

## Pegfilgrastim

Names	The generic drug name is pegfilgrastim (peg-fil-GRA-stim). Neulasta® is a brand name. There may be other names for this medication.
How Is It Given?	This medication is given as a shot under your skin (subcutaneous injection) 24-72 hours after the last dose of chemotherapy of the cycle is given and more than 14 days before the beginning of the next chemotherapy cycle.
Why Am I Receiving Pegfilgrastim?	Pegfilgrastim is given to decrease the risk of infection. It is not a chemotherapy medication. It is given to stimulate your body to make more white blood cells (WBCs), which fight infection.
How Does It Work?	<p>Pegfilgrastim is a type of biologic response modifier called a granulocyte colony-stimulating factor or <b>G-CSF</b>. Blood cells are produced in the bone marrow, the spongy center inside many bones where white blood cells (WBCs), red blood cells (RBCs) and platelets are made. White blood cells fight infections, red blood cells carry oxygen throughout the body, and platelets help the blood to clot.</p> <p>Radiation and many chemotherapy drugs can temporarily damage the bone marrow, which leads to decreased production of these blood cells. Giving a G-CSF stimulates the bone marrow to make more white blood cells, specifically granulocytes and neutrophils, which reduce the 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"><li>• have had an allergic reaction to pegfilgrastim, filgrastim (Neupogen®) or medications made from E.coli bacteria (Ask your pharmacist if you are not sure if your medications are made from E. coli)</li><li>• are being treated with radiation therapy</li><li>• have or have ever had cancer of the blood or bone marrow, sickle cell disease, or an enlarged spleen</li><li>• have any chronic or non-healing wounds</li><li>• are pregnant or breastfeeding</li></ul>

**This drug may interact with other medications or cause harmful side effects. Tell your doctor and pharmacist about all prescription or over-the-counter medications, vitamins, herbal or diet supplements that you are taking.**

**Please let us know ahead of time if you have had any allergic reactions or side effects to any medicines you have received in the past.**

What Are Some Possible Side Effects?

- Mild pain or skin irritation at the injection site
- Bone, joint or muscle pain
- Blood count abnormalities (will return to normal when pegfilgrastim is discontinued)
- Headache, fatigue, and/or weakness
- Constipation
- Swelling of the arms, hands, feet, ankles, or lower legs

How Can I Manage These Side Effects?

- Do not put anything on the injection site unless you have the approval of your doctor or nurse.
- Ask your doctor or clinical pharmacist about medications to prevent and treat the bone pain. Options available are:
  1. Naproxen (Naprosyn®) 500 milligrams (mg) by mouth twice a day, starting the day you have the pegfilgrastim injection and continuing for 5 days.
  2. Ibuprofen (Advil®, Motrin®) 600 mg by mouth three times a day, starting the day you have the pegfilgrastim injection and continuing for 5 days.
  3. Loratadine (Claritin®) 10 mg by mouth, once a day, starting the day of your pegfilgrastim injection and for continuing for 7 days.
- **Always ask your doctor or clinical pharmacist before starting any medications to make sure it is ok to use.**

When Should I Call the Doctor?

**Call 911 or go to the nearest hospital emergency department if you have life-threatening symptoms** such as 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.

When Should I  
Call the  
Doctor? (cont.)

Call your doctor immediately if you have:

- **fever of 100.4°F (38°C) or higher**
- any other signs of an infection: chills, cough, sore throat, pain or burning upon urination; redness or tenderness along a vein, at an intravenous (IV) site, or at any other wound or skin irritation
- any sign of an allergic reaction: itching or hives, swelling in your face or hands, swelling or tingling in your mouth or throat, chest tightness, trouble breathing, dizziness or palpitations
- unusual bruising or bleeding: bleeding lasts more than 10-15 minutes or that causes dizziness, black or bloody stools, vomit that is bloody or that looks like coffee grounds, blood in your urine or phlegm/mucus, unusually heavy menstrual bleeding, spontaneous bleeding from your gums or nose, or superficial bleeding into the skin that appears as a rash of pinpoint-sized reddish-purple spots (petechiae)
- pain in the upper part of the stomach or the tip of your left shoulder

Call your doctor as soon as possible if you have:

- bone pain that is not relieved by prescribed medication

What Else  
Should I Know  
About  
Pegfilgrastim?

- Before having a bone imaging study, tell your doctor and the technician that you are using pegfilgrastim. Pegfilgrastim may affect the results of this type of study.
- Pegfilgrastim decreases your risk of infection, but does not prevent all infections that may develop during or after chemotherapy. Call your doctor if you develop any of the signs of infection listed above.
- Your WBC (white blood cell) count will be monitored during treatment.
- If you are having surgery, including dental surgery, tell the doctor or dentist that you are using pegfilgrastim.
- You should not receive this medicine at the same time that you receive chemotherapy or radiation treatments. The recommendation is to give pegfilgrastim 24 hours after chemotherapy, at the earliest.
- Pegfilgrastim is also available as an on-body injector kit which is placed on the back of the arm or abdomen the same day you receive chemotherapy. Once placed, a small catheter (cannula) will release the pegfilgrastim 27 hours after the end of chemotherapy. Once the injection is finished, the injector kit can be removed. If you would like to use the on-body injector kit, please talk to your physician.

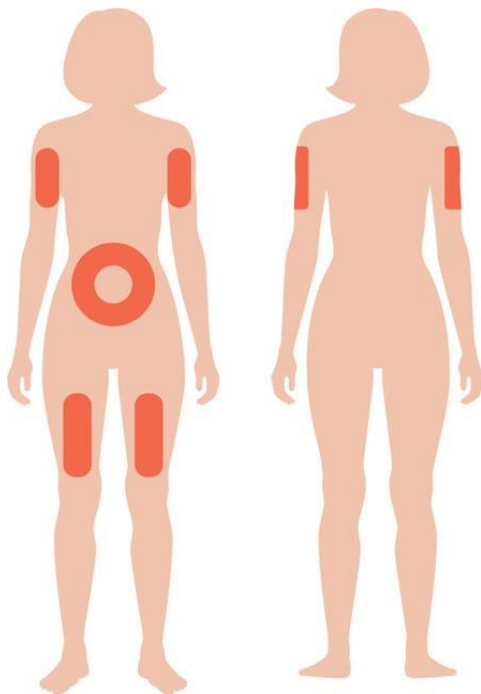
- If you will have subcutaneous injections of pegfilgrastim at home, you will be shown how to prepare the drug and give yourself the injection.
  - Store syringes of **G-CSF** in the refrigerator. You may let the medicine warm up to room temperature before you use it. The medicine can stay out of the refrigerator for up to 24 hours. If out of the refrigerator for more than 24 hours, throw it away.
  - If the medicine accidentally freezes once, let it thaw in the refrigerator. If it freezes twice, throw it away. Keep the medicine out of direct sunlight.
  - Do not shake the syringe. Each syringe contains one dose. Discard the syringe after you have used it once.
- Keep all appointments with your physician and the laboratory.
- If you would like more information about pegfilgrastim, talk to your doctor or clinical pharmacist.

# 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 areas 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.)

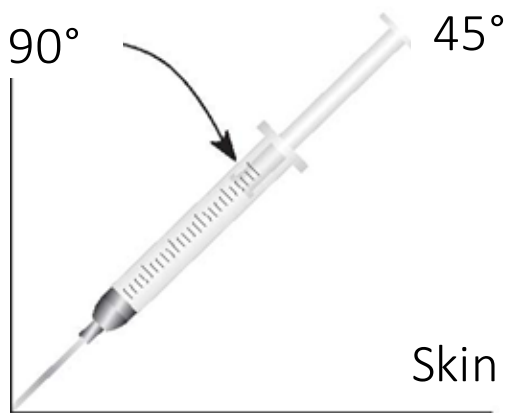


**Avoid areas where the skin is red, irritated, bruised, burned, hardened, scarred, or has lumps or stretch marks.**

**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  $45^{\circ}$  and  $90^{\circ}$  (see diagram). Your doctor or nurse will let you know if you need to use a straight  $90^{\circ}$  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>