Components of the lymphatic system:
- lymphatic organs and tissues (Figure 16.1)
- lymphatic vessels
- lymph

Functions of the lymphatic system:
- return excess interstitial fluid to the blood
- immune responses: production of lymphocytes (B cells and T cells)
- absorption of lipids from the intestine

A. Lymph
- essentially interstitial fluid
- excess filtration from capillaries ~3L/day

B. Lymphatic Vessels
1. lymph capillaries (Figure 16.2)
   - blind-ended, near blood capillaries
   - overlapping endothelial cells create valve-like flaps
   - anchoring filaments
2. larger lymphatic vessels (Figure 16.1 and 16.3)
   - similar distribution to arteries and veins
     “utilities” to organs: AVLN (artery, vein, lymphatic, nerve)
   - low pressure, slow flow, valves prevent backflow
   a. thoracic duct - largest lymphatic vessel, drains upper L side and all lower body
      empties into venous system at L. subclavian vein
      cysterna chyli collects drainage from intestine, drains into thoracic duct
   b. right lymphatic duct - drains upper R side of body

C. Lymphatic Organs and Tissues
1. primary lymphatic organs → production and maturation of lymphocyte stem cells
   a. red bone marrow
   b. thymus
2. secondary lymphatic organs → storage and proliferation of lymphocytes
   a. lymph nodes
   b. spleen
3. lymphatic nodules
   a. mucosa-associated lymphatic tissue (MALT) (e.g., Peyer’s patches in sm. intestine)
   b. tonsils

D. Structure of Lymph Nodes (Figure 16.6)
capsule afferent lymphatic vessels
trabeculae efferent lymphatic vessels
outer cortex subcapsular sinus
inner cortex trabecular sinuses
medulla medullary sinuses
Study Questions
1. Describe the main functions and components of the lymphatic system, including:
   - lymph
   - lymphatic vessels
   - lymphatic organs and tissues
2. What are the primary lymphatic organs? What are the secondary lymphatic organs? What are lymphatic nodules and where are they found in the body?
3. Describe the structure of a lymph node and explain how its structure relates to its function.