

SECTION III CLINICAL PROCEDURES

UNIT 6 INTEGRATED CLINICAL PROCEDURES

CHAPTER 22

INFECTION CONTROL AND MEDICAL ASEPSIS

Overview

The principles and practices of infection control are critical to creating and maintaining a safe environment for patients, health care professionals, and visitors in an ambulatory care setting. Medical assistants who are in contact with patients and participate in medical and surgical procedures in the course of their workday must observe infection control techniques to achieve medical and surgical asepsis. Medical-assisting students are presented with the underlying theories of infection control, including principles of immunity, classifications of infectious agents, and related means of transmission and symptoms. Students learn how to sanitize and disinfect the instruments and equipment frequently used in the ambulatory care setting. Quality control and maintenance procedures are stressed as being equally important aspects of maintaining proper infection control standards.

Lesson Plan

I. LEARNING OUTCOMES	ABHES	CAAHEP
A. Define, spell, and pronounce the key terms as presented in the glossary.		
B. Define and state the critical importance of infection control in the ambulatory care setting.	MA.A.1.9.b,	III.C.3.
C. Outline the six stages in the infection cycle.		III.C.1.
D. Define the five classifications of infectious microorganisms.		III.C.5.
E. Recall and elaborate on the four phases the immune system uses to defend against infectious disease.	MA.A.1.2.c	I.C.5
F. State the four stages of infectious diseases.	MA.A.1.2.d	III.C.1.
G. Recall at least five infectious diseases, their agents of transmission, and their symptoms.	MA.A.1.2.d	III.C.5.
H. Compare the routes of transmission of AIDS and hepatitis B and C and discuss the risk for infection from needlesticks.		III.C.1
I. Describe the purpose of Standard Precautions and give six examples of ways health care providers should practice Standard Precautions.	MA.A.1.9.i	III.C.11.
J. Differentiate among the three types of Transmission-Based Precautions, defining what they are and how they are applied.	MA.A.1.9.i	III.C.11
K. List eight types of body fluids and give an example of each.		
L. Identify appropriate personal protective equipment for potentially infectious situations.	MA.A.1.9.i	III.C.4, 11, 12
M. Recognize five situations in which an exposure to a patient's blood can occur, and discuss why Standard Precautions are important.		III.C.12.b
N. Describe proper disposal of infectious waste.	MA.A.1.10.c	III.C.3.
O. Identify the role of the Centers for Disease Control regulations in health care settings.		III.C.13.
P. List human fluids that might contain HIV, HBV, and HCV.		III.C.5
Q. Define medical asepsis.	MA.A.1.9.b	III.C.8
R. Define bioterrorism and describe five agents that could be used in a bioterrorism attack.	MA.A.1.9.e	
S. Analyze the professionalism questions and apply them to this chapter's content.		

II. PROFESSIONALISM QUESTIONS

- A. Presentation
 1. Did your actions attend to both the psychological and the physiological aspects of the patient's illness or condition?
- B. Competency
 1. Did you pay attention to detail?
 2. Were you knowledgeable and accountable?
 3. Did you apply critical thinking skills in performing patient assessment and care?
 4. Did you recognize the importance of local, state, and federal legislation and regulations in the practice setting?
- C. Initiative
 1. Did you seek out opportunities to expand your knowledge base?
 2. Did you direct the patient to other resources when necessary or helpful, with the approval of the provider?
- D. Integrity
 1. Did you work within your scope of practice?
 2. Did you protect and maintain confidentiality?

III. REFERENCES

- A. Lindh, Wilburta Q., Pooler, Marilyn S., Tamparo, Carol D., Dahl, Barbara M., & Morris, Julie A., *Delmar's Comprehensive Medical Assisting: Administrative and Clinical Competencies*, 5e
- B. See text Chapter 22, References/Bibliography
- C. Any other teacher-preferred reference material

IV. VISUAL AIDS

- A. Computer access to identified Internet resources
- B. Any other teacher-preferred visual aids (PowerPoints, etc.)

V. EQUIPMENT AND MATERIAL

- A. Computer, TV monitor, and Internet access
- B. Whiteboard or overhead projector
- C. Disposable gloves, heavy-duty gloves
- D. Liquid soap
- E. Water-based antibacterial lotion
- F. See IV: Visual Aids

VI. SAFETY

- A. Basic classroom procedures
- B. Follow Standard Precautions
- C. Handle patients with care and discretion
- D. Be aware of medico-legal concerns for the responsibility of the safety of those who enter premises
- E. Check electrical cords and outlets

VII. PREPARATION

- A. Arrange for visual aids equipment.
- B. Collect materials.
- C. Review Chapter 22 in the text, the Study Guide, the Competency Manual, and the Instructor's Manual.

VIII. INTRODUCTORY REMARKS/ACTIONS

- A. Read Learning Outcomes in the text with students to introduce the chapter.
- B. Ask, "Let's see a show of hands of how many of you have ever had the common cold."
- C. Ask, "Can anyone explain why the common cold is really so 'common?'"

IX. PRESENTATION

- A. Impact of Infectious Diseases
 1. Louis Pasteur and Robert Koch
 2. Antibiotics and vaccines

3. Edward Jenner
 4. Epidemiology
 5. Infection control and prevention
 6. Resistant microorganisms
 7. Bloodborne pathogen transmission
 8. Increased immunosuppressed populations
 9. Global access
 10. Effect that infectious diseases have on lifestyles
- B. The Process of Infection
1. Caused by pathogenic microorganisms capable of causing disease
 2. Normal flora
 3. Similar steps occur in all infectious diseases
 4. Apply theory of disease growth and transmission
- C. Infection Cycle
1. Infection Agents
 - a. Viruses
 - b. Bacteria
 - c. Fungi
 - d. Parasites
 - e. Rickettsiae
 - f. Prions
 2. Reservoir
 3. Portal of Exit
 4. Modes of Transmission (discuss the Critical Thinking box)
 5. Portal of Entry
 6. Susceptible Host
- D. The Body's Defense Mechanisms for Fighting Infection and Disease
1. The Body's Natural Barriers
 2. Inflammatory Response—steps to inflammatory process
 3. The Immune System and Immunity
 4. Immunization
- E. Stages of Infectious Diseases
1. Incubation stage
 2. Prodromal stage
 3. Acute stage
 4. Declining stage
 5. Convalescent stage
- F. Disease Transmission
- G. Acquired Immunodeficiency Syndrome and Hepatitis B and C
1. AIDS
 2. Acute Viral Hepatitis Diseases
 - a. Symptoms of hepatitis B and hepatitis C
 3. Transmission of HIV, HBV, and HCV
- H. Principles of Infection Control
- I. The Centers for Disease Control and Prevention (CDC)
1. Role in infection control
 2. Standard Precautions
 3. Transmission-Based Precautions (see Procedure 22-3 in the text)
 - a. Blood and Body Fluids (discuss the Critical Thinking box)
 - b. Personal Protective Equipment (PPE)
 - c. Needlesticks
 - d. Disposal of Infectious Wastes
 - e. Education institutions and standard precautions

- J. Occupational Safety and Health Administration (OSHA) Regulations
 - 1. The Bloodborne Pathogen Standard
 - a. Blood and other potentially infectious material (OPIM)
 - b. Bloodborne pathogens
 - c. Exposure determination
 - d. Plan to control exposure
 - e. Methods of compliance to prevent exposure
 - 2. OSHA Regulations and Students
 - a. Avoiding Exposure to Bloodborne Pathogens
- K. Medical Asepsis
 - 1. Hand Washing (hygiene) (see Procedure 22-1 in the text)
 - 2. Removal of contaminated gloves (see Procedure 22-2 in the text)
 - 3. Sanitization (see Procedure 22-4 in the text)
 - 4. Disinfection
- L. Sterilization
- M. Bioterrorism
 - 1. Agents
 - 2. Transmission
 - 3. Vaccine availability and treatment
- X. APPLICATION
 - A. Use the Learning Outcomes at the beginning of Chapter 22 in the text as the basis for questions to assess comprehension.
 - B. See the Classroom Activities section below for numerous application activities.
 - C. Assign students to complete Chapter 22 in the Study Guide.
 - D. Complete the Procedures in Chapter 22, using the Competency Manual to evaluate.
 - E. Show and critique the audiovisual supplements for this chapter.
- XI. EVALUATION
 - A. Evaluate any assigned application activities.
 - B. Evaluate student participation during presentation.
 - C. Grade responses to Chapter 22 in the Study Guide.
 - D. Evaluate student performance on Chapter 22 Procedures.

Classroom Activities

1. Show a video on infection control. (Check with an individual charged with infection control at your local hospital.)
2. Have students bring in newspaper and magazine articles about communicable diseases and report to the class.
3. To make students aware of how disease can be transmitted from one person to another, have the students role-play as though one student has a communicable disease. Then have that person shake hands with another student, who in turn shakes hands with another, and so on, until the whole class is “infected.” Discuss the infection cycle and how to break it, starting with proper, frequent hand washing.
4. Direct class discussion in the importance of personal hygiene and cleanliness.
5. Have students sanitize contaminated instruments.
6. Have students make index cards with the names of diseases, symptoms, treatment, means of transmission, and incubation periods. Have them submit the cards to you for checking. Allow them to use the cards to quiz each other.
7. Invite a speaker from the health department to talk to the class about community health issues and infectious diseases.
8. Provide a supply of PPE and a set of index cards with procedures that might be performed in a providers setting. Allow the students to pull an index card and select the appropriate PPEs to don in order to participate in the procedure.

Answers to Critical Thinking Boxes

View Figure 22-1, the diagram of the infection cycle. Which stage most appropriately relates to you as a health care provider?

The health care provider can have an impact on any stage of the infection cycle. However, Means of Transmission is the stage at which a health care provider can interrupt the cycle and stop the transmission of disease. This is accomplished by hand washing, proper disposal of contaminated objects, medical or surgical asepsis, wearing gloves, masks, gowns, and goggles.

Give eight examples of body fluids considered to be biohazardous substances. Explain under what circumstances medical assistants could become exposed to blood and body fluids.

Eight examples of body fluids considered to be biohazardous are: (1) blood, (2) vaginal secretions, (3) semen, (4) feces, (5) vomit, (6) sputum, (7) saliva, and (8) cerebral spinal fluid. Medical assistants can be exposed to blood and body fluids daily when working with patients. Blood drawn during venipuncture, the drainage from a wound, vaginal secretions during a gynecologic exam, semen for analysis of sperm count, vomitus, and any other body fluid with or without visible blood and blood itself are all ways that medical assistants could become exposed to blood and body fluids.

Answers to Case Studies

Case Study 22-1

Refer to the scenario at the beginning of the chapter.

1. Explain the importance of including the entire staff at the health care provider's clinic in the educational activity regarding infection control.

All members of the staff are important in breaking the chain of infection at the means of transmission link. If all staff have an understanding of the infectious agent and its mean of transmission, they will be able to assist patients of the practice to utilize cough etiquette and hand washing to limit exposure to the virus by staff members and other patients.

2. Make a list of websites that provide important information that is updated regularly on the current "best practices" for Healthcare Associated Infections and infection control.

There are any number of possible web sites. Those most often referred to are:

<http://www.cdc.gov/hai/>

<http://www.hhs.gov/ash/initiatives/hai/index.html>

<http://www.ahrq.gov/qual/hais.htm>

<https://www.bd.com/hais/>

Case Study 22-2

Your provider has asked you to take the lead in educating the staff on a monthly basis regarding cleaning and proper care of the instruments commonly used in the practice. Identify the appropriate care and methods of preventing the spread of pathogens and prepare one update that is appropriate for a general medicine practice.

1. How often should this information be updated?

Include the following in an exposure control plan for blood or OPIM:

Exposure determination requires an employer to list all job classifications in which all employees in those jobs are exposed to blood and OPIM in the course of doing their job. Existing job descriptions can be used by the employer to identify the job categories that are at high risk for exposure to blood or OPIM. It is important that exposure determination be made without regard to the use of PPE.

The plan must consist of methods of compliance for prevention of exposure, hepatitis B vaccination, past exposure evaluation, communication of hazards to employees, documentation of the Bloodborne Pathogens Standard, and a procedure for the determination of the events surrounding the exposure.

The written plan must be employee accessible, updated at least annually, and modified when necessary and appropriate, especially to reflect a change in employee positions.

Answers to Certification Review

1. b. Centers for Disease Control and Prevention
2. a. reducing the transmission of HIV, HBV, and HCV infections
3. a. reservoir
4. b. prodromal stage
5. d. b and c
6. b. Incubation, prodromal, acute, declining, convalescent
7. c. Droplet
8. b. Medical asepsis
9. c. 0.3%
10. c. Portal of entry

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