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**KEEP ALL MEDICINE OUT OF THE SIGHT AND REACH OF CHILDREN**

### **Growth factors for blood cells**

Growth factors are also known as colony stimulating factors. They are substances produced by the body and there are many different types. Some types stimulate the bone marrow to make certain blood cells. We can now make some growth factors in the laboratory.

In cancer care, you may have treatment called granulocyte colony stimulating factor (G-CSF) after chemotherapy, to help your blood counts recover.

- Filgrastim (Neupogen)
- A long acting type (pegylated) of filgrastim called pegfilgrastim or Neulastim

### **What are Neupogen and Neulastim?**

- Neupogen is the brand name for filgrastim or G-CSF. Neulastim is the brand name for pegfilgrastim or pegylated G-CSF. G-CSF stands for granulocyte colony stimulating factor. Pegylation means coating a drug in a fatty substance so that it is released more slowly in the body.
- Neupogen and Neulastim are blood stem cell growth factors. You may have this type of treatment after chemotherapy or sometimes radiotherapy. It stimulates your bone marrow to make more white blood cells. You need more white blood cells to replace those killed off by your treatment.
- Having G-CSF means that your white blood cell counts go back to normal more quickly. So you are at risk of infection for a shorter time. This is very important if you are having chemotherapy that is likely affect your blood counts severely. It is also helpful if your white counts are a little slow to recover on their own.
- Doctors use G-CSF as part of high dose chemotherapy in people who are at high risk of their cancer or leukaemia coming back. You may also have this treatment if you have had regular and serious infections during a course of chemotherapy. But it isn't used routinely during most chemotherapy courses because we don't know for sure that it is helpful.
- G-CSF is a natural substance made by the body. It is now possible to make G-CSF in the laboratory, so it is now available as a drug. The drug isn't made directly from blood or blood products.
- Generally you have G-CSF as a daily injection. But you have pegylated G-CSF as a single injection. The drug is surrounded by a fatty capsule. So it is released into the body more slowly.

### **Side Effects**

Bone pain, especially of the larger bones- hip; spine; chest due to the over- stimulation of the production of white cells