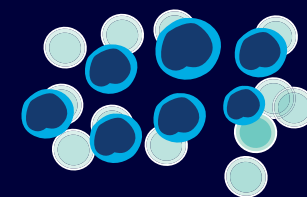


References:

1. Canadian Cancer Society. Chronic lymphocytic leukemia. Available at <http://www.cancer.ca/en/cancer-information/cancer-type/leukemia-chronic-lymphocytic-cll/chronic-lymphocytic-leukemia/?region=bc>, Accessed on August 25, 2016.
2. Owen C *et al.* New treatment perspectives in CLL: using disease and patient characteristics to optimize outcomes. *New Evidence in Oncology* October 2015: 78–85.
3. Lymphoma Canada. Chronic lymphocytic leukemia. Available at <http://www.lymphoma.ca/lymphoma/lymphoma-101/types-lymphoma/cll>, Accessed on August 22, 2016.
4. Leukemia & Lymphoma Society of Canada. Chronic lymphocytic leukemia. Available at <http://www.llscanada.org/leukemia/chronic-lymphocytic-leukemia?src1=20032&src2=>, Accessed on August 22, 2016.
5. Krause DS *et al.* A hostel for the hostile: the bone marrow niche in hematologic neoplasms. *Haematologica* 2015;100(11):1376–1387.
6. Mayo Clinic. Chronic lymphocytic leukemia. Available at <http://www.mayoclinic.org/diseases-conditions/chronic-lymphocytic-leukemia/symptoms-causes/dxc-20200674>, Accessed on August 22, 2016.
7. Lymphoma Canada. Diagnosing CLL. Available at <https://www.lymphoma.ca/lymphoma/cll/diagnosing-cll>, Accessed on August 22, 2016.
8. Merriam-Webster. DNA. Available at <http://www.merriam-webster.com/dictionary/DNA>, Accessed on August 26, 2016.
9. National Human Genome Research Institute. Chromosomes. Available at <https://www.genome.gov/26524120/chromosomes-fact-sheet/>, Accessed on August 22, 2016.
10. Leukemia & Lymphoma Society of Canada. Types of CLL treatment. Available at <http://www.llscanada.org/leukemia/chronic-lymphocytic-leukemia/treatment>, Accessed on August 22, 2016.
11. Canadian Cancer Society. Treatments for chronic lymphocytic leukemia. Available at <http://www.cancer.ca/en/cancer-information/cancer-type/leukemia-chronic-lymphocytic-cll/treatment/?region=sk>, Accessed on August 22, 2016.

Understanding Chronic Lymphocytic Leukemia (CLL)



IN 2010,
2,195

CANADIANS
WERE DIAGNOSED WITH CLL¹

STRIKES IN THE GOLDEN YEARS –
median age of diagnosis is

72 where
75% of these patients are
65 years and older²

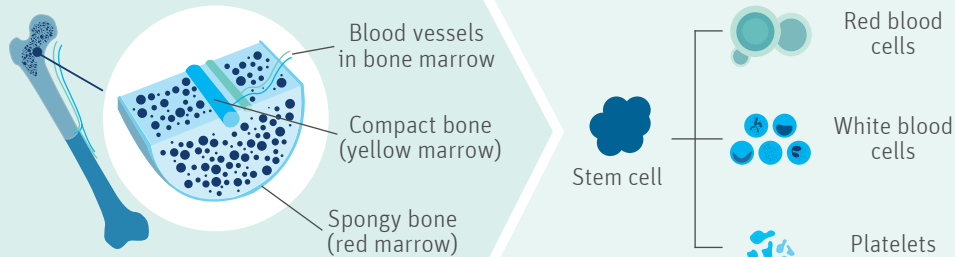
IN 2010,
the overall age-standardized
incidence for CLL
in Canada was:

 **6.6/100,000**

 **3.3/100,000**

What is CLL and how does it develop?³⁻⁵

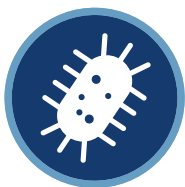
CLL is a type of leukemia (blood cancer) that starts in the bone marrow and can progress slowly or quickly depending on the form it takes.



Bone marrow anatomy. The bone marrow is composed of different types of bone, blood vessels and red and yellow marrow. Stem cells reside in the red marrow and give rise to platelets, white blood cells and red blood cells.

The lymphocytes (type of white blood cell) in CLL don't work as they should and therefore don't fight infection very well. These cells are called leukemic or CLL cells.

Over time, the CLL cells can accumulate in the bone marrow and blood and can lower the amount of healthy blood cells which can lead to:



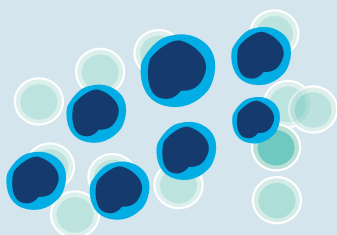
Increase in infections



Anemia



Easy bruising or bleeding



CLL is the most common type of leukemia in adults.^{3,4}

What causes CLL?^{6,7}

The cause of CLL is still unknown. Although doctors and researchers know that something happens to cause a genetic mutation in the DNA of blood-forming cells.

Our DNA, a substance that carries genetic information, is packed into structures called chromosomes. Humans normally have 23 pairs of chromosomes, numbered from 1 to 22 plus the sex chromosome.^{8,9}

Patients with CLL may have genetic mutations or chromosomal abnormalities, which can affect prognosis (the course of a disease).

How is CLL treated?^{10,11}

There currently is no cure for CLL but there are treatments to help manage it. The goals of treatment are to slow down the growth of CLL cells, provide periods of remission and help the patient feel better.

Treatment options include:



Watchful waiting



Chemotherapy



Targeted therapy



Surgery



Radiation therapy



Stem cell transplant

Choice of therapy depends on age, physical exam and lab test results, and overall health.