Chronic Lymphocytic Leukaemia (CLL)

**What is CLL?**

CLL is generally a slow growing blood cancer that originates from B cells, a type of white blood cell (lymphocyte). B cells are part of the immune system and play an important role in fighting infection in the body. CLL is the result of a malfunction of B cells which causes them to become malignant and reproduce at an abnormal rate.

In malignant B cells there is a malfunction in the cellular signalling pathways which control cell proliferation, adhesion, migration and survival. This causes the malignant B cells to move to and remain within the protective environment of the lymphatic system, such as bone marrow and the lymph nodes. In these environments they build up in large numbers as they continue to proliferate and survive.

**Signs and Symptoms**

For some people, CLL is asymptomatic. However, possible signs of CLL may include:

- Night sweats
- Swollen lymph nodes
- Weight loss
- Pain or ‘fullness’ in the stomach, caused by enlarged spleen
- Excessive bruising, frequent or severe nosebleeds, bleeding gums
- Fatigue, weakness, shortness of breath
- Higher risk of infections

**Prevalence and Patients**

The incidence rate in the Western world is approx. four cases a year per 100,000 people. CLL is more prevalent in men than women. Overall, the period for which 78% of CLL patients will survive after diagnosis is 5 Years.

For more information on disease burden and prevalence please visit [www.disease lenses.com](http://www.disease lenses.com).

**Diagnosis**

Diagnosis and staging of CLL may include the following examinations:

- Physical examination
- Genetic tests
- Imaging tests (X-rays or CT scans)
- Biopsy
- Blood and other laboratory tests

**Chromosomal Abnormalities & CLL**

>80% of CLL patients have some form of chromosomal abnormality. Many of these patients - for instance those with genomic alterations called del17p or del11q - often have poorer response rates and higher mortality rates than patients with no chromosomal abnormalities.

The median predicted survival for patients with the del17p mutation is just two to three years and for patients with the 11q mutation is six to seven years - significantly less than nine to ten year median predicted survival for CLL patients without abnormalities.

**Staging**

The Binet staging system is most often used in Europe for CLL.

- **Binet stage A**
  - Fewer than three areas of enlarged lymph nodes without anaemia or thrombocytopenia

- **Binet stage B**
  - Three or more areas of enlarged lymph nodes

- **Binet stage C**
  - Enlarged lymph nodes or spleen, low red blood cell count (anaemia) and low platelet count (thrombocytopenia)

**Treatment**

Patients commonly receive multiple treatments over the course of their disease:

- Chemo-immunotherapy
- Biologic therapy
- Stem cell transplant therapy
- Targeted non-chemo agents

CLL can be a challenging disease to treat. Many patients will relapse or become resistant to treatment. CLL treatments have improved in recent years. Many promising new therapies are currently being investigated.

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*All medicines and therapies have side effects; patients should talk to their doctors about which therapies are appropriate for them.*
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References

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