

## • medullary cords

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 predominantly 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.