19.2E: Lymph Trunks and Ducts

The lymph trunks drain into the lymph ducts, which in turn return lymph to the blood by emptying into the respective subclavian veins.

Learning Objectives

• Describe the types of lymph vessels and lymph trunks and their roles

Key Points

• The lymph trunks drain into the lymph ducts, which in turn return lymph to the blood by emptying into the respective subclavian veins.
• There are two lymph ducts in the body: the right lymph duct and the thoracic duct.
• There are four pairs of lymph trunks: jugular lymph trunks, subclavian lymph trunks, bronchomediastinal lymph trunks, and lumbar lymph trunks. In addition, the intestinal lymph trunk is unpaired.
• The intestinal lymph trunk and the thoracic lymph duct contain chyle, a mixture of emulsified fats from the intestines and lymph fluid.

Key Terms

• thoracic duct: The lymph duct that drains lymph and chyle from the lower and left halves of the body.
• subclavian vein: Two large veins, one on either side of the body, with a diameter similar to that of the smallest finger.
• lymph: A colorless, watery body fluid carried by the lymphatic system, consisting mainly of white blood cells.
After filtration by the lymph nodes, efferent lymphatic vessels take lymph to the end of the lymphatic system. The final goal of the lymphatic system is to recirculate lymph back into the plasma of the bloodstream. There are two specialized lymphatic structures at the end of the lymphatic system, called the lymph trunks and ducts.

## Lymphatic Trunks

A lymphatic trunk is any large lymph vessel that forms from the convergence of many efferent lymph vessels. There are four sets of lymph trunks that are paired with a right and left half, and one unpaired trunk:

- Jugular lymph trunks, located in the neck, drain lymph fluid from the cervical lymph nodes of the neck.

**Lymphatic Ducts:** The thoracic duct and right lymphatic duct.
• Subclavian lymph trunks, located beneath the clavicle, drain lymph fluid from the apical lymph nodes around the armpit, which carry lymph from the arms.

• Bronchomediastinal lymph trunks, located in the chest, drain lymph fluid from the lungs, heart, trachea, mediastinal, and mammary glands.

• Lumbar lymph trunks are the lower pair of lymph trunks that drain lymph fluid from the legs, pelvic region, and kidneys.

• Intestinal lymph trunk is the unpaired lymph trunk that receives chyle (lymph mixed with fats) from the intestines. Chyle typically has a high fatty acid content.

Lymphatic trunks then drain lymph fluid into the lymph ducts, the final part of the lymphatic system.

**Lymph Ducts**

Two lymph ducts receive lymph from the lymph trunks. These are the largest lymph vessels and contain three layers, similar to those of great veins.

• The thoracic lymph duct, the largest lymph vessel in the body, takes lymph from the lower and left halves of the body. Because the thoracic lymph duct drains the intestinal lymph trunks, it carries a mixture of lymph and emulsified fatty acids called chyle back to the bloodstream.

• The right lymphatic duct receives lymph from the right and upper halves of the body, including the right sides of the jugular, bronchomediastinal, and subclavian lymph trunks.

The thoracic duct drains into the left subclavian vein while the right duct drains into the right subclavian vein, both at the junction between the respective vein and the jugular vein. The two subclavian veins then merge into the vena cava, the large vein that brings deoxygenated blood to the heart. The lymph ducts each have internal valves at their junction with the subclavian vein. These function similarly to other lymphatic valves and prevent venous blood from flowing into the lymph duct. This point marks the end of lymph fluid’s journey through the lymphatic system.

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