

Filgrastim

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| Names | The generic name is filgrastim (fil-GRA-stim). Neupogen® is a brand name. May be called G-CSF (granulocyte-colony stimulating factor). |
| How is It Given? | This medication is given by injection under the skin (subcutaneously) or infusion into a vein (intravenous or IV), usually once a day. |
| Why am I Receiving Filgrastim? | <p>Filgrastim does not treat cancer; it is used to decrease the chance of infection in people who:</p> <ul style="list-style-type: none">• are receiving chemotherapy that causes <i>neutropenia</i> - a condition in which there are a low number of neutrophils in the blood. Neutrophils are a type of white blood cell that fights infection• are undergoing bone marrow transplants• have chronic neutropenia (low white blood cell count)• will have leukapheresis (a treatment in which blood is withdrawn through an IV, a specific type of blood cell is collected, and the rest of the blood is returned by IV) |
| How Does it Work? | <p>Filgrastim is a granulocyte colony-stimulating factor (G-CSF), a type of biologic response modifier. Granulocytes are a type of white blood cell that is made of small granules. Neutrophils are one type of granulocyte.</p> <p>Blood cells begin in the bone marrow, the spongy center inside many of your bones. Chemotherapy and radiation can damage your bone marrow and temporarily decrease the production of blood cells – which raises your risk of infection. Filgrastim stimulates your bone marrow to produce more white blood cells and helps reduce your risk of infection.</p> |
| What Should I Tell My Doctor Before I Begin? | <p>Tell your doctor if you:</p> <ul style="list-style-type: none">• have ever had an allergic reaction to filgrastim, pegfilgrastim (Neulasta™), or medications made from E. coli bacteria.• are being treated with radiation therapy• have or have ever had chronic myeloid leukemia (CML), sickle cell disease, myelodysplasia, or an enlarged spleen• are pregnant or breast feeding <p>This drug may interact with other medications or cause harmful side effects. Tell your doctor and pharmacist about <u>all</u> prescription or over-the-counter medications, vitamins, herbal or diet supplements that you are taking.</p> |

What Are Some Possible Side Effect and How can I Manage Them?

Possible side effects include:

- tenderness at the injection site
- bone, joint, or muscle pain
- headache
- nosebleeds

Talk with your healthcare provider before taking any medication or product for these or any other side effect. Ask your doctor about medication to help prevent or lessen pain or headaches.

When Should I Call the Doctor?

Call 911 or go to the nearest hospital emergency department if you have:

- signs of severe allergic reaction: Swelling or tingling in your face, tongue, mouth, or throat; chest tightness; wheezing; trouble breathing or swallowing; dizziness, shortness of breath; heart palpitations; or hives

Please let us know if you go to the emergency room or are admitted to the hospital.

Call your doctor immediately if you have:

- any sign of infection: Fever of **100.4°F (38°C)** or higher, chills, cough, sore throat, pain or burning upon urination; redness or tenderness along a vein, at an IV site, or at any other wound or skin irritation
- unusual bruising or bleeding: Bleeding lasts more than 10-15 minutes or causes dizziness; blood in stools, vomit (may look like coffee grounds), urine, or mucus; bloody nose or gums; red-purple pinpoint rash under skin
- pain in the left upper part of the stomach or the tip of the left shoulder
- decreased urination

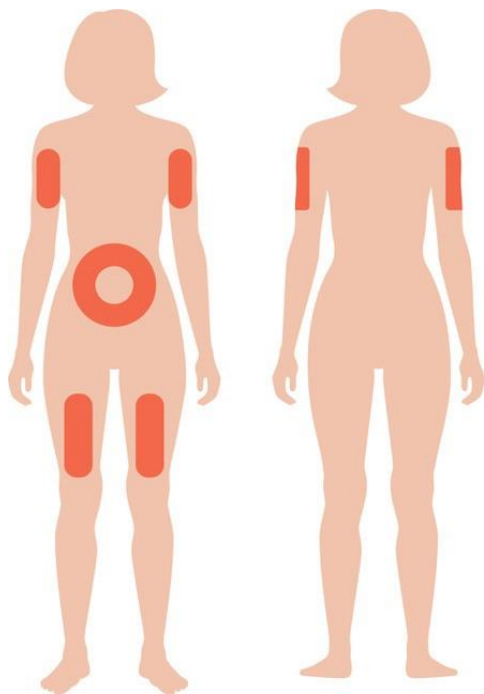
Call your doctor as soon as possible if you have bone or muscle pain that is not relieved by prescribed pain medication

Subcutaneous Injections

A subcutaneous injection delivers medication into the fatty tissue just below your skin. Since there is little blood flow in fatty tissue, the medication is absorbed more slowly.

How to Give a Subcutaneous Injection with a Preloaded Syringe

1. Wash your hands thoroughly to prevent infection.
2. Assemble and check your equipment. Make sure the medication is not cloudy and that there is no sediment. If you see either, throw it away and use a new syringe.
3. Pick a location for the injection. The best sites are areas with a layer of fat between the skin and muscle - the shaded area on the diagram: the front of the thigh, your belly (at least 1- inch away from your navel), or the upper, outer arm. (If self-injecting, use thigh or belly, the arm site may be difficult to reach.)

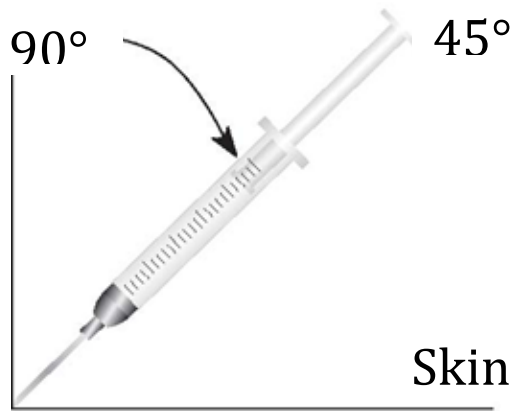


Avoid areas where the skin is red, irritated, bruised, burned, hardened, scarred, or has lumps or stretch marks.

It is important to rotate injection sites so your skin stays healthy and able to absorb medication. Talk to your nurse to learn more about rotating your injection sites.

4. Clean the area: Using an alcohol swab or pad, clean a 2-inch area around the site you have chosen. Begin at the center of the site and move outward in a circular motion. Allow the skin to dry; this will help avoid stinging during the injection. If your doctor tells you to clean the area differently, *always follow your doctor's directions.*
5. Hold the syringe in your dominant hand and use the other hand to pinch a 1-inch fold of skin. This helps prevent injecting the solution into a muscle.

6. Hold the syringe like a pen and with a quick, smooth motion, push the needle into the skin at an angle between 45° and 90° (see diagram). Your doctor or nurse will let you know if you need to use a straight 90° degree angle. Keep the angled (beveled) side of the needle facing up, towards you.



7. Inject the medication by pushing carefully and slowly on the plunger.
8. Wait briefly and then withdraw the needle at the same angle as it was inserted. Hold a cotton ball or alcohol prep pad over the site – do not rub. If there is any bleeding after 5 seconds, cover with a Band-Aid®.
9. Use each syringe only once. Discard the used syringe into a hard container right away – do not try to get the cap back on.
10. After 2 hours, check the injection site for signs of redness, swelling, or tenderness. If any of these are present and do not go away in a few days, notify your clinic.

Roswell Park has a video on how to give a subcutaneous injection. If you are using prefilled syringes, you can start the video at time marker 1:37.

Video: <https://youtu.be/LNXOFKjTPJc>