

Acute Myeloid Leukemia (AML): Tests After Diagnosis



What tests might I have after being diagnosed?

After a diagnosis of acute myeloid leukemia (AML), you will likely need more tests. These tests help your healthcare providers learn more about the leukemia and how to treat it. Some of these tests might also be used to see if treatment is working. Or they can be used later to look for signs that the leukemia might be coming back. If you have any questions about these or other tests, be sure to talk with your healthcare team.

The tests you may have include:

- Spinal tap (lumbar puncture)
- Blood tests
- Bone marrow biopsy
- Imaging tests

Spinal tap (lumbar puncture)

This test is seldom done in people with AML. But it may be used if you have symptoms that might be caused by the spread of AML to the brain and spinal cord.

This procedure takes about 10 to 20 minutes. First, medicines are used to numb a small area on your lower back. A thin needle is then put between the bones of the lower back into the spinal canal. This is the area around the spinal cord. You may feel brief pain or stinging while the needle goes in. A small amount of cerebrospinal fluid (CSF) is removed. CSF is the fluid that cushions the brain and spinal cord. The CSF is sent for testing to check for leukemia cells.

Blood tests

Blood may be taken to test in a lab. Blood tests can measure the numbers of the different types of cells in your blood, such as white blood cells and platelets. The levels of these should go back to normal if treatment is working.

Bone marrow biopsy

A biopsy is a small amount of tissue that's taken and checked in a lab. This procedure is done by taking small amounts of bone marrow. This is the thick, spongy liquid in the center of your bones. Bone marrow samples are usually taken from the back of the hip (pelvic) bone. For the bone marrow aspiration, the skin over the hip is numbed. A long, hollow needle is then put into the hip bone. A syringe is used to pull out a small amount of liquid bone marrow. You may have some brief pain when the marrow is removed. A bone marrow biopsy is usually done just after the aspiration. A small piece of bone marrow is removed with a slightly larger needle that's pushed down into the bone. The biopsy may also cause some brief pain.

Bone marrow biopsy samples can be tested for leukemia cells. This can help see how well treatment is working. Some of the tests may include:

- **Cytogenetics.** For this test, cells are grown in a lab for a week or more. The chromosomes inside the cells are then stained with special dyes and viewed with a microscope. Major problems in the chromosomes can often be seen with this test. But smaller changes may not be visible.
- **Fluorescence in situ hybridization.** This test is another way to look for changes in chromosomes. The cells in the sample are stained with fluorescent dyes that will only attach to certain parts of chromosomes. The cells are then viewed with a microscope using a special light. This test can find

some chromosome changes that can't be seen with standard cytogenetic testing. It's also a quicker test.

- **Polymerase chain reaction.** This is a very sensitive test that can find even very low numbers of leukemia cells in a test sample. It works by increasing the amount of genetic material in a sample so that it can be detected. This test can find small levels of chromosome changes that other tests can't find.

Imaging tests

AML is a blood cancer that typically spreads throughout the body in the blood. It seldom forms tumors. This means imaging tests aren't often needed to help find the extent of the leukemia. But after AML is diagnosed, these tests might be used to look for other problems, such as swollen organs or signs of infection in the body.

Chest X-ray

A chest X-ray uses a small amount of radiation to create an image of tissues inside your body. This test can show if you have enlarged lymph nodes in your chest. It can also be used to show if you have an infection in your lungs. It takes only a few minutes and doesn't hurt.

CT scan

This test uses a series of X-rays and a computer to make detailed images of the inside of your body. A CT scan can show enlarged lymph nodes, a swollen spleen, or pockets of infection in your organs. During the test, you lie still on a table as it slides through the center of the ring-shaped CT scanner. Then the scanner sends a beam of X-rays at your body. You need to hold your breath a few times during the scan. You may be asked to drink a contrast dye after the first set of pictures is taken. This dye can help more clearly show abnormal areas in your body. The contrast dye will pass out of your body over the next day or so in your bowel movements. If you get the dye through an IV in your arm, you may have a feeling of warmth flush through your body for a few minutes. In rare cases, the dye can cause hives or other allergic reactions. Tell the test technician if you don't feel well during the test.

MRI

This test uses large magnets, radio waves, and a computer to create detailed images of tissues inside the body. This test may be used to see if leukemia has spread to the brain or spinal cord. You may be injected with a contrast dye before the scan. For this test, you lie still on a table as it passes through a long, tube-like scanner. More than one set of images may be taken. Each set may take up to 15 minutes. This test may last an hour or more. Tell the technician if you have a fear of closed-in spaces (claustrophobia). You can be given medicine to help you relax or make you sleepy before the test.

Ultrasound

This test uses sound waves and a computer to create images of tissues inside the body. The test can help show if your organs, such as your spleen, are swollen. The test is painless and takes only a few minutes. You lie on a table. A gel is put on your skin over the area to be examined. A wand called a transducer is rubbed over the skin. The images show up on a computer screen.

Working with your healthcare provider

Your healthcare provider will talk with you about which tests you'll have. Make sure to get ready for the tests as instructed. Ask questions and talk about any concerns you have.

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