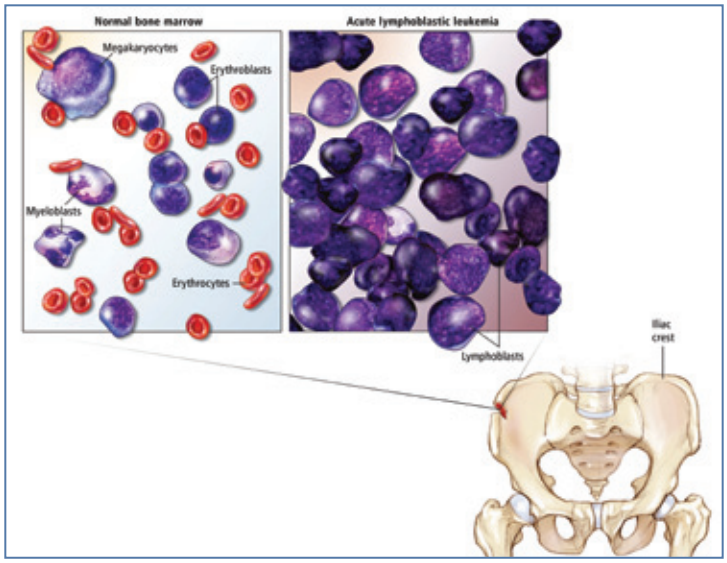
ASCO ANSWERS

ACUTE LYMPHOBLASTIC LEUKEMIA

WHAT IS ACUTE LYMPHOBLASTIC LEUKEMIA?

Acute lymphoblastic leukemia (ALL) is a cancer of the blood that begins in the bone marrow, the spongy, red tissue in the inner part of large bones. ALL is also called acute lymphocytic leukemia and acute lymphoid leukemia. ALL is the most common type of childhood cancer.



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Find additional cancer information at www.cancer.net.

WHAT IS THE FUNCTION OF BONE MARROW?

Bone marrow is the source of a person's blood. Normal immature bone marrow cells mature into one of three types of blood cells: white blood cells (that fight infection), red blood cells (that carry oxygen throughout the body), and platelets (that help blood to clot). In ALL, the bone marrow produces large numbers of abnormal, immature cancerous cells (called lymphoblasts) that do not become mature blood cells. These blasts fill up the bone marrow, prevent normal blood cell production, and build up in the bloodstream. Abnormal lymphoblasts can also spread to other organs and tissues, including the lymph nodes, liver, spleen, ovaries (girls), testicles (boys), spinal fluid, and skin.

WHAT FACTORS DETERMINE HOW ACUTE LYMPHOBLASTIC LEUKEMIA IS TREATED?

When designing a treatment plan, doctors consider a patient's age and white blood cell counts, the results of immunophenotyping (a specialized test that looks at the various proteins expressed by the leukemia cells), the presence of genetic abnormalities in the leukemia cells, and the cancer's response to early treatment.

HOW IS ACUTE LYMPHOBLASTIC LEUKEMIA TREATED?

Chemotherapy, the primary treatment for ALL, is generally done in four phases to cause the cancer to temporarily or permanently go away (called remission) and kill any remaining cancer cells. Several drugs may be used and may be given by mouth, injected into a vein or muscle, or injected into the spinal fluid. Radiation therapy for ALL is typically used only when cancer spreads to the brain, spinal fluid, or a boy's testicles. It is also used in high-risk ALL to help prevent the spread of leukemia to the spinal fluid. Stem cell transplantation is most often used for recurrent ALL.

When making treatment decisions, consider a clinical trial; most children with cancer are treated as part of one. Talk with your child's doctor about all treatment options. The side effects of ALL treatment can often be prevented or managed with the help of your child's health care team.

HOW CAN I HELP MY CHILD OR TEEN COPE WITH ACUTE LYMPHOBLASTIC LEUKEMIA?

Helping your child or teenager understand a cancer diagnosis is a key part of the coping process. Children and adolescents with cancer should be treated at a pediatric cancer center. These centers not only provide access to the latest treatments, they offer age-appropriate programs for social and emotional needs. Encouraging your child and other family members to share their emotions can be helpful in managing the diagnosis, treatment, and healing process.

ASCO Answers is a series of fact sheets produced by the American Society of Clinical Oncology. ASCO is the world's leading professional organization representing doctors of all oncology subspecialties who care for people with cancer.

QUESTIONS TO ASK THE DOCTOR

Regular communication is important in making informed decisions about your child's health care. Consider asking the following questions of your child's doctors:

- What is the diagnosis? What does this mean?
- Can you explain my child's pathology report (laboratory test results) to me?
- Would you explain my child's treatment options?
- What clinical trials are open to my child?
- What treatment plan do you recommend for my child? Why?
- Who is part of the treatment team, and what does each member do?
- How will this treatment affect my child's daily life? Will he or she be able to go to school and perform his or her usual activities?
- If I'm worried about managing the costs related to my child's cancer care, who can help me with these concerns?
- What short-term and long-term side effects may be associated with my child's cancer treatment?
- What are the chances that the ALL will come back after treatment?

Learn more about acute lymphoblastic leukemia

- What follow-up tests will my child need, and how often will he or she need them?
- Where can I find emotional support for my child? For my family?
- Whom do I call for questions or problems?
- Is there anything else I should be asking?

Additional questions to ask the doctor can be found at www.cancer.net/childall.

Cancer.Net
Doctor-Approved Patient Information from ASCO®

For more information, visit ASCO's patient website, www.cancer.net, or call 888-651-3038.

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TERMS TO KNOW

Bone marrow biopsy:
Removal and analysis of a bone marrow sample from the center of bones

Chemotherapy:
The use of drugs to destroy cancer cells

Clinical trial:
A research study that tests a new treatment or drug

Hematologist:
A doctor who specializes in treating blood disorders

Lymph node:
A tiny, bean-shaped organ that fights infection

Pediatric oncologist:
A doctor who specializes in treating children and teens with cancer

Prognosis:
Chance of recovery

Radiation therapy:
The use of high-energy x-rays to destroy cancer cells

Recurrent ALL:
Cancer that comes back after treatment

Refractory ALL:
When the leukemia does not go into remission

Stem cell transplant:
Procedure that replaces diseased bone marrow with healthy stem cells that create new bone marrow or provides stem cells to help the bone marrow recover after high-dose chemotherapy

Tumor:
An abnormal growth of body tissue

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