

## [Leukemia - Eosinophilic - Treatment Options](#) [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 09/2015

**ON THIS PAGE:** You will learn about the different ways doctors use to treat people with eosinophilic leukemia. To see other pages, use the menu on the side of your screen.

This section outlines treatments that are the standard of care (the best known treatments available) for this specific type of leukemia. When making treatment plan decisions, patients are also encouraged to consider clinical trials as an option. A clinical trial is a research study to test a new approach to treatment to evaluate whether it is safe, effective, and possibly better than the standard treatment. Clinical trials may test such approaches as a new drug, a new combination of standard treatments, or new doses of current therapies. Your doctor can help you review all treatment options. For more information, see the [About Clinical Trials](#) [3] and [Latest Research](#) [4] sections.

### **Treatment overview**

For leukemia, different types of doctors often work together to create a patient's overall treatment plan that combines different types of treatments. This is called a [multidisciplinary team](#) [5]. Cancer care teams also include a variety of other health care professionals, including physician assistants, oncology nurses, social workers, pharmacists, counselors, dietitians, and others.

According to the National Cancer Institute, the best treatment for eosinophilic leukemia remains unclear. As explained in the [Overview](#) [6], eosinophilic leukemia is classified as an MPN. Descriptions of the most common treatment options for an MPN are listed below. Treatment options and recommendations depend on several factors, including the type of leukemia, possible side effects, and the patient's preferences and overall health. Usually, MPNs cannot be

cured, but there is often effective treatment to control the symptoms over the long term. This will be an important part of your care plan. Take time to learn about all of your treatment options and be sure to ask questions about things that are unclear. Also, talk about the goals of each treatment with your doctor and what you can expect while receiving the treatment. Learn more about [making treatment decisions](#) [7].

## Chemotherapy

Chemotherapy is the use of drugs to destroy cancer cells, usually by stopping the cancer cells' ability to grow and divide. Chemotherapy is given by a medical oncologist, a doctor who specializes in treating cancer with medication, or a hematologist, a doctor who specializes in treating blood disorders.

Systemic chemotherapy gets into the bloodstream to reach cancer cells throughout the body. Common ways to give chemotherapy include an intravenous (IV) tube placed into a vein using a needle or in a pill or capsule that is swallowed (orally).

A chemotherapy regimen (schedule) usually consists of a specific number of cycles given over a set period of time. A patient may receive one drug at a time or combinations of different drugs at the same time. Chemotherapy used to treat eosinophilic leukemia includes:

- Hydroxyurea (Droxia, Hydrea)
- Cyclophosphamide (Neosar)
- Corticosteroids such as prednisone (multiple brand names)
- Vincristine (Vincasar)

The side effects of chemotherapy depend on the individual and the dose used, but they can include fatigue, risk of infection, nausea and vomiting, hair loss, loss of appetite, and diarrhea. These side effects usually go away once treatment is finished.

Learn more about the basics of [chemotherapy](#) [8] and [preparing for treatment](#) [9]. The medications used to treat cancer are continually being evaluated. Talking with your doctor is often the best way to learn about the medications prescribed for you, their purpose, and their potential side effects or interactions with other medications. Learn more about your prescriptions by using [searchable drug databases](#) [10].

## **Surgery**

Surgery to remove the spleen, which also makes white blood cells, is called a splenectomy. This operation may be recommended for some patients. A surgical oncologist is a doctor who specializes in treating cancer using surgery. Learn more about the basics of [surgery](#) [11].

## **Immunotherapy**

Immunotherapy, also called biologic therapy, is designed to boost the body's natural defenses to fight the leukemia. It uses materials made either by the body or in a laboratory to improve, target, or restore immune system function. Recombinant interferon alpha (Alferon, Intron A, Infergen, Roferon-A) is a biologic therapy that is occasionally used to treat eosinophilic leukemia. Learn more about the basics of [immunotherapy](#) [12].

## **Targeted therapy**

Targeted therapy is a treatment that targets the leukemia's specific genes, proteins, or the tissue environment that contributes to leukemia growth and survival. This type of treatment blocks the growth and spread of leukemia cells while limiting damage to healthy cells.

Recent studies show that not all cancers have the same targets. To find the most effective treatment, your doctor may run tests to identify the genes, proteins, and other factors involved in your leukemia. This helps doctors better match each patient with the most effective treatment whenever possible. In addition, many research studies are taking place now to find out more about specific molecular targets and new treatments directed at them. Learn more about the basics of [targeted treatments](#) [13].

In many patients with hypereosinophilic syndrome, the leukemia cells have a specific genetic change that makes an abnormal protein called the FIP1-like-1/platelet-derived growth factor alpha. This abnormal protein stimulates the cells to grow.

Imatinib (Gleevec) is a drug that stops enzymes called tyrosine kinases from working and can destroy abnormal eosinophils by blocking the effect of the FIP1-like-1-platelet-derived growth factor alpha protein. Imatinib is more likely to work for patients who have this mutation. However, if a patient does not have this mutation, there is still a possibility that the drug will work. For many patients, imatinib can improve blood counts and symptoms very quickly and for many years if the drug is taken on a regular basis.

The main side effects of imatinib include swelling around the eyes, leg swelling, muscle cramping, headache, fatigue, rash, and joint pain. If this treatment works, it is often continued throughout a person's lifetime. Talk with your doctor about possible side effects for a specific medication and how they can be managed.

## **Stem cell transplantation**

A stem cell transplant is a medical procedure in which bone marrow that contains cancer is replaced by highly specialized cells, called hematopoietic stem cells, that develop into healthy bone marrow. Hematopoietic stem cells are blood-forming cells found both in the bloodstream and in the bone marrow. Today, this procedure is more commonly called a stem cell transplant, rather than bone marrow transplant, because it is the stem cells in the blood that are typically being transplanted, not the actual bone marrow tissue.

Before recommending transplantation, doctors will talk with the patient about the risks of this treatment and consider several other factors, such as the type of leukemia, results of any previous treatment, and the patient's age and general health.

Transplantation is a higher-risk treatment and is not used often for people with eosinophilic leukemia because it is not always effective for this disease and because many patients with this disease are older and the risks of the procedure are higher.

There are two types of stem cell transplantation depending on the source of the replacement blood stem cells: allogeneic (ALLO) and autologous (AUTO). ALLO uses donated stem cells, while AUTO uses the patient's own stem cells. In both types, the goal is to destroy all of the leukemia cells in the marrow, blood, and other parts of the body using high doses of chemotherapy and/or radiation therapy and then allow replacement blood stem cells to create healthy bone marrow. Learn more about the basics of [stem cell and bone marrow transplantation](#) [14].

## **Getting care for symptoms and side effects**

Leukemia and its treatment often cause side effects. In addition to treatment to slow, stop, or eliminate the disease, an important part of care is relieving a person's symptoms and side effects. This approach is called palliative or supportive care, and it includes supporting the patient with his or her physical, emotional, and social needs.

Palliative care is any treatment that focuses on reducing symptoms, improving quality of life, and supporting patients and their families. Any person, regardless of age or type and stage of cancer, may receive palliative care. It works best when palliative care is started as early as needed in the cancer treatment process. People often receive treatment for the leukemia and treatment to ease side effects at the same time. In fact, patients who receive both often have less severe symptoms, better quality of life, and report they are more satisfied with treatment.

Palliative treatments vary widely and often include medication, nutritional changes, relaxation techniques, emotional support, and other therapies. You may also receive palliative treatments similar to those meant to eliminate the leukemia, such as chemotherapy or surgery. Talk with your doctor about the goals of each treatment in the treatment plan.

Palliative care for eosinophilic leukemia may include the following treatments:

- **Steroids.** Steroid medications are used to control some symptoms of eosinophilic leukemia.
- **Radiation therapy.** Radiation therapy is the use of high-energy x-rays or other particles to destroy cancer cells. A doctor who specializes in giving radiation therapy to treat cancer is called a radiation oncologist. The most common type of radiation therapy is called external-beam radiation therapy, which is radiation given from a machine outside the body. When radiation therapy is given using implants, it is called internal radiation therapy or brachytherapy. A radiation therapy regimen (schedule) usually consists of a specific number of treatments given over a set period of time. Side effects from radiation therapy include fatigue, mild skin reactions, upset stomach, and loose bowel movements. Most side effects go away soon after treatment is finished. Learn more about the basics of [radiation therapy](#) [15].

Before treatment begins, talk with your health care team about the possible side effects of your specific treatment plan and palliative care options. And during and after treatment, be sure to tell your doctor or another health care team member if you are experiencing a problem so it can be addressed as quickly as possible. Learn more about [palliative care](#) [16].

## **Refractory eosinophilic leukemia**

If the leukemia continues to worsen despite treatment, it is called refractory leukemia. Patients with this diagnosis are encouraged to talk with doctors who are experienced in treating this type of leukemia, because there can be different opinions about the best treatment plan. Learn more about getting a [second opinion](#) [17] before starting treatment, so you are comfortable with the treatment plan chosen. This discussion may include [clinical trials](#) [3] studying new treatments.

Your doctor may recommend a treatment plan that includes a combination of the treatments discussed above, such as chemotherapy, targeted therapy, immunotherapy, and bone marrow/stem cell transplantation. Palliative care will also be important to help relieve symptoms and side effects.

For most patients, a diagnosis of refractory leukemia is very stressful and, at times, difficult to bear. Patients and their families are encouraged to talk about the way they are feeling with doctors, nurses, social workers, or other members of the health care team. It may also be helpful to talk with other patients, including through a support group.

## **Remission and the chance of recurrence**

A remission is when leukemia cannot be detected in the body and there are no symptoms. This may also be called having “no evidence of disease” or NED.

A remission may be temporary or permanent. This uncertainty causes many people to worry

that the leukemia will come back. While many remissions are permanent, it's important to talk with your doctor about the possibility of the leukemia returning. Understanding your risk of recurrence and the treatment options may help you feel more prepared if the disease does return. Learn more about [coping with the fear of recurrence](#) [18].

If the leukemia does return after the original treatment, it is called recurrent leukemia. When this occurs, a cycle of testing will begin again to learn as much as possible about the recurrence. After testing is done, you and your doctor will talk about your treatment options. Often the treatment plan will include the treatments described above such as chemotherapy, immunotherapy, targeted therapy, or stem cell transplantation, but they may be used in a different combination or given at a different pace. Your doctor may also suggest clinical trials that are studying new ways to treat this type of recurrent leukemia. Whichever treatment plan you choose, palliative care will be important for relieving symptoms and side effects.

People with recurrent leukemia often experience emotions such as disbelief or fear. Patients are encouraged to talk with their health care team about these feelings and ask about support services to help them cope. Learn more about [dealing with cancer recurrence](#) [19].

## **If treatment fails**

Recovery from leukemia is not always possible. If the leukemia cannot be cured or controlled, the disease may be called advanced or terminal.

This diagnosis is stressful, and advanced leukemia is difficult to discuss for many people. However, it is important to have open and honest conversations with your doctor and health care team to express your feelings, preferences, and concerns. The health care team is there to help, and many team members have special skills, experience, and knowledge to support patients and their families. Making sure a person is physically comfortable and free from pain is extremely important.

Patients who have advanced leukemia and who are expected to live less than 6 months may want to consider a type of palliative care called hospice care. Hospice care is designed to provide the best possible quality of life for people who are near the end of life. You and your family are encouraged to think about where you would be most comfortable: at home, in the hospital, or in a hospice environment. Nursing care and special equipment can make staying at home a workable alternative for many families. Learn more about [advanced cancer care planning](#) [20].

After the death of a loved one, many people need support to help them cope with the loss. Learn more about [grief and loss](#) [21].

*The [next section in this guide is About Clinical Trials](#) [3] and it offers more information about research studies that are focused on finding better ways to care for people with cancer. Or, use the menu on the side of your screen to choose another section to continue reading this guide.*

---

## Links

- [1] <http://www.cancer.net/cancer-types/leukemia-eosinophilic/treatment-options>
- [2] <http://www.cancer.net/about-us>
- [3] <http://www.cancer.net/node/18763>
- [4] <http://www.cancer.net/node/18766>
- [5] <http://www.cancer.net/node/25356>
- [6] <http://www.cancer.net/node/18756>
- [7] <http://www.cancer.net/node/24582>
- [8] <http://www.cancer.net/node/24723>
- [9] <http://www.cancer.net/node/24473>
- [10] <http://www.cancer.net/node/25369>
- [11] <http://www.cancer.net/node/30689>
- [12] <http://www.cancer.net/node/24726>
- [13] <http://www.cancer.net/node/24729>
- [14] <http://www.cancer.net/node/24717>
- [15] <http://www.cancer.net/node/24728>
- [16] <http://www.cancer.net/node/31921>
- [17] <http://www.cancer.net/navigating-cancer-care/cancer-basics/cancer-care-team/seeking-second-opinion>
- [18] <http://www.cancer.net/node/25241>
- [19] <http://www.cancer.net/node/25042>
- [20] <http://www.cancer.net/node/25113>
- [21] <http://www.cancer.net/node/25111>