
Signs and Symptoms of Chronic Myelomonocytic Leukemia

Overall, the signs and symptoms of leukemia can affect men or women and do not differ by sex or gender.

The most common sign of chronic myelomonocytic leukemia (CMML) is having too many monocytes (a type of white blood cell), which is seen on a blood test.

Having too many monocytes also causes many of the symptoms of CMML. These monocytes can settle in the spleen or liver, enlarging these organs.

- An enlarged spleen (called **splenomegaly**) can cause pain in the upper left part of the belly (abdomen). It can also cause people to notice they feel full too fast when they eat.
 - If the liver gets too big (called **hepatomegaly**), it causes discomfort in the upper right part of the abdomen.
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Hyperlinks

Tests for Chronic Myelomonocytic Leukemia (CMML)

The [complete blood count](#)¹ (CBC) measures levels of different cells in the blood, such as red blood cells, white blood cells, and platelets. The CBC is often done with a differential count (or “diff”), which is a count of the different types of white blood cells in the blood sample. In a **blood smear**, some of the blood is put on a slide to see how the cells look under the microscope.

People with CMML have higher numbers of monocytes, (at least 500 per mm³), which are a type of white blood cell. They also often have low numbers of other white blood cells, red blood cells and/or blood platelets.

Some people with CMML have **monoblasts** (sometimes just called '**blasts**') in their blood. Monoblasts are very early forms of monocytes. Normally, these cells are only found in the bone marrow. It's never normal to see blasts in the blood, and it's often a sign of a bone marrow problem.

Blood cells in people with CMML may also have certain changes in size, shape, or other features that can be seen with a microscope.

Other blood tests may be done to check for other possible causes of low blood counts, such as low levels of vitamin B12 and folate. Tests may also be done to look for other causes of a high white blood cell count, such as an infection.

Bone marrow tests

Samples of bone marrow are taken during a **bone marrow aspiration and biopsy** for testing. The samples are usually taken from the back of the pelvic (hip) bone. These tests are used to diagnose and classify the type of blood cancer you have. They may also be repeated later on to see if treatment is working or to see if the CMML is transforming into an acute leukemia.

For **bone marrow aspiration**, you lie flat on a table (either on your side or on your belly). After cleaning the skin over the hip, the surface of the bone is numbed with local anesthetic. A very thin needle is used to put in the numbing drug, which may cause a brief stinging or burning sensation. A long, hollow needle is then put into the bone, and a syringe is used to suck out a small amount of liquid bone marrow. Even with the

A **pathologist**(a doctor trained in the diagnosis of diseases using lab tests) examines the bone marrow samples with a microscope. Other doctors may look at the samples too.

Looking at the cells in the bone marrow

Stages of chronic myelomonocytic leukemia (CMML)

Most types of cancer can be described in stages, based on how far the cancer has spread in the body. But CMML is a disease of the bone marrow and blood, so it has already spread throughout the body when it's first found. Instead, CMML is split into 2 stages based on the percentage of blasts (very immature cells) in the blood and bone marrow:

- **CMML-1:** Blasts make up less than 5% of white cells in the blood and less than 10% of the cells in the bone marrow.
- **CMML-2:** Blasts make up 5% to 19% of the white cells in the blood, or they make up 10% to 19% of the cells in the bone marrow.

Risk groups for chronic myelomonocytic leukemia (CMML)

When determining the outlook and treatment options for people with CMML, different factors are used to put people into risk groups. Several different systems can be used to classify CMML in this way. Some of the factors that these systems consider include:

- A person's age
- Their WBC count
- The percentage of WBCs that are blasts
- Their hemoglobin level (a protein in red blood cells), and how often they need red blood cell transfusions
- Their blood platelet count
- If the leukemia cells have certain gene changes

(PDQ®)—Health Professional Version. 2022. Accessed at <https://www.cancer.gov/types/myeloproliferative/hp/mds-mpd-treatment-pdq> on May 20, 2024.

National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines): Myelodysplastic Syndromes. Version 1.2024. Accessed at <https://www.nccn.org> on May 18, 2024.

Padron E, Gurbuxani S. Chronic myelomonocytic leukemia: Clinical features, evaluation, and diagnosis. UpToDate. 2024. Accessed at <https://www.uptodate.com/contents/chronic-myelomonocytic-leukemia-clinical-features-evaluation-and-diagnosis> on May 18, 2024.

Padron E. Chronic myelomonocytic leukemia: Management and prognosis. UpToDate. 2024. Accessed at <https://www.uptodate.com/contents/chronic-myelomonocytic-leukemia-management-and-prognosis> on May 18, 2024.

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Survival Rates for Chronic Myelomonocytic Leukemia

There is more than one way to describe a person's likely prognosis (outlook). The statistics below talk about median survival. Median survival is the amount of time for half the patients in a group to die. This is a middle value -- half the patients live longer than this, and half do not live this long.

In order to get median survival estimates, doctors have to look at people who were treated several years ago. Improvements in treatment since then may result in a more favorable outlook for people now being diagnosed with chronic myelomonocytic leukemia (CMML).

Median survival estimates are based on previous outcomes of large numbers of people who had the disease, but they cannot predict what will happen in any particular person's case. Many other factors may affect a person's outlook, such as their age and overall health. Your doctor can tell you how the numbers below may apply to you, as they are familiar with the aspects of your particular situation.

Patients with CMML-1 tend to live longer than those with CMML-2. In one study of CMML patients diagnosed between 1975 and 2005, the median survival times with CMML-1 and CMML-2 were 20 months and 15 months, respectively. However, some patients lived much longer. About 20% of CMML-1 patients and about 10% of CMML-2 patients survived longer than 5 years. Also, patients with CMML-2 are more likely to go on to develop acute leukemia than patients with CMML-1. In the same study, 18% of CMML-1 patients and 63% of CMML-2 patients developed acute myeloid leukemia within 5 years of their CMML diagnosis.

In addition to the type of CMML, other factors may be helpful in predicting survival. These include blood cell counts, certain chromosome changes, and blood levels of LDH (lactate dehydrogenase).

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Questions to Ask Your Doctor About Chronic Myelomonocytic Leukemia

It is important to have frank, open, and honest discussions with your doctor about your condition. Your doctor and the rest of the health care team want to answer all of your questions. For instance, consider these questions:

- What are my treatment choices?
- Which treatment, if any, do you recommend, and why?
- Do the treatments you recommend have side effects?
- How can I help reduce the treatment side effects I might have?
- What is the outlook for my survival?
- Should I get a second opinion, and who do you recommend as an expert in this disease?

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