

# UNDERSTANDING LYMPHOMA

## The lymphatic system

The lymphatic system is part of the immune system, playing a major role in the body's defence against infection and cancer. The lymph nodes, which are filled with lymphocytes, act as important filtering stations, cleaning the lymph fluid as it passes through them. Here bacteria, viruses and other harmful substances are removed and destroyed. Lymph nodes are normally less than 1cm long but when fighting infection they become enlarged. Nodes are located throughout the body and can usually be felt in the armpits, groin and neck. There are others that can't be felt in the abdomen, pelvis and chest.

## What is lymphoma?

Lymphoma is the general term for cancers that develop in the lymphatic system. Lymphoma originates in developing B-lymphocytes and T-lymphocytes, which have undergone malignant change. This means they multiply without any proper order forming tumours which are collections of cancer cells. These tumours cause swelling in the lymph nodes and other parts of the body. Over time, malignant lymphocytes (called lymphoma cells) crowd out normal lymphocytes and eventually the immune system becomes weakened and can no longer function properly.

## Signs & symptoms

Lymphoma commonly presents as a firm, usually painless swelling of a lymph node. This is usually in the neck, under the arms or in the groin. It may include an enlarged spleen, which is a lymphatic organ in the abdomen.

### Other symptoms may include

- Excessive sweating at night
- Fatigue
- Recurrent fevers
- Persistent cough
- Unexplained weight loss
- Abdominal swelling and pain

The signs and symptoms of lymphoma can often be mistaken for other less serious illnesses.

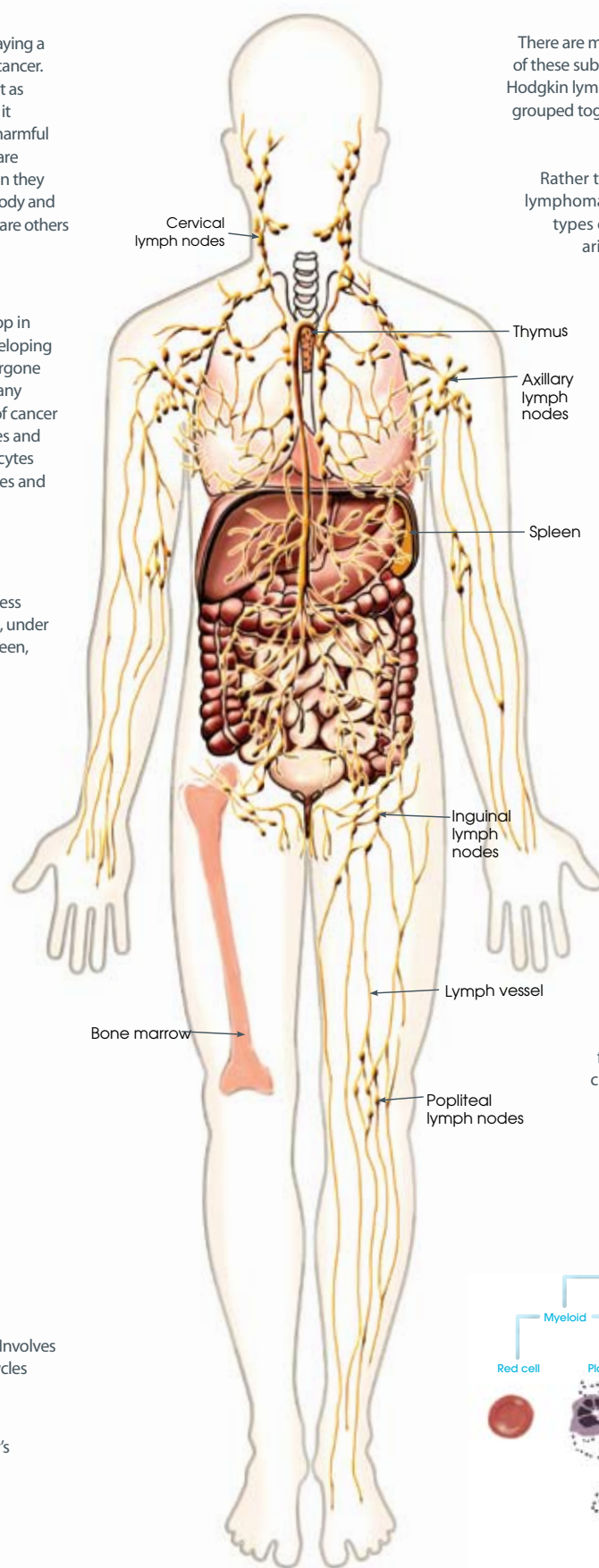
## Diagnosis

To confirm a diagnosis the following investigations may be required

- Physical examination
- Blood tests
- Lymph node biopsy
- Bone marrow biopsy
- Radiological imaging: US scan, CT scan, MRI scan

## Treatment options

- Careful observation without active treatment
- Steroid therapy – treatment using steroids
- Chemotherapy - treatment using anti-cancer drugs. Involves a combination of cytotoxic drugs given in several cycles
- Radiotherapy - the use of high energy x-rays to kill cancer cells and shrink tumours
- Biological therapies - harness the power of the body's immune system to help fight lymphoma
- Stem cell transplant
- Supportive care to assist the patient and their family during treatment and recovery



## Types of lymphoma

There are many different sub-types of lymphoma. Five of these sub types belong to a group of diseases called Hodgkin lymphoma. All other sub-types are commonly grouped together and called non-Hodgkin lymphoma.

### Non-Hodgkin lymphoma

Rather than being a single disease, non-Hodgkin lymphoma actually represents many different sub-types of lymphoma. In addition lymphoma can arise from a B-lymphocyte (most common) or a T-lymphocyte. For management purposes lymphomas can be broadly divided into two main groups, indolent lymphoma or aggressive lymphoma.

#### Low grade lymphoma (or indolent lymphoma)

This type of lymphoma grows slowly, causes few symptoms and may not need to be treated urgently. Follicular lymphoma is one type of low grade lymphoma. It is the 2nd most common type of lymphoma, representing 24 % of all cases.

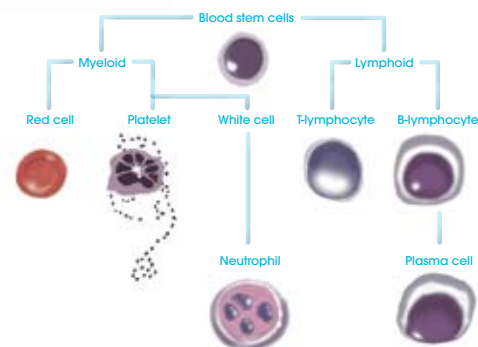
#### Intermediate and high grade lymphoma (or aggressive lymphoma)

This type of lymphoma grows quickly and treatment is needed at the time of diagnosis. Because these lymphomas grow quickly they tend to respond well to chemotherapy and radiotherapy. Diffuse large B-cell lymphoma is the most common type of lymphoma representing 30% of all cases.

### Hodgkin lymphoma

In terms of presentation and treatment this lymphoma is most akin to diffuse large cell lymphoma. It has five different sub types. The combination chemotherapy is different to that of other aggressive lymphomas so the correct microscopic diagnosis is important in distinguishing lymphoma types.

## Blood cells



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