**Pronounced:** peg-fil-GRAS-tim

**Classification:** Colony Stimulating Factor

**About Pegfilgrastim On-Pro (Neulasta® On-Pro On Body Injector)**

Pegfilgrastim is a type of colony stimulating factor, which is a group of medications that stimulate the production and function of blood cells, including white blood cells, red blood cells and platelets. Granulocyte colony-stimulating factor (G-CSF) is a protein produced by the body to increase production of white blood cells. Pegfilgrastim is a long-acting, man-made version of G-CSF that stimulates white blood cell production, and in particular, neutrophil production. A neutrophil is a type of white blood cell that is responsible for fighting infection and is often decreased during cancer therapy. When the number of these cells drops below 1000/mm³, it is called neutropenia and puts the patient at significant risk of infection. Pegfilgrastim is used to prevent or treat neutropenia related to chemotherapy.

Pegfilgrastim is not a cancer treatment, but a supportive care medicine. This means it is used to lessen the bone marrow suppression (reduced blood counts) secondary to cancer and its cytotoxic treatments.

**How to Take Pegfilgrastim**

This formulation of pegfilgrastim is delivered through an on-body injector, which is applied the same day you receive chemotherapy. The on-body injector will be applied and filled by your healthcare provider after you receive your chemotherapy. The on-body injector then delivers the pegfilgrastim dose the next day. You should also keep the injector on for 3 hours after the dose is delivered. There are several other precautions you need to follow when using the on-body injector:

- Avoid traveling, driving or operating heavy machinery during hours 26-29 after the on-body injector is applied.
- This on-body injector uses an acrylic adhesive. Be sure to report any allergy to acrylic adhesives to your healthcare team before utilizing the on-body injector.
- Avoid MRI, X-ray, CT-Scan, Ultrasound and oxygen rich environments such as hyperbaric chambers while wearing the on-body injector.
- Avoid airport X-ray scans: request a manual pat down. Alert the TSA agent to exercise caution during the pat down to prevent accidental removal.
- Keep the on-body injector 4 inches or more away from electrical equipment such as cell phones, cordless phones, microwaves and other appliances.
- Avoid hot tubs, whirlpools, saunas, and direct sunlight while wearing the on-body device.
- Do not use body lotion, creams, oils and skin cleansing products near the on-body injector.
- Keep the on body injector dry for at least three hours prior to the scheduled administration of pegfilgrastim.

If you feel that the on-body injector has malfunctioned, has dislodged, or did not administer the full dose, call your provider immediately.

**Storage and Handling**

Do not reuse single dose vials, syringes or needles. Do not throw the vials, syringes, or needles in the household trash. Dispose of all used needles and syringes in a puncture-proof disposable container with a lid. The FDA provides further information about the disposal of vials, syringes and needles. Keep the vials out of the reach of children.
**Possible Side Effects of Pegfilgrastim**

There are a number of things you can do to manage the side effects of pegfilgrastim. Talk to your care team about these recommendations. They can help you decide what will work best for you. These are some of the most common or important side effects:

**Bone or Muscle Pain**

Pegfilgrastim stimulates the bone marrow to produce many white blood cells, which can lead to pain in the bones. This pain is often felt in the bones or muscles of the thighs, hips and upper arms. Your healthcare team may not want you to take acetaminophen (Tylenol®) because it can "mask" a fever, so talk to them about what pain relievers you can take.

**Irritation or Burning at the Injection Site**

Some people experience redness, swelling, or itching at the site of injection. This is usually temporary. The injection is known to sting or burn if given when it is cold. Take the medication out of the refrigerator 30 minutes ahead of time to allow it to come up to room temperature before administration.

**Less common but important side effects can include:**

- **Rupture of the spleen:** Your healthcare team will monitor you for an enlarged spleen or rupture while using this medication. If you have pain in the left side of your abdomen or shoulder pain after receiving pegfilgrastim, notify your healthcare team immediately.

- **Acute Respiratory Distress Syndrome (ARDS)/Alveolar Hemorrhage:** This medication can cause a series lung problems called acute respiratory distress syndrome. If you experience shortness of breath, fever, breathing trouble or a fast rate of breathing, contact your healthcare team or go to the emergency room.

- **Allergic Reactions:** In some cases, patients can have an allergic reaction to this medication. Signs of a reaction can include: shortness of breath or difficulty breathing, chest pain, rash, flushing or itching or a decrease in blood pressure. If you notice any changes in how you feel during the injection, let your nurse know immediately.

- **Sickle Cell Crisis:** In patients with sickle cell anemia, pegfilgrastim can cause a sickle cell crisis. Contact your healthcare team immediately if you have symptoms of a sickle cell crisis including pain and trouble breathing.

- **Kidney Problems:** Pegfilgrastim can cause a decrease in kidney function or damage to the kidney. For this reason, your healthcare team will monitor your kidney function with blood tests while taking pegfilgrastim. Some patients will need to stop the medication due to kidney function changes. Notify your provider if you notice any blood in your urine, decrease in urination or darkening of the urine.

- **Capillary Leak Syndrome:** Capillary leak syndrome is a condition in which blood, and components of blood, leak out of vessels and into body cavities and muscles. The movement of this fluid out of the vessels can cause hypotension (low blood pressure) and organ failure. Signs and symptoms of capillary leak syndrome include: a sudden drop in blood pressure, weakness, fatigue, sudden swelling of the arms, legs or other parts of the body, nausea, and lightheadedness. If you are having any of these symptoms notify your healthcare provider immediately.

- **Aortitis:** This medication can cause an inflammation of your aorta (the largest artery in your body), which can occur as early as the first week of starting treatment with filgrastim. Sign of aortitis include fever, abdominal pain, fatigue, and back pain. Be sure to call your provider right away if you are experiencing any of these symptoms.

- **Low Platelet Count (Thrombocytopenia):** Platelets help your blood clot, so when the count is low you are at a higher risk of bleeding. Let your oncology care team know if you have any excess bruising or bleeding, including nose bleeds, bleeding gums or blood in your urine or stool. If the platelet count becomes too low, you may receive a transfusion of platelets
  - Do not use a razor (an electric razor is fine).
  - Avoid contact sports and activities that can result in injury or bleeding.
  - Do not take aspirin (salicylic acid), non-steroidal, anti-inflammatory medications (NSAIDs) such as Motrin/Advil (ibuprofen), Aleve (naproxen), Celebrex (celecoxib) etc. as these can all increase the risk of bleeding. Please consult with your healthcare team regarding use of these agents and all over the counter medications/supplements while on therapy.
- Do not floss or use toothpicks and use a soft-bristle toothbrush to brush your teeth.

- **Secondary Cancer:** A secondary cancer is one that develops as a result of cancer treatment for another cancer. This is quite rare, but you should be aware of the risk. People who have received this medication along with chemotherapy and/or radiation to treat breast or lung cancer may have an increased risk of developing MDS or AML. This can occur years after treatment. Your provider will monitor your labs closely. Consider having a complete blood count with differential checked annually by your healthcare provider.

**Reproductive Concerns**

Exposure of an unborn child to this medication could cause birth defects, so you should not become pregnant or father a child while on this medication. Effective birth control is necessary during treatment. Even if your menstrual cycle stops or you believe you are not producing sperm, you could still be fertile and conceive. You should consult with your healthcare team before breastfeeding while receiving this medication.