Examination of the lymph nodes

A thorough clinical examination should usually include both a systematic inspection and palpation of the clinically relevant lymph node stations.

The most important stations are

- the head and neck area
- the axilla
- and the inguinal area

Consequently, the lymph nodes are usually examined from cranial to caudal.

Around one third of all lymph nodes are located in the head and neck area, where they can be found superficially and are therefore easily palpable.

The following lymph nodes should be included in every palpation:

- suboccipital
- retro- and preauricular
- submandibular
- submental
- posterior triangle of the neck

and those in the area of the internal jugular vein, which lie deep within the neck and may be palpated ventral or dorsal to the sternocleidomastoid muscle.

Additionally, the supraclavicular lymph nodes should be palpated as well, since enlargement of these lymph nodes is often associated with malignancies. Abdominal tumors that metastasize via the lymphatic system, such as gastric cancer, will often result in an enlarged Virchow node in the left supraclavicular fossa.

Carefully palpate the individual lymph node stations. To facilitate differentiation between lymph nodes and muscles, the area that is palpated should be as relaxed as possible.

Every palpable lymph node is considered enlarged.

If there is enlargement, pay attention to consistency, tenderness, mobility, the number of enlarged lymph nodes and any erythema in the affected area.

Multiple, fused lymph nodes are referred to as conglomerates and are highly suspicious for malignancy.

After palpating the head and neck, continue by examining the axillary lymph nodes, which can be divided into different groups as well.

The pectoral or anterior group is located in the anterior axillary fold and is responsible for the majority of lymphatic drainage of the chest and chest wall. The subscapular or posterior lymph node group is palpable deep within the posterior axillary fold. It drains parts of the arms and the chest wall. The brachial or lateral lymph nodes drain the majority of the arms and can be palpated in the area of the proximal humerus.

All of the lymph node groups just mentioned then drain into the central group, which is palpable at the base of the axilla.

The subclavicular or apical group represents the last lymph node station before the lymphatic vessels drain into the venous system. This group should be examined together with the cervical or axillary lymph nodes.

In this patient, the examiner starts by palpating the pectoral group, behind the lateral aspect of the pectoralis major muscle. Afterwards, he palpates the central group, followed by the posterior group in the area of the posterior axillary fold and the brachial group of the upper arm.

Distinguishing between lymph nodes and surrounding muscles is best achieved when the arm is relaxed and lowered.

Afterwards, the superficial lymph nodes of the inguinal area should be palpated.

They are divided into a horizontal and a vertical group.

The horizontal group lies below the inguinal ligament and can therefore be palpated parallel to its course. This group is responsible for draining parts of the external genitalia, trunk and lower back.

The vertical group is located adjacent to the great proximal saphenous vein and drains lymphatic fluid from the lower extremity. Examination of the inguinal lymph nodes is best performed with the patient lying down.

As a lymphatic organ, the spleen should always be part of the lymph node assessment since splenomegaly can hint at a systemic inflammatory or malignant illness.

The spleen is generally not palpable in healthy adults. A pathologically enlarged spleen is palpated under the left costal margin during inspiration as the inferior edge descends to the examiner’s fingertips. If an enlarged spleen is already suspected, palpation should begin further down. The examination may be facilitated by gently lifting the left flank of the patient ventrally.