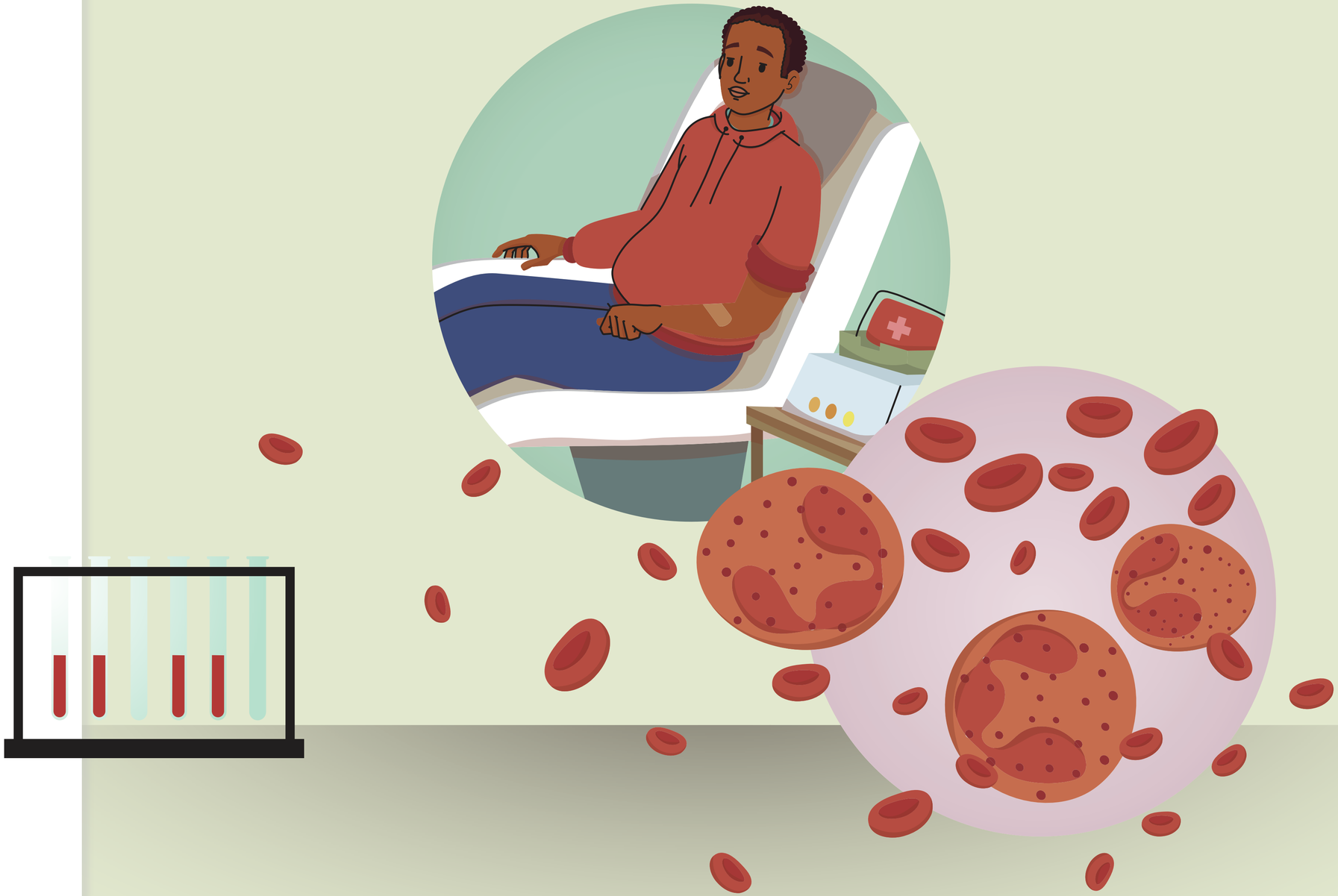
A CLL EMPOWERMENT GUIDE

Examination types



CLL empowerment

The process of diagnosing Chronic Lymphocytic Leukemia (CLL) usually begins with **a blood test**. You may have a blood test as a routine examination, or your doctor might order one as part of an investigation. If your physician suspects CLL, they will advise you to visit a hematologist. A hematologist is a doctor who specializes in blood disorders and blood cancers. People with CLL may undertake certain medical tests:

- for confirming the diagnosis of CLL
- for monitoring CLL
- for understanding the likely disease course
- before starting treatment

This leaflet will describe the most common types of examinations that you could be asked to undertake. Below you will find a list followed by a description of these examinations. Some of them are necessary for confirming the diagnosis of CLL, including:

- sharing your medical history
- undergoing a physical examination
- blood sampling for complete blood count or immunophenotyping

Other tests are performed when advised by your physician, for example:

- blood sampling for biomarker testing
- bone marrow examination
- imaging tests

MEDICAL HISTORY AND PHYSICAL EXAMINATION

An accurate medical history helps your physician gain a better understanding of your health status. Your physician may ask you about current symptoms, prior diseases, medication received for chronic illnesses, surgical history, and the medical history of close family members.

After receiving the medical history, your physician will also undertake a physical examination. This includes a careful examination of your whole body for any possible medical signs or symptoms. The physical examination should also be performed when monitoring CLL, as it provides useful information that can indicate treatment is needed.

COMPLETE BLOOD COUNT

A complete blood count is a routine test that measures the different blood cells, namely red blood cells, white blood cells, and platelets. It involves taking a blood sample from a vein in your arm and sending it to the laboratory for testing.

In CLL a type of white blood cells called “lymphocytes’ are affected (see “CLL diagnosis” leaflet). Lymphocytes are part of the immune system and help our body fight against infections. CLL can cause the production of high numbers of lymphocytes which are not functioning properly. When performing a complete blood count, we can count these irregular lymphocytes. In more advanced CLL, a complete blood count can also show decreased numbers of red blood cells (anemia) and platelets.

All of the above, cause some of the symptoms found in people with CLL, including frequent infections, tiredness, shortness of breath, pale skin, bleeding, and bruising.

Your physician may also use a small blood sample to examine it under the microscope. This blood sample is either taken from the blood you have already given for a complete blood sample or collected by a finger prick. Your physician will regularly ask you for a complete blood count. It is the main medical test for assessing CLL's course and shows whether or not to start treatment.

IMMUNOPHENOTYPING

Immunophenotyping is performed in the laboratory and analyzes a blood sample. The term "immune-pheno-typing" is comprised of three words:

the word "immuno", which refers to elements of the body's immune system that are used in the process

the Greek-origin "phaino", which means "to appear", as this procedure identifies elements which appear on the CLL cells

the word "type", which refers to a category of things with common traits

Therefore, immunophenotyping uses elements of the immune system to identify common traits which appearon CLL cells. This test is used to establish the diagnosis. In this way, the CLL cells can be identified and be distinguished from the normal cells and other blood cancers.

BIOMARKER TESTING

Your physician may recommend testing the CLL cells for specific traits, also known as biomarkers. The development of CLL widely varies. People living with CLL have different signs and symptoms and respond differently to available treatments. These differences can partly be predicted by examining biomarkers.

In CLL, many biomarkers have been identified and play two important roles:

- prognostic, by giving information on the likely course of the disease
- predictive, by helping to identify which treatment you are likely to benefit from the mostimaging tests

Biomarker testing in CLL is easily performed with blood sampling and analysis in the laboratory. These medical tests are optional and performed if your physician needs more information before starting your treatment.

BONE MARROW EXAMINATION

Bone marrow is a spongy substance found in the center of bones. It is responsible for the production and maturation of the blood cells, namely red blood cells, white blood cells, and platelets. Once developed, the cells leave the bone marrow and move into the blood stream. By examining the bone marrow, the physician can acquire useful information about the marrow's function and how much its production of blood cells has been affected by CLL.

In CLL, bone marrow examination is not necessary for the initial diagnosis. Your physician may ask you to undergo this examination if there are indications for further assessment.

There are two types of bone marrow examination:

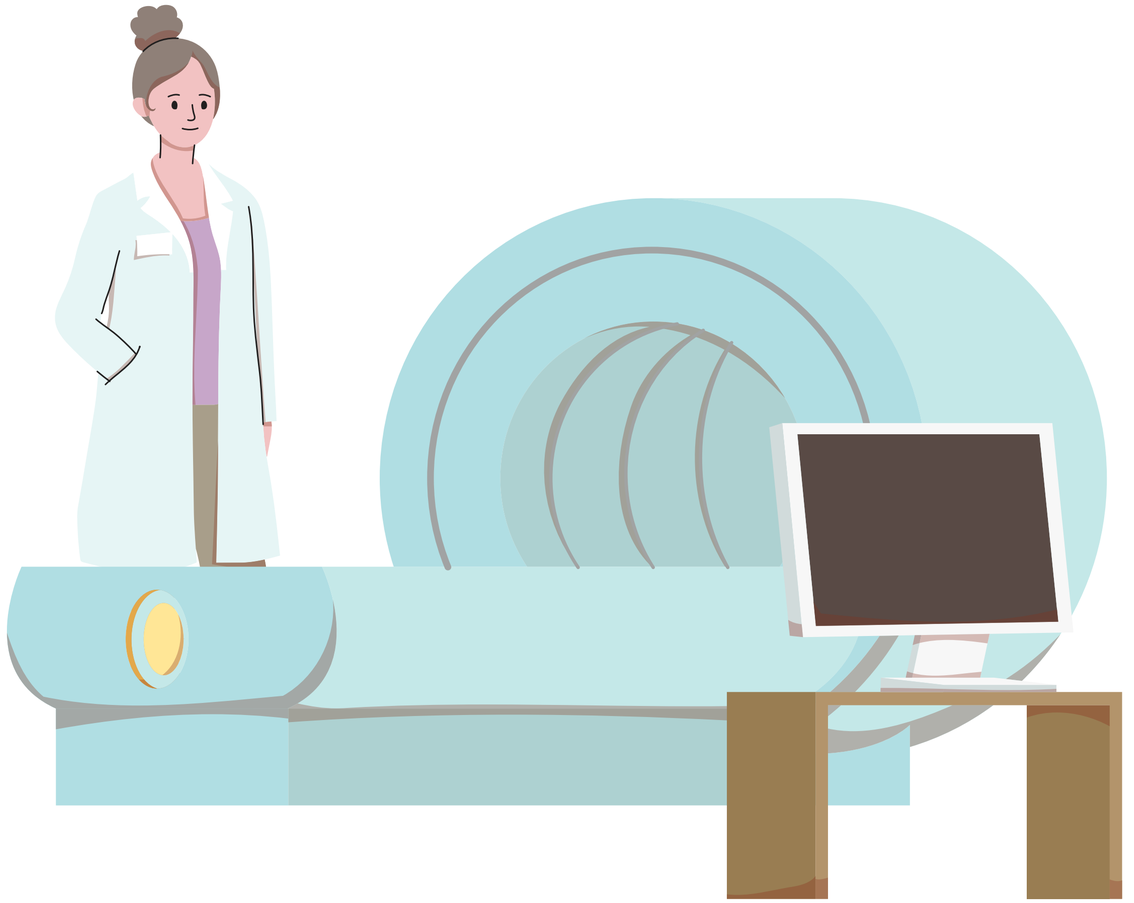
- one that involves drawing a sample of the liquid portion of bone marrow (bone marrow aspiration)
- a second one which involves the removal of a very small piece of the solid part of the bone marrow (bone marrow biopsy)

The bone marrow samples are usually taken from the back of the hip bone and sent to the laboratory for testing. The bone marrow examination may be done in the hematologist's office or clinic under local anesthetic. The anesthetic is given as an injection under the skin and you may feel a mild stinging or burning sensation. Even with the anesthetic, most people still experience some pain briefly when the bone marrow is removed.
It is important to inform your physician beforehand about any medication you might be taking, especially blood thinners.

IMAGING TEXTS

Imaging with the use of CT or MRI is not generally recommended in people with no symptoms.
If you have some symptoms, for example if you have difficulty breathing, your physician may ask you to undertake a CT scan in order to exclude any disorders (e.g., lung infection) due to CLL. MRI, chest radiography or an abdominal ultrasound may be considered as alternatives if a CT scan is not recommended. In some cases, your physician may ask you to undertake a PET/CT scan.

Your physician may also ask you to undertake a CT scan before treatment. It is useful for them to evaluate your current health status in order to choose the appropriate treatment and be ready for the next steps.



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CLL empowerment