Lecture Note Objectives: Lymphatic System and Immunity (Body Defenses)

Textbook: Chapter 12 The Lymphatic System and Body Defenses

Suggested: Read the textbook to help clarify (clear up) definitions and concepts (ideas) that are used in the Introduction Lecture Notes.

For ALL topics: Use and define all terminology.

1) Topic: Introduction
   - Describe the two basic functions of the lymphatic system.
   - List the organs of the lymphatic system.
   - Compare/contrast between blood capillaries and lymphatic vessels.
   - Distinguish between interstitial fluid, lymph, plasma.
   - Explain edema.
   - Describe the general function(s) and location of the different lymphatic organs.

2) Topic: Immune Response
   - Define/describe the molecules that are antigenic (antigens).

3) Topic: Nonspecific Immunity
   - Briefly describe the general characteristics of the nonspecific immune response.
   - Identify the structures that carry out nonspecific immunit.
   - List and describe the structures that are involved with the 1st line of defense.
   - Explain the difference between 1st line and 2nd line of defense.
   - List the different types (cells, processes and molecules) of 2nd line of defense.
   - Describe how phagocytes kill invaders and provide examples of phagocytic cells.
   - Describe how natural killer cells kill and what types of cells are killed.
   - Describe the process, signs, purpose of inflammation.
   - Describe where Complement is located and how it kills pathogens.
   - Explain the role of interferon in minimizing the spread of viruses to adjacent cells.
   - Describe the purpose of fever.

4) Topic: Specific Immunity
   - Briefly describe the general characteristics of the specific immune response.
   - Compare/contrast the formation, maturation, and function of the different lymphocytes.
   - Explain the process of antibody mediated immunity. How it is activated, the cell populations that are formed, the role of these cells, and clonal selection.
   - Explain why antibody production increases exponentially the second time an individual encounters an antigen.
   - Describe the structure/functions of the different types of antibodies.
   - Explain the process of cell-mediated immunity. How it is activated, the cell populations that are formed, the role of these cells and clonal selection.
   - Identify the type of lymphocyte that would be involved with killing an invading bacterial pathogen, cancer cell, and foreign/implanted tissues.

3) Topic: Induced Immunity

   Compare/contrast between active and passive immunity.

   For each type, active and passive, explain the difference between natural and artificial. Provide examples for each.