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Medical Assisting Lab 3

Objective Questions

Week 5

June 6, 2020

1. The chain of infection consists of what six parts?

The chain of infection starts with the infectious agent, to the reservoir host, to the portal of exit, to the mode of transmission, to the portal of entry, to the susceptible host. These are the six parts of the chain of infection.

2. What are some of the body's natural protective mechanisms?

Our human natural protective mechanisms protect us against the invasion of pathogens. For example, our skin serves as a natural barrier for disease. The cilia line the respiratory tract and move in a special upward motion to expel trapped foreign substances. Some of our body secretions, such as our tears, have antimicrobial properties that help destroy pathogens as they invade. Lastly, the natural pH of the body's organs will discourage the growth of microbes. For example, the acidic pH of urine, vaginal mucosa, the stomach will help fight from pathogenic invasion.

3. What are the 4 classic symptoms of inflammation?

The four classic symptoms of inflammation are redness (erythema), swelling (edema), pain, and heat.

4. Are antibiotics able to destroy viral infections? Why or why not?

Antibiotics are unable to destroy viral infections. The only way to destroy a viral invader is to destroy the host cell. Viruses are not cells, they are parasites within a cell.

5. What is antibiotic resistance?

Antibiotic resistance is one of the largest public health problems. It occurs when an antibiotic is used inappropriately to treat a bacterial or fungal infection. This allows the pathologic organism to change or mutate, which reduces the effectiveness of the drug. Resistance can happen when an antibiotic is prescribed when it is not needed, when it is prescribed at a lower dosage than needed, or if an antibiotic is not taken as prescribed. Antibiotics should always be taken for the full period of prescription to properly treat the infection.

6. Humoral immunity may be acquired in more than 1 way. What are the ways? Briefly explain the difference.

Humoral immunity is the process of the immune system producing antibodies specifically designed to fight the presence of a foreign antigen. There are two ways that antibodies can be acquired, actively or passively. With actively acquired immunity, the body actively makes antibodies after exposure to the disease-causing antigen. This could either be a result of having the disease, or from a vaccination. Passively acquired immunity is when the body is given the antibodies without having to work for them. For example, when the body acquires the antibody through breastfeeding.

The difference between the two is that active acquired immunity makes its own antibodies, whereas passive acquired immunity the antibodies are given to them. Active acquired immunity requires one to become exposed to pathogens, and is short lasting. Passive acquired immunity is not from being exposed to pathogens, and is short lasting.

7. Name the four different types of infections and describe the difference of each.

An acute infection has rapid onset of symptoms, but lasts a short amount of time. A chronic infection is one that continues for a long period of time, and sometimes lasts for life. A latent infection is a persistent infection where the symptoms cycle through periods of relapse and remission throughout the infection. An opportunistic infection is caused by an organism that is not typically pathogenic, but they do cause disease under certain special circumstances.

8. What is the minimum amount of time that the CDC recommends that hands be washed?

When washing hands first thing in the morning, CDC recommends that you spend at least a minute on the scrubbing aspect. For hand washing throughout the day, CDC recommends that you wash your hands for 15 seconds at least.

9. If the eyes come into contact with a bodily fluid, how long should they be continually flushed using an eye wash unit?

If the eyes come in contact with body fluids, they should be flushed as soon as possible with warm water for a minimum of 15 minutes.

10. How long after completing the Hepatitis B Vaccine series should antibody testing be performed?

After the three doses of Hep B vaccine, most patients develop the antibody response. Antibody testing should be done 1 to 2 months after you complete your Hep B vaccine series.

11. Briefly describe the difference between medical asepsis and surgical asepsis.

Medical aspesis is the removal or destruction of pathogens. This technique is used to reduce the number of microorganisms as much as possible. Surgical asepsis is the destruction of all microorganisms. The difference between the two is the

strength that they have. Medical asepsis kills some microorganisms whereas surgical asepsis will destroy them all.

12. What are the two types of microorganisms normally found on the skin?

Normal resident flora and transient flora are the two microorganisms normally found on the skin. Normal resident flora is harmless and transient flora can be bacteria, viruses, and other microorganisms.

13. Medical aseptic hand washing or alcohol-based hand sanitizer should be used when (at minimum)?

Medical aseptic hand washing or alcohol-based hand sanitizer should be used whenever you come in contact with a patient. This means after you finish with one patient and before you attend to another patient. Also, after you finish handling one specimen and before you handle another specimen. Use these techniques after you use toiled facilities, whenever you touch something contaminated, after removing gloves, and before and after eating. You should also wash your hands and use sanitizer when you arrive to work your shift, and before leaving the facility.

14. Briefly describe the difference between Sanitation, Disinfection, and Sterilization?

Sanitization is a cleaning process that reduces the number of microorganisms to a safe level. Whereas disinfection is the process of killing pathogenic organisms or rendering them inactive. Sterilization is killing all microorganisms on an object, and essential for surgical asepsis. They are all different terms that mean different things, and they all kill microorganisms at different strengths.

15. What are the 3 levels of disinfectants as defined by the CDC and what are they used for?

Low-level disinfectants can kill most vegetative bacteria, some fungi, and some viruses. These disinfectants will be used to disinfect exam tables and countertops in the office.

Intermediate-level disinfectants can kill mycobacteria, vegetative bacteria, and most viruses. Although, they do not kill spores. These would be used to disinfect medical instruments such as stethoscopes in the office.

High-level disinfectants will kill all microorganisms except for large numbers of bacterial spores. These would be used for semi critical items, such as flexible fiberoptic sigmoidoscope.