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[Mamta Kalidas et al. JAMA. 2001;286\(8\):895.](#)

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# Leukemia

Cancer is not a single disease, but rather a group of diseases that cause cells to develop abnormally so that they do not function properly. **Leukemia** is one of these diseases—a cancer of the white blood cells. Leukemia starts in the body's bone marrow and can spread to other parts of the body. Both children and adults can get leukemia. The exact causes of leukemia are not known.

An article in the August 22/29, 2001, issue of JAMA reports on chronic myelogenous leukemia research and treatment.

## Types of Leukemia

- **Acute lymphocytic leukemia**—This type of leukemia develops from cells in the bone marrow called **lymphocytes** that grow too rapidly and do not mature properly. It can affect children or adults, but is more common in children (about half of all childhood cases).
- **Chronic lymphocytic leukemia**—This type of leukemia also develops from lymphocytes. The cells in this type of leukemia look mature but some of them are not normal. The cells live too long and cause a buildup of white blood cells. This type occurs almost exclusively in adults and is the most common leukemia found in adults.
- **Acute myelogenous leukemia**—Sometimes called **myeloid** leukemia, this type develops from either of two types of white blood cells (granulocytes or monocytes). It can occur in either children or adults.
- **Chronic myelogenous leukemia**—Another form of myeloid leukemia, the white blood cells in this type (granulocytes or monocytes) develop abnormally. This type of leukemia is very rare in children but is not uncommon in adults.

## SYMPTOMS OF LEUKEMIA

Common symptoms of leukemia may include fever, chills, weakness, and fatigue; loss of appetite or weight; swollen or tender lymph nodes; easy bruising or bleeding; swollen or bleeding gums; night sweats; and bone or joint pain. Symptoms may be mild at first and get worse gradually. Check with your doctor if you develop such symptoms.

## TREATMENTS FOR LEUKEMIA

Both adults and children can be treated for leukemia and many can be cured. Typical treatments include:

- **Chemotherapy**—Drugs given through a vein or by mouth to kill cancer cells; it is the main treatment for nearly all types of leukemia
- **Biological therapies**—Drugs with actions that affect the biology of leukemia; interferon and Gleevec are available for some forms of leukemia; other therapies are in development
- **Radiation therapy**—High-energy rays used to kill cancer cells
- **Bone marrow transplantation**—After high-dose chemotherapy, healthy cells collected from the patient's bone marrow before chemotherapy, or from a donor, are transfused into the patient to replace healthy blood cells killed during chemotherapy

Patients treated for leukemia need periodic follow-up examinations to make sure the cancer does not come back (**relapse**) after successful treatment (**remission**) and to check for short-term and long-term side effects of treatment.

Sources: American Cancer Society, National Cancer Institute, The Leukemia and Lymphoma Society

## FOR MORE INFORMATION

- American Cancer Society  
800/227-2345  
[www.cancer.org](http://www.cancer.org)
- National Cancer Institute  
800/422-6237  
[www.cancernet.nci.nih.gov](http://www.cancernet.nci.nih.gov)
- The Leukemia and Lymphoma Society  
800/955-4572  
[www.leukemia-lymphoma.org](http://www.leukemia-lymphoma.org)

## INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page Index on JAMA's Web site at [www.jama.com](http://www.jama.com). A JAMA Patient Page on lymphoma was published on April 11, 2001.

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