

# Choosing Wisely®

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## Drugs to boost white blood cells for cancer patients on chemotherapy

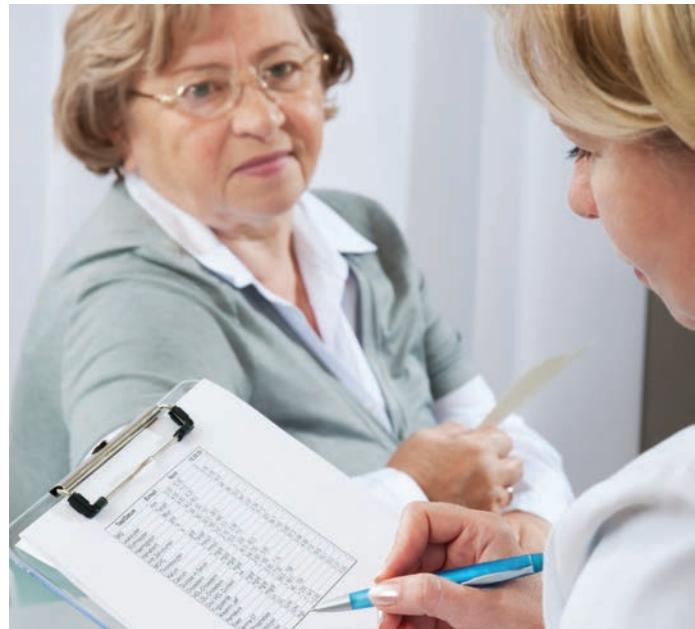
**When you need them—and when you don't**

If you are being treated for cancer, it's normal to want to do everything you can to become cancer-free. Many cancer treatments save lives. But most people do not need every treatment there is. The treatment may not be helpful. And the side effects and costs may be greater than the benefits. One treatment is called white blood cell growth factors or colony-stimulating factors (CSFs). CSFs are drugs that help prevent infection during chemotherapy. They increase the number of white cells in your blood.

This fact sheet explains when cancer experts recommend taking these drugs, and when they recommend not taking them. You can use this information to talk with your doctor about your choices and decide what's best for you.

### What are white blood cells?

Your blood has white cells and red cells. Both kinds of cells are made in the bone marrow. This is the soft tissue inside some bones. White blood cells help your body fight infection. If you have too few white blood cells, you are more likely to get sick.



### Chemotherapy can kill some bone marrow.

With less bone marrow, your body makes fewer white blood cells. This raises your chances of getting a serious fever called febrile neutropenia. With this fever, you usually have to stay in the hospital and get high doses of antibiotics. This may delay your chemotherapy treatments. However, most chemotherapy treatments do not increase your risk of febrile neutropenia very much.

## How do you know if your white blood cell count is low?

The number of white blood cells you have is called your white blood cell count. A low count usually does not cause symptoms, unless your count is very low or you get an infection.

To learn if your white blood cell count is low, your doctor will draw some blood and test it. Some chemotherapy treatments destroy bone marrow more than others. Ask your doctor if your chemotherapy treatment is likely to reduce your white blood cell count, and how often your count should be tested.

### How do CSFs help?

CSFs help your body make more white blood cells. This lowers your risk for febrile neutropenia.

CSFs include Neupogen (filgrastim), Neulasta (pegfilgrastim), and Leukine and Prokine (sargramostim). They are usually given as shots 24 hours after a chemotherapy treatment.

### What are the risks and costs of CSFs?

CSFs lower the risk of being in the hospital for febrile neutropenia. However, they can make you ache and feel tired. They can cause a fever and a general sick feeling. And they can cost as much as \$4,000 a shot.

### Who should have CSFs?

CSFs are only recommended for people who are at high risk for infection. You may be at high risk if:

- Your chemotherapy treatment has a risk of causing febrile neutropenia in more than one out of five people who get it, and CSFs are the only way to raise your white blood cell count.
- You are older than 65.
- Your body is weakened and your immune system does not work well.

CSFs are not recommended for chemotherapy patients who do not have a high risk. But if you have any of the risks listed above, you may need the drugs.

Unfortunately, many patients who actually need these drugs don't get them. If you are at high risk, and your doctor does not recommend CSFs, ask why.

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## Advice from Consumer Reports

# Questions to ask your doctor

If you are being treated for cancer with chemotherapy, make sure to ask your doctor if your type of chemotherapy puts you at high risk for infection. And remember that your risk is affected by your age, your overall health, and whether you have had chemotherapy before.



### Ask your doctor:

- Can my chemotherapy treatment cause low levels of white blood cells or infection?
- What is my risk of getting a febrile neutropenia infection?
- Do I have other factors that could put me at risk for infection, such as age or a weak immune system?
- What are the signs and symptoms of an infection?
- What side effects should I report right away?
- Do you recommend that I take a drug to help my body make more white blood cells? Why or why not?
- Is there a different type of chemotherapy that would not lower my white blood cell count?

This report is for you to use when talking with your health-care provider. It is not a substitute for medical advice and treatment. Use of this report is at your own risk.

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