



Lymphatic nodes They are specialised collection points of lymphoid tissue which are located along the lymphatic vessels. Superficial nodes are located in the

- Inguinal
- Cervical
- Axillary

There are other nodes located into in popliteal and trochlear areas. (Review notes on the anatomy of the structure of nodes) The functions of the nodes are to collect immune cells inside the lymph node and to funnel lymph through the sinuses so that it contracts the immune cells: lymphocytes, monocytes, and macrophages. These cells destroy micro-organisms and foreign particles that could harm the body. As the lymph comes from the cell spaces into the initial lymphatic, lymph is contaminated. After it has passed through the lymph nodes to be returned to the blood circulatory system, lymph is sterile.

### Tonsils

They form a ring of lymphatic tissue that surround the opening to the digestive and respiratory systems. These

Lymph nodes lack afferent vessels. Tonsils destroy foreign materials that enter the body via the mouth and nose.

There are three pairs of tonsils:

- 1 pharyngeal
- 2 Palatine
- 3 Lingual

When the tonsils are infected they are removed via a tonsillectomy, the pharyngeal are known as the adenoids which are also often removed when they become infected.

### The Spleen

(Revise notes) The spleen contains white and red pulp Blood filters through the red pulp, where dying red blood cells are phagocytized or broken down some of which are utilized again by the body. Macrophages in the white pulp destroys micro- organisms and foreign substances that can cause harm to the body

### The Thymus

A two lobed organ located in the thorax with similar in construction to lymph nodes with a cortex and a medulla. The thymus helps newborns and young children develop antibodies and it decreases in size as one grows older. It shrinks after puberty but continues to be an active part of the immune system. Immature lymphocytes that are produced in the red bone marrow migrate to the thymus where they develop into t-cells. The thymus produces thymosin which is thought to help T-cells mature.

Aggregated Lymph Nodules are collections of lymph tissue in the mucus tissues lining the respiratory and digestive tracts. These areas include the tonsils, the bronchi of the respiratory tract, the small intestine and the appendix. Lymphocytes in aggregated lymph nodules respond to antigens and create antibodies. These systems are continuous with the skin and the openings in these systems, the nose and the mouth, allowing antigens to enter the body. Aggregated lymph nodules are located to help rapidly overcome the antigens as soon as they enter the body.

### Lymphatic circulation

The Lymphatic circulation lacks a central pump like the heart.

Lymphatic circulation depends on;

- 1 The muscular system,
- 2 Movement,

