

Filgrastim, Neupogen[®], G-CSF (For Hematology/Oncology Patients)

Neutrophils (NEW tro fills) are white blood cells that help the body fight infection. The absolute neutrophil count (ANC) is a way of saying how many of these cells are in the blood. Chemotherapy often causes the ANC to go down. This puts your child at risk for infection. G-CSF stands for *granulocyte colony stimulating factor*. This factor is a medicine that helps the ANC come back up more quickly after chemotherapy. In this way, G-CSF reduces the risk of infection caused by low ANC. Delays in chemotherapy treatment can often be avoided. (Please refer to the Helping Hand *Blood Counts for Patients Receiving Chemotherapy*, HH-III-76.)

Neupogen[®] (NEW po jen) is a brand name for filgrastim (fill GRASS tim), the medicine used most often for this purpose. G-CSF is given once a day by injection (shot) under the skin or it may be given by IV.

G-CSF is started at least 24 hours after chemotherapy ends. G-CSF is stopped when the ANC is high enough, usually between 1,000 and 10,000, or when it is time for chemotherapy again. One to 2 days after stopping G-CSF, the ANC may decrease by about half.

Warnings

- If your child is allergic to filgrastim or pegfilgrastim or latex, he or she should not take this medicine.
- If a patient thinks she might be pregnant, she should tell the doctor before she begins taking this or any medicine.
- If a patient is breast-feeding her baby, she should tell her doctor before she begins taking this or any medicine.

Remember

- Read the label each time before you give your child this medicine. It is easy to confuse the many different dosage forms and strengths.
- Wash and dry your hands before handling the medicine.
- Give the **exact dose** of medicine that your doctor ordered.
- To avoid pain caused by using the same site over and over, rotate injection sites.

Doctor's Orders

Child's name: _____

Date: _____ Age: _____ Weight: _____

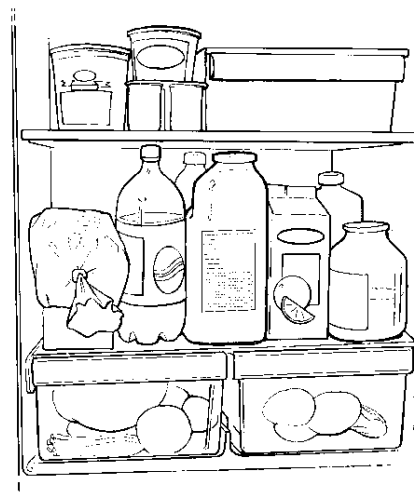
- Your child's dose is _____mcg. This equals _____mL of G-CSF.
- Give a dose once a day at the same time every day. **The first dose should not be given until 24 hours after chemotherapy ends.**
- The solution should be clear and colorless, like water. Do not use if the solution is discolored, cloudy, or if particles appear.
- **Do not shake.** If you see bubbles, let the vial stand a few minutes before using it.
- Throw away the vial after it has been used. Each vial or syringe should be used for only 1 dose.

If you forget to give a dose

If you forget to give a dose of this medicine, give it as soon as you remember. If it is almost time for the next dose, do not give the missed dose at all and do not double the next dose. Instead, go back to your regular dosing schedule. If you have any questions about this, check with your child's doctor.

Storage of medicine

- **Store all medicine out of the reach of children.**
- **Keep this medicine in the refrigerator** (Picture 4).
- Do not use if it has been frozen.
- G-CSF can be left out at room temperature for up to 24 hours. Throw away G-CSF that has been left at room temperature for longer than 24 hours.
- Keep the G-CSF out of direct sunlight when you take it home.
- Do not use this medicine after the expiration date printed on the container.
- Always keep medicine in the original container from the pharmacy.



Picture 4 Be sure to keep the medicine in the refrigerator and out of the reach of children.

Possible side effects

- Weakness, lack of energy
- Headache
- Low grade fever (99-100 °F), chills
- Aches and pains in bones or muscles

Allergic reactions

Call the doctor **immediately** if any of these signs of an allergic reaction occurs:

- Itching
- Rash at the site
- Wheezing
- Severe swelling at the injection
- Feeling lightheaded or dizzy, passing out
- Difficulty breathing

Call 911 or the emergency squad if your child has trouble breathing.

What to do about side effects

- If your child has bone pain, call the doctor.
- **Do not use other pain relievers** without first talking with your child's doctor.

When to call the doctor

Call your child's doctor if any of the following occurs:

- If an allergic reaction occurs (see Allergic Reactions above). **Call your doctor immediately.**
- If there is a lump, swelling, redness or discoloration at the injection site that does not go away in a day.
- If your child has bone pain that does not go away with acetaminophen (Tylenol[®]).
- If your child has a fever or chills.

Preparing to give the injection

- Ask your nurse for the Helping Hand:
 - *Injections: Subcutaneous, HH-V-17*
 - *Subcutaneous Injection Catheter (Insuflon[®]) HH-II-183*
 - *Injections: Intramuscular, HH-V-60*

Disposing of the used needle and syringe

1. **Do not recap the needle. Do not touch the needle. Do not bend or break off the needle. Do not remove the needle from the syringe.**
2. Drop the used syringe and needle into the “sharps” container provided by Nationwide Children’s Hospital or the home care agency.
3. Do not put needles in a container that will be recycled or returned to a store.

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Disposing of the used needle and syringe, continued

4. Do not let the container get too full. When the container is 3/4 full, label it "used needles and syringes" and bring it to the Hematology Clinic for disposal or dispose of the container as directed by your home care company.
5. For more information about safe sharps disposal, and for specific information about sharps disposal in the state that you live in, go to the FDA's website at:
<http://www.fda.gov/safesharpsdisposal>.

CAUTION: Syringes and needles should be used only once. Keep syringes and supplies out of the reach of children and others who might misuse them.

Safety tips and other advice

- **Do not stop giving this medicine or change the amount given without first talking with your child's doctor.** G-CSF must be given until the ANC reaches 1,000 to 10,000, or up to 24 to 48 hours before the next chemotherapy treatment, whichever comes first.
- Get this prescription refilled **at least 5 days before** the last dose is given. This is very important.
- Be sure you also have the syringes, alcohol swabs, and disposal container needed to give each dose.
- Some pharmacies may not keep this medicine in stock. Please call your pharmacy before you leave the hospital to see if they have this medicine or can order it for you. You may have the prescription filled at the Nationwide Children's Hospital Pharmacy.
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- Tell your child's doctor and pharmacist if your child has a strange or allergic reaction to any medicine.
- Bring all your child's medicines with you in the original bottles whenever your child sees a doctor, goes to an emergency room, or is admitted to the hospital.
- Learn the name, spelling, and dose of this medicine, and teach your child if he is old enough.
- If your child takes too much of this medicine, or if someone else takes this medicine, call the Central Ohio Poison Center at 1-800-222-1222 (TTY 614-228-2272). They will tell you what to do.
- The doctor has prescribed this medicine for your child only. Do not give it to anyone else.
- Tell your child's teacher, school nurse, coach, babysitter, and others that your child is taking this medicine and what side effects to watch for.

Follow-up appointments

- Your child's follow-up appointment is on (date) _____ at (time) _____.
- Your child should be checked by his or her doctor on a regular schedule.
- Blood counts will be done twice a week while taking G-CSF to check your child's ANC.

If you have any questions, please call your child's doctor, pharmacist or nurse.