Histology lab.:

Lymphoid system

1-Collects excess interstitial fluid into lymphatic capillaries .

2-Transports absorbed lipids from small intestine

3-Responds immunity to invading foreign substance

The main function of Lymphoid Organs is to protect the organism against invading pathogens or antigens (bacteria, parasites , and viruses) .

-The immune response occurs when the organism detects the pathogen , which can enters the organsim at any poient . For this resason , the lymphatic cells ,tissues and organs have wide distribution in the body .

The lymphoid system includes : cell(langerhans in skin),tissue (payer's patch), and organs in the body that contain aggregates of immune cells called Lymphocytes .(spleen ,lumph node,thumus)

-Cells distributed throughout the body either as single cells , or as isolated accumulation of cells

Or as nonencapsulated lymphatic nodules in the loose connective tissue of digestive , respiratory , and reprodective systems . Or as encapsulated indivials lymphoid organs .

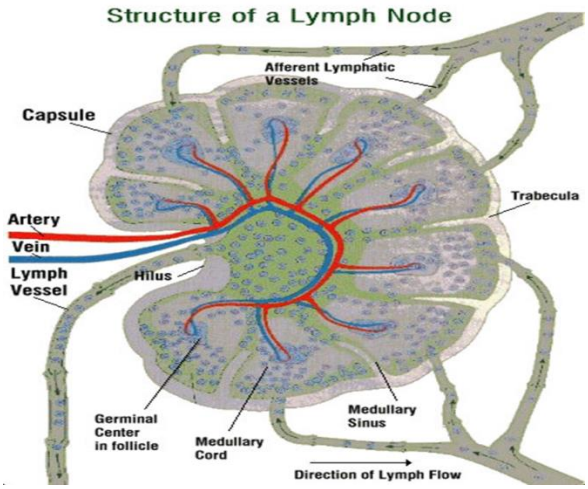
The major lymphoid organs are :

Tonsil

Lymph node

Thymus

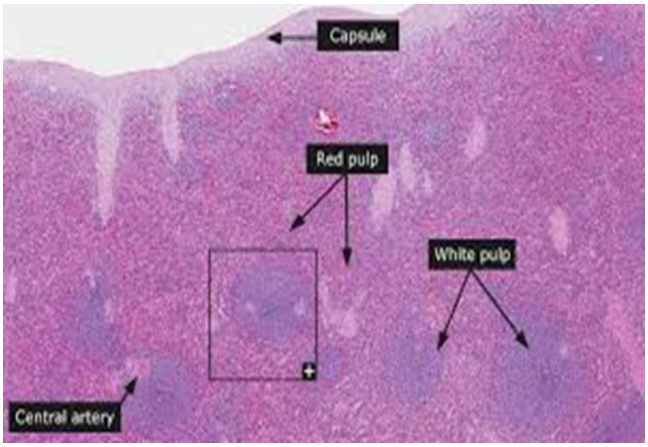
Spleen



Lymph node:

Aconnective tissue capsule surrounds the lymph and sends its trabeculae into its interior . Each lymph node contains on outer cortex and inner medulla . A network of reticular fibers and spherical , nonencapsulated aggregation of lymphocytes called lymphoid nodules characterize the cortex .

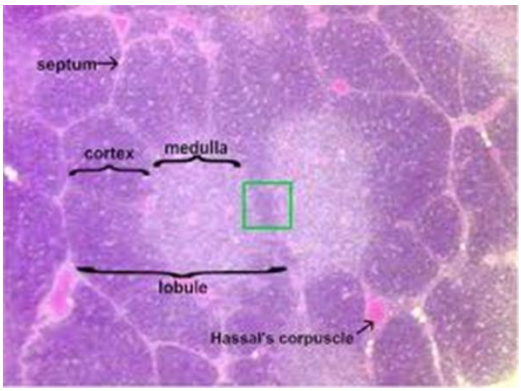
In the center of lymph node lighter staining called germinal centers .The medulla consist of medullary cords and medullary sinuses . Medullary cord are network of reticular fibers filled with plasma cell , macrophages and lymphocytes separated by capillary channels called medullary sinuses . Lymph enters the lymph node via afferent lymphatic vessels that penetrate the capsule on the convex surface . Lymph flows through the medullary sinuses and exits the lymph node on the opposite side via efferent lymphatic vessels



Spleen:

Large lymphoid organ with rich blood supply . A connective tissue capsule surrounds the spleen and divides its interior to splenic pulp (white pulp) consists of dark staining lymphoid aggregation (lymphatic nodules) that surrounds a blood vessels called central artery .

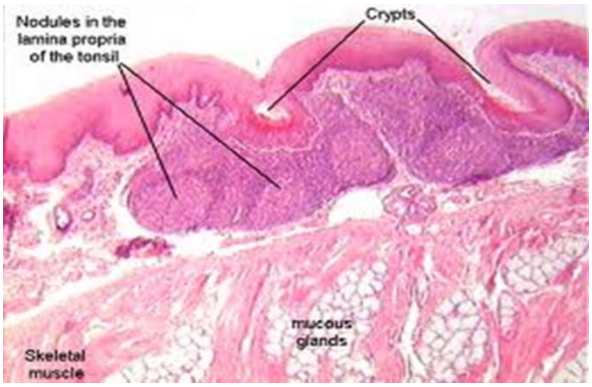
Red pulp consists of splenic cord and splenic sinusoid .splenic cord contain network of reticular fibers in which are found macrophages , lymphocytes , plasma cell .



Thymus

Thymus gland is soft , lobulated lymphoepithelial organ . This gland is most active in childhood and become slow involution in adults . Surrounded by connective tissue capsule , under which is a dark –staining cortex (immature lymphocytes) .Lighter- staining called medulla which contain fewer lymphcytes and more epithelial reticular cells .Thymic (Hassall's) corpuscls are oval structures consisting of round or spherical aggregation of epithelial cells.Blood vessles and adipose cell are present in both thymic lobules and in trabecule

Tonsil :



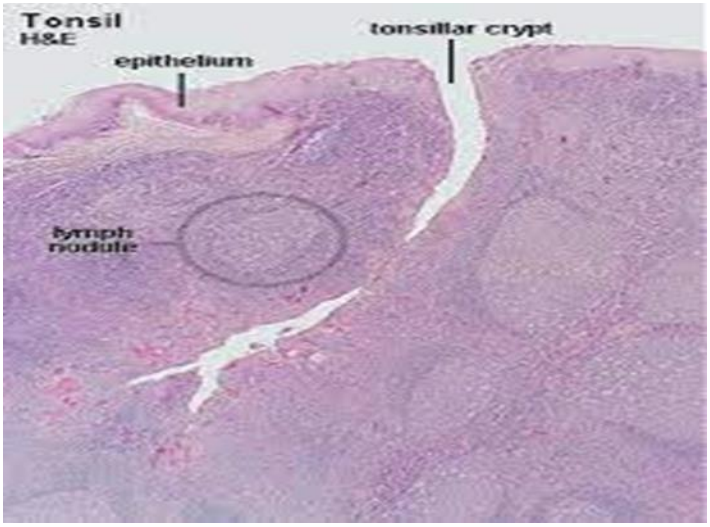
Tonsil consist of aggregation of lymphatic nodules located in oral cavity .The surface of it covered by a protective stratified squamous nonkeratinized epithelium .Each tonsil invaginated by deep grooves called tonsillar crypts .Lymphatic nodules distributed along the lengths of tonsillar crypts .A dense connective tissues underlies the palatine tonsil and forms capsule .inside there is trabeculae and blood vessels arise from capsule and pass toward the surface between the lymphatic nodules .Below the connective tissue capsule are section of skeletal muscles fibers.

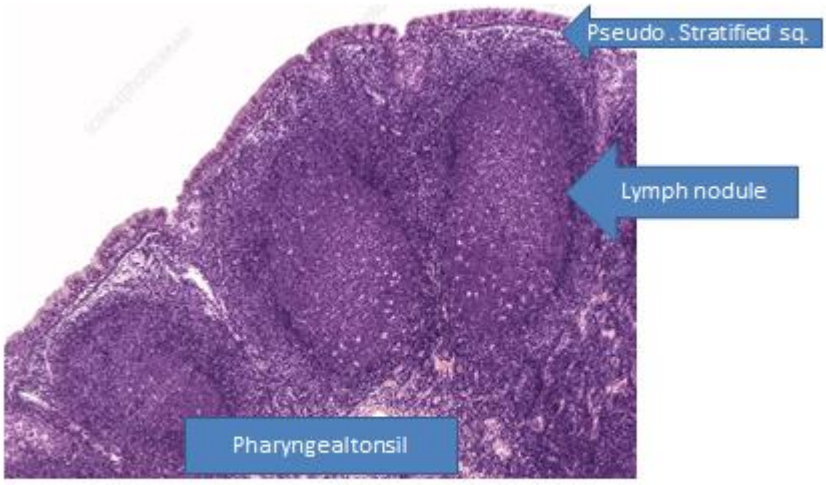
There are three types of tonsils :

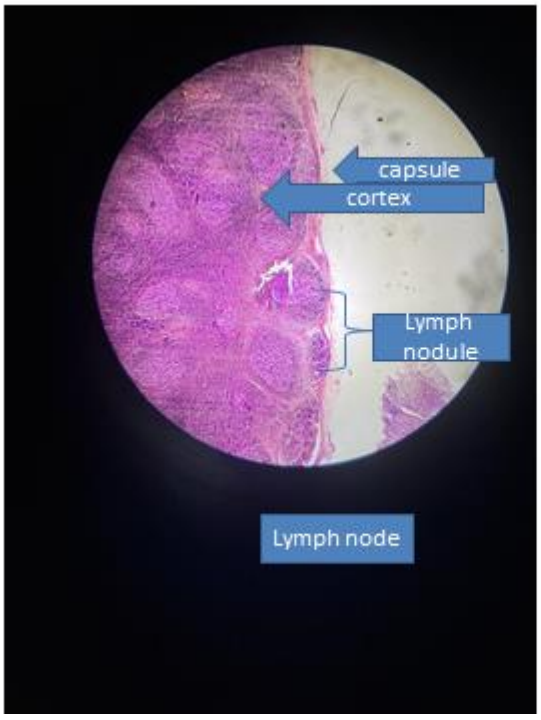
Palatine tonsil

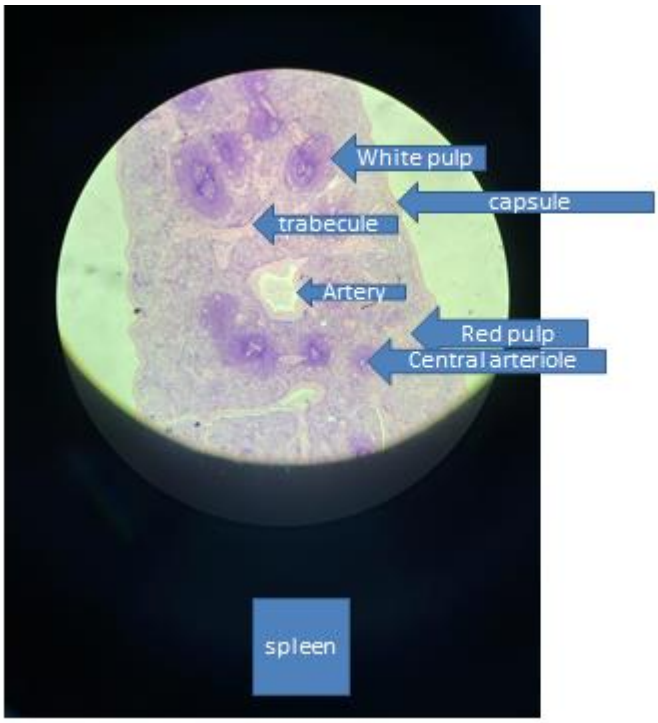
Pharyngeal tonsil

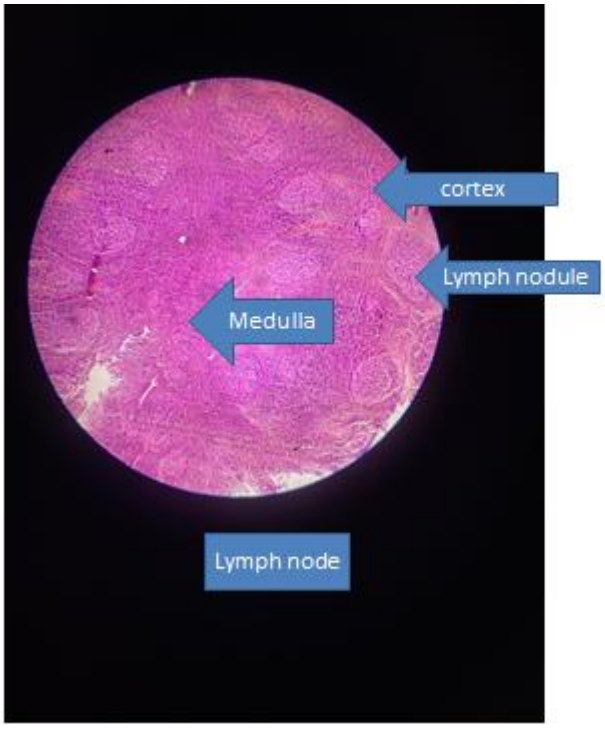
Lingual tonsil

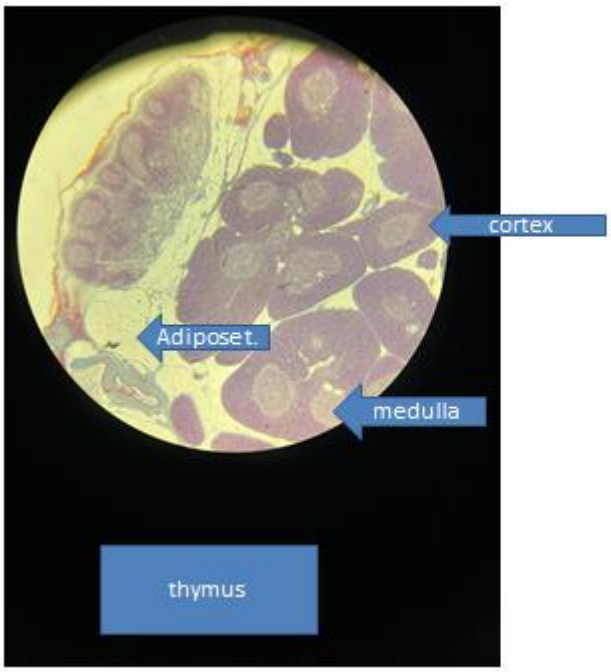


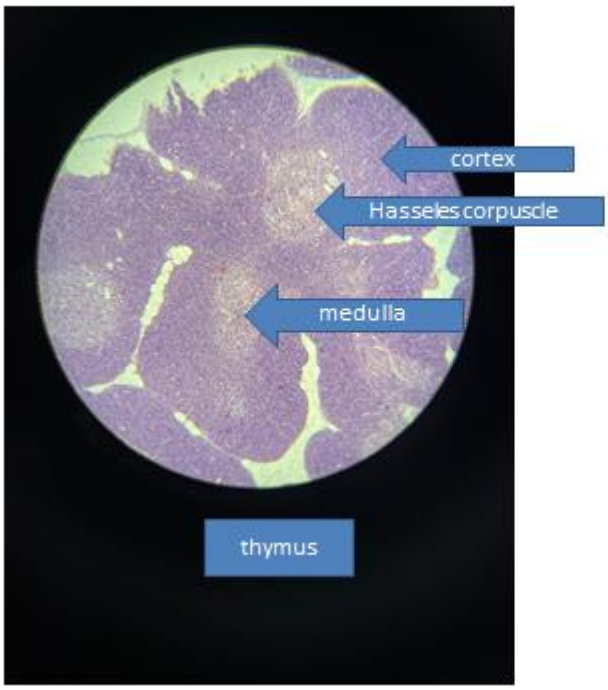

Pseudo . Stratified sq.
Lymph nodule
Pharyngealtonsil


capsule
cortex
Lymph nodule
Lymph node

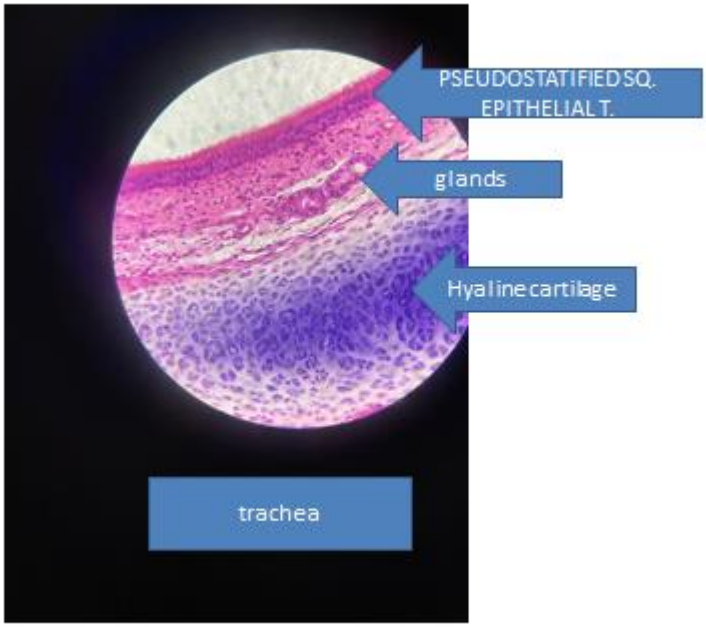

White pulp
capsule
trabecule
Artery
Red pulp
Central arteriole
spleen

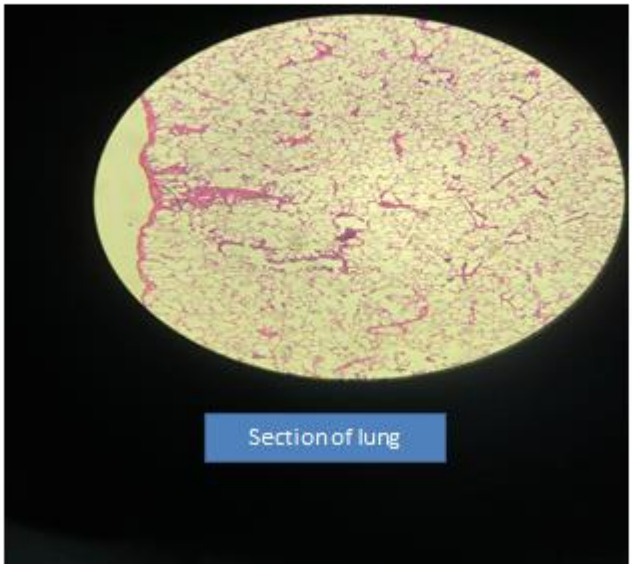

cortex
Lymph nodule
Medulla
Lymph node

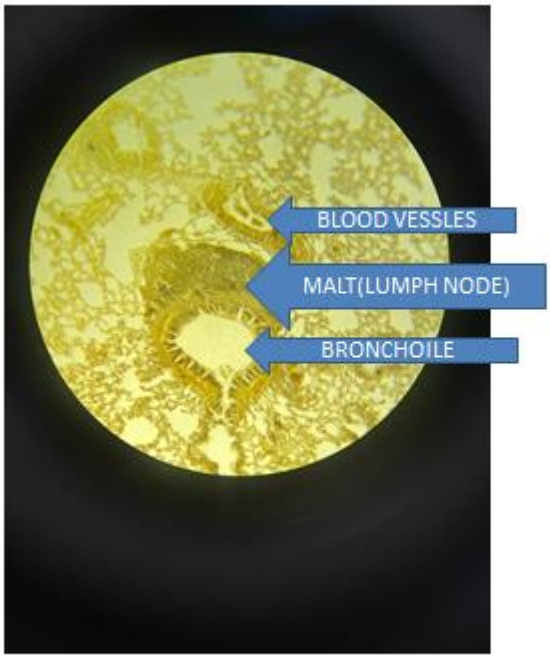

cortex
Adiposet.
medulla
thymus

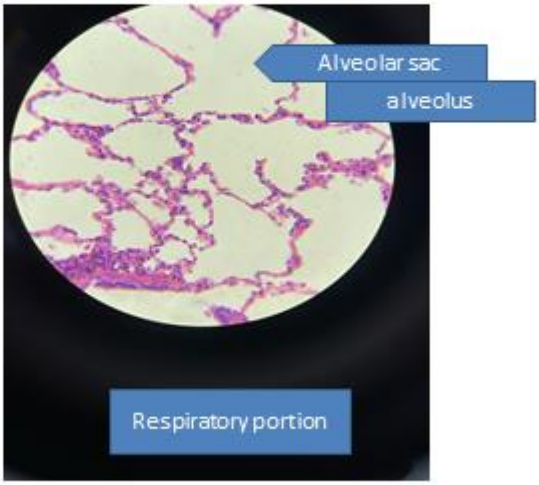

cortex
Hasseles corpuscle
medulla
thymus

Slides of Respiratory system :




Section of lung


BLOOD VESSLES
MALT(LUMPH NODE)
BRONCHOILE


Alveolar sac
alveolus
Respiratory portion