Answers

CHAPTER 8
NURSING CARE OF PATIENTS WITH INFECTIONS

AUDIO CASE STUDY

Tesha and Treating Patients With Infections

1. It is hard to treat, has a high mortality rate, and affects mainly older adults and the chronically ill.
2. The assumption that all patients and their body fluids and substances are infectious regardless of their diagnosis.
3. Direct or indirect contact.
4. Tesha washes her hands; when she gets home, she puts her uniform in the washing machine and steps into the shower. Afterward, she cleans her shoes and stores them in a container.
5. **S**: Patient, 78, has methicillin-resistant *Staphylococcus aureus* (MRSA).
   B: Patient has multiple comorbidities that increased susceptibility to MRSA.
   A: Standard and contact precautions are being used to protect other patients and the staff.
   R: Continue to utilize standard and contact precautions when caring for patients.

VOCABULARY

Sample sentences will vary for the Vocabulary problems.

Antigen

Definition: A protein marker on a cell's surface that identifies the cell as self or nonself.

Asepsis

Definition: A condition free from germs, infection, and any form of life.

Bacteria

Definition: One-celled organisms that can reproduce but need a host for food and a supportive environment. Bacteria can be harmless normal flora or disease-producing pathogens.

Clostridioides difficile (C. diff)

Definition: A gram-positive bacteria normally found in the intestine that can multiply and release toxins that cause diarrhea after antibiotic therapy that disrupts the microbiota.

Hand hygiene

Definition: Cleansing of the hands with hand washing or alcohol-based hand rubs.

Pathogens

Definition: Microorganisms or substances capable of producing a disease.

Personal protective equipment

Definition: Items such as gloves, gowns, masks, goggles, and face shields that help prevent the spread of infection to those wearing them.

Phagocytosis

Definition: Ingestion and digestion of bacteria and particles by phagocytes that destroy particulate substances such as bacteria, protozoa, and cell debris.

Sepsis

Definition: Life-threatening organ dysfunction caused by dysregulated host response to infection.

Virulence

Definition: The ability of the organism to produce disease.

Viruses

Definition: Small intracellular parasites that can live only inside cells and may produce disease when they enter a cell.

PATHOGEN TRANSMISSION

1. (**4**)
2. (**4**)
3. (**3**)
4. (**4**)
5. (**2**)
6. (**2**)
7. (**3**)
8. (**2**)
9. (**3**)
10. (**1**)

PATHOGENS AND INFECTIOUS DISEASES

1. staphylococci
2. fungi
3. *Candida albicans*
4. Epstein-Barr
5. pneumonia (histoplasmosis)
6. toxoplasmosis

7. protozoa
8. *Clostridioides difficile*
9. viruses
10. rickettsia

CRITICAL THINKING AND CLINICAL JUDGMENT

1. Mask, gown, gloves, a sign reading "Contact Precautions," soap and paper towels, special bags for linen and trash.
2. Disposable thermometer, blood pressure cuff, stethoscope, grooming items, bedpan, bathing equipment, and sharps container that all remain in the room. Nondisposable intravenous (IV) equipment such as a controller pump and any other equipment needed for the care of the patient must be able to be disinfected.
3. *C. diff*
4. Because visitors are limited, the patient has few social contacts and may lack a support system. Environmental stimuli are limited. Activities are limited. Patient is dependent on others for some needs due to confinement.
5. Bundle as many interventions together as possible to complete at the same time to conserve PPE. Ensure that all the necessary supplies are available prior to room entry to prevent having to leave the room to obtain them.
6. Always answer call light promptly. Allow visitors as appropriate and instruct them on how to implement isolation precautions and wear appropriate PPE. Encourage contact via telephone or technology with family and friends who cannot visit. Maintain a cheery environment; open curtains; maintain sensory stimuli by remaining with the patient as long as possible. Encourage diversional activities and things the patient likes to do, such as TV or reading books.

REVIEW QUESTIONS

*The correct answers are in **boldface**.*

1. (**3**) is correct. Hand hygiene is essential to help prevent transmission of infectious organisms (1, 2, 4) are not the most important actions.
2. (**2, 4, 5**) are correct. Applying lotion to skin, the first line of defense, prevents dryness and cracking. Repositioning and keeping skin clean and dry prevents skin breakdown. (1, 3) do not apply to the health of the skin.
3. (**4**) is correct. Health care–associated infections result from care received from health care facilities. (1) the patient's infection occurred prior to hospitalization. (2) is due to a sexually transmitted infection that is not related to receiving health care. (3) is a chronic infection in a person who is at home, not in a health care agency.
4. (**4**) is correct. Vancomycin is the treatment of choice for methicillin-resistant *Staphylococcus aureus* (MRSA). (1, 2, 3) are incorrect. They are not used to treat MRSA.
5. (**3**) is correct. An elevated low-grade temperature when immunocompromised (neutropenia) can be very significant and is the priority to report. (1, 2, 4) are not the greatest priority to report.
6. (**2, 3, 5, 6**) are correct. Stethoscopes can be contaminated with harmful organisms and should be cleaned before and after each patient use. Hand hygiene before and after patient contact is considered the most important method of infection prevention. Patient hand hygiene is often overlooked as a key link in preventing health care–associated infection. It should be done after toileting, before meals, when handling own secretions, upon return to own room, and throughout the day as needed. (1) Hands cannot be sterilized. (4) Gloves are worn only during certain procedures when the caregiver is likely to come in contact with blood or body fluids. Even when gloves are worn, hand washing before and after wearing the gloves is essential for infection control.
7. (**1, 5**) are correct. All patient allergies must be checked before a medication is given to prevent an allergic reaction. The wound culture must be obtained before antibiotic therapy is started to accurately detect the pathogen to treat. (2, 3, 4) These items are not related to giving the antibiotic.
8. (**1, 5**) are correct. COVID-19 and tuberculosis are transmitted by airborne transmission, and anyone entering the room of a patient who has one of these diseases must wear a fit-tested high-efficiency particulate air (HEPA) mask, which filters the tiniest particles from the air. Other types of masks and personal protective equipment will not provide protection from airborne pathogens. (2, 3, 4) are not transmitted by air.
9. (**5, 6**) are correct. The only way to obtain a sterile specimen is to catheterize the patient, and the specimen must be placed into a sterile specimen container. (1, 2, 3, 4) are incorrect because any voided specimen is contaminated and not sterile.
10. (**1**) is correct. Urinary catheters are a cause of health care–associated infections and should be avoided if possible. (2, 3, 4) do not prevent infection, and restricting fluids may promote dehydration and infection.
11. (**4**) is correct. A high fever indicates that the patient has likely developed a secondary bacterial infection. (1, 2, 3) are incorrect. Viral infections such as the common cold are usually associated with a low-grade fever. Symptoms of the common cold include stuffy nose with watery discharge, scratchy throat, dry cough, sneezing, and watery eyes.
12. (**1**) is correct. A culture identifies pathogen presence. (2) A drug level or peak and trough would measure antibiotic levels. (3) A sensitivity report would indicate which pathogens are sensitive to certain antibiotics. (4) Dosage is not determined by a culture.
13. (**2, 4, 5**) are correct. Irritability, restlessness, and pacing behavior can be signs of infection in an older adult. (1, 3, 6) are not signs of infection.
14. (**2**) is correct. Sterile water should be used instead of tap water for an immunocompromised patient to prevent infection. (1, 3, 4) are appropriate actions, so they would not require further instruction.

15. (**3**) is correct. Maintaining a closed urinary drainage system is essential to prevent contamination. (1, 2, 4) are not the most important actions to take to prevent a urinary tract infection although they should be done.
16. (**1**) Take all of the medication as ordered to help prevent relapse and development of bacterial resistance. Do not stop it early unless instructed to do so. (2) Medication should only be used at the time it was prescribed, as it may not be exactly the same condition and the medication could expire. (3) To prevent resistance from developing, it is essential to take the full prescription as ordered. (4) Taking half the prescribed dose of medication may not cure the infection. If financial assistance it needed, a referral can be made.
17. The most essential personal protective equipment, a fit-tested disposable respirator is worn by the nurse prior to entering the room of a patient with tuberculosis.