

Component I: Core

Module C: Safety

Topic 2: Hazardous and Biohazardous Waste

Statement of Purpose

To prepare the learner with the basic knowledge and skills necessary in handling and disposing of hazardous and biohazard waste.

Student Learning Outcomes

Upon completion of this topic, the learner will be able to:

1. Spell and define key terms.
2. Recognize common hazardous waste material in the medical office and clinic.
3. Describe Hazard Communication Standard.
4. List five components of the Material Safety Data Sheet (MSDS).
5. Identify elements of OSHA Bloodborne Pathogen Standard.
6. Discuss how to dispose of hazardous and biohazardous waste.
7. Discuss two ways in which medical offices can choose to handle laundry and contaminated linen.
8. List needle safety and disposal methods.

Terminology

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| 1. Acetic acid | 18. Gown |
| 2. Acetone | 19. Hazard communication standard |
| 3. Biohazardous waste | 20. Hazardous waste |
| 4. Bleach | 21. Infectious waste |
| 5. Bloodborne pathogen | 22. Mask |
| 6. Body fluid | 23. Material Safety Data Sheets (MSDS) |
| 7. Biohazard container | 24. Mercury |
| 8. Compliance | 25. Pathogen |
| 9. Contaminate | 26. Photochemical materials |
| 10. Contract | 27. Photocopier toner |
| 11. Contaminate | 28. Podophyllin |
| 12. Cytotoxin | 29. Quality control |
| 13. Ethyl alcohol | 30. Sharps container |
| 14. Formalin | 31. Spill kit |
| 15. Gloves | 32. Standard precautions |
| 16. Glutaraldehyde | |
| 17. Goggles | |

References

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4. Lindh, W., Pooler, M., Tamparo, C. & Dahl, B., (2013). *Comprehensive Medical Assisting Administrative and Clinical Competencies* (5th Ed.). Clifton Park, NY: Delmar, Cengage Learning.
5. Kronenberger, J., Southard D. L., & Woodson, D. (2012). *Comprehensive Medical Assisting* (4th Ed.). Philadelphia, PA: Lippincott, Williams & Wilkins.
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7. Dennerll, J.T., & Davis, P.E. (2010). *Medical Terminology: A Programmed Systems Approach* (10th Ed.). Clifton Park, NY: Delmar, Cengage Learning.
8. Proctor, D. B., & Young-Adams, A. P. (2011). *Kinn's The Medical Assistant: An Applied Learning Approach* (11th Ed.). Philadelphia, PA: Saunders Elsevier.

Websites

1. <http://www.osha.gov/index.html>

Content Outline/Theory Objectives	Suggested Learning Activities
<p>Objective 1 Spell and define key terms.</p> <ul style="list-style-type: none"> A. Review the terms listed in the terminology section. B. Spell the listed terms accurately. C. Pronounce the terms correctly. D. Use the terms in their proper context. 	<ul style="list-style-type: none"> A. Games: word searches, crossword puzzles, Family Feud, Jeopardy, bingo, spelling bee, hangman, and concentration. B. Administer vocabulary pre-test and post-test. C. Discuss learning gaps and plan for applying vocabulary.
<p>Objective 2 Recognize common hazardous waste material in the medical office and clinic.</p> <ul style="list-style-type: none"> A. Occupational Health and Safety Act sets minimum requirements for workplace safety. B. Requires employers to keep inventory of all hazardous materials used in workplace. C. Containers of hazardous substances need to be labeled, listing any potentially harmful ingredients. D. Employer must post material safety data sheets (MSDS) about hazardous substances that list potential risks and OSHA requirements for controlling exposure. E. Examples of hazardous materials <ul style="list-style-type: none"> 1. Ethyl alcohol 2. Bleach 3. Formalin 4. Acetone 5. Mercury 6. Glutaraldehyde 7. Acetic acid 8. Cytotoxin 9. Podophyllum 10. Photocopier toner 11. White Out 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings C. Use posters/videos/computer assisted learning/workbook activities. D. Review manufacturer information. E. Review http://www.osha.gov/index.html
<p>Objective 3 Describe Hazard Communication Standard.</p> <ul style="list-style-type: none"> A. Requires that employees receive training regarding workplace hazards, including how to interpret documentation about hazardous waste. B. Correctly label hazardous waste containers. C. Employees have access to information about materials <ul style="list-style-type: none"> 1. How employee can protect self. 2. What to do if there is physical contact with hazardous waste. D. Biohazard labels <ul style="list-style-type: none"> 1. Should be securely attached with bright orange-red 	<ul style="list-style-type: none"> A. Lecture/Discussion B. Assigned Readings C. Use posters/videos/computer assisted learning/workbook activities. D. Have students create posters with examples of communication standard.

<p>biohazard symbol.</p> <p>2. Label should be on containers that store blood products and any other specimens that may be contaminated.</p>	
<p>Objective 4 List five components of a Material Safety Data Sheet (MSDS).</p> <p>A. Information about hazardous chemicals or other substances and product identification</p> <ol style="list-style-type: none"> 1. Substance name, as it appears on the container label. 2. Chemical name(s) of each ingredient. 3. Common name(s) of each ingredient. 4. Hazardous ingredients. 5. Physical data. <p>B. Fire, explosion risk and reactivity information.</p> <p>C. Chemical characteristics of the product (i.e., boiling point, specific gravity, melting point, appearance, odor).</p> <p>D. Health hazard information</p> <ol style="list-style-type: none"> 1. First aid procedures. 2. Health hazards posed by the product (ability to cause cancer), routes and methods of entry, signs and symptoms of exposure. <p>E. Spill or leak procedures</p> <ol style="list-style-type: none"> 1. Guidelines for safe handling of substance. 2. Special precautions. 3. Protection information. 4. Emergency and first-aid procedures to be followed in the event of exposure. 	<p>A. Lecture/Discussion</p> <p>B. Assigned Readings</p> <p>C. Use posters/videos/computer assisted learning/workbook activities.</p> <p>D. Examine several Material Safety Data Sheets.</p> <p>E. Posters and models as examples.</p> <p>F. Student presentation.</p> <p>G. Obtain a Material Safety Data Sheet and review the information on it.</p> <p>H. Discuss the hazards the substance poses to the employee and measures that can be taken to avoid injury.</p>
<p>Objective 5 Identify elements of OSHA Bloodborne Pathogen Standard.</p> <p>A. Methods for reducing the risk of transmission of blood-borne pathogens.</p> <p>B. The pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).</p> <p>C. Lab procedures that must be followed to prevent occupational exposure.</p> <p>D. Describes the procedure followed to prevent occupational exposure.</p> <p>E. Employers must meet these requirements</p> <ol style="list-style-type: none"> 1. Written OSHA exposure control plan. 2. Updated yearly training provided to all employees with specific OSHA regulated information. 3. Employer provides hepatitis B vaccine to all employees at no charge. 	<p>A. Lecture/Discussion</p> <p>B. Assigned Readings</p> <p>C. Use posters/videos/computer assisted learning/workbook activities.</p> <p>D. Have tables with scenarios that describe patient care activities that demonstrate potential harm from blood borne pathogens.</p> <p>E. Divide students in to groups and have students take from a basket of protective equipment the correct equipment needed for the scenario.</p>

Objective 6**Discuss how to dispose of hazardous and biohazardous waste.**

- A. Wear gloves, mask, gown and goggles if splashing of blood or body fluids is a possibility. Use standard precautions.
- B. Recap bottles, jars and tubes tightly.
- C. Discard needles and all sharps in a rigid sharps container.
- D. Discard blood soaked disposable items in a biohazard labeled bag. Only fill 2/3 of bag.
- E. Review MSDS on chemicals in the workplace.
- F. Use covered trash receptacles for regular as well as biohazard waste.
- G. Discard soiled dressings, exam paper, swabs, gloves and catheters in biohazard trash.
- H. Spills and leaks can be detected by smell, sight and touch. Use spill kit to collect hazardous chemicals.
- I. Contract with a licensed company to transport hazardous and biohazard waste.
- J. Adhere to the Bloodborne Pathogen Standard for all infectious waste and pathogens.
- K. Non-sharp containers should be closable and leak-proof labeled and placed in a secondary container.
- L. Store hazardous chemicals in original, labeled containers.
- M. Contaminated linen and other clothing
 - 1. Handled as little as possible.
 - 2. Do not hold against your clothing.
 - 3. Bagged at use location.
 - 4. Labeled.
 - 5. Leak-proof bags.
 - 6. Handling
 - a. Standard precautions used for all laundry.
 - b. Contaminated laundry placed in biohazard labeled bags.

- A. Lecture/Discussion
- B. Assigned Readings
- C. Use posters/videos/computer assisted learning/workbook activities.
- D. Role-play.
- E. Discuss with students these situations:
 - 1. You've just drawn blood and you are carrying it to the nurse's station. Just as you are ready to place it with the lab slip in a basket, you drop it. What should you do?
 - 2. You are giving a patient a flu immunization injection. You are ready to dispose the needle and someone bumps into you and you poke yourself with the needle. What should you do?
 - 3. You are helping the physician with a procedure and as you are cleaning the room of its blood soaked linen, you get blood on your leg. This is the same leg that earlier this morning you cut shaving. What should you do?

Objective 7

Discuss two ways in which medical offices can choose to handle laundry and contaminated linen.

1. Medical offices can choose to handle laundry and contaminated linen in two ways
 - a. Use standard precautions for all laundry. This would include linen that has been used by a patient, whether it is soiled or not.
 - b. Separate used linen from contaminated linen. This would require separate containers and plastic bag labeled for each type.
2. Instruct employees as to which types of laundry go in each container.
3. Fines can be assessed if contaminated laundry is discovered in a regular laundry container.
4. Factors to consider in choosing one system over the other
 - a. Cost of covered laundry containers
 - b. Cost of labeled leak-proof bags
 - c. Cost of laundry services monitor compliance
 - d. Ability to establish quality control and monitor compliance

- A. Lecture/Discussion
- B. Assigned Readings
- C. Use posters/videos/computer assisted learning/workbook activities.
- D. Research linen cost and compare paper goods.

Objective 8

List needle safety and disposal methods.

- A. Containers for sharps must be
 1. Puncture-proof.
 2. Leak resistant.
 3. Rigid.
- B. Needle Stick Safety and Prevention Act
 1. Revised Blood Borne Pathogen Standard by adding additional provisions
 - a. Health care employers must evaluate new safety engineered control devices on an annual basis.
 - b. Implement the use of devices that reasonably reduce the risk of needle stick injuries.
 2. Health care facilities must maintain a detailed log of sharps injuries that have occurred from contaminated sharps.
 3. Health care employers must solicit input from employees involved in direct patient care to develop, implement and evaluate work practice preventative controls.

- A. Lecture/Discussion
- B. Assigned Readings
- C. Use posters/videos/computer assisted learning/workbook activities.
- D. Provide students with an example of a log with sharp injuries.
- E. Discuss the log and what its categories mean to patient care situations.