Lymphatic System Study Guide

* Functions
* Lymphatic vessels
* How does lymph move through the body?
  + Capillaries, vessels, veins in thorax
* Lymph nodes- what is their function? What are in high density in lymph nodes?
* What is the fluid in lymph vessels called?
* What moves lymph around?
* What is an edema?
* What do the spleen and thymus do?
* Nonspecific immune response
  + Collectins- bind to carbohydrate molecules on pathogen- make them easier for macrophage detection
  + Defensins- bind to pathogen and make the pathogen’s cell membrane unstable
  + Interferons- proteins that inactivate virus and alarm other cells of the infection
  + Inflammatory response- mast cells dilate blood vessels using histamines. The dilated blood vessels allow macrophages and other phagocytic cells to leak through and engulf the pathogens.
  + Fever- raising the body’s temperature often helps to destroy pathogens because the high temperatures remove iron from your body, which is needed for the pathogen.
  + Mucus, stomach acid, skin (first line of defense)
* Specific immune response
  + Humoral
    - Pathogen, antigen
    - B-cells
    - Helper T-cells
    - Plasma cells and antibodies
    - Memory B-cells
    - Marking of pathogen for easy engulfment by phagocytic cells
  + Cell-mediated
    - Macrophage
    - Helper T-cell
    - Cytotoxic T-cell
    - Destroys any of your infected cells
* Allergies
  + What are they caused by?
* Vaccines
  + What do they consist of?
  + What is the history for these and the fight against pathogens?
    - Jenner
    - Lister
    - Pasteur
    - Flemming
* Antibiotic-resistant bacteria
  + What is creating them?
  + What are they?