Lymph nodes are small, round specialized dilations of lymphatic tissue that are permeated by lymphatic channels. **Their function is primarily to act as filters.** They help to remove and destroy antigens that circulate in the blood and lymph. For this purpose, lymph nodes contain a lot of **macrophages.** Lymphoid tissue in the nodes also **produces antibodies** and **stores lymphocytes.**

**Note:** The nodes generally occur in clusters along the connecting lymphatic vessels particularly in the armpits, the groin, the lower abdomen, and the sides of the neck.

Each lymph node is enclosed in a **fibrous capsule** with **internal trabeculae** (connective tissue) supporting lymphoid tissue and lymph sinuses.

The node consists of:

- **Outer (superficial) cortical region:** contains separate masses of lymphoid tissue called **lymphoid follicles.** Primary follicles do not respond to antigen. **Secondary** follicles contain predominately B cells (with lightly staining **germinal centers**). They are active follicles responding to antigen and are a source of lymphocytes.
- **Paracortical region:** this region is dominated by T cells. B cells enter the node from the blood in this region and quickly migrate to the superficial cortex.
- **Inner medullary region:** lymphoid tissue here is arranged in **medullary cords,** which are a source of plasma cells (they secrete antibodies). Also contains **medullary sinuses.**

Lymph nodes can be classified as **primary** or **secondary.** Lymph from a particular region drains into a primary node or regional node. Primary nodes, in turn, drain into a secondary node or central node.

**Definitions:**

- **Germinal centers:** are sites within lymph nodes (also within lymph nodules in peripheral lymph tissues) where mature **B lymphocytes** rapidly proliferate, differentiate, mutate their antibodies (through somatic hypermutation), and class switch their antibodies during a normal immune response to an infection.
- **Medullary cord** is a portion of the medulla of the lymph node which contains lymphatic tissue and project into the medullary sinus. **B cells** and **plasma cells** are the main cell types found in the medullary cords.