

Lesson Plan

Disease and Treatment

Goals of the Lesson

Cognitive: Students will be able to describe major categories of disease, infectious organisms, and the responses common to diseases. They will be able to identify and describe the methods of patient examination, diagnosis, and treatment. Students will be able to identify major categories of drugs and differentiate between generic and brand names. They will also be able to use terminology and word parts pertaining to diseases, patient examination, diagnosis, treatment, surgery, and drugs.

Psychomotor: N/A

Affective: Students will become aware of the importance of adequate examination to correctly determine the diagnosis and therefore choose the correct treatment. Students will gain understanding of the complexity of using and prescribing pharmaceuticals and of the various actions and side effects to keep in mind when prescribing drugs to treat various disorders.

Learning Objectives (LO)

- LO-1 List the major categories of diseases.
- LO-2 Compare the common types of infectious organisms and list some diseases caused by each.
- LO-3 Describe the common responses to disease.
- LO-4 Describe the main methods used in patient examination.
- LO-5 Name and describe nine imaging techniques.
- LO-6 Name possible forms of treatment.
- LO-7 Describe theories of alternative and complementary medicine and some healing practices used in these fields.
- LO-8 Explain the difference between over-the-counter and prescription drugs and the difference between generic and brand name drugs.
- LO-9 List three potential adverse side effects of drugs and two ways in which drugs can interact.
- LO-10 List three sources of drug information.
- LO-11 Describe five safety issues related to the use of herbal medicines.
- LO-12 List standard forms for drug preparation and administration.
- LO-13 Define basic terms related to disease and treatment.
- LO-14 Identify and use word parts pertaining to disease and treatment.

Assessments

Module Quiz
Section 1 Exam
Final Exam

Estimated Time on Task

Learning content, 90 min
Practice activities, 60 min
Module quiz, 10 min

Learning Objective 1

List the major categories of diseases.

Outline

- Major categories of disease
 - Infectious disease
 - Degenerative disease
 - Neoplasia
 - Immune disorders
 - Metabolic disorders
 - Hormonal disorders
 - Mental and emotional disorders

Instructor's Notes

Resources and Activities

Resources

PPT slides 5-7, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

Draw seven columns on the board and label each with one of the categories of disease. In groups, have students find an example for each category. Ask for a volunteer from each group to place their examples in the correct categories. Allow students to use a dictionary to verify their answers.

Materials

Medical dictionaries, one per small group

Web Resources

[Medical Terminology – The Basics – Microbiology and Infectious Diseases](#)

Learning Objective 2

Compare the common types of infectious organisms and list some diseases caused by each.

Outline

- Infecting organisms can enter the body through several routes or portals
 - Damaged skin
 - Respiratory tract
 - Digestive system
 - Urinary tract
 - Reproductive tract
- Bacteria
 - Cocci (round)
 - Bacilli (rod-shaped)
 - Vibrios (short curved rods)
 - Spirochetes (corkscrew-shaped)
 - Chlamydia (extremely small, complex life cycles)
 - Rickettsia (extremely small)
- Viruses
- Fungi
- Protozoa
- Helminths

Instructor's Notes

Resources and Activities

Resources

PPT slides 8,9, Module “Common Infectious Organisms”, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

Write down the examples of diseases from the module item “Common Infectious Organisms” on note cards. Display each card to students and ask them to name the type of organism that causes the given disease.

Materials

Note cards

Learning Objective 3

Describe the common responses to disease.

Outline

- Inflammation
 - Four signs of inflammation: heat, pain, redness, swelling
 - The suffix -itis indicates inflammation
- Phagocytosis
 - Gets rid of invading microorganisms, damaged cells, and other types of harmful debris
 - Certain WBC engulf harmful elements and destroy them internally
 - The remains of the process consist of pus, a mixture of fluid and white blood cells
- Immunity
 - Refers to all the body's defenses against infectious disease
 - Acquired or adaptive immunity

Instructor's Notes

Resources and Activities

Resources

PPT slides 11-15, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

Write some key words pertaining to each response on the board. Ask a student to identify the response being described based on the key terms. For example, the words engulfing, lymphatic system, pus, and damaged cell indicate phagocytosis.

Web Resources

[Sporacle - Name the Medical Terminology Prefix and Suffix](#)

Learning Objective 4

Describe the main methods used in patient examination.

Outline

- Physical examination
 - Inspection
 - Palpation
 - Percussion
 - Auscultation
- Vital signs
 - Temperature
 - Pulse rate
 - Respiration rate
 - Blood pressure
- Examination tools
 - Stethoscope
 - Sphygmomanometer
 - Ophthalmoscope
 - Otoscope
 - Hammers for testing reflexes
- Observation of skin, hair, and nails
- Additional types of testing
 - Laboratory tests of blood, urine, and other body fluids
 - Endoscope
 - Biopsy
 - Imaging techniques

Instructor's Notes

Resources and Activities

Resources

PPT slides 31–36, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

- Using either a volunteer or mannequin, demonstrate the various techniques while discussing them with the class.
- Allow students to obtain each other's vital signs.

Materials

- Mannequin or student volunteer
- Sphygmomanometer, stethoscope, watch with second hand, thermometer (otic), alcohol prep pads, and biohazard container

Web Resources

[Disease Terminology](#)

Learning Objective 5

Name and describe nine imaging techniques.

Outline

- Radiography
- Other forms of energy used to provide diagnostic images
 - Sound waves
 - Radioactive isotopes
 - Radio waves
 - Magnetic fields
- See module for commonly used imaging methods

Instructor's Notes

Resources and Activities

Resources

PPT slide 36, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

- Write each imaging method from Box 3-5 on a note card. Ask for volunteers to select a note card and explain the indicated method.
- Divide the class into nine small groups. Assign each group a different imaging technique from Box 3-5 to research. Have each group create and present a poster describing the group's assigned technique.

Materials

- Note cards
 - Research materials, poster board, markers
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Learning Objective 6

Name possible forms of treatment.

Outline

- Treatment (therapy) may consist of counseling, drugs, surgery, radiation, physical therapy, occupational therapy, psychiatric treatment, or some combination of these
- Palliative therapy provides relief but is not intended to cure
- Surgery

Instructor's Notes

Resources and Activities

Resources

PPT slides 37–40, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

Invite a surgical technician to come and speak to the class and demonstrate various instruments.

Web Resources

[Medical Terminology – Surgery](#)

Learning Objective 7

Describe theories of alternative and complementary medicine and some healing practices used in these fields.

Outline

Instructor's Notes

- Some philosophies include osteopathy, naturopathy, homeopathy, and chiropractic
- Some techniques include acupuncture; biofeedback; massage; meditation; herbal remedies; and nutritional counseling on diet, vitamins, and minerals
- Therapies emphasize
 - Maintaining health rather than treating disease
 - Allowing the body to heal on its own
- Holistic health care
 - Promotes treating the individual as a whole person
 - Encourages people to be involved with their own health maintenance

Resources and Activities

Resources

PPT slides 41–42, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

- Divide the class into small groups. Assign each group a different philosophy or technique to research and share with the rest of the class their findings.
- Invite a guest speaker/practitioner to discuss his or her chosen field.
- Ask for student volunteers to share their personal experiences in using these techniques.

Web Resources

[Terms Related to Complementary and Integrative Health](#)

Learning Objective 8

Explain the difference between over-the-counter and prescription drugs and the difference between generic and brand name drugs.

Outline

- Over-the-counter (OTC) drugs
- Prescription drugs
- Generic name
- Brand name

Instructor's Notes

Resources and Activities

Resources

PPT slides 60–61, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Learning Objective 9

List three potential adverse side effects of drugs and two ways in which drugs can interact.

Outline

- Side effect
- Contraindications
- Signs of adverse effects
 - Digestive upset
 - Changes in blood
 - Signs of allergy
 - Anaphylaxis
- Synergy or potentiation
- One drug as an antagonist of another

Instructor's Notes

Resources and Activities

Resources

PPT slide 62, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

Divide the class into small groups. Provide each group with the names of several drugs and a drug reference guide. Instruct each group to identify potential side effects and drug interactions for the drugs they have been assigned. Have a member of each group write on the board the group's findings and explain the side effects and interactions.

Materials

A current drug reference, one book per group

Learning Objective 10

List three sources of drug information.

Outline

- United States Pharmacopoeia (USP)
- American Society of Health System Pharmacists (ASHP)
- Physician's Desk Reference

Instructor's Notes

Resources and Activities

Resources

PPT slides 63,64, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

Pass out several copies of various drug reference books and walk students through the procedure of locating specific information. Then, randomly select three to five drugs and ask students to look up specific information about each of them (e.g., brand name, generic name, category, action, recommended adult dose, potential adverse effects, etc.).

Materials

Several copies of various drug reference books

Learning Objective 11

Describe five safety issues related to the use of herbal medicines.

Outline

- Purity
- Safety
- Concentration
- Efficacy
- Drug interactions

Instructor's Notes

Resources and Activities

Resources

PPT slides 65,66, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

Ask volunteers to share experiences with use of herbal medicines they have either had firsthand or have observed in friends or family members. Ask volunteers to specify the names of the herbal medicines that were used and whether they were taken in combination with conventional drugs. Ask students to discuss the five safety issues as they may relate to these experiences.

Learning Objective 12

List standard forms for drug preparation and administration.

Outline

- See module for a list of common routes for drug administration.
- See module for a list of liquid, semisolid, and solid drug preparations
- See module for a list of terms pertaining to injectable drugs

Instructor's Notes

Resources and Activities

Resources

PPT slides (none), Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

Divide the class into pairs or small groups. Provide each group with a list of five drugs and a drug reference book. Instruct students to determine the standard forms of preparation and correct routes of administration for each drug. List on the board each form and route and instruct the students to write their assigned drugs beside the correct method.

Materials

Lists of five drugs representing a variety of forms of preparation and routes of administration, one list per group; copies of current drug references, one book per group

Learning Objective 13

Define basic terms related to disease and treatment.

Outline

Instructor's Notes

See the Terminology boxes (key terms, symbols and abbreviations) throughout the module for major terms pertaining to diseases, medical examination, diagnosis, treatment, and drugs and their actions

Resources and Activities

Resources

PPT slides 16–19, 29, 46–53, 67–68, 72–95, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

- Divide the class into two groups. Between the two groups, place a stack of flash cards with terms pertaining to diseases, medical examination, diagnosis, treatment, and drugs and their actions. Ask a student from the first group to randomly draw a card and correctly define the term. If the student incorrectly defines the term, then the other team gets a chance to answer. Continue in this manner, alternating between teams. The team with the most points wins.
- Pull the flash cards with the definitions of the terms. Read the definitions to the students and ask for volunteers to identify the correct term.

Materials

- Medical terminology flash cards
- Medical terminology flash cards

Web Resources

[Medical Terminology Root Words A-Z](#)

[Medical Terminology - The Basics](#)

Learning Objective 14

Identify and use word parts pertaining to disease and treatment.

Outline

- Roots pertaining to disease
- Prefixes pertaining to disease
- Suffixes pertaining to disease
- Words for disease used as suffixes
- Prefixes and roots for infectious diseases
- Roots pertaining to physical forces
- Suffixes pertaining to diagnosis
- Suffixes pertaining to surgery
- Word parts pertaining to drugs

Instructor's Notes

Resources and Activities

Resources

PPT slides 10, 20–28, 54–59, 69–71, Pre-test, Practice Activities, Module Quiz, Section 1 Exam, Final Exam

Activities

Select flash cards for words pertaining to diseases or treatments that use the various word parts mentioned in Tables 3-1 through 3-9. Randomly distribute them to the students. Allow a few moments for each student to break down, interpret the term, and then write his or her interpretation on the board, explaining how each word part contributes to the meaning. Use a dictionary to confirm answers.

Materials

Medical terminology flash cards; Medical dictionaries

Web Resources

[Medical Terminology Root Words – Suffixes](#)
