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## **Leukemia - Chronic T-Cell Lymphocytic - Treatment Options**

[1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 06/2014

**ON THIS PAGE:** You will learn about the different ways doctors use to treat people with T-cell 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 proven 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 [Clinical Trials](#) [3] and [Latest Research](#) [4] sections.

### **Treatment overview**

In cancer care, 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].

The goal of treatment for a blood-related cancer is to bring about a remission. A remission is the absence of cancer symptoms, also called "no evidence of disease" or NED. Descriptions of the most common treatment options for T-cell leukemia are listed below, followed by an outline of the treatment options by each subtype. Treatment options and recommendations depend on several factors, including the type and subtype of leukemia, possible side effects, and the patient's preferences and overall health. Your care plan may also include treatment for symptoms and side effects, an important part of cancer care. 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](#) [6].

### **Active surveillance/watch and wait**

This approach means that the doctor closely monitors the patient, and active treatment begins only when the leukemia shows signs of worsening. It may also be called active surveillance or watchful waiting. During active surveillance, the leukemia is monitored using blood and other tests at regularly scheduled checkups to track blood cell counts and look for other signs that the disease is worsening. Studies have shown that, for people with certain disease features, active surveillance is not harmful when compared with starting treatment earlier. Treatment begins when people develop signs that the disease is worsening, such as increasing fatigue, night sweats, enlarged lymph nodes, or decreasing blood cell counts. People with leukemia are encouraged to talk with their doctors about whether their symptoms need treatment, and to consider the benefits of treatment compared with the side effects of treatment.

## **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 is delivered through 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.

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 [chemotherapy](#) [7] and [preparing for treatment](#) [8]. 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](#) [9].

## **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, Roferon-A) is used as a treatment for ATLL. Interferon is a natural protein found in the body that stimulates the immune system. Learn more about [immunotherapy](#) [10].

## **Targeted therapy**

Targeted therapy is a treatment that targets the cancer's specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. This type of treatment blocks the growth and spread of cancer 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. As a result, doctors can 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 [targeted treatments](#) [11].

For T-cell leukemia, a type of targeted therapy called a monoclonal antibody may be used. It is directed against a specific protein on the surface of the leukemia cells. It does not affect cells that don't have that protein, which can kill some of the leukemia cells. Talk with your doctor about possible side effects for a specific medication and how they can be managed.

### **Radiation therapy**

Radiation therapy is the use of x-rays or other high-energy 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 treatment is called external-beam radiation therapy, which is radiation given from a machine outside the body. When radiation treatment 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 [radiation therapy](#) [12].

### **Surgery**

Surgery to remove the spleen, which also makes white blood cells, is called a splenectomy and may be recommended for some patients. A surgical oncologist is a doctor who specializes in treating cancer using surgery. Learn more about [surgery](#) [13].

### **Stem cell transplantation/bone marrow transplantation**

A stem cell transplant is a medical procedure in which bone marrow that contains leukemia 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.

Stem cell transplantation is not a common treatment option for people with T-cell leukemia, because it is not always an effective treatment for this disease and because many patients with this disease are older and the risks of the procedure are higher. 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 patient's age and general health.

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. ALLO transplants are the more common type used for patients with chronic T-cell leukemia.

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 [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 can help a person at any stage of illness. 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, and other therapies. You may also receive palliative treatments similar to those meant to eliminate the leukemia, such as chemotherapy, surgery, and radiation therapy. Talk with your doctor about the goals of each treatment in your treatment plan.

Before treatment begins, talk with your health care team about the possible side effects of your specific treatment plan and supportive 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 is addressed as quickly as possible. Learn more about [palliative care](#) [15].

### **Treatments specific to T-cell leukemia type**

**LGLL.** For LGLL, active surveillance is sometimes recommended during its early stages, with treatment beginning once symptoms develop. Sometimes, low levels of neutrophils cause infections that need antibiotic treatment. When treatment for the disease is needed, LGLL can be treated with drugs that lower the immune system, such as cyclosporine (Gengraf, Neoral, Sandimmune), cyclophosphamide (Neosar), or low-dose methotrexate (multiple brand names). Treatment with oral cyclosporine may be recommended when low levels of neutrophils or platelets cause a major problem. Treatment with growth factors, such as filgrastim (Neupogen), which can stimulate the growth of neutrophils, is sometimes used when infections from low neutrophil counts become a problem. Treatment with combination chemotherapy is sometimes used if the disease is worsening quickly. The combination chemotherapy used is similar to that

used for aggressive lymphoma. Learn more about [non-Hodgkin lymphoma treatment](#) [16].

**T-PLL.** T-PLL may be treated with drugs that include fludarabine (Fludara), chlorambucil (Leukeran), cyclophosphamide, doxorubicin (Adriamycin), vincristine (Vincasar), pentostatin (Nipent), and prednisone (multiple brand names). Alemtuzumab (Campath) is a monoclonal antibody (see Targeted therapy above) that targets a specific protein on the surface of certain T cells and has helped manage T-PLL for some patients.

**Adult T-cell leukemia/lymphoma (ATLL).** ATLL may be treated with zidovudine (Retrovir) and recombinant interferon alpha if it is in the chronic or acute phase. The goal of treatment is to strengthen the immune system and treat the human T-cell leukemia virus (HTLV). The lymphoma phase is usually treated with combination chemotherapy.

**Sezary syndrome.** Treatments for Sezary syndrome may be focused on the skin or may include systemic whole-body treatments. Skin treatments include skin creams; the use of light to kill cancer cells, called phototherapy; and radiation therapy, including total skin electron-beam radiation therapy, which can treat the entire surface of the skin. Systemic treatments for Sezary syndrome include chemotherapy, oral bexarotene (Targretin; a drug that is similar to vitamin A), denileukin diftitox (Ontak), an antibody which helps deliver a drug directly to the leukemia cells, alpha interferon, and sometimes ALLO stem cell transplantation. Alemtuzumab may also be effective for treating this disease. Vorinostat (Zolinza) and romidepsin (Istodax) are also options for cutaneous (skin) T-cell lymphoma after other treatments do not work. The choice of treatment depends on the extent of the disease, as well as other factors.

## **Refractory T-cell 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 or whether further treatment is needed. Learn more about seeking 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 health care team may recommend a treatment plan that includes a combination of the treatments discussed above, such as chemotherapy, immunotherapy, and targeted therapy. Supportive 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 "no evidence of disease" or NED.

A remission can be temporary or permanent. This uncertainty leads to many survivors feeling worried or anxious that the leukemia will come back. While many remissions are permanent, it is important to talk with your doctor about the possibility of the leukemia returning. Understanding the 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 therapies described above such as chemotherapy, immunotherapy, targeted therapy, and 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.

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 a recurrence](#) [19].

### **If treatment fails**

Recovery from leukemia is not always possible. If treatment is not successful, the disease may be called advanced or terminal leukemia.

This diagnosis is stressful, and this 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 six 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 helps explain clinical trials, which are research studies. Use the menu on the side of your screen to select About Clinical Trials, or you can select another section, to continue reading this guide.*

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### **Links:**

[1] <http://www.cancer.net/cancer-types/leukemia-chronic-t-cell-lymphocytic/treatment-options>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancer.net/node/19127>

- [4] <http://www.cancer.net/node/19130>
- [5] <http://www.cancer.net/node/25356>
- [6] <http://www.cancer.net/navigating-cancer-care/how-cancer-treated/making-decisions-about-cancer-treatment>
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