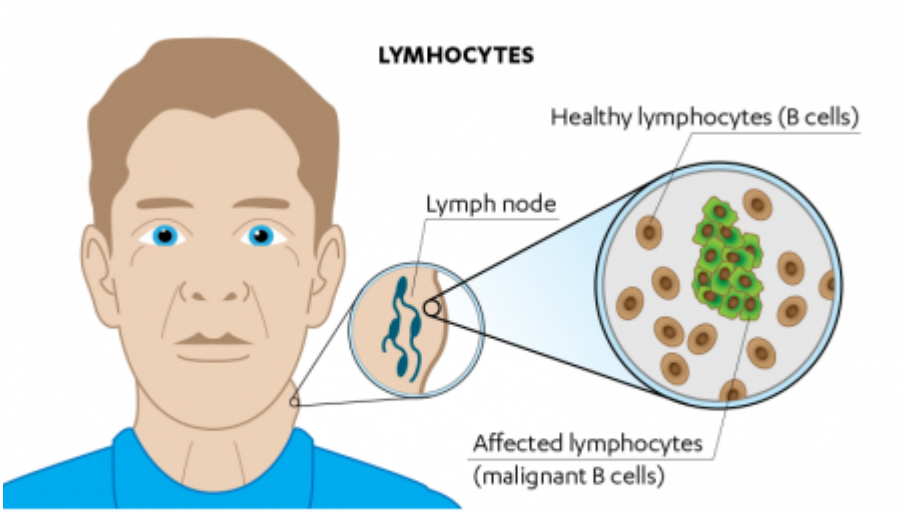
WHAT IS CLL?

CLL is the most common type of leukemia in the western world and usually affects more men than women[2].

The typical age for CLL diagnosis ranges from **67 to 72 years old[3].** CLL is not contagious, nor hereditary, although there are some familial forms. CLL is thought of as a relatively slow-growing blood cancer. However, it can become more aggressive (or progress) and thereby become harder to treat. This can happen quickly or slowly, and can vary from person to person[3, 5]. **Chronic lymphocytic leukemia (CLL)** and **small cell lymphocytic lymphoma (SLL)** are often considered to be one disease because they are similar regarding incidence, signs and symptoms, genetic features, disease progression and treatment. The leukemic lymphocytes and tissue abnormalities that are observed in people with SLL are identical to those observed in patients with CLL. The difference between CLL and SLL is that patients with SLL do not have high numbers of white blood cells.

CLL begins in lymphocytes. What are lymphocytes?



As malignant B cells build up and take up space, there is not enough room for healthy new cells to live and do their job.

It's called lymphocytic because it starts in the white blood cells known as lymphocytes[3]. These are found in both the bone marrow and the blood. CLL develops when a type of lymphocyte multiplies uncontrollably; it begins in a type of lymphocyte called a B cell[3]. Normally, healthy B cells are relatively short-lived. They alert the immune system to infectious agents such as bacteria or viruses so that they can be removed[1], this means healthy lymphocytes help your body to fight infections. In people with CLL, affected B cells do not work properly and multiply uncontrollably[3]; they are known as 'malignant' B cells. Malignant B cells bypass mechanisms that control how long cells live in the body and how often they multiply, resulting in a build-up of malignant B cells[3]. They may build up in the lymph nodes, bone marrow, the bloodstream and other organs such as the spleen[3, 4]. When they build up in the bone marrow, they can accumulate and disrupt the production of other normal blood cells:

- red blood cells that carry oxygen = low levels of red blood cells may lead to anemia, leaving people feeling tired and weak
- white blood cells that help fight infection = low numbers of white blood cells make it hard for the body to fight infection
- platelets that help the blood to clot = low blood platelet counts can result in increased bleeding and bruising

Malignant B cells may also gather in large numbers in other organs such as the liver and spleen, causing swelling and abdominal pain.
Malignant B cells are carried through the lymphatic system along with healthy lymphocytes.

What does the lymphatic system do?

The lymphatic system is an important part of our immune system. It is involved in the fight against bacteria and other infections. It also destroys old cells or abnormal cells, such as cancer cells. The lymphatic system consists of a series of thin tubes that run throughout the body[1].

- The tubes carry lymph – a clear fluid containing a high number of lymphocytes
- Along the lymph vessels are small bean-shaped lymph glands, also known as lymph nodes
- Healthy lymphocytes in your lymph nodes come into contact with various infectious agents and alert your immune system to respond and remove them[1]

PHCZ/IMB/0717/0001