



Stem Cell Donors
Australia

Preparing to donate by PBSC

G-CSF INJECTIONS



The cells needed for a stem cell transplant live in your bone marrow. Donating via a peripheral blood stem cell (PBSC) procedure requires injections of G-CSF leading up to donation day.

G-CSF, or granulocyte-colony-stimulating factor, is a synthetic version of a naturally occurring protein found within your body. This protein helps to stimulate and release the stem cells from your bones into your blood, which is why they are known as blood stem cells. The more stem cells enter your blood, the more that can be collected.

G-CSF is given daily for four days before the day of donation. The exact dosage and frequency of injections will vary depending on your size and the collection hospital's protocol. The hospital coordinator will inform you of your own injection protocol.

How to inject yourself with G-CSF

The collection centre will train you (or a support person) on how to inject G-CSF. This guide serves as a general overview; you must follow the instructions you were given.

G-CSF is a subcutaneous injection. You will receive pre-filled syringes that must be stored in the fridge between 2°C and 8°C before use. This medicine is best given at room temperature. Removing the medication from the fridge an hour before administering it is advised. You have up to eight days to use the medication when stored at room temperature. Like an insulin injection for diabetes, it is injected into fatty tissue in the thigh or stomach.



You may find it more comfortable to inject into your stomach, as it is a less sensitive area than the thighs.

After the first dose, you, your support person, or your local doctor can administer the injections. During your Workup appointment, speak to the hospital coordinator about your options.

It's normal to feel nervous about administering G-CSF injections yourself if this is the approach you choose. Take your time and find ways that help you relax.

Injecting G-CSF

When injecting for the first time, block out up to an hour so you don't feel rushed (it will not take an hour to administer). To help you feel more comfortable about injecting, you may find it helpful to prepare by playing some calm lo-fi beats or putting on the TV or radio as background noise. Set your space up so you feel the most relaxed.

Make sure you have the following with you:



Your G-CSF injection, which has ideally been out of the fridge for an hour



Sharps bin



An antibacterial wipe (supplied with your injection)



A tissue – to apply after your injection

1. Check your medication details. Ensure the medication is correct (the name) and within its expiry date.
2. Sit on a comfortable but firm chair.
3. Choose the area you'd like to administer the G-CSF injection (stomach or thigh).
4. Take out the antibacterial wipe and clean the area.
5. Follow the instructions for setting up your pre-filled syringe (removing the cap, etc.).
6. Make a slight pinch to the area you inject, ensuring it's relatively flat and firm.
7. Gently insert the syringe needle into the skin at a 90-degree angle, keeping it straight.
8. Once in, slowly push the plunger down. This will push the medication into the fatty tissue, where it will be absorbed. This can take anywhere from 40 seconds to a minute or two. Choose a speed that suits you.
9. Once the syringe is empty, remove the needle and put it in the sharps bin.
10. Using the tissue, apply pressure to the injection site for a few minutes to reduce bleeding and bruising.
11. Repeat each time you inject G-CSF. Try to inject in a new area to give your skin a chance to heal.

If you have questions or concerns about administering G-CSF, please contact the collection centre staff or your Donor Support Coordinator.

Side effects

Some donors can experience aches, bone pain, headaches, and tiredness that gradually builds after each injection. When a donor feels these effects, they can vary; for most, they are prominent from day three. We recommend donors avoid strenuous activities and prioritise rest and relaxation when injecting G-CSF. If you are employed, it is best to speak to your employer before injecting G-CSF so temporary arrangements can be made to reduce strenuous duties.

Most donors find that the side effects go away as soon as they start their donation.




For more information about G-CSF and its side effects, visit the [Consumer Medical Information website](#).

Is G-CSF safe?

G-CSF is a safe medication millions of cancer patients use worldwide to boost their white blood cells. For stem cell donors, decades of monitoring by blood stem cell registries worldwide have shown that G-CSF is also extremely safe.

We run rigorous medical checks during the donation process to minimise the risk of any long-term side effects. It is vital that we continue to gather health information from all donors. We regularly check in with donors every year for ten years via a questionnaire to continue to reassure donors about the long-term safety of G-CSF.

Tips on how to manage the side effects of G-CSF

Short-term side effect	Tips
 Aches and bone pain	Take paracetamol as per the dosage directions on the pack. You may find a warm water bottle or bath may help to elevate symptoms. Get plenty of rest.
 Headaches	Take paracetamol as per the dosage directions on the pack.
 Tiredness and fatigue	Rest and relax as much as possible and avoid strenuous activity.



Further resources

[Ways donors can donate](#) | [Donors discuss G-CSF injections](#)