The Immune System Guided Notes

**The Body’s Line of Defense**

The Body has three lines of defense against pathogens:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ skin, breathing passages, mouth, and stomach trap and kill most pathogens.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fluid and some WBC’s leak from blood vessels into tissues to fight pathogens.
   * + The WBC’s are called phagocytes- they engulf and destroy the pathogens.
     + Inflammatory responses include a red, swollen, warm area and sometimes fever.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_these cells can distinguish between different kinds of pathogens and react to each kind with a specific defense.

**Lymphocytes**

WBC’s that target specific pathogens are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2 Major types:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- identify pathogens by recognizing their antigens.

Antigens are molecules that the immune system recognizes as either a part of your body or coming from outside your body.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- produce chemicals called antibodies.

Antibodies bind to antigens and destroy them.

Each kind of B Cell produces an antibody that can only bind to one kind of antigen.

**Non-Infectious Disease**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_are NOT caused by micro-organisms and are NOT spread from person to person.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- the immune system is overly sensitive to a foreign substance- something not normally found in the body.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- when either your pancreas fails to produce enough insulin or your body’s cells cannot use it properly. As a result, there are high levels of glucose in the blood and glucose is excreted in the urine. The body cells do not contain enough glucose.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- a disease in which cells multiply uncontrollably, over and over, destroying healthy tissue in the process.

**Preventing Infectious Disease**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the body’s ability to destroy pathogens before they can cause disease.

* Two types of immunity:
  1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- antibodies come from the person
  2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- antibodies come from outside the person

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -occurs when a person’s own immune system produces antibodies in response to the presence of a pathogen.

* T Cells and B Cells help destroy pathogens and keep a “memory” of the pathogen’s antigen.
* Lasts for many years and sometimes for life. Ex: chicken pox.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- (immunization)- harmless antigens are deliberately introduced to a person’s body to produce active immunity

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- the substance used in vaccinations. Consists of pathogens that have been weakened or killed.

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- when the antibodies that fight the pathogen come from another source rather than the person’s own body.

* + Lasts no more than a few months.
  + Babies acquire passive immunity to some diseases before birth from their mother.
  + You develop immunity from some diseases because you have had them before or you have been vaccinated. You will still become sick from them from time to time.
  + Antibiotics - chemicals that kill or slow down the growth of bacteria.
  + No medications cure viral illnesses!!