticoagulant that is given by injection under the skin. Anticoagulants are medicines that treat and prevent abnormal blood clots. There are three LMWHs available in Canada: enoxaparin (Lovenox<sup>®</sup>), dalteparin (Fragmin<sup>®</sup>), and tinzaparin (Innohep<sup>®</sup>).

## Why are LMWHs used?

- To prevent an abnormal blood clot from developing
- To treat an abnormal blood clot in the legs or lungs

## What dose of LMWH will be prescribed?

The dose of LMWH will depend on whether it is being given to prevent or to treat a blood clot, and will also be based on the person's body weight.

- Dalteparin (Fragmin<sup>®</sup>) is given once or twice a day
- Enoxaparin (Lovenox<sup>®</sup>) can be given once or twice a day
- Tinzaparin (Innohep<sup>®</sup>) is given once a day

The doctor will determine the LMWH dose, the number of injections per day (one or two), and how long the LMWH will continue. Patients should not change the dose or stop taking this medication unless instructed by the doctor. Your doctor may ask for blood work to check levels.



## How should LMWH be taken?

LMWH is given as an injection. The injection is given just under the skin. A health care professional will demonstrate how to give the injection. Described below is a general method for administering LMWH with a pre-filled syringe.

1. Wash your hands.
2. The skin needs to be clean and dry, alcohol swabs are not needed at home.
3. Sit or lie down. You need to be in a position where you can see, and be able to pinch up the skin on your tummy, thighs or the backs of your arms. The tummy is usually the best site in adults BUT should NOT be used in infants or children.
4. Pick a place to give the injection.
5. Avoid the area near your belly button, near a surgical scar and near a bruise from a previous injection.
6. Rotate sites and sides for each injection .
7. Remove the cap from the needle by pulling it straight off the syringe.
8. Hold the syringe in the hand you write with. With the other hand, pinch up the selected area between your thumb and forefinger to make a fold in your skin.
9. Insert the entire length of the needle into the pinched up skin at a 90° angle. Do not release the pinched skin fold while injecting.
10. While continuing to hold the skin fold, slowly push the plunger down all the way to inject all of the medicine.



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## How should LMWH be taken? (cont'd)

11. After all of the medicine has been injected, pull the needle straight out.
12. Let go of the pinched skin fold.
13. Apply pressure (without rubbing) for 5 minutes to the site to prevent bruising.
14. With some LMWH syringes, when you push the plunger all the way in, a protective sleeve will automatically come out and cover the needle.
15. Do not put syringes in the garbage. Put the syringes in a container made for needles provided by your health care provider or pharmacist. They will also provide you with instructions on correct disposal of the container.

## Practical tips for taking LMWH

- Do not inject into muscle. The best way to avoid this is to pinch up enough of the skin
- Do not use if LMWH is past the expiry date on the box or syringe
- Always select a different site for each injection
- Take the LMWH at around the same time every day

## How is LMWH stored??

- Store the LMWH syringes at room temperature (not in the refrigerator)
- Do not leave the syringes in direct sunlight

## What if a dose of LMWH is missed?

It is important to take LMWH regularly as prescribed and to ensure that the prescription is refilled on time. If a dose is missed:

- Take your missed dose as soon as you remember and then call your doctor for further instruction
- If you cannot reach your doctor right away, take your next injection 12 or 24 hours from when you had it last, depending on how often you have been giving yourself the injections
- Do not take two injections at once in order to make up for an injection that was missed

## Are there side effects?

- The most common side effects are pain, redness, bruising, or swelling where the injection is given. These side effects can usually be minimized by rotating skin injection sites
- The most important side effect of LMWH is bleeding
- All anticoagulants increase the risk of bleeding. Bleeding can be minor or major:
  - Minor bleeding stops on its own, and does not last long. Examples of minor bleeding include: nose bleeding, gum bleeding, bruising, etc.
  - Major bleeding (see below) is more serious, requires medical attention, and stopping the LMWH at least temporarily. Most people taking LMWH do not experience major bleeding

## When should you contact your health care provider urgently?

If you have any of the following symptoms of bleeding:

- Blood in the bowel movements or black/tarry bowel movements or urine (red coloured)
- Menstrual bleeding that is much more than usual
- Coughing or vomiting up blood
- Any bleeding that won't stop
- Physical injury such as head injury, broken bone, car accident
- If an injection site becomes red, painful, warm, or oozes. These could be signs of infection and you should contact your doctor
- New rashes
- Unusual bruising for unknown reasons



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## Tips to reduce your chances of bleeding

- Use a soft toothbrush and waxed dental floss if there is frequent gum bleeding
- Avoid contact sports (e.g. boxing, martial arts)

## Take Away Message

- Remember to take LMWH around the same time every day
- Call your doctor or go to the emergency room if you have unusual or major bleeding
- Let your health care providers know you are taking LMWH

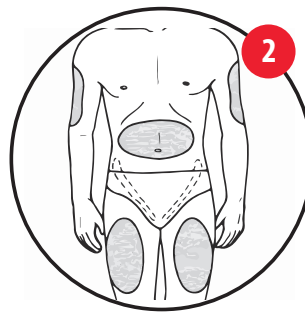
## How to Self-Inject Prefilled Syringes

### General things to know:

- Check to make sure your medication has not expired
  - Should be clear and colourless. If it is not, do NOT inject
- Store your syringes at room temperature. Do NOT refrigerate or freeze
- If you need to draw up your dose from a multi-dose vial, please ask your nurse or pharmacist for a lesson first (after you learn how to do this, then follow instructions below)



- Wash your hands



- Find an injection site



- Pinch skin up
- Hold syringe like a pen
- Inject at 90 degrees (45 degree if little fat)
- Push plunger slowly to inject LMWH
- Holding plunger down, pull the needle out
- Release plunger and skin pinch



- Hold gentle pressure for 1-2 minutes
- This will decrease bruising and bleeding
- Do not rub the skin



- Throw your syringe in a "sharps" container. Your pharmacist or doctor can get you one
- Dispose of containers as directed by your pharmacist/doctor

Steps



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