



Questions and Answers for Patients With Acute Leukemia

What is acute leukemia?

Leukemia is a type of cancer found in blood and bone marrow. Bone marrow is the soft tissue inside bones that manufactures your blood supply. Acute leukemia is the production of immature, abnormal white blood cells. These abnormal white blood cells are not able to fight infection and they impair the ability of the bone marrow to produce red blood cells and platelets.

Leukemia can be acute, characterized by, immature cells, or chronic, in which the cells often appear more mature. Acute leukemias are categorized into three subtypes: 1) acute lymphoblastic leukemia (ALL), 2) acute myeloid leukemia (AML), and 3) acute leukemia of mixed lineage.

What types of doctors are involved in the care of patients with acute leukemia?

Today's optimal cancer care involves several different types of doctors, nurses, and staff to coordinate and collaborate for an accurate diagnosis. They develop the treatment plan for each patient. Members of this team vary depending on the type of cancer.

For acute leukemia, two important specialists on the team are the hematologist-oncologist and the pathologist.

- A hematologist is a doctor who specializes in researching, diagnosing, and treating blood disorders. Hematologist-oncologists are doctors that specialize in the treatment of blood cancers, including acute leukemia.
- A pathologist is a doctor who diagnoses disease. Pathologists evaluate biopsies to detect cancer and perform other tests to categorize your leukemia and help decide treatment.

What type of tests will be done to determine if I have acute leukemia?

Usually specific blood tests, such as a complete blood count (CBC) and a peripheral blood smear, provide clues about your blood. Initial blood tests may reveal abnormal levels of white and red blood cells or platelets. Bone marrow aspirations and bone marrow biopsies may also be necessary to provide more information. Your clinical team will determine the subtype and presence of genetic markers to further refine the diagnosis.

What is a bone marrow aspiration? What is a bone marrow biopsy?

- A bone marrow aspiration is a procedure that removes the semi-solid portion of the contents of the bone marrow cavity.
- A bone marrow biopsy involves extracting a more solid, but small piece of the bone marrow itself.

Both are generally safe procedures, although they can be uncomfortable. Doctors may offer a mild sedative if you are anxious before the procedure. To minimize discomfort they usually numb the surface of the area to be biopsied, which usually involves one of the larger bones such as a hip. In an accredited laboratory, your pathologist is usually able to save these samples for special studies that may be useful later in your treatment journey.

Both procedures are often done together and can be performed in a doctor's office, hospital, or clinic. They usually take about 30 minutes.* From these two specimens many laboratory tests can be performed to accurately diagnose, categorize, guide, and monitor treatment.

In the last decade alone, advancements have emerged to improve what we know about acute leukemia at the genetic and molecular level. While these advancements may improve results for patients, they can

also require more testing throughout the treatment plan (e.g., additional blood draws and/or bone marrow aspirates may be necessary).

How long does it take to get test results?

Depending on the type of evaluation needed, it may be a few hours to several days before you get your results. To determine certain subtypes or genetic and molecular markers, the process can take up to several additional days depending on the complexity of the cancer.**

The College of American Pathologists (CAP) and ASH developed an evidence-based guideline for the diagnostic workup of acute leukemia. The recommendations will help your doctor determine the proper laboratory tests that should be performed.

It can be agonizing to wait for results, but be assured that the pathologist on your care team is using this time to gather essential details that will shape your treatment plan.

What medical information do I need to share with my doctor?

Make sure your doctor enters all important information, such as prior history of cancers, family history of cancer or blood disorders, and your total health history into your health record. He or she should include all results from your physical exam, other imaging studies, and laboratory tests. Your treating doctor should also share all of this information with your pathologist. This will help your clinical team determine the most detailed and accurate diagnosis.

You can ask to have access to your medical records; many health care providers make this easy via patient portals and electronic health records. You should review your records to ensure your information is accurate.

What if I am going to or want to receive treatment at a specialized hospital or cancer center? What do I need to know?

It is common for different hospitals or treatment centers to repeat procedures and tests. In order to avoid additional bone marrow procedures, it might be best to wait and have it performed at the cancer center or specialty hospital if possible. Your primary institution should provide the treatment center with all laboratory results, pathology slides, flow cytometry data, cytogenetic information, and a list of pending tests at the time of the referral. Pending test results should be forwarded as they become available.

More resources:

- Read the [summary of guideline recommendations](#).
- See a snapshot of your [diagnostic journey](#).
- Use this [diagnostic checklist](#) to discuss testing with your doctor.
- Learn more at <http://capatholo.gy/acute-leukemia>.

*American Society of Clinical Oncology (ASCO). Bone Marrow Aspiration and Biopsy. Cancer.Net website. <https://www.cancer.net/navigating-cancer-care/diagnosing-cancer/tests-and-procedures/bone-marrow-aspiration-and-biopsy>. Published December 2016. Accessed December 7, 2017.

**American Society of Clinical Oncology (ASCO). Biopsy: 5 Things Every Patient Should Know. Cancer.Net website. <https://www.cancer.net/blog/2016-05/biopsy-5-things-every-patient-should-know>. Published May, 31, 2016. Accessed December 7, 2017.

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