Lab Practical Two

Week 6: Lymphatic, Digestive

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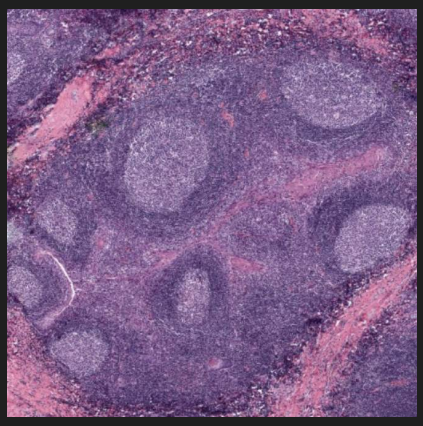
Lymphatic

Tonsils

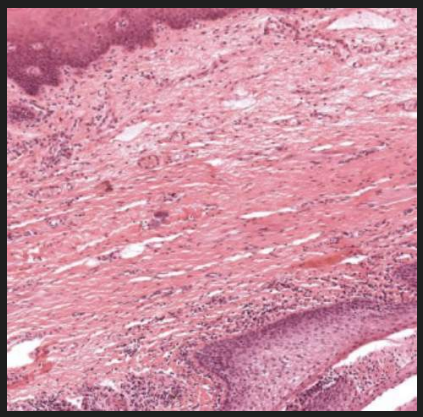
- Tonsils an example of mucosa-associated lymphoid tissue (**MALT**). The lymphocytes are distributed as diffuse, non-encapsulated nodules in the underlying connective tissue.

- **Stratified Squamous Non-Kerantized Epithelium**: covers the numerous nodules that compromise the palatine tonsil.

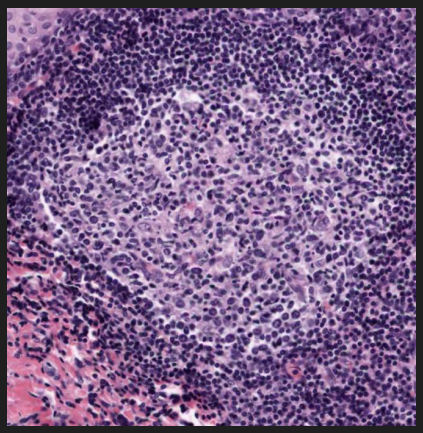
- **Lymph Nodules**: spherical aggregations of lymphocytes that usually have germinal centers.



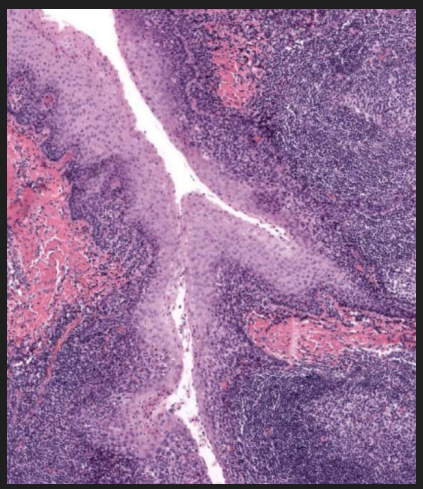
- **Submucosa**



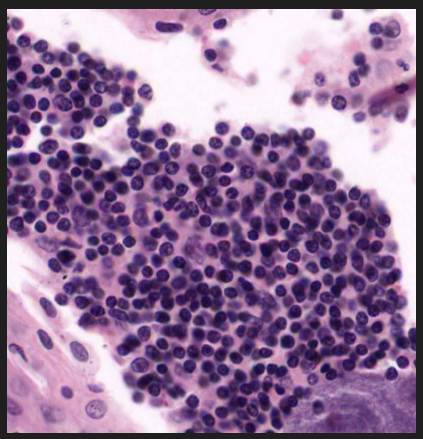
- **Germinal centers**



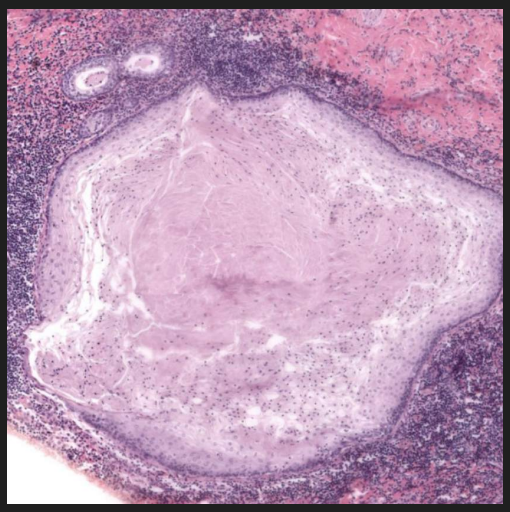
- **Crypts**: infoldings of the epithelium into the underlying connective tissue.



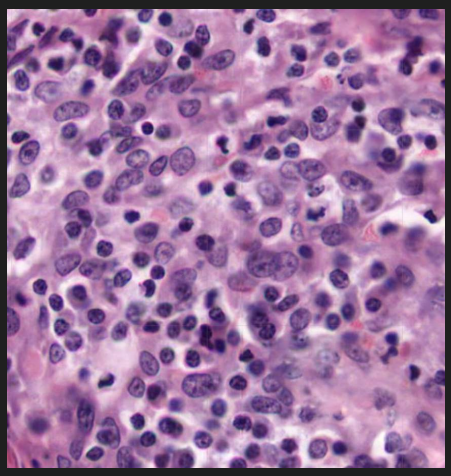
- **Lymphocytes**



- **Sequestered crypts**: usually inflamed and filled with debris and lymphocytes

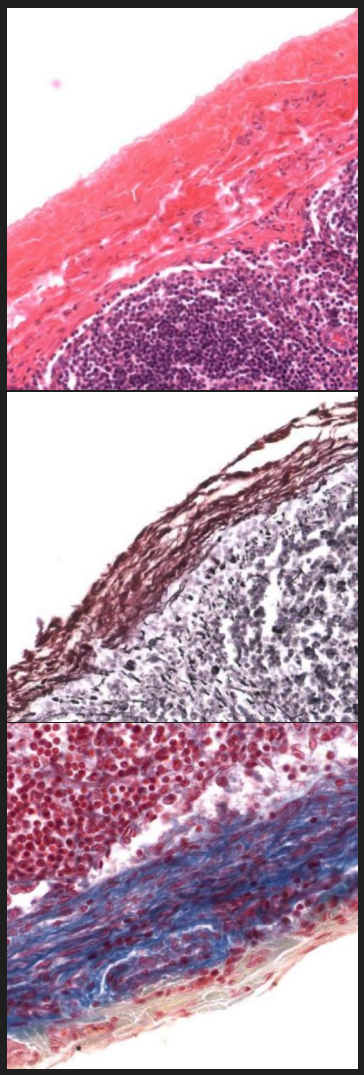


- **Plasma cells**: large numbers of plasma cells are usually seen in the underlying connective tissue near the epithelium.

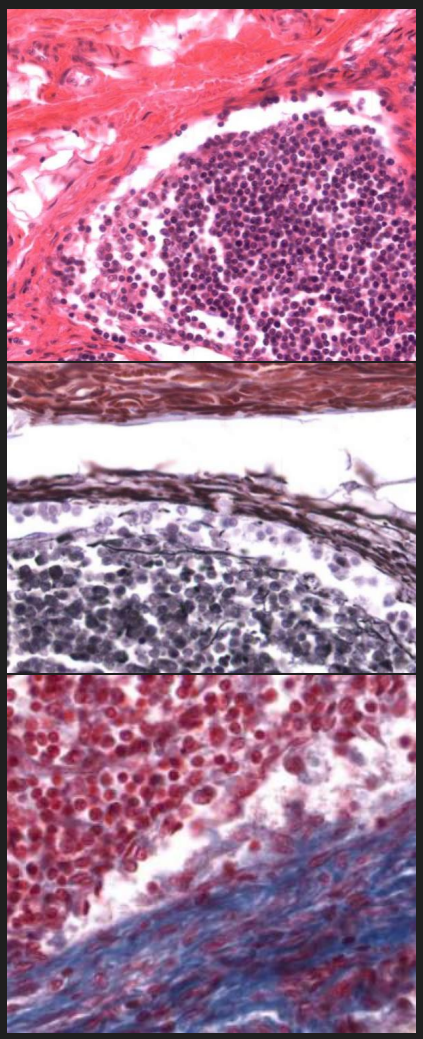


Lymph Nodes

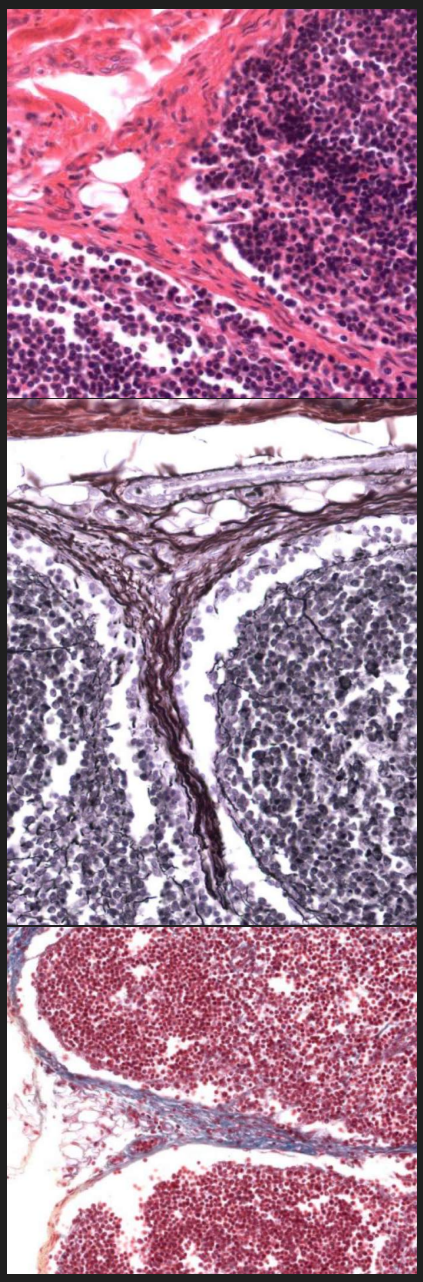
- **Capsule**: dense connective tissue enclosing the node.



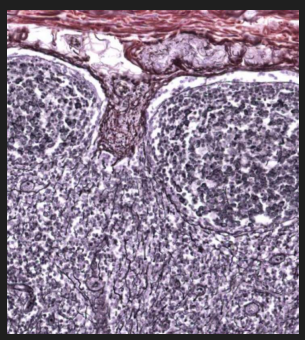
- **Subcapsular Sinus**: space underneath the capsule that receives lymph from afferent lymphatic vessels.

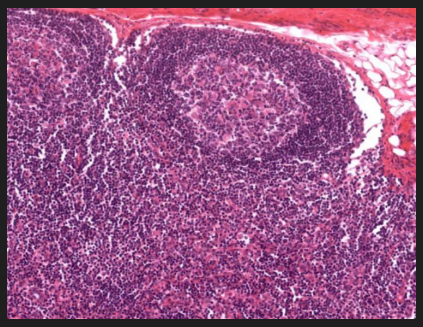


- **Trabeculae**: connective tissue that extends inward from the capsule.

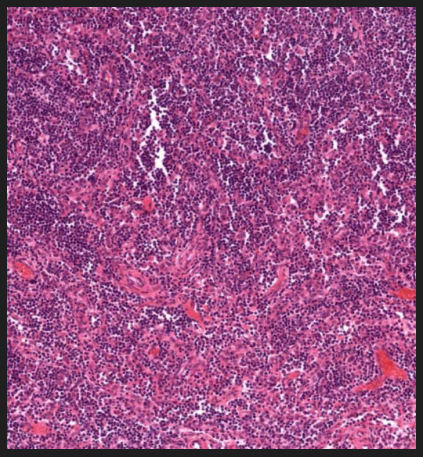


- **Cortex**: reticular fibers form an irregular, anastomosing network in the outer region of the node. Nodules are enclosed by reticular fibers.

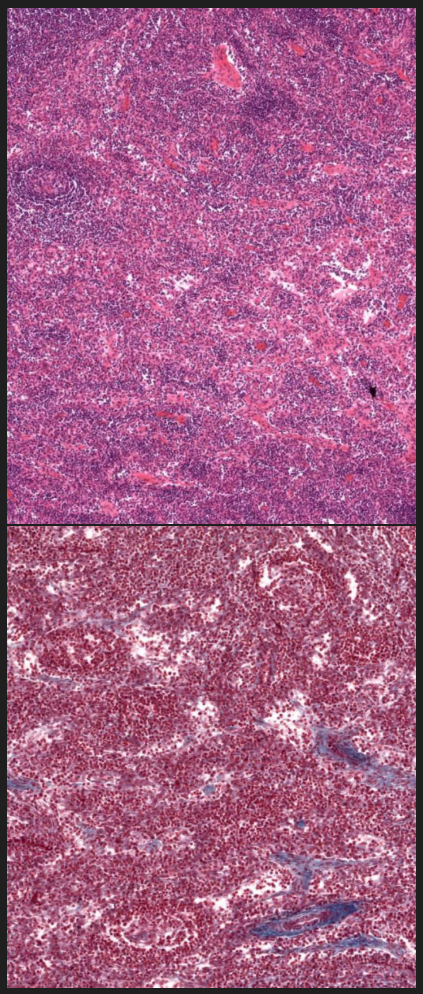




- **Inner Cortex**: region between the outer cortex and the medulla that is free of nodules.

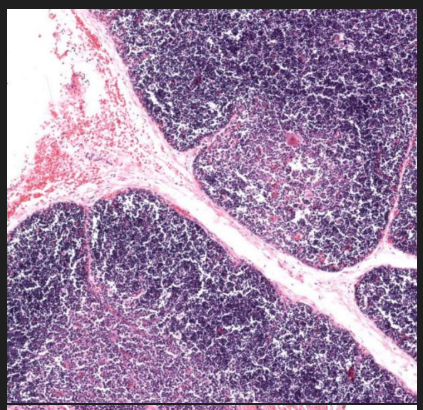


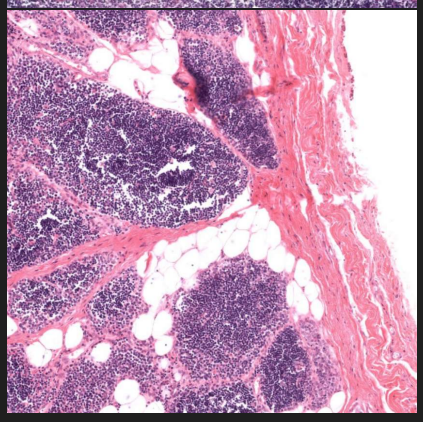
- **Medulla**: inner part of the node.



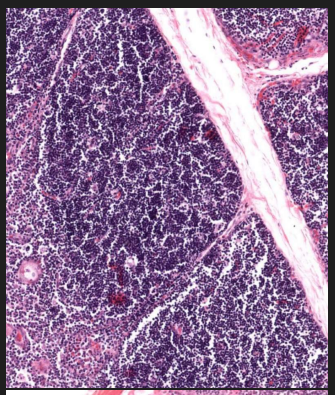
Thymus

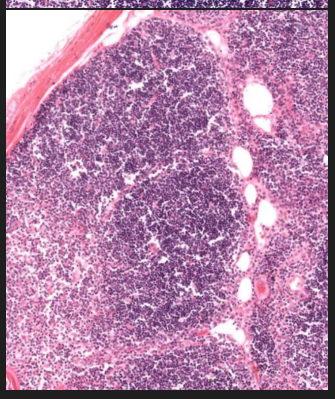
- **Capsule (neonatal/adult)**: thin connective tissue layer surrounding the thymus that extends inwards to form incomplete lobules.



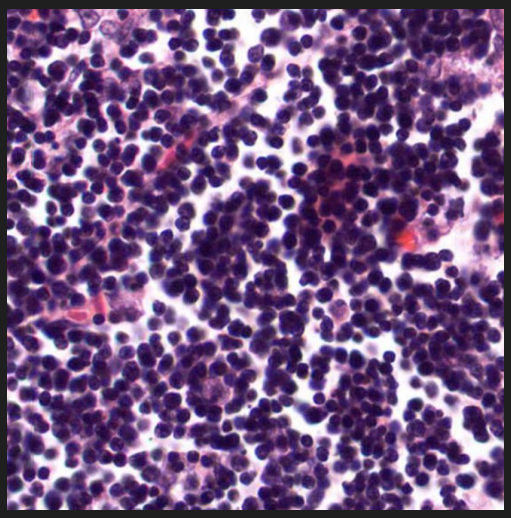


- **Cortex (neonatal/adult)**: outer darker, region of small lymphocytes.

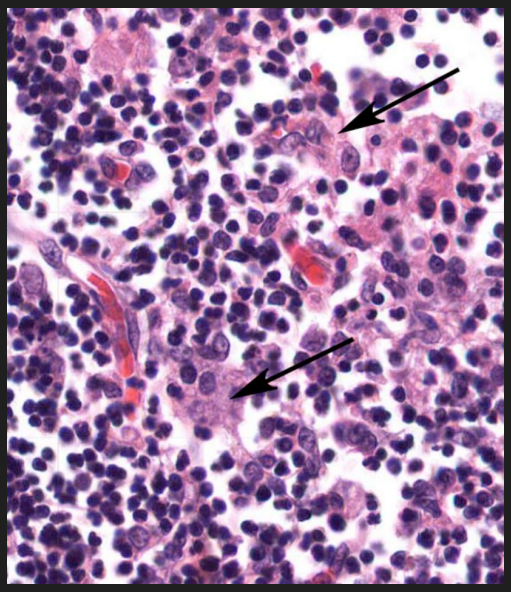




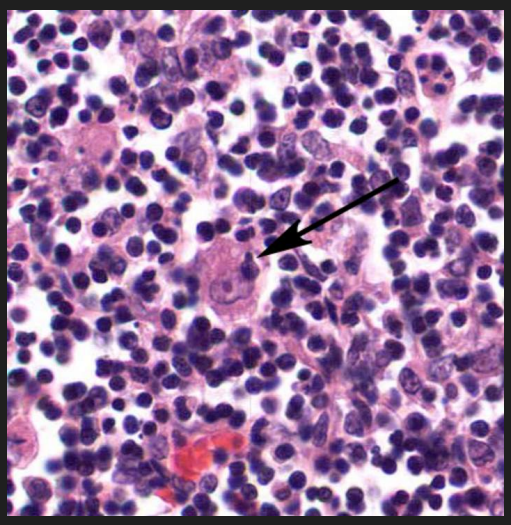
- **T Lymphocytes**: small nuclei of condensed chromatin.



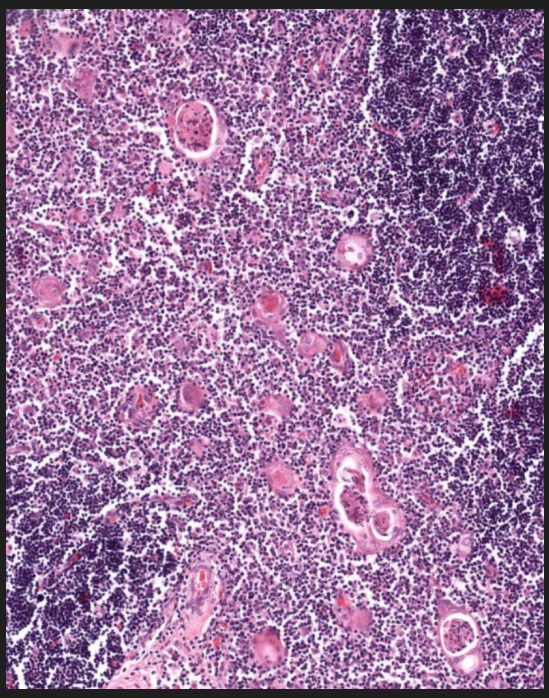
- **Epithelial Reticular Cells**



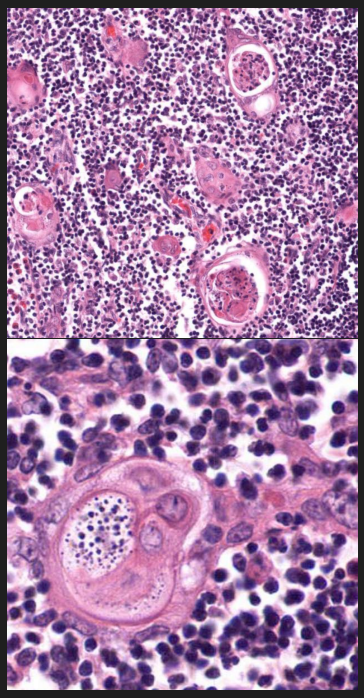
- **Macrophages**: large cells that phagocytize T cells marked for removal.



- **Medulla**: inner, lighter region of larger lymphocytes.



- **Hassal's Corpuscles**: closely packed, concentrically arranged epithelial reticular cells.



Spleen

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Questions

1. Which lymphatic organs have afferent lymphatic vessels
2. How do lymphocytes enter:
   (a) Lymph nodes
   (b) MALT
3. What are the components of the blood thymic barrier?
4. Which of the lymphatic organs filters blood?

Digestive

Tongue

-

Esophagus

-

Junction Esophagus and Stomach

- How can you diagnose whether you are looking at the upper or lower portion of the esophagus?

Stomach

- To what ultrastructural feature does the brush border correspond?

Small Intestine

-

Large Intestine

-

Rectum and Anal Canal

-

Appendix

-

Parotid Gland

-

Liver

-

Gall Bladder

-

Pancreas

- Why can the liver be characterized as both an exocrine and endocrine organ?
- What are the secretory products of the exocrine pancreas?
- What is the major factor controlling insulin secretion?

Week 7: Respiratory, Integument, Urinary

Week 8: Endocrine, Male Reproductive

Week 9: Female Reproductive, Eye, Ear