Chronic Lymphocytic Leukemia (CLL): Tests After Diagnosis

What tests might I have after being diagnosed?

After a diagnosis of CLL, you'll likely need some tests. These help your healthcare providers learn more about the cancer and how to treat it. Some of these tests can also be used to help show how well 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, talk with your healthcare team.

The tests you might need include:

- Imaging tests
- Blood tests
- Biopsies

Imaging tests

Imaging tests might be done if the healthcare provider believes there may be a problem, such as infection or a swollen spleen. These tests may include the following.

CT scan

A CT scan takes X-ray pictures of the inside of your body from many different angles. It takes longer than an X-ray, but it gives more detailed images than an X-ray. A CT scan can show enlarged lymph nodes and organs, pockets of infection in your organs, and large clusters of leukemia cells. It can be used to measure lymph nodes to compare the size in the future.

To have the scan, you lie still on a table as it slides through the center of the ring-shaped CT scanner. The scanner directs a beam of X-rays at your body. A computer uses the data from the X-rays to make detailed pictures. You may be asked to hold your breath 1 or more times during the scan. You might be asked to drink a contrast solution called a dye after the first set of pictures is taken. The dye may be put into your blood by IV (intravenously) through a vein in your arm, instead of drinking it. IV contrast dye may cause a warm feeling all over your body. In rare cases, it can also cause hives or other allergic reactions. Let your healthcare provider know about any reactions you have or if you've had any reactions in the past.

Blood tests

Blood tests are part of diagnosing CLL. But they will often be done after a diagnosis as well. These tests measure your blood cell levels and check things, such as how well your liver and kidneys are working. The special kinds of testing done to look at leukemia cells in the blood are noted below.

Biopsies

A biopsy is a small amount of tissue that’s taken and checked in a lab. There are several types of biopsies.

Bone marrow aspiration or biopsy

The healthcare provider takes a small amount of bone marrow fluid (aspiration), solid bone marrow tissue (core biopsy), or both. The fluid and bone marrow are tested for the number, size, and maturity of blood cells and abnormal cells. Other tests can also be done on these cells.

Bone marrow aspiration and biopsy are sometimes done before starting treatment to learn more about the CLL cells. They may be repeated during or after treatment to see if it’s working. Bone marrow samples are often

taken from the back of the hip (pelvic) bone. For the bone marrow aspiration, the provider numbs the skin over the hip and puts a long, hollow needle into the hip bone. A small amount of liquid bone marrow is removed. Even with the numbing, you may have some brief pain when the marrow is removed. A bone marrow biopsy is often done just after the aspiration. A small piece of bone and marrow is removed with a slightly larger needle that's pushed down into the bone. The biopsy may also cause some brief pain.

Lymph node biopsy

Part or all of a lymph node might be removed to be tested. This isn't always done in people with CLL. But it might be needed if your healthcare provider wants to know if an enlarged lymph node contains leukemia cells.

How blood or bone marrow is tested

Tests can be done on blood or bone marrow samples to diagnose leukemia. They're also used to guide treatment decisions. These tests can also show how quickly the CLL cells are likely to grow. Later, they can give some ideas about how well treatment is working. The tests include:

- **Flow cytometry and immunohistochemistry.** These tests can be done on blood, bone marrow, or other biopsy samples. They look for certain proteins on the surface of the leukemia cells. This is called immunophenotyping.
- **Cytogenetics.** These tests look for changes in the chromosomes of cells in samples of blood, bone marrow, or lymph nodes. For instance, in some cases of CLL, part of a chromosome may be missing (called a deletion). Or there may be too many copies of a chromosome. This test often takes a few weeks. This is because time is needed to grow the cells in the lab.
- **Fluorescent in situ hybridization (FISH).** This is a type of cytogenetic test. It uses special fluorescent dyes that only attach to certain parts of chromosomes. It can be used to look for changes in chromosomes of cells in blood or bone marrow samples. The FISH test is very accurate and gives results more quickly than standard cytogenetic tests.

Working with your healthcare provider

Your healthcare provider will talk with you about which tests you'll have and what they're for. Follow your healthcare provider's directions to get ready for the tests. Ask questions and talk about any concerns you have.