Read all of this leaflet carefully before you begin taking this medicine because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor, pharmacist, or nurse.
- If you get any side effects talk to your doctor, pharmacist, or nurse. This includes any possible side effects not listed in this leaflet. See section 4.

What is in this leaflet:
1. What Fragmin is and what it is used for
2. What you need to know before you are given Fragmin
3. How Fragmin is given to you
4. Possible side effects
5. How to store Fragmin
6. Contents of the pack and other information

1. What Fragmin is and what it is used for
Fragmin contains the active ingredient dalteparin sodium. It is available in one strength: 10,000 IU (International Units)/1 ml Solution for injection.

Fragmin belongs to a group of medicines called low molecular weight heparins or antithrombotics, which help prevent the formation of blood clots by thinning the blood.

- Fragmin may be used to treat a condition known as unstable angina and non-Q wave myocardial infarction (unstable coronary artery disease) in patients who are taking aspirin.
- In coronary artery disease, the coronary arteries (blood vessels to the heart) are furred up and narrowed by patches of fatty deposits.
- Unstable coronary artery disease means that a furred up bit of the artery has ruptured and a clot has formed on it, reducing the flow of blood to the heart. Patients with this condition may be more likely to go on to have a heart attack without treatment with blood thinning drugs such as Fragmin.

Ask your doctor if you are unsure why you have been given Fragmin.

2. What you need to know before you are given Fragmin

You should not be given Fragmin:

- if you are allergic (hypersensitive) to the active ingredient dalteparin sodium or a similar product or any of the other ingredients of this medicine (listed in section 6).
- if you have an active stomach ulcer or ulcer of the duodenum (small intestine).
- if you have suffered from a brain haemorrhage (bleeding in your brain).
- if you suffer from any condition which may cause you to bleed more easily (e.g. haemophilia, liver failure). Ask your doctor if you are unsure.
- if you have a condition called septic endocarditis (an infection and inflammation of the lining of the heart and heart valves). Your doctor will have told you if you have this.
• if you have had a condition called “heparin-induced thrombocytopenia” (a decrease in the number of clotting cells (platelets) in your blood caused by heparin, which may cause you to bruise and bleed more easily). Your doctor will have told you if you have this.
• if you have an injury to, or have had an operation involving your spine, head, eyes or ears.

If you are receiving Fragmin to treat blood clots, you should not have a local, spinal or epidural anaesthetic.

Warnings and precautions

Talk to your doctor, pharmacist or nurse before you take Fragmin:

• if you have conditions which make you more susceptible to bleeding e.g.:
  o after an operation or trauma
  o a stroke caused by a bleed
  o severe liver or kidney failure
  o abnormal or low numbers of platelets (clotting cells)
  o eye disease caused by blood pressure or diabetes
  o taking other medicines that thin the blood (e.g. aspirin, warfarin, dipyridamole)
  o uncontrolled high blood pressure.
• if you have been told by your doctor that you have a lot of potassium in your blood or have a low blood pH. Your doctor will monitor your blood regularly before and during treatment.
• if you have ever had an operation to insert an artificial heart valve.
• if you need any other injections.

You may need to have blood tests to monitor the effects of Fragmin:

  o if you have kidney failure or liver problems
  o if you are very thin or morbidly obese
  o if you are pregnant
  o if you are at increased risk of bleeding or rethrombosis (more blood clots)
  o if you are a child.

Children and adolescents

Dosing recommendations in children are based on clinical experience; there are limited data from clinical trials, which will help your doctor calculate the dose of Fragmin.

Other medicines and Fragmin

Tell your doctor, pharmacist or nurse if you are taking, have recently taken or are planning to take or use any other medicines. This includes medicines that you have bought for yourself.

Some medicines can affect the way Fragmin works, or Fragmin itself can reduce the effectiveness of other medicines taken at the same time.

Medicines that increase the effect of Fragmin include:
• Those used to thin your blood: (e.g. aspirin, dipyridamole, glycoprotein receptor antagonists and warfarin).
• Medicines called non-steroidal anti-inflammatory drugs (NSAIDs) used to reduce pain and inflammation (e.g. indometacin).
• Some medicines for gout (e.g. sulfinpyrazone and probenecid).
• Etacrynic acid (a water retention tablet (diuretic)).
• Solutions given to increase the blood volume (e.g. dextrans).
• Medicines known as cytostatics (used in cancer treatment).
• Thrombolytic medications for treating transmural heart attack (e.g. TPA-tissue plasminogen activator).

Medicines that can reduce the effect of Fragmin, include:
• Those for allergy and hay fever (e.g. antihistamines).
• Those used for heart or circulation problems (e.g. digoxin or digitoxin).
• Antibiotics known as tetracyclines which are used to treat bacterial infections.
• Vitamin C (e.g. some vitamin supplements).

Other medicines that may interfere with Fragmin include:
• Those used to treat angina (intravenous nitroglycerine)
• Antibiotics such as high dose penicillin which are used to treat bacterial infections
• Anti-malarials (e.g. quinine)
• Tobacco smoking.

Please tell your doctor or pharmacist if you are taking or have recently taken any other low molecular weight heparins or anti-thrombotics.

Please note that if you are being treated with Fragmin for unstable coronary artery disease your doctor may adjust your dose of aspirin accordingly.

**Pregnancy and breast-feeding**
Fragmin has not been found to cause harmful effects during pregnancy. The possibility of harm to the baby appears remote. Tell your doctor if you are pregnant and they will advise you.
Fragmin is not recommended for the prevention of blood clots on artificial heart valves during pregnancy. Your doctor will discuss this with you.
If you are receiving Fragmin to treat blood clots, you should not have a local, spinal or epidural anaesthetic.

Ask your doctor or pharmacist for advice before taking this medicine whilst breast-feeding.

**Driving and using machines**
Fragmin does not affect the ability to drive and operate machinery.

3. **How Fragmin is given to you**

Your medicine will usually be administered by a doctor or nurse. The amount of Fragmin you receive will depend on your particular condition.

Fragmin is given as a subcutaneous injection, which means it is injected beneath the skin. It is usually injected into a skin fold in your abdomen (stomach), or the outer aspects of your thigh.

**Use in adults and the elderly**
• **Unstable coronary artery disease**
The usual dose used to treat unstable coronary artery disease is 120 IU (units) for every kilogram you weigh, given every 12 hours. Doses are usually given for between 5 and 8 days.
The maximum dose in a 12 hour period is 10,000 IU. If you have an artificial heart valve, the normal dose for prevention of blood clots is not sufficient. Your doctor will discuss this with you.
• **Extended use**
If your doctor has recommended a special procedure to restore the blood supply to your heart (angiography or coronary artery surgery); it may be necessary to continue to administer Fragmin for up to 45 days. In this case, the dose should be either 5,000 IU (women less than 80 kg and men less than 70 kg) or 7,500 IU (women 80 kg and above or men 70 kg and over) every 12 hours. These are typical doses for adults, including elderly patients. Your doctor will work out the right dose for you. Some of the liquid in the syringe may have to be expelled before the injection is given. Medical staff may take blood samples during your treatment to monitor the effects of Fragmin.

**Children and adolescents**
The dose will be based on both the child’s age and weight. Younger children may need slightly more Fragmin per kg than adults. Your doctor will work out the right dose for you. Medical staff may take blood samples during your treatment to monitor the effects of Fragmin.

**If you are given more Fragmin than you should**
If you feel that you have been given more Fragmin than you should, inform your doctor or nursing staff immediately. Your doctor may initiate measures to decrease the risk of bleeding.

If you have any further questions on the use of this medicine, ask your doctor, pharmacist or nurse.

4. **Possible side effects**
Like all medicines, this medicine can cause side effects, although not everybody gets them.

Stop using Fragmin and talk to a doctor or nurse at once if you get any signs of a severe allergic reaction (such as difficulty breathing, swelling of the lips, mouth, throat or eyes)

- **Common side effects (may affect up to 1 in 10 people):**
  - A reversible decrease in the number of clotting cells (platelets) in your blood (Type I thrombocytopenia). This may make you bruise more easily
  - Bleeding at any site
  - Certain substances produced by your liver may increase
  - Pain and reactions at the site of injection
  - Haematoma – collection of blood under the skin

- **Uncommon side effects (may affect up to 1 in 100 people):**
  - Increased levels of potassium in your blood (symptoms may include temporary muscle weakness, loss of feeling and changes in your heartbeat)
  - Red skin rash and itchiness
  - Itching
  - Allergic reactions

- **Rare side effects (may affect up to 1 in 1,000 people):**
  - An immune system problem resulting in a severe decrease in the number of clotting cells (platelets) in your blood (Type II thrombocytopenia)
  - Alopecia (hair loss)
  - Painful skin lesions
- Not known (frequency cannot be estimated from the available data):
  
  o Bleeding inside or around your brain, symptoms may include sudden severe headache
  o Bleeding behind your abdomen (stomach), symptoms may include a feeling of tenderness and swelling around your stomach
  o Bruising of the spine which may lead to back pain, tingling, numbness or weakness in your legs, bowel or bladder problems

If you have an artificial heart valve, treatment with Fragmin might not be sufficient to prevent a blood clot, and you might develop a clot in the heart valve.

The adverse reactions in children are expected to be the same as in adults, however there is only a little information about the possible side effects of long term use in children.

**If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet.**

**Reporting of side effects**
If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet. You can also report side effects directly via the Yellow Card Scheme at: www.mhra.gov.uk/yellowcard

By reporting side effects you can help provide more information on the safety of this medicine.

**5. How to store Fragmin**
Keep this medicine out of the sight and reach of children.
Fragmin should not be used after the expiry date which is printed on the label and carton. The expiry date refers to the last day of that month.
Store below 25°C.
Your doctor or nurse will store Fragmin in a safe place under the above conditions.

Do not throw away any medicines via wastewater or household waste. Ask your pharmacist how to throw away medicines that you no longer use. These measures will help to protect the environment.

**6. Contents of the pack and other information**

**What Fragmin contains**
The active ingredient in Fragmin Graduated Syringes is dalteparin sodium. Each syringe contains 10,000 IU (International units) of dalteparin sodium as a sterile solution for injection.

The other ingredients are water for injections, sodium chloride and either sodium hydroxide or hydrochloric acid (to balance the acidity of the injection).

**What Fragmin looks like and contents of the pack**
Fragmin is a clear, colourless or straw-coloured solution in pre-filled single dose syringes. Each pack contains 5 syringes.

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