

# LYMPHATIC SYSTEM HEAD AND NECK LIMBS

Ali Fırat Esmer, MD

Department of Anatomy

- What is **lymph** ?

Tissue fluid (interstitial fluid) that enters the lymphatic vessels

- The main function; **collect excess large particles and tissue fluid**

The **immune system** is the complex collection of cells and organs that destroys or neutralizes pathogens that would otherwise cause disease or death. The lymphatic system, for most people, is associated with the immune system to such a degree that the two systems are virtually indistinguishable. The **lymphatic system** is the system of vessels, cells, and organs that carries excess fluids to the bloodstream and filters pathogens from the blood. The swelling of lymph nodes during an infection and the transport of lymphocytes via the lymphatic vessels are but two examples of the many connections between these critical organ systems.

# LYMPHATIC SYSTEM

A major function of the lymphatic system is to drain body fluids and return them to the bloodstream. Blood pressure causes leakage of fluid from the capillaries, resulting in the accumulation of fluid in the interstitial space—that is, spaces between individual cells in the tissues. In humans, 20 liters of plasma is released into the interstitial space of the tissues each day due to capillary filtration. Once this filtrate is out of the bloodstream and in the tissue spaces, it is referred to as interstitial fluid. Of this, 17 liters is reabsorbed directly by the blood vessels.

**Essentially a drainage system accessory to venous system**

larger particles that escape into tissue fluid can only be removed via lymphatic system

## COMPONENTS OF THE LYMPHATIC SYSTEM

- ▶ Lymph
  - ▶ Lymphatic Vessels
    - ▶ Lymphatic Capillaries
    - ▶ Lymphatic Vessels
    - ▶ Lymphatic Trunks
    - ▶ Lymphatic Ducts
  - ▶ Lymphatic Organs
    - ▶ Thymus
    - ▶ Lymph Nodes
    - ▶ Spleen
    - ▶ Tonsils
  - ▶ Lymphatic cells
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# Main lymphatic ducts

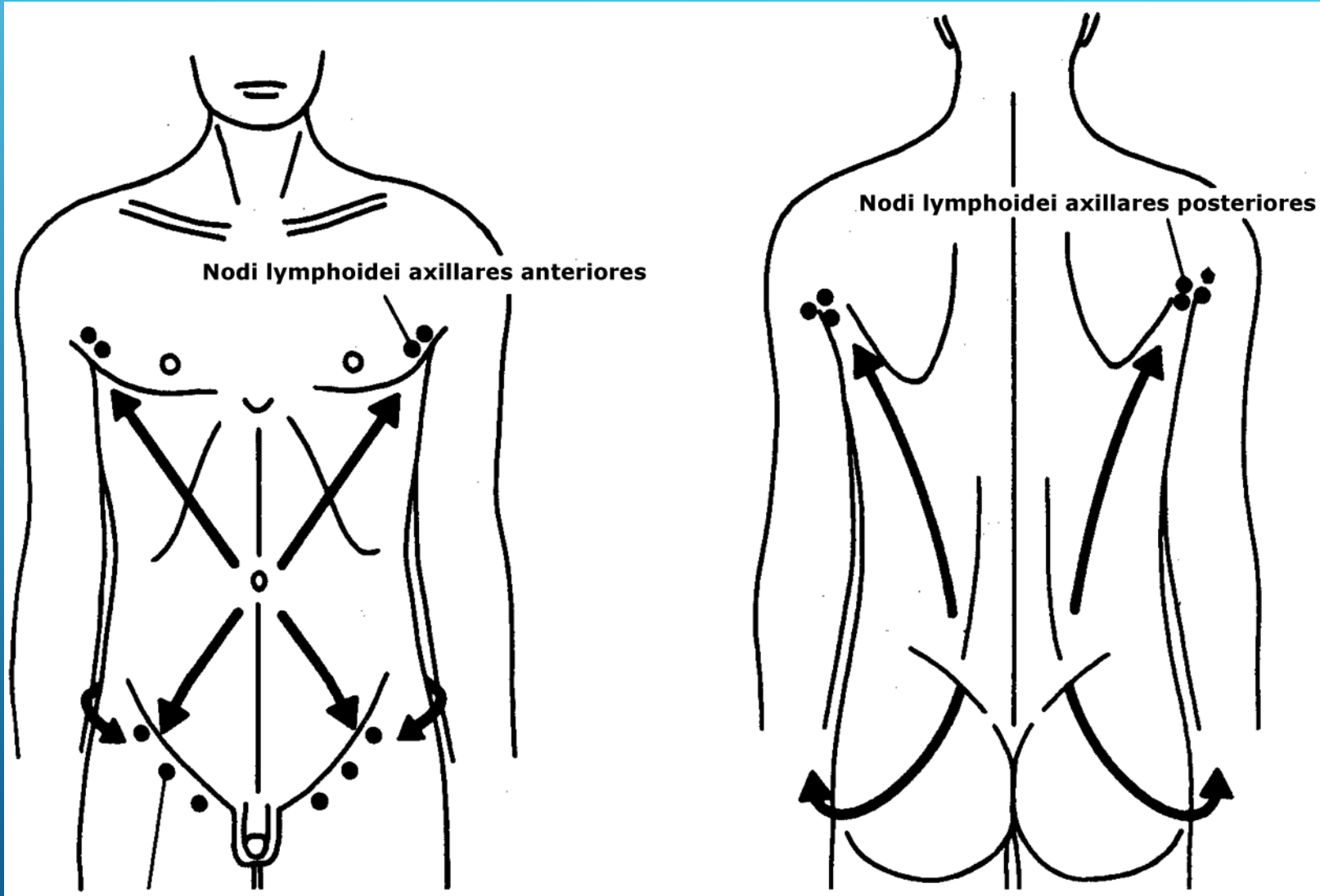
- ▶ The superficial and deep lymphatics eventually merge to form larger lymphatic vessels known as **lymphatic trunks**. On the right side of the body, the right sides of the head, thorax, and right upper limb drain lymph fluid into the right subclavian vein via the **right lymphatic duct**.
- ▶ On the left side of the body, the remaining portions of the body drain into the larger **thoracic duct**, which drains into the left subclavian vein.

Thoracic duct

Right lymphatic duct

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# Superficial lymphatics



In general, lymphatic vessels of the subcutaneous tissues of the skin, that is, the superficial lymphatics, follow the same routes as veins, whereas the deep lymphatic vessels of the viscera generally follow the paths of arteries.

# Lymphatics of the SCALP

Lymphatics drain into the following lymph nodes:

- ▶ Submental
  - ▶ Submandibular
  - ▶ Parotid
  - ▶ Mastoid
  - ▶ Retroauricular
  - ▶ Occipital
- ▶ Above lymph nodes mainly drain into the **deep cervical lymph nodes**.



**Lymphedema**