

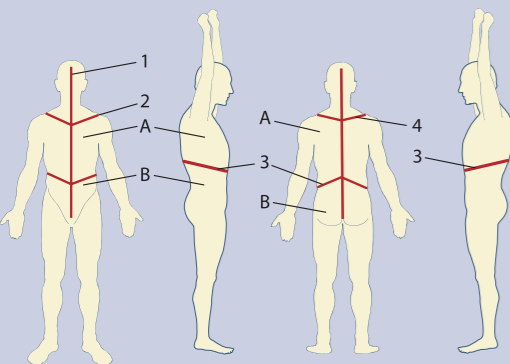
The Anatomy and Physiology of the Lymphatic System

The lymphatic system interacts with three other main systems in the body. It helps maintain fluid balance within the cardiovascular system, aids fat absorption in the digestive system and plays a major role in the body's immune or defence system.

Lymphatic tissue, lymph vessels and regional lymph nodes

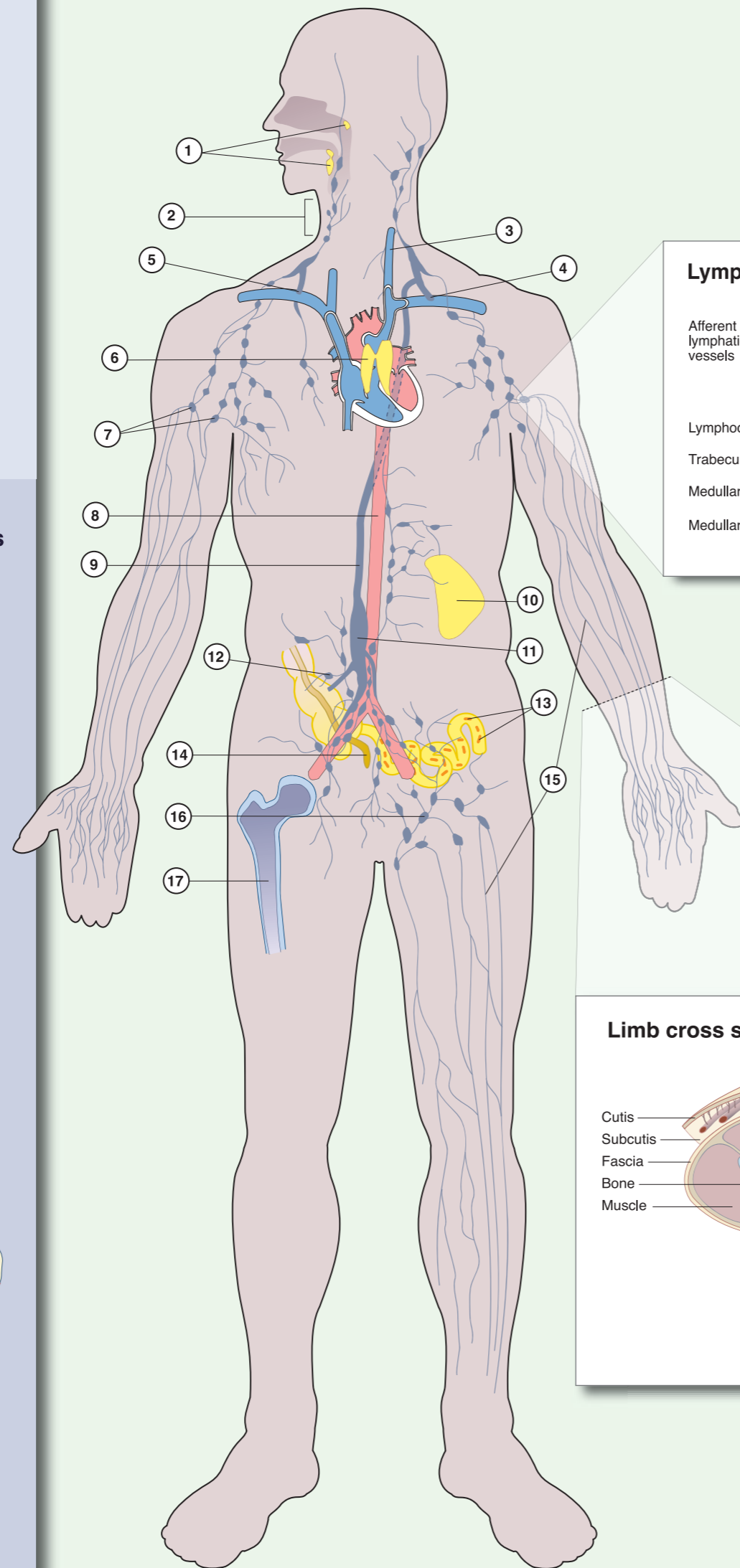
- ① Tonsils
- ② Cervical nodes
- ③ Internal jugular vein
- ④ Entrance of thoracic duct into left subclavian vein
- ⑤ Entrance of right lymphatic duct into right subclavian vein
- ⑥ Thymus
- ⑦ Axillary nodes
- ⑧ Aorta
- ⑨ Thoracic duct
- ⑩ Spleen
- ⑪ Cisterna chyli
- ⑫ Intestinal nodes
- ⑬ Peyer's patches in the intestinal system
- ⑭ Appendix
- ⑮ Lymphatic collecting vessels
- ⑯ Inguinal nodes
- ⑰ Bone marrow

Lymphatic Watersheds

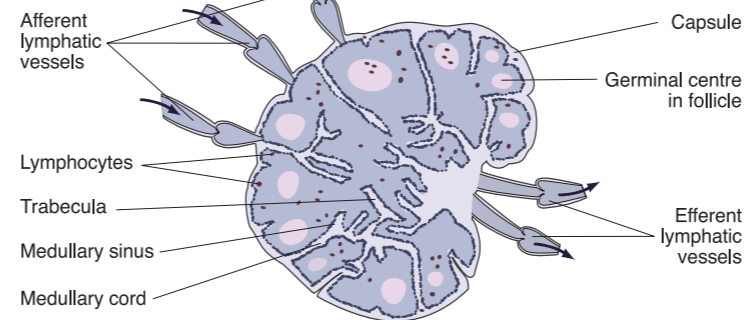


Lymphatic watersheds

1. Sagittal (median) watershed
2. Upper horizontal watershed
3. Horizontal (transverse) watershed
4. Upper horizontal watershed
- A. Upper quadrant B. Lower quadrants

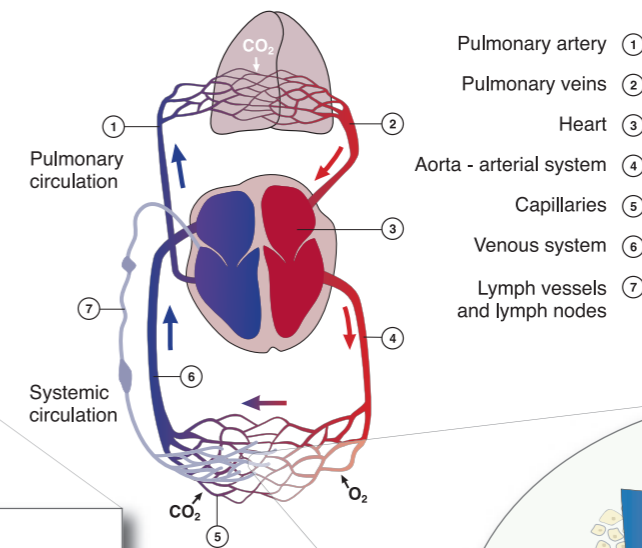


Lymph node



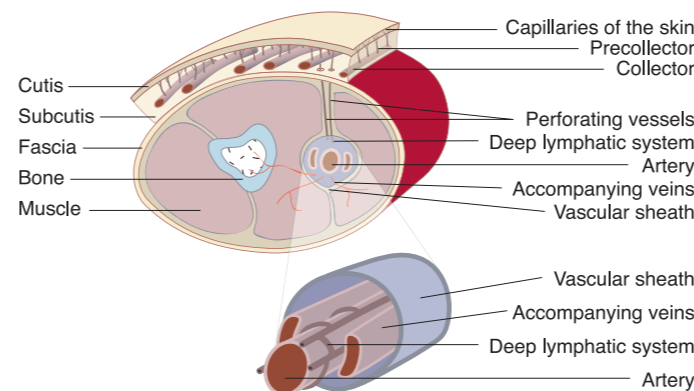
The lymphatic system is often the first line of defence against invading microorganisms. Lymph node structures along the route of the lymphatic circulation filter out foreign materials and disease-causing agents from the general circulation.

Blood and lymph circulatory systems

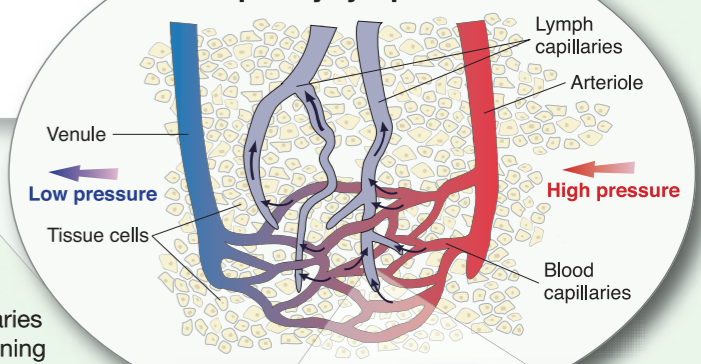


As blood circulates, water and nutrients pass into the surrounding tissue (Interstitial space). Fluid, protein and cells which cannot pass back into the blood stream are picked up by the lymphatic system, and returned to the blood circulation, thereby maintaining fluid balance.

Limb cross section



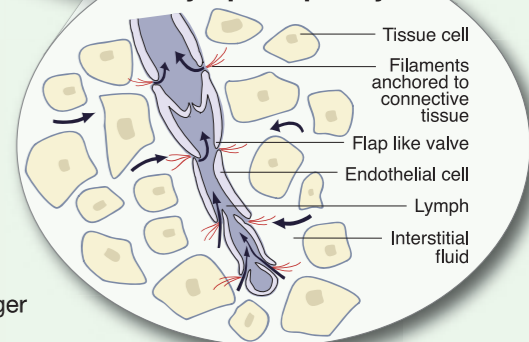
Capillary lymphatics



Lymph capillaries (initial lymph vessels) lie close to all blood capillaries and represent the beginning of the lymph system.

Lymph capillaries are a single layer of flattened endothelial cells that overlap each other. They have a slightly larger lumen and are more permeable than blood capillaries and because of their unique structure, can absorb macromolecules such as proteins.

Lymph capillary



Once inside the lymphatic system, this clear fluid is called lymph. Lymph capillaries in the tissues join to form larger collecting vessels that progressively increase in size.