

# What to Know

## ASCO's Guideline on White Blood Cell Growth Factors

MAY 2006

### KEY MESSAGES

- White blood cell growth factors, also called colony-stimulating factors, are medications that help prevent infection during cancer treatment.
- White blood cell growth factors are only recommended for patients who have a high risk for low white blood cell counts and a fever.
- Talk with your doctor about your risk for developing febrile neutropenia and your need for a medication to prevent it.

**Updated January 25, 2008: Special Announcement on Leukine (sargramostim) Patients and doctors need to be aware that there has been a voluntary market suspension of the current liquid formulation of this drug because of an upward trend in spontaneous reports of adverse reactions, including syncope (fainting). The lyophilized (freeze-dried) form of the drug is not affected. See the U.S. Food and Drug Administration (FDA) web site at [www.fda.gov](http://www.fda.gov) for more information.**

To help doctors give their patients the best possible care, the American Society of Clinical Oncology (ASCO) developed recommendations for the use of white blood cell growth factors. This guide for patients is based on ASCO's recommendations.

### BACKGROUND

White blood cell growth factors, also known as hematopoietic (blood-forming) colony-stimulating factors (CSFs), are proteins that help the body produce white blood cells. White blood cells help fight infection and can be destroyed during some types of cancer treatment. Having low numbers of white blood cells is called neutropenia, and patients with neutropenia are more likely to develop infections. Neutropenia may occur with or without a fever. Febrile neutropenia (neutropenia with a fever) may be a sign that the patient has developed an infection and requires antibiotics and hospitalization. ASCO recommends that patients avoid febrile neutropenia because of the risk of serious complications.

CSFs are supportive medications, which mean that they are not intended to treat cancer, but rather to prevent patients from developing side effects of cancer treatment, such as infections. CSFs are given as shots, usually 24 hours after a chemotherapy treatment, and include filgrastim (Neupogen), sargramostim (Leukine), and pegfilgrastim (Neulasta). These medications are made in the laboratory and are similar to those naturally produced by the body.

## RECOMMENDATIONS

Like other medications, CSFs have both risks and benefits. Treatment with CSFs can lower the risk that a patient will be hospitalized because of febrile neutropenia, but CSFs also cause aches in the bones, low-grade fever, malaise (feeling unwell), and involve multiple shots to deliver the medication. Your doctor can help determine your need for a CSF based on your risk of developing febrile neutropenia. This risk depends on the cancer diagnosis, cancer treatment you receive (such as dose and schedule of chemotherapy), and your medical history, age, and overall health.

The general recommendations for the use of CSFs include the following:

- The first option should be to find an effective chemotherapy regimen that doesn't require the use of CSFs, if possible.

## QUESTIONS TO ASK THE DOCTOR

Patients are encouraged to ask their doctors the following questions about CSFs:

- Do you recommend adding a CSF to my treatment plan? Why or why not?
- Is there an effective chemotherapy regimen for my type of cancer that might not require the use of CSFs?
- Is my risk of developing febrile neutropenia with this treatment more than 20%?
- What are the risks and benefits of CSF treatment?
- Where can I learn more about CSFs and my cancer treatment?

Patients receiving CSFs may want to ask the following questions:

- What can be done to treat bony aches and joint pain?
- How long does this pain last?
- How can I tell if the bone pain is from CSF treatment and not from the spread of cancer?

- Patients should receive CSFs when the risk of developing febrile neutropenia is about 20% or greater, based on the patient's cancer type, treatment plan, age, medical history, and other factors. Some of these situations include:
  - Patients receiving dose dense chemotherapy (treatment given more often, such as every two weeks instead of every three weeks)
  - Patients older than 65 with lymphoma who are being treated with curative chemotherapy
  - Patients with health conditions that place them at higher risk of developing complications from neutropenia

There are circumstances where treatment with a CSF is not recommended. Please talk with your doctor for more information. Some of these situations include:

- Patients receiving chemotherapy and radiation therapy at the same time
- Patients with neutropenia and no fever
- Patients receiving chemotherapy with a risk of febrile neutropenia that is less than 20%, which includes most chemotherapy regimens.

## WHAT THIS MEANS FOR PATIENTS

CSFs are supportive medications that can help prevent hospitalization from infection after some types of cancer treatment. These medications are not necessary for everyone undergoing cancer treatment, just those patients who are at a higher risk of developing febrile neutropenia. Most chemotherapy programs are not associated with a high risk of developing febrile neutropenia. Your doctor can help you understand CSF treatment and how to manage the accompanying side effects.

## HELPFUL LINKS

Read the entire clinical practice guideline at [www.asco.org/guidelines/wbcgf](http://www.asco.org/guidelines/wbcgf).

Managing Side Effects: Neutropenia  
[www.cancer.net/sideeffects](http://www.cancer.net/sideeffects)

## ABOUT ASCO'S GUIDELINES

To help doctors give their patients the best possible care, ASCO asks its medical experts to develop evidence-based recommendations for specific areas of cancer care, called clinical practice guidelines. Due to the rapid flow of scientific information in oncology, new evidence may have emerged since the time a guideline or assessment was submitted for publication. As a result, guidelines and guideline summaries, like this one, may not reflect the most recent evidence. Because the treatment options for every patient are different, guidelines are voluntary and are not meant to replace your physician's independent judgment. The decisions you and your doctor make will be based on your individual circumstances. These recommendations may not apply in the context of clinical trials.

The information in this guide is not intended as medical or legal advice, or as a substitute for consultation with a physician or other licensed health care provider. Patients with health care-related questions should call or see their physician or other health care provider promptly, and should not disregard professional medical advice, or delay seeking it, because of information encountered in this guide. The mention of any product, service, or treatment in this guide should not be construed as an ASCO endorsement. ASCO is not responsible for any injury or damage to persons or property arising out of or related to any use of this patient guide, or to any errors or omissions.

## RESOURCES

Good cancer care starts with good cancer information. Well-informed patients are their own best advocates, and invaluable partners for physicians. ASCO's patient website, Cancer.Net, brings the expertise and resources of the world's cancer physicians to people living with cancer and those who care for and care about them. ASCO is composed of more than 28,000 oncologists globally who are the leaders in advancing cancer care. All the information and content on Cancer.Net was developed and approved by the cancer doctors who are members of ASCO, making Cancer.Net the most up-to-date and trusted resource for cancer information on the Internet. Cancer.Net is supported by The ASCO Cancer Foundation, which provides funding for cutting-edge cancer research, professional education, and patient and family support. People in search of cancer information can feel secure knowing that the programs supported by The ASCO Cancer Foundation provide the most thorough, accurate, and up-to-date cancer information found anywhere.

Visit Cancer.Net to find guides on more than 120 types of cancer and cancer-related syndromes, clinical trials information, coping resources, information on managing side effects, medical illustrations, cancer information in Spanish, podcasts, videos, the latest cancer news, and much more. For more information about ASCO's patient information resources, call toll free 888-651-3038.



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www.asco.org • www.cancer.net • www.jco.org • www.jopasco.org • www.ascocancerfoundation.org

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