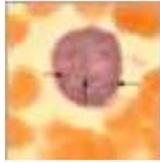


Chronic lymphocytic leukemia

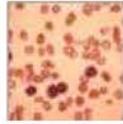
Illustrations



[Bone marrow aspiration](#)



[Auer rods](#)



[Chronic lymphocytic leukemia - microscopic view](#)



[Antibodies](#)

Alternative names [Return to top](#)

CLL

Definition [Return to top](#)

Chronic lymphocytic leukemia is a [malignancy](#) (cancer) of the white blood cells (lymphocytes) characterized by a slow, progressive increase of these cells in the blood and the bone marrow.

Causes, incidence, and risk factors [Return to top](#)

Chronic lymphocytic leukemia (CLL) affects the B lymphocytes and causes [immunosuppression](#), failure of the bone marrow and invasion of malignant (cancerous) cells into organs.

Usually the symptoms develop gradually. The incidence is about 2 per 100,000 and increases with age. 90% of cases are found in people over 50 years old. Many cases are detected by routine blood tests in people with no symptoms. The cause of CLL is unknown. No relationship to radiation, carcinogenic chemicals or viruses has been determined. The disease is more common in Jewish people of Russian or Eastern European descent and is uncommon in Asia.

Symptoms [Return to top](#)

- [enlarged lymph nodes](#), liver or spleen
- [fatigue](#)
- abnormal [bruising](#) (occurs late in the disease)
- [sweating](#), excessive -- night sweats
- [loss of appetite](#)
- [weight loss](#)

Signs and tests [Return to top](#)

- elevated [white blood cell count](#) in a [CBC](#)
- flow cytometry revealing an abnormal population of white blood cells.
- bone marrow [aspiration](#)

This disease may also alter the results of serum protein electrophoresis.

Treatment [Return to top](#)

Early stage disease often requires no specific treatment (since early treatment does not improve survival), but close observation is important. [Chemotherapy](#) may be needed if a patient develops [fatigue](#), [anemia](#), [thrombocytopenia](#) or [enlarged lymph nodes](#) that are troublesome.

The anti-cancer medicine (chemotherapy) used first is usually fludarabine. Other medicines that may be used in this disease include chlorambucil (Leukeran) and cyclophosphamide (Cytosan).

Recently, the drug alemtuzumab (Campath), which is an antibody against the surface of CLL cells, has been approved for treatment of patients with CLL who have failed fludarabine. Another antibody drug, rituximab (Rituxan), may also be used. Rarely, radiation may be used for enlarged lymph nodes. Blood transfusions or platelet transfusions may be required.

Expectations (prognosis) [Return to top](#)

The prognosis depends on the stage of the disease. Half of patients diagnosed in the earliest stages of the disease live more than 12 years. On the other hand, if CLL has reached an advanced stage, about half of patients die within 2 years.

Complications [Return to top](#)

- Increased risk of second malignancies
- Side effects of [chemotherapy](#)
- Bleeding from low platelets
- Fatigue from anemia
- [Autoimmune hemolytic anemia](#)
- [Idiopathic thrombocytopenic purpura](#) (ITP)
- Hypogammaglobulinemia (reduced levels of [antibodies](#)) with increased susceptibility to infection