

INDEX
MID-LEVEL
HEALTH WORKER
TRAINING MODULES

Instructor's
Manual

Heart and Respiratory Gastrointestinal Genitourinary

- PN-AAN-915 -



Common Problems
RESPIRATORY AND HEART

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The MEDEX Primary Health Care Series

Common Problems
RESPIRATORY
AND HEART

Instructor's Manual

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Health Manpower Development Staff
John A. Burns School of Medicine
University of Hawaii, Honolulu, Hawaii, U.S.A.

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SCHEDULE

Common Problems — RESPIRATORY AND HEART

DAY 1	DAY 2	DAY 3	DAY 4
<p>Introduction to Respiratory and Heart module</p> <p>Teaching Plan 1: Recognizing the Signs of Abnormal Respiratory Conditions</p>	<p>Teaching Plan 3: Interviewing and Examining Patients with Respiratory Problems; Clinical Practice</p>	<p>Teaching Plan 5: Treating and Caring for Respiratory Problems</p> <p>Practice collecting sputum to diagnose tuberculosis</p>	<p>Teaching Plan 8: Interviewing and Examining Patients with Heart Problems; Clinical Practice</p>
<p>Teaching Plan 2: Taking the Medical History of a Patient with Respiratory Problems</p>	<p>Teaching Plan 4: Diagnosing Respiratory Problems</p> <p>Pneumonia Acute bronchitis Chronic bronchitis and emphysema Bronchial asthma Pleural effusion Tuberculosis</p>	<p>Teaching Plan 6: Recognizing the Signs of Abnormal Heart Conditions</p> <p>Teaching Plan 7: Taking a Medical History and Examining a Patient with Heart Problems</p>	<p>Teaching Plan 9: Diagnosing, Treating, and Caring for Heart Problems</p> <p>Congestive heart failure Rheumatic heart disease Angina pectoris Myocardial infarction Hypertension</p>

DAY 5	DAY 6		
Teaching Plan 10: Sharing Ideas with Patients and the Community on the Prevention of and Care for Respiratory System and Heart Problems	Teaching Plan 11: Diagnosing Respiratory and Heart Problems and Caring for Patients; Clinical Practice Group A - Patient care Group B - Interviewing patients Group C - Presenting health messages		
Teaching Plan 11: Diagnosing Respiratory and Heart Problems and Caring for Patients; Clinical Practice Group A - Interviewing patients Group B - Presenting health messages Group C - Patient care	Teaching Plan 11: Diagnosing Respiratory and Heart Problems and Caring for Patients; Clinical Practice Group A - Presenting health messages Group B - Patient care Group C - Interviewing patients		
	Posttest		

Skill development: two weeks - Teaching Plan 11

Clinical rotation: one month - Teaching Plan 12

Community phase: three months - Teaching Plan 13

Teaching Plan 1

Recognizing the Signs of Abnormal Respiratory Conditions

- OBJECTIVES**
1. Describe the signs of abnormal respiratory conditions:

Increased breathing rate	Uneven expansion of the chest
Flaring nostrils	Flat percussion note
Intercostal retractions	Absent or reduced breath sound
Cyanosis	Rales
Increased pulse rate	Rhonchi
Fever	Wheezing
Loss of weight	Difficulty breathing
Cough	Bronchial breath sounds
Clear, white, yellow, green, or bloody sputum	Barrel chest
Prolonged expiration	
 2. Recognize the signs of a breathing problem when you see or hear them in a patient.
- METHODS** Self-instruction, discussion, slide presentation, practice with patients if they are available.
- MATERIALS** Student Text - Unit 1, slides, slide narrative, projector, screen
- PREPARATION** Complete your analysis of pretest results. Assign each student to a small working group of three to four persons. Each group should include students with high pretest scores and students with low pretest scores.
- Select and clean slides. Check and set up projector and screen.
- Identify patients with signs of abnormal respiratory conditions.

Tell students to review the anatomy and physiology of the respiratory system and the Medical History and Physical Examination modules.

Also, tell students to read the Student Text for Unit 1 and answer the review questions.

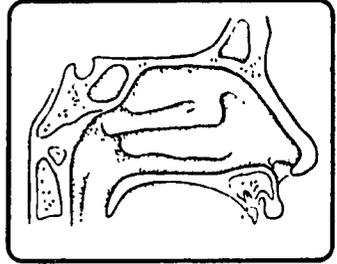
TIME: 2 hrs 40 min

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Introduce and explain the Task Analysis Table. | 15 min |
| 2. Present slides on the anatomy and physiology of the respiratory system. | 15 min |
| 3. Discuss with students the abnormal physical signs associated with respiratory problems and their relation to the anatomy and physiology of the respiratory system. | 45 min |
| 4. Students work in small groups to recognize and identify abnormal physical signs in patients with respiratory problems. If possible, bring patients into the classroom. Give students the opportunity to observe and auscultate these patients. | 1 hr |
| 5. Discuss with students any questions about their work with the patients. | 15 min |
| 6. Evaluate what the students have learned with an informal posttest. | 10 min |

Slide Narrative Respiratory System

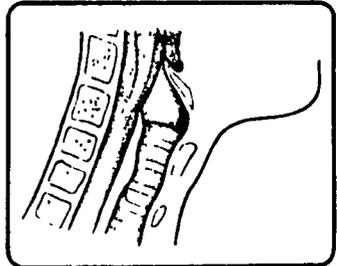
Air enters the respiratory system through the nose. As it passes through the nose, it is warmed, moistened, and filtered.



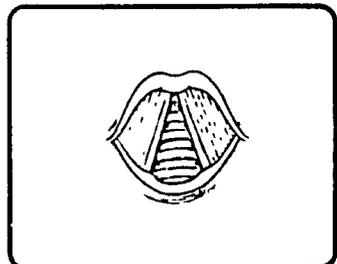
Air passes from the nose into the pharynx. The pharynx serves a double purpose. It is a passageway for food from the mouth to the esophagus, as well as a passageway for air from the nose to the larynx.



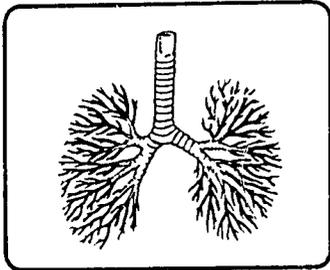
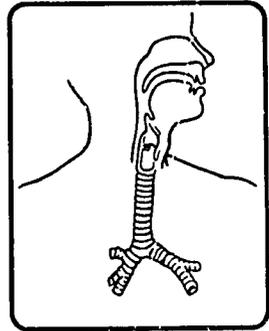
From the pharynx the air passes into the larynx or voice box.



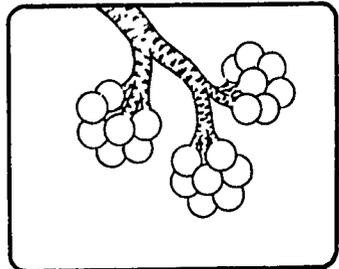
Looking into the larynx from above, you can see the vocal cords.



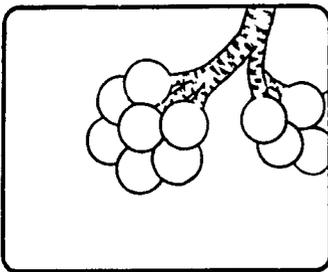
From the larynx, air passes into the trachea. The trachea divides into two bronchi. One passes to each lung. The right bronchus has three main branches serving the three lobes of the right lung. The left has two. The trachea and bronchi are strengthened and kept open by rings of cartilage.



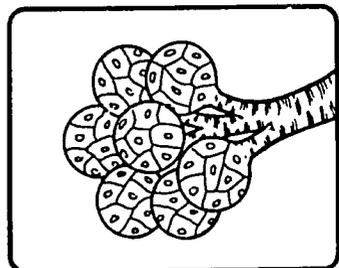
The bronchi divide and subdivide into smaller and smaller branches, like a tree. For this reason, it is known as the bronchial tree.



A microscopic view of the end of a bronchus shows that the bronchi branch into bronchioles and open into air sacs called alveoli.

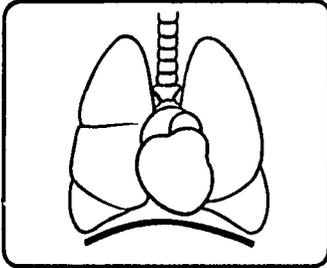
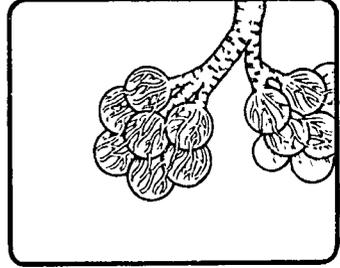


An alveoli cluster at the end of the bronchiole looks like a bunch of grapes.



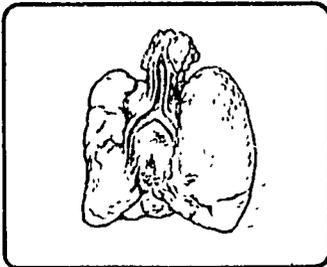
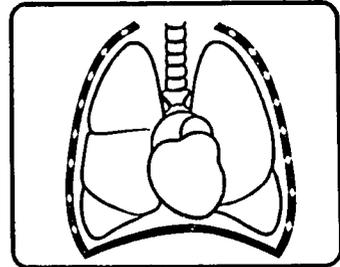
The alveoli are made up of a single layer of thin, flattened cells.

Capillary blood vessels lie over and between the alveoli.



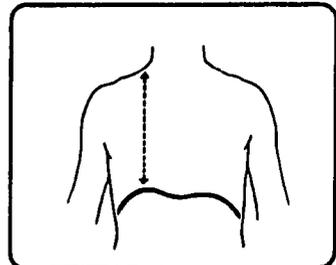
The diaphragm lies below the lungs. The diaphragm is a muscular membrane which separates the abdominal and chest cavities. It functions in breathing.

The chest walls are on either side of the lungs.

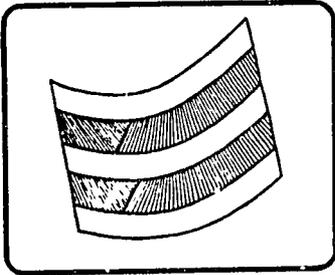
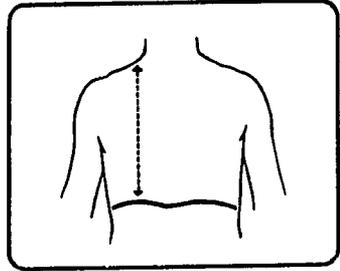


This is a picture of real lungs, bronchi, and trachea.

The diaphragm is the chief muscle of respiration. Its action enlarges the vertical diameter of the chest cavity.

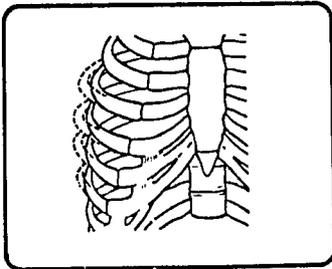
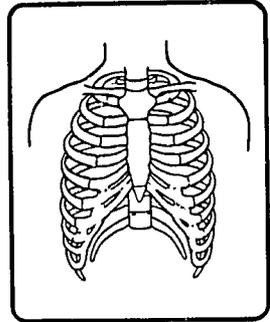


As the diaphragm contracts, it becomes flatter, increasing the height of the chest cavity.



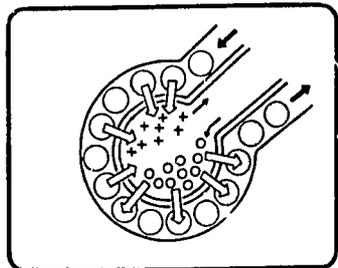
The intercostal muscles also assist in breathing.

The intercostal muscles are able to exert their action because of the shape of the ribs.



When the intercostal muscles between the ribs contract, they pull the ribs upward and outward, thus enlarging the diameter of the chest. This allows the lungs to expand and draw in air.

The function of respiration is the exchange of gases. Carbon dioxide is given off from the blood. Oxygen is absorbed by the blood and transported to the cells.



ANSWERS TO REVIEW QUESTIONS

Assessing the Patient with a Respiratory Problem

1. Describe two ways air may be blocked from passing into the lungs.

Food and other foreign bodies can stick in the throat where it meets the windpipe. This may prevent air from passing into the lungs. Also, swollen tissues such as a swollen epiglottis can block air from the lungs.

2. Explain what causes wheezing.

Wheezing occurs when bronchial mucus fills the alveoli in the lungs. When these alveoli are full of mucus, they trap air. The person can breathe in without difficulty, but he must force the air out of his lungs. This causes the wheezing sound.

3. What is the breathing rate in a normal, healthy adult?

Between 12 and 16 breaths per minute.

4. A patient comes to you complaining of a cough. What questions would you ask this patient to find out more about his problem?

- a. *How long have you had the cough?*
- b. *Do you cough up any sputum?*
- c. *What color is the sputum?*
- d. *When do you cough?*
- e. *Does your cough hurt?*

5. How should you begin your physical examination of a patient with a chest problem?

Always begin your physical examination by noting the general appearance of the patient. Obtain his vital signs. Then examine his chest.

6. Complete the following statements with the word or words which make them correct.
- a. Patients with chronic bronchitis or emphysema cough mostly in the early morning .
 - b. Pain in the chest which is sharp and cutting is usually a sign of irritation of the lungs . Pain like a heavy pressure on the chest which takes away the breath may be caused by heart disease .

7. Briefly describe how to palpate a patient's chest.

Stand or sit in front of the patient. Place your hand on the patient's chest. Your thumbs should be on the lowest ribs in the front. Tell the patient to take a deep breath. As he breathes in, watch his chest expand. Also feel it expand. The two sides of the chest should expand at the same rate and the same amount. If there is a problem on one side or the other, the affected side will expand less than the normal side. Feel the patient's chest for tenderness and pain.

8. While percussing the chest of a patient, you notice a flat sound in the lungs. What could this be a sign of?

This could be a sign of fluid or other secretions such as pus in the chest.

9. While auscultating a patient, what abnormal signs should you listen for?

Listen for absent or reduced breath sounds, bronchial breath sounds, rhonchi, rales, and wheezing.

10. Write the letter of the words in column A next to their correct meaning in column B.

A	B
a. Trachea	<u>i</u> The voice box
b. Intercostal retractions	<u>e</u> The flap of skin at the base of the tongue
c. Wheezing	<u>b</u> Two large tubes which branch off from the trachea into the lungs

- d. Alveoli k Small tubes which branch off from the bronchi
- e. Epiglottis
- f. Rhonchi a The windpipe
- g. Rales f A rattle sound from the chest caused by air rushing across mucus
- h. Bronchi
- i. Larynx l A chest sound which may be heard just to the right of the sternum over the right bronchial tube
- j. Cyanosis
- k. Bronchioles c This sound occurs when a person has trouble getting air out of his lungs
- l. Bronchial breath sounds
- d Tiny air sacs in the lungs
- g Sounds which result from mucus in the alveoli
- b The sucking in of the spaces between a person's ribs
- i A sign that oxygen is not getting into a person's blood

Teaching Plan 2

Taking the Medical History of a Patient with Respiratory Problems

OBJECTIVES	<ol style="list-style-type: none">1. Demonstrate history taking and physical exam procedures for a patient with a respiratory problem.2. Record findings of an interview on official forms in the recommended way.
METHODS	Self-instruction, discussion, practice interview, and physical exam.
MATERIALS	Student Text – Unit 1, case studies 11, 12, 13, and 14 from Student Text – Unit 2, record forms
PREPARATION	Remind students to read the case studies in the Student Text and to review the history of a respiratory problem in Unit 1. Identify patients with respiratory system problems who may come to your classroom.

TIME: 2 hrs 15 min

LEARNING ACTIVITIES	
<ol style="list-style-type: none">1. Demonstrate how to take the medical history of a patient's respiratory problem and examine a patient with a respiratory problem.	30 min
<ol style="list-style-type: none">2. a. Students practice taking medical histories from other members of their work groups. For this activity, students will use case studies 11, 12, 13, and 14 from Unit 2 as a basis for role-play. After each interview, students will be evaluated by members of their work group. b. If patients are available, bring them into the classroom for students to interview and examine.	1 hr

	TIME
3. Discuss with students the importance of history taking and its use in diagnosing disease.	30 min
4. Students summarize what they learned during the session and comment on how it may be used in their work.	15 min

Teaching Plan 3

Interviewing and Examining Patients with Respiratory Problems; Clinical Practice

- OBJECTIVES**
1. Interview a patient to obtain information about his respiratory problem.
 2. Examine a patient with a respiratory problem using the proper procedure.
 3. Record findings of an interview and examination on official forms in the recommended way.

METHODS Clinical demonstration, clinical practice

MATERIALS History and Physical Examination skill checklists for assessing patients with respiratory system problems, record forms

PREPARATION Arrange for students to spend two hours in the hospital ward or outpatient clinic with suitable supervision.

TIME: 3 hrs

LEARNING ACTIVITIES

- | | |
|---|-------------|
| 1. Demonstrate how to interview and examine a clinic patient. | 15 min |
| 2. Students interview and examine patients with respiratory problems, using the History and Physical Examination skill checklists as a guide. | 1 hr 45 min |
| 3. Students present their findings to the class. Comment on these findings and discuss with students the session's activities. | 1 hr |

Teaching Plan 4

Diagnosing Respiratory Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe the clinical picture that occurs in: Pneumonia Bronchial asthma Acute bronchitis Pleural effusion Chronic bronchitis Tuberculosis and emphysema2. Demonstrate how to interview patients and diagnose respiratory problems.
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play
MATERIALS	Student Text - Unit 2, History and Physical Examination skill checklist for assessing patients with respiratory problems
PREPARATION	Prepare a brief presentation on the signs and symptoms of respiratory system problems.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Present and lead discussion on the symptoms and signs of respiratory system problems.	1 hr
2. Divide students into six teams. Assign each team a different respiratory system problem. Tell these teams to: Choose two members to role-play the patient and the health worker. Create a presenting complaint and historical information for the "patient," using information from the text.	10 min
3. Teams work on creating patient roles.	30 min

	TIME
4. Next, the health worker from one team interviews the patient from the other team and diagnoses the problem. The other students watch this interaction, using the History and Physical Examination skill checklists as a guide to correct performance.	20 min
5. After this first role-play exercise, the teams switch roles and carry out another interview. Again, the other students watch this interaction.	20 min
6. The full training group meets. Each group discusses its findings and the interview process.	20 min
7. The students summarize what they learned during the session and how it may be applied in their work.	15 min
8. Instructor reminds students to review the Student Text information on patient care for respiratory system problems and to begin thinking about what patient and family education might be appropriate for these problems.	5 min

ANSWERS TO REVIEW QUESTIONS

Respiratory System Problems

1. Pneumonia is an inflammation of the lungs which is usually caused by bacteria .
2. TRUE (T) or FALSE (F)
T Pneumonia may occur alone or as a complication of other diseases such as measles.
F Pneumonia is not contagious.
T Pneumonia is much more severe in children than it usually is in adults.
3. A mother brings to your clinic her three-year-old child who you diagnosed three days ago as having measles. Now from the child's symptoms and signs, you diagnose pneumonia.
 - a. What care would you provide for the child?

Antibiotics

Start procaine penicillin, 300,000 units IM every twelve hours for the first twenty-four hours. Then, if there is noticeable improvement, the child can be switched to oral penicillin V. If the infection is severe, the child should take 250 mg penicillin V every six hours for the next nine days. If the infection is moderate, the dosage should be 125 mg penicillin V every six hours for the next nine days.

Expectorant

If the mother of the child requests something for her child's cough, one teaspoon of glyceryl guaiacolate can be given to the child every four hours.

Oral rehydration solution

Show the mother how to make and use oral rehydration solutions. Feed some of the solution to the child with a clean cup and spoon. Make sure this is done in front of the mother.

b. What would you tell the mother about caring for her child at home?

1) *Sick children need fluids. Show the mother how to make and use oral rehydration solution at home.*

2) *Sick infants and young children should continue on breast milk. Older children require a balanced diet of:*

Super porridge

Mashed, cooked vegetables and fruits for young children

Whole, clean vegetables and fruits for older children

3) *How to administer the glyceryl guaiacolate expectorant if mother has asked for cough medicine.*

4) *How to administer the penicillin, how much penicillin to give, when to give it, and for how long.*

5) *Also tell the mother to bring her child back to the clinic in two days if the child is not getting better, or anytime she has any questions.*

4. What causes acute bronchitis?

Any of a large group of viruses

5. How long does it usually take for acute bronchitis to clear up in the healthy individual?

One to two weeks

6. You have diagnosed a sixty-five-year-old patient as having acute bronchitis. During your history taking, you noted that she has had a previous history of lung disease. The choice of drug for this patient is procaine penicillin. However, the patient reports that she developed a rash the last time she was given penicillin. You suspect that she is allergic to penicillin. Use your Formulary when answering the following questions.

a. What antibiotic would you give to the patient?

Erythromycin

b. How would you administer this antibiotic?

Give adults 250 mg orally, every six hours for ten days.

7. Name three important physical signs associated with emphysema.

- a. *Enlargement of the chest*
- b. *Decreased movement of the chest on breathing*
- c. *Shortness of breath or prolonged expiratory phase of respiration with wheezing*

8. You have just diagnosed chronic bronchitis in a forty-five-year-old man who smokes one pack of cigarettes a day. What is the most important care you can provide this patient?

Help him to stop smoking.

9. What does "pleural effusion" refer to?

A collection of fluid in the pleural space which is between the lung and the ribs

10. The two most common causes of pleural effusion are tuberculosis and congestive heart failure.

11. There are three important physical examination signs to note when making the diagnosis of pleural effusion.

- 1) You will see decreased motion of the chest wall on the involved side during inspection of the chest.
- 2) You will hear a flat sound when percussing the chest.
- 3) You will not hear breath sounds when auscultating the involved lung.

12. TRUE (T) or FALSE (F)

T Asthma attacks may be caused by tree or grass pollens.

F Asthma is usually an acute condition which will not last very long.

T The most dangerous complication of asthma is when the wheezing cannot be interrupted.

T Asthma attacks may occur more frequently at one time of the year than another.

13. A mother brings her five-year-old child to the clinic. The child is having a mild asthmatic attack. What two immediate things would you do in the clinic to treat the child?

a. *Administer epinephrine 1:1000 subcutaneously*

Count and record the pulse rate. Give .1 ml epinephrine. Recheck the patient in twenty minutes. If the patient is still wheezing, repeat the same dose of epinephrine again. Recheck the child after twenty minutes. Do not give more epinephrine if the child's pulse is over 140 beats per minute.

b. *Give theophylline by mouth*

Theophylline will reverse the muscle spasm in the walls of the bronchioles. It may be given every six hours by mouth.

14. How are the bacteria which cause tuberculosis spread from one person to another?

The bacteria are spread by coughing, sneezing, and close contact.

15. What is the infection which follows first contact with tuberculosis usually in childhood, called?

This infection is called primary tuberculosis.

16. Why should you regularly follow the progress of patients who are taking drugs for tuberculosis?

The drugs to treat tuberculosis can be very effective if taken daily for many months. However, the drugs often cause side effects, so patients will stop taking them. For this reason, the patients' progress should be followed.

17. At any time in the course of tuberculosis, infection can develop in another organ. What other infections should you watch for?

a. *Meningitis*

b. *Tuberculosis of the abdomen*

c. *Miliary tuberculosis*

d. *Tuberculosis of the bone*

e. *Tuberculosis of the kidney*

f. *Tuberculosis of the lymph glands*

18. How can you confirm a diagnosis of tuberculosis?

An X-ray of the lungs, or microscopic examination of the sputum for the tuberculosis bacteria are the most certain ways to diagnose tuberculosis.

19. What points might you include in educating the patient and his family about tuberculosis?

- a. *Treatment for tuberculosis lasts for years.*
- b. *The medicine must be taken regularly.*
- c. *The patient must come to the clinic if reactions to the medicine occur.*
- d. *Follow up care is very important so the health worker will be watching the patient's weight, his diet, the patient's symptoms, the taking of drugs and medicines and any side effects of the drugs. The health worker will also be checking the family members for tuberculosis.*

20. Determine the dosage of anti-tuberculosis drugs for a 15 kg child.

- a. *150 mg INH daily*
- b. *75 mg thiacetazone daily*
- c. *300 mg streptomycin daily*

21. You have diagnosed tuberculosis in a nine-year-old boy who weighs 30 kg. Blood tests tell you the boy is also severely anemic. How will you manage this patient?

Refer him to a hospital for initial treatment.

Teaching Plan 5

Treating and Caring for Respiratory Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe the treatment and care of patients suffering from respiratory problems.2. Demonstrate instruction of patients and families in the home care and prevention of respiratory system problems.3. Demonstrate the procedures for the collection of sputum from a suspected tuberculosis patient.
METHODS	Self-instruction, demonstration by instructor, group work and presentations, discussion
MATERIALS	Student Text - Unit 2, case studies of respiratory system problems, materials for the collection of sputum from a suspected tuberculosis patient; Diagnostic and Patient Care Guides
PREPARATION	Prepare case studies 11, 12, 13, 14, 15, and 16. Prepare materials for demonstration of sputum collection from suspected tuberculosis patients.

TIME: 3 hrs

LEARNING ACTIVITIES

- | | |
|---|--------|
| <ol style="list-style-type: none">1. Divide students into role-play groups.
Distribute a different case study of a respiratory system problem to each group. | 5 min |
| <ol style="list-style-type: none">2. Groups identify the respiratory system problem in their case study and outline the treatment and care procedures for this problem, using Diagnostic and Patient Care Guides. | 30 min |

	TIME
3. Groups present their case study findings and the treatment and care procedures to the rest of the students. Comment with students on each group's presentation.	30 min
4. Groups exchange case studies and treatment and care information. Groups then design patient or family education messages about the respiratory system problem in the case study they now have.	30 min
5. Students deliver patient and family education messages to the group with which they exchanged case studies.	45 min
6. Discuss and demonstrate procedures for collecting sputum from a suspected tuberculosis patient.	15 min
7. In small groups, students practice collecting sputum.	15 min
8. Discuss with students the session's activities and summarize what was learned and how it may be helpful for the health worker's job. Remind students to read the student text information on assessing patients with heart problems.	10 min

Case Study 11

Name of Patient: George, Cindy
Sex: Female
Date of Birth: 16 February 1957
Date of Visit: 20 December 1979
Urine: Normal
Vital Signs: Temperature 38.7°C
Pulse 112
Respiration 24
Blood Pressure 130/70
Weight 57 kg

Presenting Complaint and Medical History: The patient's fever began two days ago. After one day, the patient developed a stabbing pain in her right front chest. The pain increases when she breathes in and coughs. Nothing relieves the pain. She coughs up a thick yellow-green sputum and has some difficulty breathing.

Past medical history: The patient has never felt like this before. Her last menstrual period was two weeks ago. It lasted five days. It was painful, and she had heavy clots. She has one living child. She delivered one stillborn premature infant.

Physical Examination: The patient looks sick. Her mucous membranes are pink and her tonsils are normal. Her thyroid gland feels normal. She does not have any sign of respiratory distress. The chest expands evenly on both sides. The patient has trouble fully expanding the right lung because of pain. A flat percussion note comes from over her right front and back chest. The heart sounds normal. Her breath sounds are decreased and rales can be heard over her right lung. Bronchial breath sounds also are evident. No signs of swelling appear on her feet and ankles.

Diagnosis: Pneumonia, a moderate infection

Patient Care:

1. Give procaine penicillin, 600,000 units, IM every twelve hours for the first twenty-four hours.
2. Observe the patient for the first twenty-four hours after starting antibiotic treatment.
3. Follow with penicillin V, 250 mg orally, every six hours for next nine days.
4. Give aspirin for fever.
5. Give glyceryl guaiacolate for cough.
6. Give extra fluids in the form of one glass of water or juice every two hours while the patient is awake.
7. If the patient does not improve after twenty-four hours of antibiotic therapy, refer the patient to a hospital.
8. Re-examine the patient every third day for the next nine days.

Diagnostic Points:

1. The patient had a fever for two days.
2. Breathing and coughing made the chest pain worse.
3. The patient coughed up thick yellow-green sputum.
4. Difficulty breathing.
5. The patient had difficulty fully expanding her right lung.
6. Flat percussion note was heard over the right front and back chest.
7. Decreased breath sounds with rales were heard over the right lung.
8. Bronchial breath sounds.

Case Study 12

Name of Patient: Hayden, Shauna
Sex: Female
Date of Birth: 24 May 1976
Date of Visit: 16 May 1979
Vital Signs: Temperature 37.6°C
Pulse 120
Respiration 32
Weight 12 kg

Presenting Complaint and Medical History: The patient's mother says her child developed a cold and severe cough about a week ago. The child has had a fever, off and on, for the last five days. She has been coughing up a green sputum, especially at night.

Past medical history: The child was a premature delivery. She had pneumonia two years ago and was treated with an antibiotic.

Physical Examination: The child looks feverish, but not sick. She has no respiratory distress. Her mucous membranes are pink. Her chest expands evenly. Her heart sounds normal. Scattered rhonchi can be heard over both lungs. Her abdomen is soft, without tenderness or enlarged organs.

Diagnosis: Acute bronchitis, bilateral

Patient Care:

1. Give extra fluids by use of oral rehydration solution.
2. Monitor nutrition and recommend a good, balanced diet.
3. Aspirin can be given for fever, although it is not necessary.

4. Because of previous history of pneumonia, this patient is at risk. Give 300,000 units procaine penicillin, IM, every twelve hours for the first twenty-four hours.
5. Follow with 125 mg penicillin V, orally every six hours for the next nine days.
6. Observe for first twenty-four hours after antibiotic has been given.
7. Refer patient if no improvement after twenty-four hours of antibiotic therapy.
8. Re-examine the child every third day for the next nine days.

Diagnostic Points:

1. Severe, productive cough with green sputum.
2. Fever
3. Absence of diarrhea or vomiting, respiratory distress, neck stiffness.
4. Even expansion of chest.
5. Scattered rhonchi over both lungs, but absence of rales.

Case Study 13

Name of Patient: Ismond, Linda
Sex: Female
Date of Birth: 29 June 1931
Date of Visit: 14 October 1979
Urine: Normal
Vital Signs: Temperature 36.6°C
Pulse 80
Respiration 22
Blood Pressure 115/70
Weight 53 kg

Presenting Complaint and Medical History: The patient has had a gradual onset of trouble breathing during the last two weeks. The trouble is growing worse. She has had a cough without sputum for the last week. She thinks that eating a heavy meal makes the problem worse. Some pills she received from the hospital last week helped a little.
Past medical history: She had a similar problem last month and was treated at the hospital. Her last menstrual period was 29 September 1979. It was regular, lasting five days.

Physical Examination: The patient is a healthy looking woman. She does not appear to have any trouble breathing, although some slight wheezing can be heard on expiration. Her mucous membranes are pink and her tonsils are normal. Normal percussion notes are heard over both lungs. Her wheezing on expiration is scattered through both lung fields. Her abdomen is soft, without tenderness, fluid, or enlarged organs.

Diagnosis: Bronchial asthma

- Patient Care:**
1. Give epinephrine SC. Check pulse and respiration in twenty minutes. Administer another injection if wheezing is still present, but not if the pulse rate is above 150 beats per minute. If the patient is still wheezing after six hours, she shows signs of respiratory distress, or if the wheezing gets worse, refer the patient.
 2. After administering the epinephrine, give the patient 20 mg theophylline orally every six hours for twenty-four hours.
 3. Give the patient one glass of water or juice every one to two hours while she is awake.
 4. Give antibiotic only if you find an indication that the patient is developing a secondary infection.

- Diagnostic Points:**
1. Difficulty breathing
 2. Non-productive cough
 3. Absence of fever
 4. Equal expansion of chest
 5. Normal percussion note over both lungs
 6. Wheezing on expiration, scattered throughout both lung fields

Case Study 14

Name of Patient: Nagaloo, James
Sex: Male
Date of Birth: 3 February 1924
Date of Visit: 25 June 1979

Urine:	Normal
Vital Signs:	Temperature 36.6°C Pulse 110 Respiration 30 Blood Pressure 110/70 Weight 46 kg
Presenting Complaint and Medical History:	<p>About six weeks ago, the patient started coughing. He says he coughs up some white sputum but no blood. He has had fever off and on and some wheezing for the last month. He has lost about ten pounds during the past six weeks. His appetite comes and goes. He feels tired. He reports no night sweats or shortness of breath. He smokes moderately.</p> <p>Past medical history: The patient has not felt like this before. No family member has had any similar symptoms.</p>
Physical Examination:	<p>The patient is a thin looking man. He has no fever. His tongue is not coated and his mucous membranes are pink. He shows no signs of respiratory distress. His chest expands equally on both sides. Fine rales can be heard from both lungs, especially in the right upper lung field, both front and back. His heart sounds are normal.</p>
Diagnosis:	Suspected pulmonary tuberculosis
Patient Care:	<ol style="list-style-type: none"> 1. Refer for confirmation of pulmonary tuberculosis. 2. Check other family members for symptoms and signs of pulmonary tuberculosis.
Diagnostic Points:	<ol style="list-style-type: none"> 1. Duration of cough 2. Weight loss 3. Report of fever that comes and goes 4. Fine rales heard all over lung fields

Case Study 15

Name of Patient:	Hindras, Shandell
Sex:	Female
Date of Birth:	22 November 1975
Date of Visit:	15 December 1979
Vital Signs:	Temperature 39.4°C Pulse 96 Respiration 30 Weight 19.5 kg
Presenting Complaint and Medical History:	The patient's mother noticed two days ago that her daughter suddenly began having trouble breathing. The girl has been coughing up yellow sputum and vomiting after coughing. She developed a fever. Her appetite is poor and she is restless. She has chest pain that is made worse by coughing.
Physical Examination:	The patient is a sick looking child. She has moderate respiratory distress. She is fully conscious and alert. She has some dryness of the mouth. Her nostrils flare when she breathes in, and she has intercostal retractions. Her chest expands equally on both sides. The percussion note at the back base of the right lung sounds flat. Rales are present at the base of both lungs. Her heart sounds are normal.
Diagnosis:	Pneumonia Mild dehydration
Patient Care:	<ol style="list-style-type: none">1. Observe the patient for the first twenty-four hours after the antibiotic has been started.2. Give procaine penicillin, 300,000 units, IM, every twelve hours for first twenty-four hours.

3. Follow with penicillin V, 250 mg, orally every six hours for next nine days (for severe infection).
4. Give oral rehydration solution for dehydration, and encourage good nutrition.
5. For fever, sponge frequently with wet towels. Give 240 mg aspirin orally, every four hours until temperature is normal.
6. Refer the patient to a doctor if she has made no improvement after twenty-four hours of anti-biotic therapy.
7. Re-examine the child every third day for the next nine days.

Diagnostic Points:

1. Difficulty breathing
2. Cough for two days with yellow sputum
3. Chest pain made worse by coughing
4. Fever
5. Respiratory distress with nasal flaring and inter-costal retractions
6. Equal expansion of chest and vibrations felt when child talks
7. Dry mouth and skin

Case Study 16

Name of Patient: Austin, Mary
Sex: Female
Date of Birth: 23 July 1966
Date of Visit: 16 May 1979

Urine:	Normal
Vital Signs:	Temperature 37.2°C Pulse 110 Respiration 26 Weight 53 kg
Presenting Complaint and Medical History:	<p>The patient has had a head and chest cold for the last two weeks. Three days ago she developed a cough. The cough has grown worse during the last two days. The child reports chest pain and a little difficulty breathing, but only when she was asked. She has been coughing up some green sputum. She has had some fever, which is worse at night. Nothing seems to make the problem any better or worse.</p> <p>Past medical history: The patient recently has had fever and colds.</p>
Physical Examination:	<p>The patient is a sick looking child. She has labored breathing. Her mucous membranes are pink. Her tonsils are slightly enlarged, but clear. She has some mild intercostal retractions. Her chest expands evenly on both sides. The percussion note over the lower part of both lungs is slightly flat. Rales occur in the lower lung fields on both sides of the chest. Her bronchial breath sounds are an abnormal, rasping sound.</p>
Diagnosis:	Pneumonia
Patient Care:	<ol style="list-style-type: none"> 1. Observe for first twenty-four hours after antibiotic has been given. 2. Procaine penicillin, 600,000 units, IM, every twelve hours for first twenty-four hours. 3. Followed with 250 mg penicillin V orally, every six hours for next nine days (for a moderate infection). 4. Give 600 mg aspirin for fever, every four hours until temperature is normal. 5. Glyceryl guaiacolate for cough, one teaspoon every four hours.

6. Fluids, one glass of water, milk, or juice every one to two hours while patient is awake.
7. Refer patient if no improvement after twenty-four hours of antibiotic therapy.
8. Re-examine patient every third day for next nine days.

**Diagnostic
Points:**

1. Fever
2. Cough for three days, coughing up green sputum
3. A little difficulty breathing and chest pain
4. Labored breathing
5. Intercostal retractions
6. Rales, lower lung fields both sides

Teaching Plan 6

Recognizing the Signs of Abnormal Heart Conditions

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of heart problems:<ul style="list-style-type: none">CyanosisPitting edema of the ankles and lower backIncreased pulse rate or weak pulseAbnormally high blood pressure of 140/90 and aboveAbnormally low blood pressure of 90/60 and belowEnlarged neck veinsHeart murmurIrregular heart beatShortness of breathRalesCoughSubsternal painCrushing, squeezing, radiating chest painCool, damp, and pale skin2. Recognize these signs when you see or hear them in a patient.
METHODS	Self-instruction, discussion, slide presentation, practice examining patients who have abnormal heart conditions
MATERIALS	Student Text - Unit 3, slides, slide narrative, projector, screen

PREPARATION Select and clear slides. Check and set up the projector and screen.

Identify patients with signs of abnormal heart conditions.

Have the students review the anatomy and physiology of the heart and circulatory system. Also have them read the Student Text for Unit 3 and answer the review questions.

TIME: 2 hrs 25 min

LEARNING ACTIVITIES

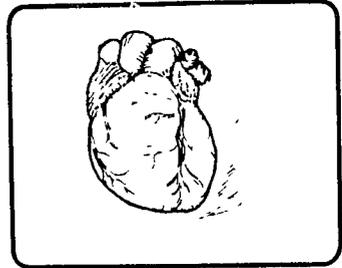
- | | |
|--|--------|
| 1. Present slides on the anatomy and physiology of the heart and circulatory system. | 15 min |
| 2. Discuss with students the abnormal physical signs associated with heart problems and their relation to the anatomy and physiology of the heart and circulatory system as well as the respiratory system. Point out the two major problems which cause heart disease:
The heart does not pump blood properly
The muscles of the heart do not get enough oxygen | 45 min |
| 3. Students work in small groups to recognize and identify abnormal physical signs in patients with heart problems. If possible, bring patients into the classroom. Give students the opportunity to observe and auscultate these patients. | 1 hr |
| 4. Discuss with students any questions about their work with the patients. | 15 min |
| 5. Evaluate what the students learned during the session with an informal posttest. | 10 min |

Slide Narrative

Anatomy of the Circulatory System

THE HEART

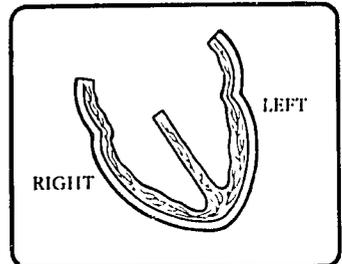
This is a picture of a real heart.



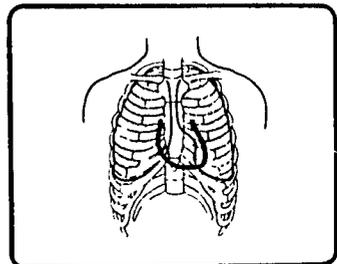
In some ways the heart resembles a water pump. Although in this picture a man works the pump, the heart muscles actually supply the power to work the heart.



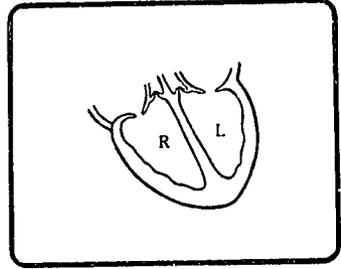
This picture shows the heart muscles.



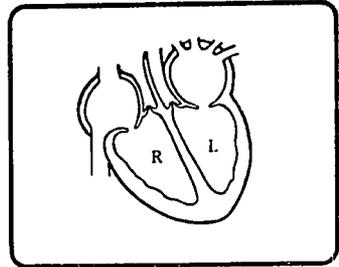
The heart is located in the chest cavity within the rib cage which protects all the chest organs. The lungs lie on either side of the heart.



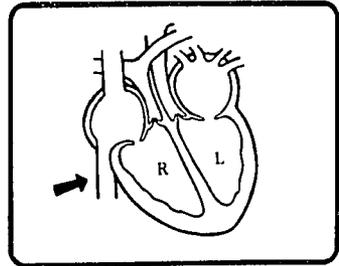
The heart has four chambers. The lower two are the ventricles.



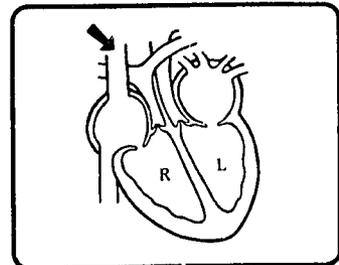
The upper two chambers are the auricles.



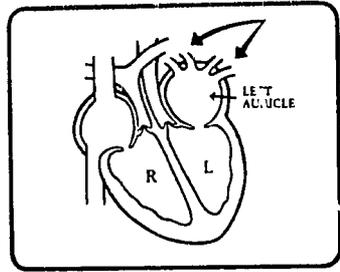
The inferior vena cava carries blood from the lower part of the body to the right auricle.



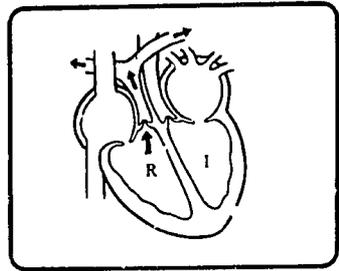
The superior vena cava carries blood from the upper part of the body to the right auricle.



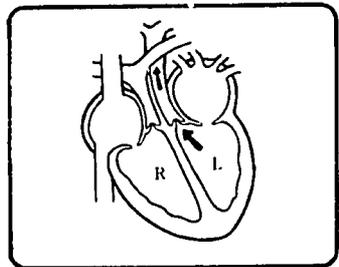
The four pulmonary veins carry blood away from the lungs to the left auricle. The auricles are the receiving chambers of the heart.



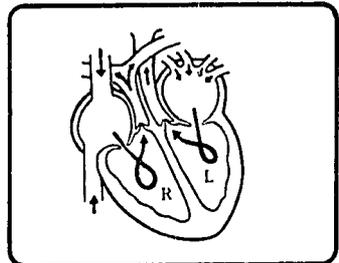
The blood passes from the auricles to the ventricles. The pulmonary artery carries blood from the right ventricle to the lungs.



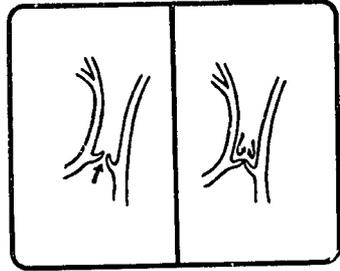
The aorta carries blood from the left ventricle to all parts of the body.



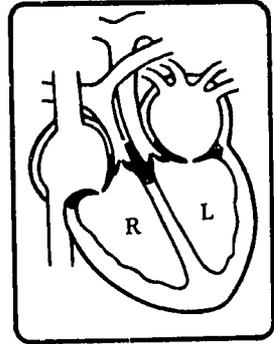
The right side of the heart deals with unoxygenated blood, and the left with oxygenated blood.



The heart, like any pump, has valves to allow the fluid to pass through in one direction only. This is a simple valve shown open... and closed.

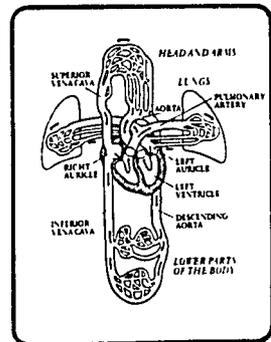


The valves of the heart are found between the auricles and the ventricles and between the ventricles and blood vessels.

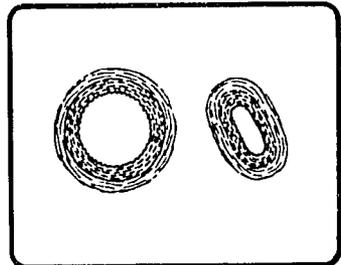


THE BLOOD VESSELS AND CIRCULATION

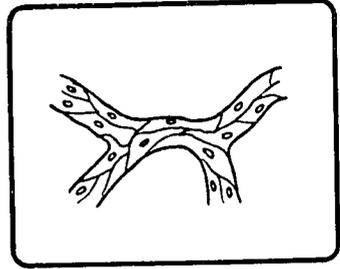
Blood circulates around the body in a closed system of tubes.



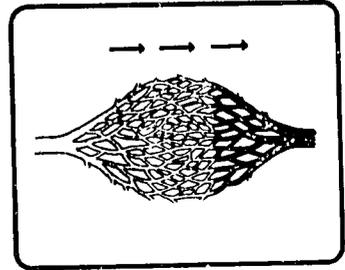
These tubes, or blood vessels, are arteries, veins, and capillaries. The structure of arteries and veins is similar.



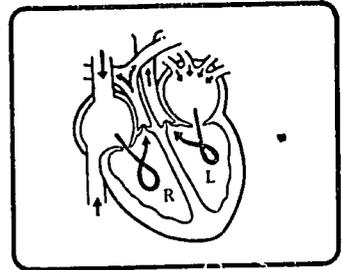
Capillaries are fine, hair-like vessels. The walls are made of a single layer of flat cells which enable fluids and nutrients to pass through easily.



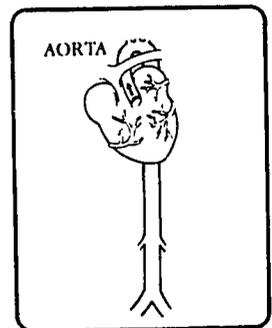
Arteries divide into smaller vessels known as arterioles. Arterioles divide to form capillaries. Capillaries unite to form small veins which unite to form veins. Most arteries carry bright red, oxygenated blood. Most veins carry dark red, un氧xygenated blood.



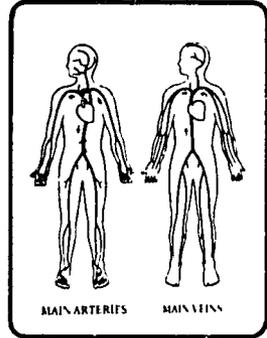
An artery is a vessel which carries blood away from the heart. A vein is a vessel which carries blood toward the heart. Note that the pulmonary artery carries dark red, un氧xygenated blood, while the pulmonary veins carry bright red, oxygenated blood.



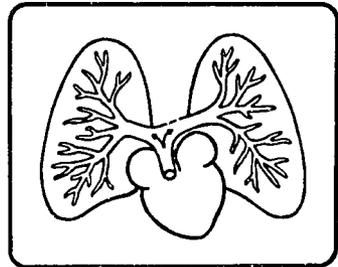
The aorta carries oxygenated blood to all parts of the body. It leaves the left ventricle of the heart, arches over behind the heart, and leads downward. Its first branches are the coronary arteries which supply the heart, itself.



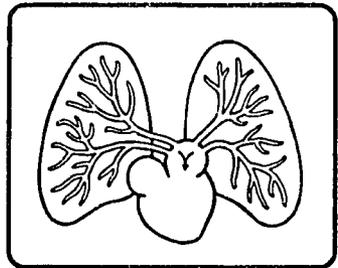
Veins return blood to the heart. Most arteries are accompanied by veins which run the same course and have the same names.



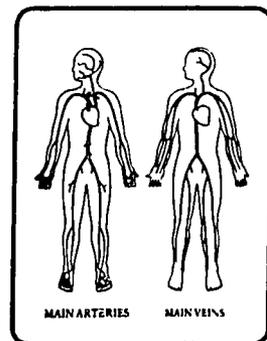
Blood from the right ventricle passes to the lungs through the pulmonary artery. Here it is recharged with oxygen.



The oxygenated blood passes back to the left auricle by the four pulmonary veins.



Thus blood circulates continually around the body, feeding the cells and removing their waste. The circulatory system is the transport system of the body.



ANSWERS TO REVIEW QUESTIONS

Assessing the Patient with a Heart Problem

1. Briefly explain the flow of blood through the heart and lungs.

Blood flows into the left auricle from the lungs. It passes into the left ventricle, and then is pumped out through the aorta and into all of the major arteries of the systemic circulation. There are two main circulatory systems: the systemic and pulmonary circulations.

The blood which has been used by the organs of the body returns to the heart through the superior and inferior vena cava. It empties into the right auricle. This is the beginning of the pulmonary circulation. The blood then passes on into the right ventricle. It is pumped out of the heart and into the pulmonary arteries. The pulmonary arteries carry the blood to the lungs. In the lungs, the blood gives up carbon dioxide and picks up oxygen. It then travels back to the heart through the pulmonary veins.

2. Describe why you will often hear rales at the base of the lungs when you examine a patient with heart failure.

Fluid fills the alveoli. When the left ventricle does not pump as much blood as the right ventricle, then blood backs up behind the left ventricle. This means that the pressure rises in the left auricle and in the pulmonary veins. The increased pressure in the blood vessels in the lungs causes fluid to leak out into the lungs and into the alveoli.

3. Describe briefly what causes angina.

Angina is sudden pain in the chest caused by an insufficient amount of oxygen-supplied blood to the heart muscle. This is usually due to damaged arteries which cannot carry as much blood as they need to.

4. What kinds of medical history questions might you ask a patient who complains of chest pain?

- a. *Ask the patient to describe the pain in his own words.*
- b. *Ask the patient where the pain is.*
- c. *Ask the patient when the pain started, if it comes and goes, and how long it lasts when it comes.*
- d. *Ask the patient what makes the pain better or worse.*

5. When you examine the patient with a possible heart problem, you must focus on three major areas: extremities , the neck , and the chest .

6. What is a heart murmur?

A heart murmur is a sound made by blood flowing past rough heart valves and causing unusual vibrations. Heart sounds come in pairs. They are called first sounds and second sounds. There should be no sound between the first and second sounds and there should be no sound between the second and first sounds. Sounds which occur in these intervals are called murmurs. They are often an important sign of heart disease.

7. What is the only way you can diagnose hypertension?

By taking the patient's blood pressure.

Teaching Plan 7

Taking a Medical History and Examining a Patient with Heart Problems

OBJECTIVES	<ol style="list-style-type: none">1. Demonstrate history taking and physical exam procedures for a patient with a heart problem.2. Record findings of an interview and exam on official forms in the recommended way.
METHODS	Self-instruction, discussion, practice interview and exam, role-play, student presentations
MATERIALS	Student Text - Unit 3, history taking and physical examination skill checklists, case studies 18, 19, 20, 21, and 22 from Unit 4
PREPARATION	Remind students to read the history portion of the case studies in the Student Text - Unit 4 and the history taking and physical examination skill checklists.

TIME: 2 hrs 15 min

LEARNING ACTIVITIES	
<ol style="list-style-type: none">1. Divide students into five groups and distribute a case study to each group. Each group then chooses members to role-play the patient and health worker. They demonstrate to the rest of the class the history taking and physical examination procedures for the problem in their case, using the history taking and physical examination skill checklists as a guide.	30 min
<ol style="list-style-type: none">2. Each group presents its role-play. Comments and discussion of the procedures follow each presentation.	1 hr 20 min

	<u>TIME</u>
3. Discuss with students any questions they may have as a result of the group presentations.	15 min
4. Students summarize what they learned during the session and comment on how it relates to their future as health workers.	10 min

Teaching Plan 8

Interviewing and Examining Patients with Heart Problems; Clinical Practice

OBJECTIVES	<ol style="list-style-type: none">1. Interview a patient and obtain information about his heart problem.2. Examine a patient with a heart problem using the proper procedure.3. Record findings of an interview and examination on official forms in the recommended way.
METHODS	Clinical demonstration, clinical practice
MATERIALS	Skill checklists for history taking and physical examination, record forms
PREPARATION	Arrange for students to spend two hours in a supervised hospital ward or outpatient clinic.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Review interview and examination procedures with a clinic patient.	15 min
2. Students interview and examine patients with heart problems, using the history taking and physical examination skill checklists as a guide.	1 hr 45 min
3. Students present their findings to the class. Comment with students on these findings.	1 hr

Teaching Plan 9

Diagnosing, Treating, and Caring for Heart Problems

OBJECTIVES	<ol style="list-style-type: none">1. Diagnose heart problems:<ul style="list-style-type: none">Congestive heart failureRheumatic heart diseaseAngina pectorisMyocardial infarctionHypertension2. Describe the treatment and care of patients suffering from heart problems.3. Demonstrate how to instruct patients and families in the home care and prevention of heart problems.
METHODS	Self-instruction, discussion, group work, and presentations with case studies
MATERIALS	Student Text - Unit 4, case studies 18, 19, 20, and 21, and Patient Care Guides for heart problems
PREPARATION	Review the case studies to be used for this session. Review Patient Care Guides.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Involve students in an informal question and answer session to review the signs and symptoms associated with heart problems.	10 min
2. Divide students into four groups and distribute a different case study of a heart problem to each group. Encourage students who have not already worked together to form groups for this activity.	5 min

- | | TIME: |
|--|--------|
| 3. Students identify the heart problem in their case study. They choose a group member to role-play the patient in the case study. "Patients" should be prepared to present with a complaint and answer any questions regarding physical exam and history findings, as indicated in the case study. | 30 min |
| 4. Groups join in pairs. One group provides the role of a patient while the other group conducts a history and physical exam to identify the problem. Once the problem has been correctly identified, the health worker group outlines treatment and care procedures and practices patient and family instruction about the home care and prevention of the problem. | 50 min |
| 5. Discuss with students the health worker group's approach, findings, and messages used in patient and family education. | 10 min |
| 6. Groups join in different pairs. Make sure the "patient" group from before is now the health worker group. Repeat Activity 4. | 50 min |
| 7. Discuss with students the health worker group's approach and findings as well as its educational messages. | 10 min |
| 8. Discuss the session's activities. Have students summarize what they learned and how it relates to their jobs. | 15 min |

ANSWERS TO REVIEW QUESTIONS

Heart Problems

1. What are the chief complaints of a person with congestive heart failure?

He may complain of shortness of breath during exercise. He may feel tired and weak. His ankles may swell toward the end of the day.

2. Early symptoms of congestive heart failure include shortness of breath and swelling of the ankles. What symptoms appear in later stages of congestive heart failure?

The patient may awaken at night with shortness of breath. He will develop a dry cough. He may have a thin, clear sputum with the cough. Or he may cough up blood.

3. The drug digitalis helps patients with congestive heart failure live a normal life. What else will help them live normally?

Eliminating salt from their diets and proper rest.

4. What health messages would you include in talking to a patient with congestive heart failure and his family?

- a. *Congestive heart failure can be controlled by medications, but cannot be cured.*
- b. *The patient must continue to take his medications for the rest of his life.*
- c. *If the patient stops his medications, the symptoms of congestive heart failure will return.*
- d. *The patient must avoid salt whether it is added to food during cooking or at the table.*
- e. *The patient may be more comfortable at night with his head and chest raised higher than his feet. Fluid tends to collect in the lungs at night, and this may cause shortness of breath.*
- f. *The patient needs extra rest during the day.*

5. Describe how you could determine if a patient taking digitalis is getting too little or too much of the drug.

If the patient is getting too little digitalis, he will have a pulse rate over ninety beats per minute and accumulate fluid in his body. If he is getting too much digitalis, he will feel nauseous, vomit, have a headache, a heart rate below sixty beats per minute, and an irregular heartbeat.

6. You may have to transport a patient with moderate or severe congestive heart failure to a hospital. What position should the patient be in while traveling?

Sitting up, not lying down.

7. Explain the relationship between rheumatic fever and rheumatic heart disease.

Repeated attacks of rheumatic fever will lead to rheumatic heart disease. Rheumatic fever often causes inflammation of the heart muscles. The heart valves are also damaged. When the valves are damaged, they leak. The valves become very stiff and blood cannot pass through them normally. This heart valve damage is referred to as rheumatic heart disease. Eventually, the heart will fail.

8. TRUE (T) or FALSE (F)

T Although rheumatic fever is related to rheumatic heart disease many patients who present with rheumatic heart disease will have no history of rheumatic fever.

9. Describe some of the major differences between the pain of angina pectoris and the pain of a myocardial infarction.

A person suffering from angina pectoris will experience a sudden onset of pain which may radiate into his shoulders, jaws, or down the left arm. The pain is continuous and constant for up to two minutes. It may be relieved by rest or nitroglycerin. The pain of a myocardial infarction, or heart attack, lasts longer than that for angina. It may last for ten minutes to several hours. In addition, the pain is much worse than angina pain. Patients often feel they cannot breathe. The pain of a myocardial infarction is not relieved by nitroglycerin or rest.

10. If your patient experiences angina pectoris, you can treat him at the health center. In addition to advising him about when to take nitroglycerin, what other advice should you give?

If the patient smokes, advise him to stop. Smoking narrows the blood vessels and makes the problem worse. If the patient is overweight, advise him to lose weight. This will reduce the work of the heart. Also, instruct the patient to eat small meals more often. He must rest after each meal.

11. When blood is cut off from a portion of a person's heart muscle, the person has a myocardial infarction, or heart attack. How would you care for a person who suffers a myocardial infarction?
- Treat the patient as a medical emergency.*
 - Transport him to hospital in a sitting position as soon as possible.*
 - If he is having severe pain, give him 100 mg pethedine IM. Repeat after three hours, as necessary for relief of pain.*

12. The patient with hypertension rarely has symptoms. How can hypertension be detected?

Usually, hypertension will be detected when the patient's blood pressure is taken for some other reason.

13. Explain what is meant by a hypertensive crisis.

Some patients develop very high blood pressure. Their symptoms are severe headache, vomiting, difficulty with their vision, convulsions, and unconsciousness. This is called a hypertensive crisis. It is a medical emergency.

14. A patient complains of headache. Your examination reveals that the patient weighs 95 kg and is 1.7 meters tall. You determine that he is mildly hypertensive. Discuss the major points in your management of this patient.

The patient is overweight. Teach him that excess weight makes the problem of high blood pressure worse. Explain that his blood pressure will come down as he loses weight. Also, explain that salt in his diet increases blood pressure too. He should avoid all salty foods. Tell the patient to return to see you every week for three months so you can take his blood pressure and follow his progress.

15. Discuss the initial management of a patient whose blood pressure is continually elevated to 170/115.

Patient education – Encourage the patient to reduce his weight and his use of salt. Explain that you will check his blood pressure weekly for the next four weeks.

Drug therapy – Immediately begin the patient on hydrochlorothiazide, giving him one tablet daily. If his blood pressure remains elevated after four weeks, increase the dosage of hydrochlorothiazide to two tablets per day. If this does not control the pressure after another month, refer the patient to a doctor.

ANSWERS TO REVIEW EXERCISE

Heart Problems

Students are to fill in the missing information without looking at their text. When they are finished, they should check their answers with the text.

PROBLEM	CAUSES	COMMON SYMPTOMS AND SIGNS
CONGESTIVE HEART FAILURE	<i>Damage to heart muscle Damage to heart valves Overworking the heart</i>	<i>Shortness of breath; tired and weak feeling; swelling of the ankles Later stages cause dry cough with possible clear or bloody sputum.</i>
RHEUMATIC HEART DISEASE	<i>Repeated attacks of rheumatic fever</i>	<i>Heart failure; shortness of breath on exertion; swelling of the ankles; loud murmur because of damaged heart valves.</i>
ANGINA PECTORIS	<i>Heart muscle not getting enough oxygen as may occur in patient with arterio-sclerosis</i>	<i>Repeated attacks of chest pain; sudden onset of pain; pain is substernal in location but may radiate into shoulders, jaws, or down left arm; pain is continuous and constant.</i>

PROBLEM	CAUSES	COMMON SYMPTOMS AND SIGNS
MYOCARDIAL INFARCTION	<i>Damaged heart muscle</i>	<i>Restlessness; great pain; patient may be in shock, with weak pulse, cyanosis, difficulty breathing and cold sweat. Heart sounds are weak or muffled, blood pressure is low, skin is cold and damp.</i>
HYPERTENSION	<i>Stress Arteriosclerosis</i>	<i>High blood pressure; patient may complain of headache, nosebleeds, or lightheadedness.</i>

Case Study 18

Name of Patient: Tittle, Ibrahim
Sex: Male
Date of Birth: 9 July 1936
Date of Visit: 14 October 1979
Urine: Normal
Vital Signs: Temperature 37°C
Pulse 85
Respirations 28
Blood Pressure 120/60
Weight 83.2 kg

Presenting Complaint and Medical History: The patient has noticed that he has been short of breath for about a year. It seems to be gradually growing worse. He has to rest in a sitting position. He cannot climb stairs without feeling short of breath. He can often feel his heart pounding.

For the past three months, the patient's ankles have swelled, especially in the afternoon. He has not noticed any fever or pain in his chest. He has not awakened at night with shortness of breath. However, he has to sleep with his head raised a little.

Past medical history: The patient was in a hospital for the same problem once before. He was treated with pills and not asked to come back for follow-up. He quit taking the pills.

Physical Examination: This patient is a very worried looking man who seems slightly short of breath. His mucous membranes are pink and his tongue and tonsils are normal. He has some pitting edema of his ankles. He also has varicose veins on his left leg. When he sits at an angle of 45 degrees, his neck veins become enlarged. His heart sounds normal without murmur. The patient has scattered fine rales at the bases of his lungs.

Diagnosis: Congestive heart failure

- Patient Care:**
1. Encourage the patient to rest as much as possible during the day.
 2. Tell him to avoid adding salt to food during or after cooking.
 3. If the patient becomes short of breath while working or walking, he must stop immediately and rest.
 4. Give the patient hydrochlorothiazide, 1 tab twice a day.
 5. Refer to a doctor immediately. He may need digoxin.

- Diagnostic Points:**
1. Shortness of breath for one year.
 2. Some relief by resting in a sitting position.
 3. Ankle edema for three months.
 4. Enlarged neck veins on physical exam, with rales in lungs and peripheral edema.

Case Study 19

Name of Patient: Mantell, Mick
Sex: Male
Date of Birth: 26 January 1935
Date of Visit: 20 October 1979
Urine: Normal
Vital Signs: Temperature 37°C
Pulse 72
Respirations 22
Blood Pressure 150/85
Weight 96 kg

Presenting Complaint and Medical History: The patient has had a squeezing pain in his chest for the last two days, off and on. He says the pain starts while he is riding his bicycle and lasts about ten minutes. He notes that the pain does not radiate to any other place. It occurs under his breastbone. He says that it starts rapidly and lasts for about ten minutes. He has had about six attacks of this pain so far. However, he has had no fever or chills. He has felt a rapid heartbeat with some mild chest pain, off and on for the last two weeks.

Past medical history: He has had no previous visits to a doctor. He smokes more than a pack of cigarettes a day. He drinks in moderation, and he has a good appetite.

Family history: No high blood pressure is known to him.

Physical Examination: This patient is an obese but healthy looking male. His neck veins are flat. His breath sounds are normal and he has no edema. His heart sounds are normal with no murmurs. His abdomen is not tender.

Diagnosis: Angina pectoris

- Patient Care:**
1. The patient is overweight. Urge him to lose weight.
 2. Encourage the patient to exercise regularly.
 3. The patient should also be encouraged to stop smoking or at least reduce the number of cigarettes he smokes per day.
 4. Educate the patient about his condition.
 5. Give nitroglycerin.

Diagnostic Points: A sudden onset of pain under the sternum. The pain is tight, brought on by exertion, and relieved by rest.

Case Study 20

Name of Patient: Benjamin, Frank
Sex: Male
Date of Birth: 10 May 1928
Date of Visit: 31 October 1979
Urine: Normal
Vital Signs: Temperature 36.4°C
Pulse 72
Respirations 20
Blood Pressure 190/120
Weight 67 kg

Presenting Complaint and Medical History: Last week the patient lifted a piece of furniture in his house and got a severe backache. Although this incident brought on the severe ache, the patient has had back pains off and on for the last five years. Walking and bending over make the pain worse. The pain is located in the lower lumbar area. It does not radiate anywhere. Sometimes the patient feels weakness in his left leg.

The patient suffers from high blood pressure, but is not receiving any treatment. He had an accident four months ago and fractured his left big toe. The patient says that he cannot afford to go to a private doctor for treatment of his high blood pressure. He does not smoke or drink.

The patient says that he has not experienced any weight loss nor any shortness of breath or chest pain. He has a good appetite. He also has a tendency to worry.

Physical Examination: This patient looks worried. Examination shows that his mucous membranes are pink, his tonsils clear, his tongue moist, and his neck without goiter. His jugular pressure and breath sounds are normal. His abdomen is soft and not tender.

There is tenderness over the patient's lower lumbar area. Sensations appear normal in his left leg. His reflexes are good and his strength is normal.

Diagnosis: Hypertension

- Patient Care:**
1. Ask about the patient's use of salt. Strongly encourage him to avoid all salt in his diet.
 2. Start him on two tablets of hydrochlorothiazide a day.
 3. Discuss the course of untreated hypertension with the patient. Encourage him to find a way to obtain care from a hospital. Follow his progress every two weeks.

Diagnostic Points: Blood pressure reading

Case Study 21

Name of Patient:	Eller, Carl
Sex:	Male
Date of Birth:	14 June 1924
Date of Visit:	6 December 1979
Urine:	Normal
Vital Signs:	Temperature 37°C
	Pulse 84
	Respirations 24
	Blood Pressure 140/90
	Weight 68.6 kg
Presenting Complaint and Medical History:	<p>The patient complains of feeling more and more weak during the last two weeks. He sometimes notices some shortness of breath. His ankles also swell.</p> <p>Past medical history: The patient has had heart problems for the last five years. He has been treated in the outpatient department for heart and kidney problems. He takes kidney tablets every time his legs start to swell. He has been taking these tablets recently and the swelling has improved.</p> <p>The patient does not smoke or drink.</p>
Physical Examination:	<p>The patient looks healthy. He is not short of breath. His mucous membranes are pink. His tongue is pink and moist. His tonsils appear normal. Examination of his neck revealed that his neck veins are not enlarged. Examination of his chest revealed few rales. His heart sounds are normal. His abdomen is soft and not tender. The liver, kidney, and spleen are not palpable. Some mild pitting edema occurs in his lower extremities.</p>
Diagnosis:	Congestive heart failure

Patient Care:

1. Ask the patient whether he is avoiding salt. Encourage him to avoid using any salt if he is not already doing so.
2. Encourage the patient to come to the clinic once a month for a checkup.
3. Refer the patient to a hospital because of poor control of the congestive heart failure.
4. Encourage the patient to eat at least one to two bananas a day to avoid potassium depletion.

Diagnostic Points:

1. Past medical history of heart failure. Patient is on medications.
2. Occasional rales, peripheral edema.

Teaching Plan 10

Sharing Ideas with Patients and the Community on the Prevention of and Care for Respiratory System and Heart Problems

OBJECTIVES	<ol style="list-style-type: none">1. Identify health messages related to respiratory system and heart problems that may be shared with patients, family members, or other community members.2. Develop these health messages into simple terms that patients, family, and other people would understand.3. Describe how health messages may be included in discussions and how to include them in storytelling.4. Share health messages with patients and other groups of people.
METHODS	Self-instruction, discussion, role-play, student presentations, instructor presentation
MATERIALS	Student Text - Unit 5
PREPARATION	Remind students to review Unit 5. Prepare a brief presentation on storytelling.

TIME: 3 hrs 35 min

LEARNING ACTIVITIES

<ol style="list-style-type: none">1. Discuss with students the use of health messages in helping community members prevent and care for respiratory system and heart problems.	20 min
<ol style="list-style-type: none">2. Two students role-play the dialogue between the patient and health worker. Group discussion of the role-play follows. Students comment on the use of health messages in their work with patients.	20 min

3. Give a brief presentation on storytelling as a way of sharing health messages.	10 min
4. Divide students into five groups. Assign each group two of the respiratory and heart problems discussed in this module. Each group: <ol style="list-style-type: none"> a. Identifies the health messages related to each of their respiratory or heart problems b. Develops these health messages into simple language that patients, family members, or other community members would understand c. Designs a brief patient-health worker dialogue for one of the assigned health problems and a brief story for the other. Include in these designs the health messages identified in Task a. d. Prepares a presentation in which two of the group members take roles of patient and health worker. The story is shared by other group members. 	1 hr
5. Groups give presentations. A brief discussion follows each presentation.	1 hr 30 min
6. Students summarize what they learned during the session and comment on how they may use it as health workers.	15 min

ANSWERS TO REVIEW QUESTIONS

Sharing Ideas with Patients and the Community

1. Explain why health messages should be an important part of your talk with patients.

The health worker has an important role in helping people prevent and care for respiratory and heart problems. He can do this by sharing health messages with them. Simple health messages help people develop healthy living habits and prevent respiratory and heart problems. They also help people learn how to care for themselves when they are ill with a respiratory or heart problem.

The health worker has a perfect opportunity to share health messages with patients. He gets to know the patients, their problems, and how they feel about these problems. Also, patients trust the health worker. Therefore, the health worker who is knowledgeable and concerned about the health of his patients can help them stay healthy. He can add to the knowledge of his patients with his own knowledge.

Sharing health messages with patients can help patients develop responsibility for their health. Then the patient and health worker can work together to stay healthy.

2. Explain what is meant by “sharing health messages is a two-way process”.

Sharing health messages does not mean just giving health information. Instead, it means talking with people, listening to their problems, finding out what they know about these problems, how they feel about them and then sharing information about how these problems may be prevented or cared for.

Sharing health messages means giving information and taking information. It is like a conversation with a patient. The health worker listens and shares information and so does the patient.

3. Describe three kinds of health messages that you can include in your talk with a patient.
 - a. You can explain to a patient what is happening inside his body as a result of his health problem.

ANSWERS TO REVIEW EXERCISE

Sharing Ideas with Patients and the Community

1. The reason for taking a medical history of a patient is to find out more information about his presenting complaint. By asking the patient certain questions, you learn more specific information such as the onset of the problem, how long it has been a problem, and what makes the problem worse or better. Look at the patient-health worker dialogue in the text. Identify and write down the places in the dialogue where the health worker finds out the following information:

Presenting complaint: *“I have noticed that during the last few months I lose my breath while working... Then two nights ago I started having trouble breathing while I sleep.”*

Onset: *About two months ago for problem with breathing while working, two nights ago for difficulty breathing while sleeping.*

Duration: *Two months for feeling tired and losing breath; and two nights of difficulty breathing while sleeping.*

What makes the problem worse: *“At night, I just cannot breathe comfortably... During the day, the problem seems to get worse the more I work.”*

What makes the problem better: *“I have noticed that if I sit up in bed, I can breathe better.”*

Associated cough: *“... I have lately had a dry cough.”*

Family history of heart problems: *“... my father died of a heart attack about ten years ago.”*

2. In this unit you learned that there are different kinds of health messages that you can include in your talk with a patient. For example, you can explain to a patient what is happening inside his body as a result of his respiratory or heart problem. Or you can explain to a patient how health habits are related to health problems. You can also share with the patient information about a preventive measure or home care procedure.

For the disease of pneumonia, develop three health messages which relate to the kinds of health messages discussed above.

a. What is happening in the body:

Pneumonia is caused by a small germ which enters your lungs. This germ makes your chest hurt and makes it difficult for you to breathe. Your body is trying to fight this germ. This is why you feel hot and have a cough.

b. The relationship of health habits to health problems:

Smoking can cause respiratory problems, and these problems make us weak and unable to fight infections. So if you smoke and have respiratory problems, you are increasing your chances of having serious problems like pneumonia.

c. Specific preventive measures and home care procedures:

Pneumonia makes the person weak. Therefore, he needs extra nourishment in order to become strong again. Give the adult with pneumonia good foods like grains and nuts, fruits and vegetables, and plenty of water. Give the child with pneumonia super porridge and plenty of liquids.

Teaching Plan 11

Diagnosing Respiratory and Heart Problems and Caring for Patients; Skill Development

OBJECTIVES

1. Diagnose respiratory system and heart problems.
2. Perform patient care procedures.
3. Advise patients and their families about the home care and prevention of respiratory system and heart problems.

METHODS Supervised clinical practice

MATERIALS Skill checklist, evaluation records, Diagnostic and Patient Care Guides, Patient Care Procedures

PREPARATION Arrange for student supervision during the following skill development activities:

- a. One and a half days of activity in a hospital ward or outpatient clinic during the week of classroom instruction
- b. Two weeks of activity in a hospital ward or clinic coordinated with skill practice opportunities for other clinical modules

TIME: 13.5 days

LEARNING ACTIVITIES

1. Give student groups a day and a half to practice:
 - a. Interviewing and examining patients
 - b. Providing appropriate patient care
 - c. Delivering health messages to patients and their families

1.5 days

TIME

2. The student will provide care for patients with heart and respiratory problems. This experience is coordinated with skill practice for other clinical modules.

12 days

Teaching Plan 12

Caring for Patients with Respiratory System and Heart Problems; Clinical Rotation

- OBJECTIVES**
1. Diagnose all the respiratory system and heart problems described in this module.
 2. Properly record information about medical history, physical examination, and patient care.
 3. Provide correct patient care, using the treatment described in this module.
 4. Advise patients about the home care and prevention of respiratory system and heart problems.

METHODS Supervised clinical practice

MATERIALS The history and physical examination skill checklists, evaluation records, and Diagnostic and Patient Care Guides

PREPARATION See Student Text – Unit 6, for entry level skills and knowledge. Since this activity will occur with other clinical rotations, you will probably be placing two or three students in the clinic during any given month. Arrange for supervision during this activity.

TIME: 1 month

LEARNING ACTIVITIES

1. Students obtain medical histories and perform physical examinations.
2. Students diagnose respiratory system and heart problems.
3. Students present health messages to individual patients or groups of patients.
4. All students are evaluated at least twice on all the above activities.

Teaching Plan 13

Helping a Community Prevent and Care for Respiratory and Heart Problems; Community Phase

OBJECTIVES	<ol style="list-style-type: none">1. Provide clinical services to people who suffer from respiratory system and heart problems.2. Identify infectious respiratory problems and plan a program to prevent them from occurring and spreading.3. Advise the community about its role in preventing respiratory system and heart problems.4. Identify other members of the health team who can assist in prevention.
METHODS	Practice providing patient care, assessing the community, and training community health workers
MATERIALS	Log book, reference materials
PREPARATION	See student guide for details of entry level skills and knowledge. See Community Phase manual for details on organization and supervision of community practice.

TIME: 3 months

LEARNING ACTIVITIES

1. Students provide clinical services for respiratory system and heart problems.
2. Students assess the number of respiratory and heart problems found in the community. They record their findings in a written report.

-
3. Students plan activities that will help a community reduce the occurrence of respiratory system and heart problems.
 4. Students begin training a community health worker to care for respiratory system and heart problems.
 5. Evaluate student performance in the community.

Common Problems
GASTROINTESTINAL

The MEDEX Primary Health Care Series

Common Problems
GASTROINTESTINAL

Instructor's Manual

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SCHEDULE

Common Problems – GASTROINTESTINAL

DAY 1	DAY 2	DAY 3	DAY 4
<p>Introduction to Gastrointestinal module</p> <p>Teaching Plan 1: Recognizing the Signs of Abnormal Gastrointestinal Conditions</p>	<p>Teaching Plan 3: Interviewing and Examining Patients with Gastrointestinal Problems; Clinical Practice</p> <p>Medical history and physical examination practice</p>	<p>Teaching Plan 5: Caring for the Patient with Diarrhea, Vomiting, or Mild Abdominal Pain</p>	<p>Teaching Plan 7: Presenting Health Messages About Gastrointestinal Problems</p> <p>Making and using visual aids</p>
		<p>Teaching Plan 6: Assessing and Caring for the Patient with Intestinal Worms</p> <p>Roundworms Pinworms Tapeworms Hookworms</p>	<p>Teaching Plan 8: Assessing and Caring for the Patient with Liver Diseases</p> <p>Viral hepatitis Cirrhosis</p>
<p>Teaching Plan 2: Taking the Medical History of Patients with Gastrointestinal Problems</p>	<p>Teaching Plan 4: Assessing the Patient with Diarrhea, Vomiting, or Mild Abdominal Pain</p> <p>Amebiasis Giardiasis Peptic ulcer Gastroenteritis</p>		

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DAY 5	DAY 6	DAY 7	
<p>Teaching Plan 9: Assessing the Patient with an Acute Abdomen</p> <p>Acute abdomen Acute appendicitis Intestinal block</p>	<p>Teaching Plan 11: Assessing and Caring for the Patient with Anal Problems</p> <p>Hemorrhoids Anal fissures</p>	<p>Teaching Plan 12: Assessing and Caring for Patients with Gastrointestinal Problems; Clinical Practice</p> <p>Group A - Patient care Group B - Interviewing and examining patients Group C - Presenting health messages</p>	
<p>Teaching Plan 10: Caring for the Patient with an Acute Abdomen</p>	<p>Teaching Plan 12: Assessing and Caring for Patients with Gastrointestinal Problems; Clinical Practice</p> <p>Group A - Interviewing and examining patients Group B - Presenting health messages Group C - Patient care</p>	<p>Teaching Plan 12: Assessing and Caring for Patients with Gastrointestinal Problems; Clinical Practice</p> <p>Group A - Presenting health messages Group B - Patient care Group C - Interviewing and examining patients</p>	
		<p>Posttest</p>	

Skill development: two weeks - Teaching Plan 12
 Clinical rotation: one month - Teaching Plan 13
 Community phase: three months - Teaching Plan 14

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Teaching Plan 1

Recognizing the Signs of Abnormal Gastrointestinal Conditions

OBJECTIVES	<ol style="list-style-type: none">1. Describe the significance of the following signs of abnormal gastrointestinal conditions:<ul style="list-style-type: none">Abdominal swellingGuarding, tenderness in the abdomenRebound tendernessAscitesEnlarged and tender liver, spleenJaundiceDehydrationAnemiaHigh pitched percussion noteIncreased or decreased bowel soundsEnlarged anal vesselsAnal fissures2. Identify these signs on a patient.
METHODS	Self-instruction, discussion, slide presentation, practice with patients if they are available, instructor demonstration, student practice.
MATERIALS	Student Text – Unit 1, slides of the digestive system, slide narrative, projector, screen
PREPARATION	<p>Complete your analysis of pretest results. Assign each student to a small working group of three to four persons. Each group should include students with high pretest scores and students with low pretest scores.</p> <p>Select and clean slides. Check and set up a projector and screen.</p> <p>Identify patients with signs of abnormal gastrointestinal conditions.</p>

Tell students to review the anatomy and physiology of the gastrointestinal system and the Medical History and Physical Examination modules.

Also, tell students to read the Student Text for Unit 1 and answer the review questions.

TIME: 3 hrs

LEARNING ACTIVITIES:

- | | |
|--|--------|
| 1. Instructor introduces and explains the Task Analysis Table. | 15 min |
| 2. Instructor presents slides on the anatomy and physiology of the digestive system. | 15 min |
| 3. Instructor demonstrates on a patient or student the exact location of the gastrointestinal organs and other organs in the abdominal cavity. | 20 min |
| 4. Students and instructor discuss the abnormal physical signs associated with gastrointestinal problems and their relation to the anatomy and physiology of the gastrointestinal system. | 45 min |
| 5. Students work in their work groups to recognize and identify abnormal physical signs in patients with gastrointestinal problems. Bring patients into the classroom if possible. Students have the opportunity to observe and auscultate these patients. | 1 hr |
| 6. Students and instructor discuss any questions about their work with the patients. | 15 min |
| 7. Instructor evaluates what the students have learned with an informal posttest. | 10 min |

Slide Narrative The Digestive Tract

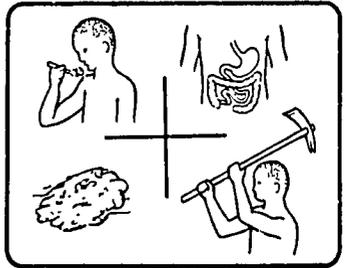
The human body needs food for work, play and growth. Food is the fuel for the body.



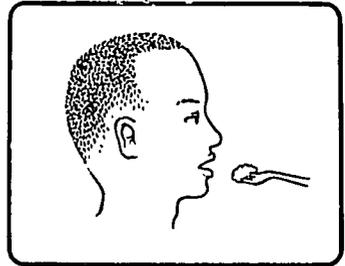
Our bodies need simple food that can be absorbed and used by the body to give energy for work, play and growth. The food we eat is too complex for the body to use directly.



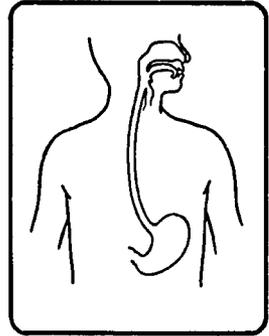
The digestive system changes the complex food we eat into simple foods that our bodies can use. This change takes a number of steps.



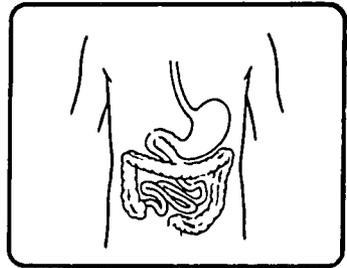
The first step in the digestive process begins in the mouth. Here the food is chewed and broken down into small pieces by the teeth and the tongue. The salivary glands secrete saliva to help change the foods into simpler forms.



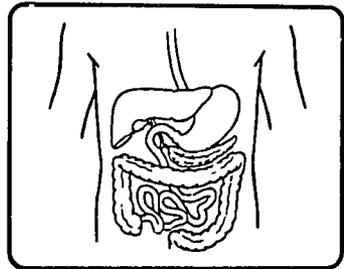
Then the food moves through the esophagus to the stomach. In the stomach the chemical digestion of the food begins. Small glands in the stomach secrete acid and enzymes. These acids and enzymes help to break down the different kinds of foods.



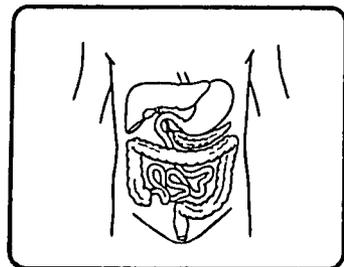
The food becomes a thick liquid which passes into the small intestine. Starches, fats and proteins in the food are broken down in the intestine.



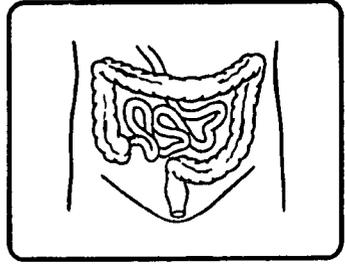
The liver produces bile. Bile is a mixture of mineral salts. Bile is stored in the gall bladder. Bile and enzymes from the pancreas also reach the small intestine. These complete the digestion of fat and proteins. Most of the food is in the form of simple nutrients that can be absorbed by the body.



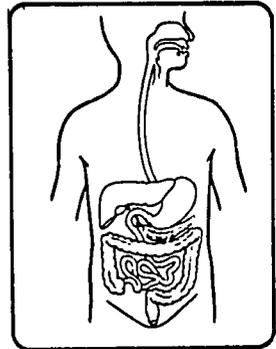
The portions of food which cannot be digested or absorbed in the small intestine pass into the large intestine. The large intestine ends at the rectum.



The large intestine and the rectum collect the indigestible by-products from the small intestine, absorb water from them, and move them toward the anus where they are finally eliminated from the body.



To summarize, the digestive tract is a continuous passage leading from the mouth to the esophagus, stomach, small intestine and large intestine. Other organs of the digestive tract are the tongue, teeth, salivary glands, liver, and pancreas.



ANSWERS TO REVIEW QUESTIONS

Assessing Patients with Gastrointestinal Problems

1. How much time do food and liquid normally take to move from the stomach to the rectum as waste?

Twenty-four to forty-eight hours

2. Disease can disturb the normal activity of the gastrointestinal tract. When this happens, certain signs and symptoms appear. Briefly describe five symptoms and signs associated with abdominal problems.

- a. *Inflammation of the intestines – Gastrointestinal diseases can irritate the stomach and intestines and cause pain. When the intestines are irritated or inflamed, the contents rapidly pass through.*
- b. *Inflammation of the peritoneum – The lining of the abdominal cavity is a thin membrane called the peritoneum. When the peritoneum becomes inflamed, it causes pain. Inflammation of the peritoneum is most often caused by a ruptured appendix or a peptic ulcer.*
- c. *Swelling of the abdomen – The abdomen can swell for several reasons. Organs such as the liver, spleen, or bladder may become enlarged. The large intestine may have a large amount of stool in it. Liver disease may fill the abdomen with fluid. The intestines may become blocked. Poor nutrition may weaken abdominal muscles. Worms may swell the intestinal tract. The poor muscle tone and worm enlarged intestines will enlarge the abdomen.*
- d. *Jaundice – The skin and the sclera become yellow when they absorb yellow pigment. The liver normally clears the body of this pigment, but when the liver is not functioning properly, the yellow pigment is not removed from the blood and is deposited in the skin and sclera.*
- e. *Diarrhea, vomiting, and dehydration – When the intestines are irritated, the patient will develop nausea, vomiting, and diarrhea. When the irritation is in the upper intestines, the major symptoms are nausea and vomiting. When the irritation is lower in the intestines, the patient suffers more with diarrhea. Vomiting and diarrhea cause dehydration.*

3. A patient complains of an abdominal pain that comes and goes. What is happening in the patient's body?

When the stomach or intestines are irritated, the muscles in the walls of these organs begin to contract and relax faster and harder than normal. The patient feels sudden pain. As the muscles relax, the pain goes away. It returns when the muscles contract again. Pain which comes and goes is called colic, or colicky pain.

4. What is the most serious complication of diarrhea?

Dehydration

5. Describe some of the differences between mild and severe abdominal pain.

The patient with mild abdominal pain can usually talk calmly, laugh and take a deep breath. The patient usually has a normal pulse rate and only slight pain on palpation. However, a patient with severe abdominal pain may be very anxious, very distressed, and unable to talk. Laughing and deep breathing are impossible because of the pain. In addition, the patient usually has severe pain when his abdomen is touched.

6. A patient complains of pain in the right lower part of his abdomen. Which abdominal problem does the location of his pain suggest? (Check one.)

- An infected gall bladder
 A large intestine problem
 An infected appendix

7. Explain why patients with gastrointestinal problems may vomit greenish or black material.

When infection irritates a person's stomach or intestines, he will vomit. He may vomit green material. The material contains bile from the liver. The bile enters the intestines from the liver through the bile duct. A problem such as a peptic ulcer causes internal bleeding. When blood remains in the stomach, the stomach acid turns the blood black. The patient will vomit black material.

8. How does food pass through the digestive tract?

The normal contractions and relaxations of the intestinal muscles force the material in the intestines through the digestive tract.

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9. Briefly explain how to palpate a patient's liver.

To palpate the liver, stand at the patient's right side. Ask the patient to take deep breaths. Gently palpate upward as the patient breathes in. Begin at the middle of the lower left quadrant of the abdomen. With each breath, move your fingers several centimeters higher until you have reached the rib cage.

10. What is the difference between 'tenderness to palpation' and 'rebound tenderness?'

Pain from a push on the abdomen is tenderness to palpation. But pain which occurs when you gently push in on the abdomen then suddenly release the pressure by withdrawing your hand is rebound tenderness.

14. Enlarged veins around the anus are:

- Fissures
- Buttocks
- Hemorrhoids

9/6

Teaching Plan 2

Taking the Medical History of Patients with Gastrointestinal Problems

OBJECTIVES	<ol style="list-style-type: none">1. Interview a fellow student to obtain information about his role-play gastrointestinal problem.2. Record findings of this interview on official forms in the recommended way.
METHODS	Self-instruction, discussion, practice interview
MATERIALS	Student Text - Unit 1; case studies 22, 23, 24 and 25 from student Text - Units 2, 3 and 5; record forms
PREPARATION	Remind students to read the case studies and Unit 1 in the Student Text. Identify patients with gastrointestinal problems who may come to your classroom.

TIME: 2 hrs 15 min

LEARNING ACTIVITIES

1. Instructor demonstrates how to take the medical history of a patient's gastrointestinal problem.	30 min
2. a. Students practice taking medical histories from other members of their work groups who role-play patients. For this activity, students will use case studies 22, 23, 24 and 25 from Units 2, 3 and 5 as a basis for the role-playing. After each interview, students will be evaluated by members of their work group.	1 hr

	TIME
b. If patients are available, they will be brought into the classroom for students to interview.	
3. Students and instructor discuss the role-plays and the importance of history taking in diagnosing gastrointestinal problems.	30 min
4. Students summarize what they learned during the session and comment on how it may be used in their work.	15 min



Teaching Plan 3

Interviewing and Examining Patients with Gastrointestinal Problems; Clinical Practice

- OBJECTIVES**
1. Interview a patient and obtain information about his gastrointestinal problem.
 2. Examine a patient with a gastrointestinal problem using the proper procedures.
 3. Record findings of an interview and examination on official forms in the recommended way.

METHODS Clinical demonstration, clinical practice

MATERIALS Record forms

PREPARATION Arrange for students to spend two hours in the hospital ward or outpatient clinic with suitable supervision.

TIME: 3 hrs

LEARNING ACTIVITIES

- | | |
|--|-------------|
| 1. Instructor demonstrates how to interview and examine a clinic patient. | 15 min |
| 2. Students interview and examine patients with gastrointestinal problems. | 1 hr 45 min |
| 3. Students present their findings to the class. Students and instructor comment on these findings and discuss the session's activities in terms of what the students learned. | 1 hr |

Teaching Plan 4

Assessing the Patient with Diarrhea, Vomiting or Mild Abdominal Pain

OBJECTIVES	<ol style="list-style-type: none">1. Describe the clinical pictures for these gastrointestinal problems: Amebiasis Peptic ulcer Giardiasis Gastroenteritis2. Describe the abnormal physical signs of gastrointestinal problems.3. Demonstrate how to interview and examine patients to identify gastrointestinal problems.
METHODS	Self-instruction, discussion, small group work, instructor presentation, role-play exercise
MATERIALS	Student Text - Unit 2, Diagnostic Guides
PREPARATION	Prepare a brief presentation and questions for discussion on the signs and symptoms of giardiasis, amebiasis, gastroenteritis, and peptic ulcer. Remind students to read Unit 2 and answer the review questions, and do the case study review exercises.

TIME: 2 hrs 30 min

LEARNING ACTIVITIES

1. Instructor makes a presentation and leads a discussion on the signs and symptoms associated with giardiasis, amebiasis, gastroenteritis, and peptic ulcer.	30 min
2. Students divide into four teams. Each team chooses one of the four gastrointestinal problems discussed in this unit. The instructor tells these teams to:	10 min

	TIME
<ul style="list-style-type: none"> a. Choose two members of the team to role-play the patient and the health worker. b. Create a presenting complaint and a medical history for the "patient," using information in the Student Text about the problem they've chosen. 	30 min
3. Teams work on creating patient roles.	20 min
4. The teams pair up and the health worker from one team interviews and examines the patient from the other team and diagnoses the problem. The other students observe and give feedback.	20 min
5. After this first role-play exercise, the teams switch roles and carry out another interview. The other students watch this interaction and provide feedback.	20 min
The full training group meets. Each team discusses its findings and the interview and examination process.	15 min
6. The students summarize what they learned during the session and how it may be applied in their work.	5 min
7. The instructor reminds the students to review the Student Text information on patient care for the four problems discussed today. They should also begin thinking about what patient and family education might be appropriate for these problems.	

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ANSWERS TO REVIEW QUESTIONS

Assessing and Caring for the Patient with Diarrhea, Vomiting, or Mild Abdominal Pain

1. TRUE (T) or FALSE (F)

T A patient with amebiasis may complain of severe diarrhea with blood and mucus in his stools.

T A possible complication of amebiasis is a liver abscess.

F Niclosamide is the drug of choice in treating amebiasis.

2. What are the usual symptoms of giardiasis?

Abdominal cramps, gas, diarrhea

3. Describe how amebic and giardial infections may be prevented.

Ameba and giardia can live in the soil or water for many days. They can easily contaminate food and drinking water. Stools must be disposed of in a sanitary way. Families should also be encouraged to wash all fruits and vegetables before eating them. Washing hands before cooking and eating is also important.

4. Describe the patient care for giardiasis.

The patient should take metronidazole three times a day for one week.

5. A family comes to the clinic complaining that they have all been sick and vomiting. Two of the family have slight diarrhea. None of them has a fever. What problem would you suspect? What care would you give them?

Suspect food poisoning. Food poisoning often makes many people who ate the same food sick at the same time. Each family member should be encouraged to take small amounts of water, juice, or tea every fifteen minutes. If anyone shows signs of dehydration, treat him as outlined in the Patient Care Guides for dehydration.

6. What are the signs of a severe bacterial infection?

The signs would include abdominal tenderness, high fever, and blood and mucus in the stool.

7. What is the most common presenting complaint of a patient with a peptic ulcer?

Most commonly the patient complains of mild abdominal pain, gnawing, aching, or a burning sensation in the upper part of his abdomen, below the breast bone.

8. If an ulcer has burned deeply into the wall of the stomach or small intestine, the ulcer will bleed. When this happens, a patient will often report that he has black, tar-like stools. Explain why his stools are black.

The black stools are caused by digested blood.

9. The first most common complication of a peptic ulcer is:

Perforation of the intestine

Perforation of the stomach

Bleeding

10. Briefly describe the best ways to prevent a peptic ulcer.

Reduce stress and avoid foods which cause excess stomach acid.

10/3

Case Study 22

Name of Patient:	Bartollic, Juan
Sex:	Male
Date of Birth:	2 February 1940
Date of Visit:	19 February 1982
Vital Signs:	Temperature 37° C Pulse 70 Respiration 20 Weight 62 kg
Presenting Complaint and Medical History:	<p>The patient started having diarrhea about three weeks ago. The diarrhea is now worse. No blood or mucus has appeared in the stool. He has not had a fever. He has a good appetite and has not experienced any weight loss. He had a similar episode of diarrhea about two months ago. Some medicine from the dispensary stopped the problem.</p> <p>Past medical history: The patient had an operation for a hernia six years ago.</p>
Physical Examination:	<p>The patient is a healthy looking male in no apparent distress. His mucous membranes are pink. His tongue is moist, and there is no enlargement of tonsils. He has no goitre or distended neck veins. His breath sounds are normal. He does not have a heart murmur. His abdomen is soft and non-tender. No organ enlargement felt. He has a scar in the right lower quadrant from hernia repair.</p>
Diagnosis:	Probably giardia
Patient Care:	Give 250 mg metronidazole three times a day for seven days.
Diagnostic Points:	<p>The patient had loose stools for three weeks without fever, blood, or mucus.</p> <p>No physical examination findings.</p>

Case Study 23

Name of Patient: Gunn, Tom
Sex: Male
Date of Birth: 18 April 1935
Date of Visit: 22 February 1980
Vital Signs: Temperature 37°C
Pulse 84
Respiration 24
Weight 73 kg

Presenting Complaint and Medical History: The patient has had heartburn off and on for the last year. He finds that milk of magnesia seems to relieve the indigestion. Oily and spicy foods make the pain worse. Pain also develops when he is hungry. He has a burning sensation in the pit of his stomach. He notices his heart pounding when he has the pain.

Past medical history: The patient was in the hospital fifteen years ago for anemia. He received a transfusion.

Examination: The patient is a healthy looking but anxious man. His mucous membranes are pink. His tongue is moist and his tonsils are not inflamed. He has no goitre in his neck. His jugular venous pulse is not increased. His breath sounds are normal. His heart has no murmur. No abdominal organs were felt.

Diagnosis: Peptic ulcer

Patient Care:

1. Tell the patient to avoid foods which cause his symptoms.
2. Patient should eat small meals and snack between meals.
3. Patient should take an antacid forty-five to sixty minutes after meals and whenever he has pain in his abdomen.

**Diagnostic
Points:**

4. Patient should return in two weeks for a follow-up.
1. Heartburn
2. Anxiety

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Teaching Plan 5

Caring for the Patient with Diarrhea, Vomiting or Mild Abdominal Pain

- OBJECTIVES**
1. Describe the treatment and care of patients suffering from amebiasis, giardiasis, peptic ulcer disease and gastroenteritis.
 2. Describe the main health messages and instructions to give to patients and their families about the home care and prevention of these problems.

METHODS Self-instruction, group work and presentations, discussion

MATERIALS Student Text - Unit 2, case studies 22 and 23, Patient Care Guides

PREPARATION Prepare questions to discuss the treatment and care procedures for case studies 22 and 23

TIME: 3 hrs 35 min

LEARNING ACTIVITIES

- | | |
|--|-------------|
| 1. Students and instructor discuss case studies 22 and 23 with regard to the treatment and care for the problems in the case studies. | 30 min |
| 2. Students divide into their teams from the previous session. Each team outlines the treatment and care procedures for its problem as well as the main health messages and instructions for the prevention and home care of this problem. | 45 min |
| 3. Teams make presentations to the rest of the students. Brief discussion and questions follow each presentation. | 1 hr 20 min |

	TIME
4. Students summarize what they learned from this session and comment on how it may be applied to their work.	15 min
5. The instructor reminds the students that the next session will focus on the subject of intestinal worms. He tells the students that they will be presenting information to the rest of the students about a particular kind of intestinal worm. The instructor then gives the following instructions: a. Divide into four groups. Try to find fellow students you have not worked with. b. As a group, choose one of the four intestinal worms that will be discussed in the next unit. Each group should have a different topic. c. During the last few minutes of this session and the time before the next session is scheduled, prepare a thirty-minute group presentation. These presentations should include information about: How the intestinal worm you have chosen is spread The clinical picture for this particular worm The treatment and care you would provide a patient with this problem The main health messages and instructions you would give to patients and their families about home care, medicines, and preventive measures You may wish to explain to the students that they will be given sufficient time outside class to prepare their presentations. Encourage the students to use visual aids and other teaching methods and aids that will make their presentations interesting and helpful to the other students.	15 min
6. Students begin organizing themselves during the remainder of the session.	30 min

Teaching Plan 6

Assessing and Caring for Patients with Intestinal Worms

- OBJECTIVES**
1. Describe the clinical picture of the following gastrointestinal problems:
Roundworms Tapeworms
Pinworms Hookworms
 2. Describe the abnormal physical signs caused by intestinal worms.
 3. Describe the treatment and care for patients suffering from these intestinal worms.
 4. Outline the main health messages and instructions to give to patients and their families about the home care and prevention of intestinal worms.
- METHODS** Self-instruction, group presentations, discussion
- MATERIALS** Student Text - Unit 3, and any materials that the individual groups making presentations may need
- PREPARATION** Check with the individual groups to make sure they are prepared for their presentations.

TIME: 3 hrs 10 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Groups make final preparation for their presentations. | 10 min |
| 2. One of the groups makes its presentation. Questions and brief discussion follow. | 40 min |
| 3. The other three groups make presentations. Questions and discussion follow each presentation. | 2 hrs |

	TIME
4. Students summarize what they have learned during this session.	15 min
5. Instructor reminds students to read the next unit in the Student Text and answer the review questions.	5 min

ANSWERS TO REVIEW QUESTIONS

Intestinal Worms

1. You can only make a positive diagnosis of roundworm if you:
 - Find that the patient has shortness of breath
 - See the worm
 - Watch the patient closely for two days
2. Explain how roundworm infections spread.

Roundworms lay thousands of tiny eggs in the infected person. These eggs pass out of the body in the stool. Infected stool easily contaminates hands. If the contaminated hands are not washed before preparing food, the food then becomes contaminated with the eggs. Drinking water can also be contaminated by dirt containing roundworm eggs. If good personal hygiene, proper food preparation and water treatment are not practiced, people eat the eggs and these hatch in the intestinal system. The cycle is repeated.

3. Why may a patient with a roundworm infection complain of a cough or wheezing?

Because the immature worms travel through the bloodstream to the lungs. They then force their way into the air passages of the lungs. This causes irritation of the lungs and respiratory symptoms such as coughing and wheezing.

4. Describe how to prevent roundworm infection.

Stool must be disposed of in a sanitary way by use of a pit latrine. Drinking water must be protected from contamination by human stool. Drinking water should be chlorinated or boiled whenever possible. The practice of good personal and food hygiene habits should be discussed with the patient and the family.

5. Explain why a person infected with pinworms has itching around the anus.

When the female pinworm is ready to lay her eggs, she crawls down through

the anus and lays her eggs on the skin around the anus. The presence of these eggs causes itching. The person with the infection often scratches himself around the anus.

6. TRUE (T) or FALSE (F)

 T If one person in a family is infected with pinworms, others are probably also infected.

 F Pinworms will usually cause severe abdominal cramps and diarrhea.

 T Several drugs can treat pinworm infections.

 T Preventing pinworm infections requires very good health habits such as keeping the fingernails short and clean and washing hands before meals.

7. Explain how hookworms infect humans.

The infected person passes hookworm eggs in his stool. If the eggs fall on warm, moist earth, they develop into immature worms. These immature worms remain in the soil until they are able to attach themselves to the feet of people who are walking across the ground without shoes. The immature worms burrow into the skin of the feet and enter the blood stream. Eventually they reach the small intestines where they mature and attach themselves to the intestinal wall.

8. How can people prevent hookworm infections?

They may be prevented if the stool is disposed of in latrines. Wearing shoes also prevents infection.

9. TRUE (T) or FALSE (F)

 T Anemia is often the only sign of hookworm infection.

 T In areas where hookworm is present, nearly all of the population will have at least a few worms.

 F Diarrhea is the most important effect of hookworm infections.

10. Explain how you would treat a young child who has severe anemia because of a hookworm infection and signs of a roundworm infection.

Give the child a course of ferrous sulfate at least two weeks before treating the hookworm and roundworm. Then the roundworm and hookworm infection may be eliminated at the same time by using pyrantel pamoate. You could also give the child oral iron for two weeks. Then treat the roundworm with piperazine for two days and then treat the hookworm infection with tetrachlorethylene.

11. The most important sign of tapeworm infection is:

Mild abdominal pain

Seeing a worm segment in the stool

Weight loss

12. How can people prevent tapeworm infections?

By thoroughly cooking beef, pork, or fish before eating.

Case Study 24

Name of Patient: Brum, Willie
Sex: Male
Date of Birth: 15 November 1968
Date of Visit: 2 January 1982
Vital Signs: Temperature 37.2°C
Pulse 90
Respiration 24
Weight 30 kg

Presenting Complaint and Medical History: This young patient is tired and loses his breath easily. He said he has felt this way for about two weeks.
Past medical history: The patient had measles at age five but no other serious illnesses.

Physical Examination: The patient is a thin, tired looking boy. His mucous membranes are very pale. His tongue is also pale. His tonsils are not inflamed. His breath sounds are normal. His heart rate is increased. He has a systolic murmur. His abdomen is flat and his bowel sounds are active. No organs felt on palpation. His muscle tone is poor. His skin shows some red, irritated areas between the toes.

Diagnosis: Anemia and possible hookworm infection

- Patient Care:**
1. Give 500 mg pyrantel pamoate once a day for three days to eliminate roundworm and hookworm.
 2. Give one tablet of ferrous sulfate three times a day. This represents 4 mg elemental iron per kilogram of body weight per day. Continue this treatment for three months.
 3. Tell the patient and his family how he became infected with hookworm and why he should wear shoes outside. Examine others in the family for signs of hookworm. Tell them why they should use safe latrines.
 4. Follow-up the patient's condition in two weeks.

Teaching Plan 7

Presenting Health Messages about Gastrointestinal Problems

OBJECTIVES	<ol style="list-style-type: none">1. Identify the main health messages about gastrointestinal problems that you should share with patients and the community.2. Describe how to make and use visual aids such as flashcards, flipcharts, and posters to present health messages.3. Demonstrate the use of visual aids in presenting health messages about gastrointestinal problems.
METHODS	Self-instruction, discussion, group work, presentations, instructor presentation
MATERIALS	Student Text - Unit 4, flipchart paper, colored markers, cardboard or stiff paper
PREPARATION	Gather the materials students will need to make flipcharts, flashcards, and posters. Prepare a brief introductory presentation on making and using visual aids to present health messages.

TIME: 2 hrs 45 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Make a brief, introductory presentation and then lead a discussion on making and using visual aids to present health messages. | 20 min |
| 2. Students then divide into their working groups. Each group chooses a gastrointestinal problem about which they will present health messages. In presenting these health messages, the groups are to use either a flashcard or flipchart | 10 min |

	<u>TIME</u>
presentation. They are also responsible for designing a health message poster.	
3. Groups prepare health message presentations.	1 hr
4. Each group presents its flipchart or flashcard presentation and places its poster where others may see it. Brief discussion and questions follow each presentation.	1 hr
5. Students summarize what they learned during the session and how they may apply it to their work in the field.	15 min

ANSWERS TO REVIEW QUESTIONS

Presenting Health Messages about Gastrointestinal Problems

1. What are flashcards?

Flashcards are a set of cards with drawings or pictures on them. They are used to tell a story, show how a disease is passed from one person to another, or to show the steps in preventing a disease. They may be used to make the presentation of health messages stronger and clearer.

2. TRUE (T) or FALSE (F)

T You should encourage questions during a flashcard presentation.

T Flipcharts are like flashcards except they are usually larger and the drawings or pictures are fastened together at the top edge.

F You should not write your health messages on flashcards or flipcharts.

3. Describe two health messages that you would include in a presentation to mothers about how gastrointestinal diseases like amebiasis and giardiasis spread.

a. People with the disease who do not use latrines pass the disease in their stools. The disease may then be washed into water that people drink.

b. People who have the disease and do not wash their hands after passing a stool may infect food which they handle or prepare.

4. Where can you write health messages on flipchart pages?

You can write each health message on the back of the drawing which comes before the one you will show next. Or you can also write comments or messages with a pencil next to the drawings.

5. What health messages would you include in a presentation about hookworm?

- a. *Hookworm is a small worm that may live part of its life in your belly.*
 - b. *A person who has hookworm infection passes the worm eggs in his stool.*
 - c. *The eggs which are passed grow into baby worms that then pass through bare feet to feed on a person's blood.*
 - d. *Hookworm can make a person very tired and weak. It causes anemia.*
 - e. *Wearing shoes and using latrines can help prevent hookworm infections.*
6. What should you do to make and use a health message poster?
- a. *Select a health subject that you want to communicate.*
 - b. *Select a health message that is related to this subject.*
 - c. *Draw a picture that will illustrate this message.*
 - d. *Select a short and expressive written message to accompany the illustration.*
 - e. *Ask someone if the message of the poster is communicated clearly.*
 - f. *Make any necessary changes.*
 - g. *Duplicate the poster if needed and place the copies in places where many people will see them.*

Teaching Plan 8

Assessing and Caring for Patients with Liver Diseases

OBJECTIVES	<ol style="list-style-type: none">1. Describe the clinical picture associated with these liver diseases: Viral hepatitis Cirrhosis2. Describe the abnormal physical signs of these diseases.3. Demonstrate how to interview and examine patients to identify these diseases.4. Provide treatment and care for patients suffering from these diseases.5. Counsel patients and their families about home care, medications, and prevention of these problems.
METHODS	Self-instruction, discussion, group work, and role-play presentations with case studies
MATERIALS	Student Text - Unit 5, case studies 25, 26, and 31 and Diagnostic and Patient Care Guides for gastrointestinal problems
PREPARATION	Prepare some brief questions for an informal question and answer session on the signs and symptoms of liver diseases

TIME: 3 hrs

LEARNING ACTIVITIES

1. Instructor involves students in an informal question and answer session to review the signs and symptoms associated with liver diseases.

10 min

	TIME
2. Students divide into working groups. The instructor distributes Case Study 25 to half of the groups and Case Study 26 to the others. If students are in an odd number of groups, divide one group among the others.	5 min
3. Groups identify the liver disease in their case study. They choose a group member to role-play the patient in the case study. "Patients" should be prepared to present with a complaint and answer any questions regarding physical examination and history findings, as indicated in the case study.	30 min
4. Groups join in pairs. One group provides the role of a patient while the other group conducts a history and physical examination to identify the problem. Once the problem has been correctly identified, the health worker group outlines treatment and care procedures and practices patient and family counseling about the home care and prevention of the problem.	50 min
5. Students and instructor discuss the process and comment on the health worker group's approach and findings as well as the educational messages which were used in the patient and family counseling.	10 min
6. Groups reverse roles. The patient group is now the health worker group and the health worker group is now the patient group. Repeat Activity 4.	50 min
7. Students and instructor discuss the health worker group's approach and findings as well as its educational messages.	10 min
8. Students and instructor discuss the session's activities. The students summarize what they learned and how it relates to their jobs.	15 min

ANSWERS TO REVIEW QUESTIONS

Liver Diseases

1. How are hepatitis viruses most often spread?

By way of contaminated food or water.

2. Which of these signs suggest viral hepatitis?

Loss of appetite

Diarrhea

Nausea and vomiting

Severe fever

Jaundice

Pain in the upper right quarter of the abdomen

3. How can people prevent viral hepatitis?

a. *Boil or chlorinate the drinking water to destroy the hepatitis virus which is spread through stool.*

b. *Tell the family of a patient with hepatitis to separate the eating utensils of the sick person from those of the other family members and to put his stool a safe distance from gardens and sources of water.*

4. What is cirrhosis?

Cirrhosis is a chronic disease which destroys liver cells. Most often, it results from drinking large amounts of alcohol over a long period of time. Patients who drink a lot of alcohol do not eat properly. The liver cells are poisoned.

5. TRUE (T) or FALSE (F)

Patients with cirrhosis look chronically ill, with muscle wasting and jaundice.

Liver failure is often a complication of cirrhosis.

Alcohol is not dangerous to the patient with cirrhosis if he is eating a nutritious diet.

T If you suspect that a patient has cirrhosis, refer him to the hospital so that your diagnosis can be confirmed.

————— Case Study 25 —————

Name of Patient:	Ibana, Mina
Sex:	Female
Date of Birth:	6 June 1949
Date of Visit:	30 March 1980
Vital Signs:	Temperature 37.8°C Pulse 96 Respiration 22 Blood Pressure 120/85 Weight 57 kg
Presenting Complaint and Medical History:	<p>The patient has been vomiting for about three days. The problem started about one week ago with a loss of appetite. Gradually, the patient developed aches and pains throughout her body with some fever and a general feeling of illness. She saw a doctor five days ago, who prescribed some pills. Then the vomiting started.</p> <p>Past medical history: No previous illness.</p>
Physical Examination:	<p>The patient is not ill looking. Her mucous membranes are pink. Her sclerae are yellow. She has a slight swelling of the thyroid. She has no tremor or protruding eyes. Her breath sounds are normal. On palpation her liver edge was felt about 4 cm below the right costal margin. It is quite tender. No spleen, kidney, or bladder may be felt. She has no ascites or evidence of edema.</p>
Diagnosis:	Viral hepatitis

- Patient Care:**
1. Tell the patient to rest in bed.
 2. Advise the patient that the problem is with her liver.
 3. Advise the patient to eat vegetables, fish, and lean meat. Tell her to avoid fatty foods.
- Diagnostic Points:**
1. Jaundice
 2. Enlarged and tender liver
 3. Loss of appetite
 4. History of aches, pains, general tiredness, and illness
 5. Onset of jaundice

Case Study 26

Name of Patient: Gani, Gen
Sex: Male
Date of Birth: 21 September 1952
Date of Visit: 6 October 1982

Vital Signs:

Temperature	37°C
Pulse	70
Respiration	30
Blood Pressure	100/70
Weight	80 kg

Presenting Complaint and Medical History: The patient noticed the gradual swelling of his ankles about three months ago. The swelling is worse when he stands and improves when he lies down. He denies any other symptoms. However, he has noticed some decrease in his appetite recently. He does not think that he has lost any weight. He has no shortness of breath, although he gets short of breath when he exercises.

Past medical history: No serious illness. He smokes about a pack of cigarettes a day. He drinks up to one bottle of whiskey on a weekend.

Physical Examination:	The patient is a very talkative male in no acute distress. His mucous membranes are pink. His sclerae are slightly yellow. His tonsils are not inflamed. He has no goiter or distended jugular veins in his neck. His breath sounds are normal. His abdomen is slightly distended. His liver is firm and palpable about 2.5 cm below the right costal margin. The liver is not tender. No spleen, kidney, or other masses may be felt. He has no evidence of ascites.
Diagnosis:	Possible cirrhosis of the liver
Patient Care:	<ol style="list-style-type: none"> 1. Refer to a hospital 2. Advise the patient not to drink any alcohol
Diagnostic Points:	<ol style="list-style-type: none"> 1. Ankle swelling 2. Enlarged, non-tender liver 3. History of alcohol use

Case Study 31

Name of Patient:	Hatch, D. David	
Sex:	Male	
Date of Birth:	3 December 1922	
Date of Visit:	17 September 1981	
Vital Signs:	Temperature	37°C
	Pulse	62
	Respiration	34
	Blood Pressure	110/65
	Weight	58 kg

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Presenting Complaint and Medical History: The patient's abdomen has been swollen and painful for the last six months. The condition is worsening. The patient has had severe pain for the last week. He described it as a pulling feeling across the belly. He says he gets short of breath when he lies down and has to sit up to catch his breath. He drinks whiskey daily.

The patient also says that he hasn't had any chest pain or palpitations. He hasn't had a cough or a fever. He's noticed some swelling in his ankles and he's had a poor appetite. He thinks he has lost fifteen pounds in the last three months.

Physical Examination: The patient is an ill looking man. His mucous membranes are pink. He has very yellow sclerae. His tongue is moist and his tonsils are not inflamed. His neck veins are flat. His breath sounds are normal. He has no sign of a heart murmur. His abdomen is distended. His liver is 8 cm below the right costal margin. His liver is firm but not tender when palpated. No spleen may be felt. There is much fluid in the patient's abdomen, and he has severe edema of the ankles.

Diagnosis: Cirrhosis with fluid in the abdomen and edema

Patient Care:

1. Refer the patient to a hospital.
2. Advise the patient that his liver is diseased. Tell him he must eat nutritious food. Tell him to stop drinking alcohol.

Diagnostic Points:

1. Progressive abdominal distension
2. Shortness of breath relieved by sitting
3. History of heavy drinking
4. Loss of appetite

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Teaching Plan 9

Assessing the Patient with an Acute Abdomen

- OBJECTIVES**
1. Describe the clinical picture of these gastrointestinal problems:
Acute abdomen
Acute appendicitis
Intestinal block
 2. Describe the abnormal physical signs associated with these problems.
 3. Demonstrate how to interview and examine patients to identify these problems.

METHODS Self-instruction, discussion, small group work, instructor presentation, role-play exercise

MATERIALS Student Text - Unit 6, Diagnostic Guides

PREPARATION Prepare a brief presentation and questions for discussion on the signs and symptoms of an acute abdomen, acute appendicitis, and an intestinal block. Remind students to read Unit 6 and answer the review questions and do the case study review exercises.

TIME: 2 hrs 50 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Make a presentation and lead a discussion on the signs and symptoms of acute appendicitis, an intestinal block, and an acute abdomen. | 30 min |
| 2. Students form three teams. Each team chooses one of the three gastrointestinal problems | 10 min |

	TIME
discussed in this unit. Tell each team to choose two members to role-play the patient and the health worker.	
3. The teams work on creating their patient roles.	30 min
4. Each team's role-play health worker takes a turn interviewing and examining the role-play patient from another team. The third team offers its comments on the other teams' performances when the problem is diagnosed.	20 min
5. Teams switch roles and repeat the exercise.	20 min
6. Teams switch roles again so each team has an opportunity to provide the role of patient, health worker and observer.	20 min
7. The full training group meets. Each team discusses its findings. Students and instructor discuss the interview and examination process.	20 min
8. The students summarize what they learned during the session and how it may be applied in their work.	15 min
9. The instructor reminds the students to review the Student Text information on patient care for the three problems discussed today. Also, they should begin thinking about what patient and family advice might be appropriate for these problems.	5 min

ANSWERS TO REVIEW QUESTIONS

Assessing and Caring for the Patient with an Acute Abdomen

1. What causes acute appendicitis?

Inflammation of the appendix is often caused by a pea-sized piece of undigested food which catches in the appendix.

2. Acute appendicitis may cause an infection of the abdominal lining. Explain how this happens.

This happens when the inflamed appendix swells and ruptures. The contents of the intestines spill into the abdominal cavity and inflame the peritoneum.

3. Explain how to identify pain caused by acute appendicitis.

Check the location of the pain. The pain from acute appendicitis occurs at a point one to two inches from the right front ilium on a line drawn from the ilium to the navel. Check also for rebound tenderness.

4. TRUE (T) or FALSE (F)

F Pain on palpation is usually a sure sign of acute appendicitis.

T Mild fever usually occurs in the early stages of acute appendicitis.

T Involuntary guarding is a sign of inflammation of the abdominal lining.

F Inflammation of the appendix progresses slowly. After two to three weeks, the patient's appendix will rupture.

5. A burst appendix will inflame the abdominal lining. One of two things will then happen. Briefly describe these.

a. *The body will seal off the infection and form an abscess.*

b. *The inflammation will spread through the abdominal lining and cause peritonitis.*

6. A patient comes into the clinic with severe abdominal pain. After a history and physical examination you determine that the patient has a ruptured appendix. How would you manage this situation?

First, prevent shock by starting an intravenous infusion of .9% normal saline in dextrose or Ringer's lactate solution. Place the patient in the shock position with his legs slightly raised above his abdomen. Keep the patient warm. Arrange for the immediate transfer of the patient to a hospital. Prevent the spread of infection; start the patient on antibiotics. Give penicillin and streptomycin to the patient intramuscularly. While the patient is being transferred to a hospital, keep the infusion running. Make the patient as comfortable as possible. If it will take more than four hours for the patient to reach the hospital, give him intramuscular pethidine.

7. When the contents of a person's digestive tract do not pass freely down the tract the person is said to have an intestinal block. What causes such a block?

An inguinal hernia

Twisting of the bowel on itself

An abdominal surgical scar causing adhesions

Masses such as a ball of roundworms, a hard stool, or a tumor

8. Why does the abdominal pain which accompanies an intestinal block come in waves or spasms?

Muscular movements of the intestines cause the waves of pain as the intestine tries to overcome the block.

9. The presence of green-brown vomit which smells like stool is a sign of a blocked:

Small intestine

Large intestine

Anus

10. Without hospital care and surgery, a patient with an intestinal block will die. What can you do to help the patient before he is transferred to a hospital?

a. *Treat or prevent shock.*

- b. *Treat for dehydration. A patient with an intestinal block should be given nothing by mouth.*
- c. *Empty the patient's stomach by passing a nasogastric tube. This will empty the food and fluids from the stomach and prevent vomiting. The patient will be more comfortable.*
- d. *Treat the patient if he presents with signs of a perforation in the intestinal wall. A perforation in the intestinal wall will cause an infection. This infection must be treated. Give the patient intramuscular penicillin and streptomycin for the infection.*
- e. *Relieve the patient's pain by giving him intramuscular pethidine.*
11. Which of the following are part of the clinical picture of a patient with an acute abdomen:
- severe abdominal pain
- a pulse of more than ninety beats per minute
- pale, cool, and damp skin
12. No patient with an acute abdomen should ever be given a laxative, even if they complain of constipation. Why?
- A laxative makes the bowels become more active. This increased activity may cause complications such as perforation.*

Case Study 27

Name of Patient: Terrell, Ernest
Sex: Male
Date of Birth: 19 September 1957
Date of Visit: 12 July 1977
Vital Signs: Temperature 37.5°C
Pulse 86
Respiration 20
Blood Pressure 110/80
Weight 55 kg

Presenting Complaint and Medical History: The patient complains of pain in his belly and loss of appetite for two days. He has had no bowel movement today and felt nauseated when he woke up this morning. He did not go to work today. About an hour ago he vomited. The material which he threw up was slimy and bitter. He has not eaten any solid food since yesterday. The pain is not very severe. It is not colicky. At first, it was in the middle of the belly. Now it is a little lower down and more on the right.

Past medical history: The patient has had no hospitalizations. He had measles and chicken pox as a child. Last year he passed some roundworms and was treated for it. He has not passed any worms since then.

Physical Examination: The patient is a well-built, muscular young man who looks distressed. His mucous membranes are pink and his tongue is coated. His breath smells foul. Percussion of his chest causes a resonant note. His breath sounds are clear. He has no murmurs. Inspection of the abdomen reveals that the abdomen is flat. The percussion note is resonant. Bowel sounds may be heard. He has guarding and rebound tenderness in the right lower quadrant. No organs

	may be felt. The patient also has tenderness on the right side with no masses felt in a rectal examination.
Diagnosis:	Acute abdomen; probably acute appendicitis
Patient Care:	Refer the patient to a hospital.
Diagnostic Points:	<ol style="list-style-type: none"> 1. Pain around the umbilicus moved to the lower right quadrant. 2. Low grade fever present. 3. Guarding and rebound tenderness is limited to the lower right quadrant.

Case Study 28

Name of Patient:	Myers, James										
Sex:	Male										
Date of Birth:	23 July 1954										
Date of Visit:	1 June 1982										
Vital Signs:	<table> <tr> <td>Temperature</td> <td>37.3°C</td> </tr> <tr> <td>Pulse</td> <td>84</td> </tr> <tr> <td>Respiration</td> <td>28</td> </tr> <tr> <td>Blood Pressure</td> <td>100/20</td> </tr> <tr> <td>Weight</td> <td>56 kg</td> </tr> </table>	Temperature	37.3°C	Pulse	84	Respiration	28	Blood Pressure	100/20	Weight	56 kg
Temperature	37.3°C										
Pulse	84										
Respiration	28										
Blood Pressure	100/20										
Weight	56 kg										

Presenting Complaint and Medical History: The patient had a sudden onset of vomiting two days ago. He has noticed that the material he has been vomiting is greenish. He says a pain in his belly began about four days ago and has been getting constantly worse. He has not had a bowel movement for the last four days. He also has not passed any gas through his anus for four days. He hasn't experienced any weight loss or fever.

Past medical history: The patient was operated on for a stomach ulcer about one year ago. He feels like the ulcer must have returned.

Physical Examination:

The patient is an ill looking man with sunken eyes. His mucous membranes are pink and dry. His tongue is dry and coated. His neck veins are flat. His breath sounds are clear and his heart sounds are normal. Inspection of the abdomen reveals a five inch, vertical scar down the right side of the belly. Percussion of the abdomen reveals a high pitched percussion note. Auscultation of the abdomen reveals that the patient's bowel sounds are very active. No organs may be felt on palpation. No sign of fluid in the abdomen was found. The patient does not guard his abdomen but has generalized tenderness. The abdomen is moderately distended, with no rebound tenderness.

Diagnosis:

Intestinal obstruction

Patient Care:

1. Transfer the patient to a hospital immediately.
2. Pass a nasogastric tube and empty the stomach. Leave the tube in and empty the stomach again every fifteen minutes.
3. Start an intravenous infusion and give 1,000 cc Ringer's lactate every four hours while being transferred.

Diagnostic Points:

1. Patient vomited bile-colored material for two days.
2. Constipation
3. Abdominal distention
4. History of surgery
5. Signs of dehydration

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Case Study 29

Name of Patient: Turner, Lani
Sex: Female
Date of Birth: 12 March 1964
Date of Visit: 3 April 1982
Vital Signs:
Temperature 37.9°C
Pulse 96
Respiration 22
Blood Pressure 96/60
Weight 57 kg

Presenting Complaint and Medical History: The patient has been vomiting for the last twenty-four hours and has had pain in her upper belly for the same amount of time. The pain came suddenly in the upper right side of her belly. She has not been able to eat anything since the pain began and feels sick to her stomach. She says that she had not eaten anything unusual before the attack. The pain is made worse on deep breathing and when she vomits. She feels a little better if she lies down flat.

Past medical history: The patient had two previous episodes in which she had nausea and abdominal pain. The first time she did not vomit. The second time she had some fever and vomited once. These episodes were about six months apart. The first occurred one year ago.

Physical Examination: The patient is a well developed, intelligent woman who looks tired. Her tongue is dry and coated. Her throat is clear and her sclera are white. Her breath sounds are clear. On deep inspiration, she complains of pain in the right upper quadrant. She does not have a heart murmur. Her abdomen is slightly distended. She has a resonant percussion note. She experiences pain on deep palpation and rebound

tenderness in the right upper quadrant. No organs may be felt and her bowel sounds are decreased.

Diagnosis:

Acute abdomen

Patient Care:

Refer the patient to a hospital.

Diagnostic Point:

Severe abdominal pain with tenderness and rebound tenderness.



Teaching Plan 10

Caring for the Patient with an Acute Abdomen

OBJECTIVES	<ol style="list-style-type: none">1. Describe the treatment and care of patients suffering from acute appendicitis, intestinal block and an acute abdomen, including passing a nasogastric tube.2. Describe the main health messages and instructions to give to patients and their families about these problems.
METHODS	Self-instruction, group work, informal question and answer session, discussion, instructor demonstration
MATERIALS	Student Text - Unit 6, Patient Care Guides for gastrointestinal problems, skill checklist for passing a nasogastric tube
PREPARATION	Make arrangements for students to observe how a nasogastric tube is passed on a patient with an intestinal obstruction. Gather the necessary supplies for this procedure. Prepare a few questions for discussion of patient care.

TIME: 2 hrs 30 min

LEARNING ACTIVITIES

1. Students divide into teams from the previous session. Tell each group to write down five questions about patient care and education for their problem. The other groups will answer the questions. Encourage groups to make their questions difficult, as the team with the most correct answers will receive a favor from the other two teams.

30 min

	<u>TIME</u>
2. The first team asks the other two teams its questions. The first team to answer the question correctly receives a point for that question. Team members may consult with one another but only one answer may be given by only one team member.	15 min
3. The second team asks its questions.	15 min
4. The third team asks its questions. The team with the most points at the end of this round is the winner of a favor from the other two groups. In case of a tie, the team with the least number of points or the instructor provides a favor for the winning teams.	15 min
5. Students and instructor discuss the patient care points brought out in the teams' questions.	15 min
6. Instructor demonstrates the procedures for passing a nasogastric tube on a patient. This demonstration will probably have to be done in a clinical setting. Either have the entire session at the clinic or allow enough time for the students to travel to and from the clinic.	15 min
7. Answer any student questions. If possible, students practice passing a nasogastric tube on patients. If not, students go over procedures with each other using the skill checklist as a guide.	30 min
8. Students summarize what they learned during this session and how it may be applied to their work.	10 min
9. Instructor reminds the students to read the next unit in the Student Text and answer the review questions.	5 min

Teaching Plan 11

Assessing and Caring for the Patient with Anal Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe the clinical picture of these anal problems: Hemorrhoids Anal fissures2. Describe the abnormal physical signs of these anal problems.3. Describe the procedures for doing an anal examination.4. Outline the treatment and care procedures for patients suffering from these anal problems.5. Demonstrate how to counsel patients about the home care of these problems.
METHODS	Self-instruction, instructor presentation, discussion, informal question and answer session, role-play exercise
MATERIALS	Student Text - Unit 7, Case Study 30, skill checklist for anal examinations
PREPARATION	Prepare a brief presentation and questions for discussion about the signs and symptoms associated with hemorrhoids and anal fissures. Also, prepare a brief review of the procedures in an anal examination. Remind students to look at Case Study 30.

TIME: 2 hrs

LEARNING ACTIVITIES

- | | |
|---|--------|
| 1. Make a brief presentation and lead a discussion of the abnormal physical signs associated with hemorrhoids and anal fissures. | 20 min |
| 2. Students and instructor review the procedure for doing an anal examination. | 20 min |
| 3. Students and instructor discuss Case Study 30. | 20 min |
| 4. Students divide into working groups. Group members take turns playing the roles of patient, health worker, and observer. The student playing the role of a health worker provides advice to the patient about the home care of hemorrhoids and anal fissures. This continues until all the group members have had a chance to play the role of health worker. Move from group to group to observe and comment. | 30 min |
| 5. Instructor chooses two students to role-play a patient-health worker interaction. | 10 min |
| 6. Students and instructor discuss the session's activities. The instructor evaluates what the students have learned during the session with an informal question and answer period. | 20 min |

ANSWERS TO REVIEW QUESTIONS

Anal Problems

1. What are hemorrhoids?

Hemorrhoids are veins near the anus which become swollen.

2. What are the most common presenting complaints of patients with hemorrhoids?

The most common complaint of patients with hemorrhoids is pain in the anus. The patient may also report seeing bright red blood when he cleans himself after passing his stool. Some patients will complain of constipation.

3. Describe what care you would give a patient with hemorrhoids.

Tell the patient with hemorrhoids how to use rectal suppositories. Suppositories will relieve some pain if the patient uses two to three daily. Hard stool makes hemorrhoids worse. The patient may soften his stool by taking one or two tablespoons of mineral oil twice a day by mouth. Encourage him to drink extra water.

4. What is an anal fissure?

An anal muscle spasm

A crack in the anal mucous membrane

Inflammation of the anal muscles

5. What are the best ways to care for an anal fissure?

Sit in a tub of warm water for up to thirty minutes three times a day. Soaking will relieve spasms in the anal muscle. Soaking will also promote healing of the patient's fissure and decrease congestion in the area. One or two tablespoons of mineral oil taken twice a day will help soften the feces. Surgery may be required if the problem continues.

Case Study 30

Name of Patient: Bissett, Henry
Sex: Male
Date of Birth: 16 October 1948
Date of Visit: 12 May 1981
Vital Signs: Temperature 37°C
Pulse 80
Respiration 22
Blood Pressure 130/90
Weight 85 kg

Presenting Complaint and Medical History: The patient has had constipation off and on for three years. He has experienced very painful bowel movements. With medicine, he has a bowel movement every three days. His problem seems to be getting worse. He has had blood in his stools for one week. He feels as though something is coming out of his rectum. The patient says he is unable to sit properly.

Physical Examination: The patient is an obese man who sits on the edge of his chair in great pain. His tongue is moist and his tonsils are normal. His mucous membranes are pink. His neck veins are not distended. His breath sounds are normal and his heart sounds show a normal rhythm. He does not have a murmur. His abdomen is fatty and soft and non-tender. No organs may be felt on palpation. He has no peripheral edema. An anal examination reveals a large bluish mass extending down through the anus.

Diagnosis: Hemorrhoids

Patient Care: Refer to hospital for surgical removal of hemorrhoids

**Diagnostic
Points:**

1. History of constipation
2. Pain when passing stool
3. Sensation of something coming through the anus
4. Blood in the stool

Teaching Plan 12

Assessing and Caring for Patients with Gastrointestinal Problems; Skill Development

- OBJECTIVES**
1. Interview and examine patients with gastrointestinal problems.
 2. Treat and care for patients diagnosed as having gastrointestinal problems.
 3. Counsel patients with gastrointestinal problems and their families about the home care, and prevention of gastrointestinal problems.

METHODS Supervised clinical practice

MATERIALS Skill checklists, evaluation records, Diagnostic and Patient Care Guides, Patient Care Procedures

PREPARATION Arrange student supervision for one and a half days of skill development in a hospital ward or outpatient clinic during the week of classroom instruction.

Also arrange student supervision for two weeks of skill development in a hospital ward or outpatient clinic. Coordinate this activity with opportunities to practice skills from other clinical modules.

TIME: 13.5 days

LEARNING ACTIVITIES

1. Give student groups a day and a half to practice:
 - Interviewing and examining patients
 - Providing patient care
 - Delivering health messages to patients and their families

1.5 days

	TIME
2. Students provide care for patients with gastrointestinal problems during skill practice coordinated with other clinical modules.	12 days

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Teaching Plan 13

Caring for Patients with Gastrointestinal Problems; Clinical Rotation

OBJECTIVES	<ol style="list-style-type: none">1. Diagnose all the gastrointestinal problems described in this module.2. Properly record information about medical history, physical examination, and patient care.3. Provide correct patient care, using the treatments described in this module.4. Advise patients about the home care and prevention of gastrointestinal problems.
METHODS	Supervised clinical practice for one month
MATERIALS	Skill checklists, evaluation records, and Diagnostic and Patient Care Guides
PREPARATION	See Student Text - Unit 9, for entry level skills and knowledge. Since this activity will occur with other clinical rotations you will probably be placing two or three students in the clinic during any given week. Arrange for supervision during this activity.

TIME: 1 month

LEARNING ACTIVITIES

1. Students obtain medical histories and perform physical examinations.
2. Students diagnose gastrointestinal problems.
3. Students provide treatment and care to patients with gastrointestinal problems.

TIME

- | | |
|--|--|
| <ol style="list-style-type: none">4. Students present health messages to individual patients or groups of patients.5. Supervisors evaluate each student at least twice on all the above activities. | |
|--|--|

Teaching Plan 14

Helping a Community Prevent and Care for Gastrointestinal Problems; Community Phase

OBJECTIVES	<ol style="list-style-type: none">1. Provide clinical services to people who suffer from gastrointestinal problems.2. Identify infectious gastrointestinal problems and plan a program to prevent them from occurring and spreading.3. Advise the community about its role in preventing gastrointestinal problems.4. Identify other members of the health team who can assist in prevention.
METHODS	Practice providing patient care, assessing the community, and training community health workers
MATERIALS	Log book, reference materials
PREPARATION	See Student Guide - Unit 10 for details of entry level skills and knowledge. See the Community Phase Manual for details on organization and supervision of community practice.

TIME: 3 months

LEARNING ACTIVITIES

1. Students provide clinical services for gastrointestinal problems.
2. Students assess the number of gastrointestinal problems found in the community. They record their findings in a written report.

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TIME

3. Students plan activities that will help a community reduce the occurrence of gastrointestinal problems.
4. Students begin training a community health worker to care for gastrointestinal problems.
5. Instructor evaluates student performance in the community.

Common Problems
GENITOURINARY

The MEDEX Primary Health Care Series

Common Problems
GENITOURINARY

Instructor's Manual

© 1982
Health Manpower Development Staff
John A. Burns School of Medicine
University of Hawaii, Honolulu, Hawaii, U.S.A.

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SCHEDULE
Common Problems - GENITOURINARY

DAY 1	DAY 2	DAY 3	DAY 4
<p>Introduction to Genitourinary module</p> <p>Teaching Plan 1: Recognizing the Signs and Symptoms of Genitourinary Problems</p> <p>Teaching Plan 2: History Taking and Physical Examination of a Patient with Genitourinary Problems</p>	<p>Teaching Plan 4: Diagnosing Urinary Tract Infections and Stones and Caring for Patients</p>	<p>Teaching Plan 6: Diagnosing Problems of the Prostate and Scrotum and Caring for Patients</p> <p>Enlarged prostate gland Prostatitis Scrotal swelling</p>	<p>Teaching Plan 8: Sharing Health Messages about the Prevention and Care of Diseases Spread by Sexual Contact</p>
	<p>Teaching Plan 5: Diagnosing Nephritis and Nephrotic Syndrome and Caring for Patients</p>		<p>Teaching Plan 7: Diagnosing Problems Spread by Sexual Contact and Caring for Patients</p> <p>Gonorrhoea Syphilis</p>
<p>Teaching Plan 3: Interviewing and Examining Patients with Genitourinary Problems</p>			

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DAY 5			
<p>Teaching Plan 9: Diagnosing Genitourinary Problems and Caring for Patients; Clinical Practice</p> <p>Group A - Patient care</p> <p>Group B - Interviewing and examining patients</p> <p>Group C - Presenting health messages</p>			
<p>Diagnosing Genitourinary Problems and Caring for Patients; Clinical Practice</p> <p>Group A - Presenting health messages</p> <p>Group B - Patient care</p> <p>Group C - Interviewing and examining patients</p>			
<p>Posttest</p>			

Skill development: two weeks - Teaching Plan 9
 Clinical rotation: one month - Teaching Plan 10
 Community phase: three months - Teaching Plan 11

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Teaching Plan 1

Recognizing the Symptoms and Signs of Genitourinary Problems

- OBJECTIVES**
1. Describe the abnormal processes in the kidneys, ureter, bladder, urethra, and prostate gland that cause these symptoms and signs of genitourinary problems:

Blood in the urine	Generalized body rash
Protein in the urine	Colicky pain in the loin or flank
Swelling of the face and legs	Loin or flank pain that radiates to the lower abdomen or groin
Urethral discharge	Burning pain on urination
Fever and chills	Frequent urination
High blood pressure	Trouble starting and stopping the flow of urine
Enlarged and tender bladder	Need to pass urine during the night
Pleural effusion	Loss of weight
Ascites	Urgency to urinate
Pitting edema of the arms and legs	Recent bacterial infection
Enlarged prostate gland	Feeling of fullness in the bladder
Soft, tender prostate associated with urethral discharge	Pain in the penis
Vaginal discharge	
Lesions on the external genitals	
- METHODS** Self-instruction; discussion; presentation using charts, photographs, or slides
- MATERIALS** Student Text- Unit 1, visual aids
- PREPARATION** Complete your analysis of pretest results. Assign each student to a small working group of three to four persons. Each group should include students with high genitourinary pretest scores and students with low pretest scores.

Gather and prepare visual aids.

Tell students to review the anatomy and physiology of the genitourinary system, and the Medical History and Physical Examination modules.

Tell the students to read Unit 1 of the Student Text and answer the review questions.

To prepare for a review of anatomy and physiology, ask two students to present a review session for the class.

TIME: 1 hr 45 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Introduce and explain the Task Analysis Table. | 15 min |
| 2. Students review the normal anatomy and physiology of the genitourinary system. | 15 min |
| 3. Discuss the abnormal signs and symptoms of the genitourinary system. Charts, photographs, or slides may be helpful. | 1 hr |
| 4. Students summarize what they learned during the session and how they will use it in their work. | 15 min |

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ANSWERS TO REVIEW QUESTIONS

Assessing Patients with Genitourinary Problems

1. Patients with stones in their urinary tract will often complain of severe colicky pain in the flank. Explain why stones cause this pain.

Sharp urinary tract stones irritate the lining of the ureters, causing pain. The muscles of the ureters contract as they try to force the stones down the tract. This action increases the pain. Contraction and relaxation of muscles causes the colicky pain.

2. Blood in the urine is a common sign of urinary tract stones. Describe how stones cause bloody urine.

Sharp urinary tract stones can scratch the lining of the urinary tract, causing bleeding. The blood becomes mixed with the urine. Sometimes the blood turns the urine red or brown.

3. An infected kidney will cause loin pain. Describe other signs or symptoms of an infected kidney that are common to all infections.

A kidney infection causes fever and chills. The urine will contain bacteria and pus from the infected kidney. The infected kidney becomes inflamed and swollen.

4. If the kidneys become inflamed without infection, as in nephritis, you should expect to see changes in the patient's urine. Describe the urine of a patient with nephritis.

The urine will contain red blood cells that can change the color of the urine from clear yellow to red or brown.

5. Patients with nephrotic syndrome have protein in their urine. This protein is normally found in the blood. Lack of protein in the blood causes another sign of nephrotic syndrome. Name this sign and describe how it occurs.

A loss of protein from the blood can cause edema, or swelling. When the level

of blood protein falls very low, water leaks out of the capillaries and into the body tissues. People who have a kidney problem that causes large amounts of protein to be passed into the urine will have swelling. This swelling is most noticeable in the face, arms, and legs.

6. Explain why patients with bladder infections complain of the need to urinate frequently.

An infection in the lining of the bladder irritates the bladder. The muscles of the bladder wall contract. When the bladder walls contract, a person feels a need to urinate.

7. Why does a bladder infection cause pain during urination?

When a bladder is infected, the muscular walls of the urethra will also be infected. When the urethra is inflamed and irritated by infection, the patient will have burning pain during urination.

8. The location of a genitourinary tract pain can help you identify the cause of the problem. Fill in the location of pain caused by each genitourinary problem.

PROBLEM	LOCATION OF PAIN
a. Kidney infection	a. Loin pain
b. Bladder infection	b. Lower abdomen, tenderness and pain during urination
c. Stone in the ureter	c. Colicky pain that can radiate to the lower abdomen and groin

9. Blood does not always change the color of normal urine from clear yellow to red or pink. What other color of urine can indicate blood? Why?

Brown urine is an indication of the presence of blood. The blood cells change color because of contact with the urine.

10. The important steps in the physical examination procedure for patients with genitourinary problems are given below. After each major step, fill in at least one abnormal finding that could indicate a genitourinary problem.

EXAMINATION PROCEDURE	ABNORMAL FINDING
a. Check the general appearance	a. <i>Signs of recent weight loss</i>
b. Record the vital signs	b. <i>Increased blood pressure could indicate nephritis. Infections cause fever.</i>
c. Inspect the skin	c. <i>Swelling of the face, arms, or legs</i>
d. Examine the abdomen	d. <i>Enlarged or tender bladder, enlarged and tender kidney</i>
e. Examine the genitals	e. <i>Sores on the genitals, urethral discharge</i>
f. Palpate the prostate gland	f. <i>Enlarged, tender prostate</i>

Teaching Plan 2

History Taking and Physical Examination of a Patient with Genitourinary Problems

OBJECTIVES	<ol style="list-style-type: none">1. Describe the history taking and physical examination procedures for patients complaining of a genitourinary problem.2. Record the medical history information obtained during role-play exercises.
METHODS	Demonstration and practice
MATERIALS	Student Text - Unit 1, case studies 41, 42, 43, and 44, history and physical examination skill checklists
PREPARATION	Remind students to read the case studies in the Student Text. Identify patients with genitourinary problems who can be interviewed in the classroom or in a clinic. If patient interviews cannot be arranged, role-play the interview and examination procedures with a healthy person.

TIME: 1 hr 45 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Demonstrate how to interview and examine a patient with a genitourinary problem. Students record the history and physical examination findings as they observe the instructor and patients. | 30 min |
| 2. Present and discuss the important medical history and physical examination information. The students compare and correct their own records. | 15 min |

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	<u>TIME</u>
<p>3. Students practice taking medical histories with others in their work groups. Students can use case studies 41, 42, 43, and 44 for role-play. Students take turns in roles of health worker, patient, and observer. The observer should use the history taking skill checklist and provide feedback about performance at the end of each role-play.</p>	45 min
<p>4. Students summarize what they learned during the session and comment on how they will use it in their work.</p>	15 min

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Teaching Plan 3

Interviewing and Examining Patients with Genitourinary Problems

- OBJECTIVES**
1. Interview a patient and obtain information about his genitourinary problem.
 2. Examine a patient to identify abnormal signs associated with genitourinary problems.
 3. Record findings of an interview and examination on official forms in the recommended way.

METHODS Clinical demonstration and clinical practice

MATERIALS History and physical examination skill checklists, patient record forms

PREPARATION Arrange student supervision for two hours in a clinic. Give each student an opportunity for practice. Assign small groups of students to clinics for patients with genitourinary problems.

If you have not demonstrated the examination of a patient with a genitourinary problem, arrange to do the demonstration now.

TIME: 3 hrs 15 min

LEARNING ACTIVITIES

1. Students watch a supervisor or instructor demonstrate how to take a medical history and perform a physical examination of a patient with a genitourinary problem.
2. Students interview and examine patients with genitourinary problems using their history and physical examination skill checklists as a guide.

2 hrs

(10)

	<u>TIME</u>
3. Students present their findings to the class. Students and instructor comment on these findings.	1 hr
4. Collect the student records for review and comment. Students summarize what they learned during the session and comment on how they will use it in their work.	15 min

Teaching Plan 4

Diagnosing Urinary Tract Infections and Stones and Caring for Patients

- OBJECTIVES**
1. Describe the signs and symptoms of urinary tract infections and stones in the urinary tract.
 2. Describe how urinary tract blocks and repeated infections develop as complications of urinary tract diseases.
 3. Interview and examine patients to identify signs and symptoms of urinary tract infections and stones.
 4. Tell patients and their families how to care for urinary tract problems at home.

METHODS Self-instruction, discussion, small group work

MATERIALS Student Text - Unit 2, Diagnostic and Patient Care Guides, history and physical examination skill checklists, Formulary, patient record forms

PREPARATION Prepare a brief presentation on the clinical picture and care of patients with urinary tract infections and stones. Prepare a case study on urinary tract infections. Use Case Study 41 as a model. Remind students to write two questions or comments about Unit 2 for the discussion session.

TIME: 3 hrs

LEARNING ACTIVITIES

1. Make a presentation and lead a discussion about urinary tract infections and urinary tract stones. Students present their comments and questions for discussion.

1 hr

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	TIME
<p>2. Students practice diagnosis, patient care, and recording procedures using case studies. The students role-play the interview and examination procedures in small groups. Students take the roles of patient, health worker, and observer in turn. The observer compares the health worker's performance with the history and physical examination checklist and offers comments to improve performance.</p>	1 hr 30 min
<p>3. Students and instructor discuss the session's activities. Students summarize what they learned and comment on how they will use it in their work.</p>	30 min

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ANSWERS TO REVIEW QUESTIONS

Urinary Tract Infections and Stones

1. List the common symptoms of urinary tract infections.

The patient will usually complain of a burning pain while passing urine, frequent urination, and the need to pass urine as soon as he feels the urge.

2. Why are urinary tract infections more common in women than men?

The urethra in women is short and close to the anus. The bacteria from stool is the most common cause of urinary tract infections.

3. A woman complains of fever, painful urination, loin pain, and frequency of urination. You suspect an upper urinary tract infection. What care would you give this patient?

Urge the patient to drink a lot of fluid. Treat the patient with sulfadimidine for ten days. Give her six 500 mg tablets, followed by two 500 mg tablets every six hours.

4. What good personal health and diet habits help reduce the occurrence of urinary tract infections?

A person who has recovered from a lower urinary tract infection should continue to drink large amounts of liquids. Daily bathing and clean clothes will lower the amount of bacteria in the body. Women should be instructed to wipe themselves from the front to back after urinating or passing stool.

5. What physical examination procedure will give you important information about the severity of a patient's urinary tract problem? What examination procedure would you use and what information would you obtain?

a. Procedure: *Palpation and percussion of the kidney*

b. Physical finding: *Tenderness or pain*

6. Some patients have repeated urinary tract infections because they have had no treatment or inadequate treatment. What is the danger to a patient who suffers repeated urinary tract infections?

Infections that recur may continue up the urinary tract and involve the kidneys.

7. A woman comes to the clinic complaining of a body rash that itches. You remember treating her for a urinary tract infection two days earlier. What is a likely cause of her itching skin rash? What care will you give this patient?

The likely cause of her rash is an allergic reaction to sulfadimidine. Take the woman off the drug. Start her on tetracycline.

8. Several factors seem to increase a person's chance of developing urinary tract stones. Name two of these factors.

- Urinary tract infection*
- Drinking too little water, especially in a hot climate*
- Hereditary tendency to develop stones*

9. Describe the onset, location, and type of pain associated with stones in the kidney or ureter.

Onset of pain: *Sudden*

Location of pain: *A stone in the kidney causes pain between the lower rib and the backbone. A stone in the ureter causes pain that radiates across the flank into the lower abdomen or groin.*

Type of pain: *Severe colicky pain*

10. Urinary tract stones can block urine flow. What problems can blocked urine flow create?

When the urine accumulates above the blockage, it causes stretching of the ureters and kidney. The kidneys can be destroyed by this process.

11. You advise a patient with stones in his urinary tract to drink three to four liters of water per day as part of his care. He is more likely to drink this amount of water if you tell him how it will help him. What would you tell the patient?

The fluid will help the stones pass and prevent the formation of new stones.

12. Describe what care you would give a patient with urinary tract stones.

Encourage the patient to drink three to four liters of water per day. Treat the patient's pain. Refer the patient to a hospital if the pain cannot be controlled with medication.

13. You diagnose a bladder infection in a three-year-old child. The child weighs 12 kg. Use your Patient Care Guides and Formulary to answer these questions.

a. What drug do you prescribe?

Sulfadimidine

b. What dosage and duration of treatment do you recommend?

Ten days' treatment: Give 1,000 mg at first and follow with 500 mg every six hours.

c. What instructions do you give the mother?

Give the child eight to ten glasses of water a day. Observe the child for signs of reaction to the drug. These signs include rash and fever. If signs of drug reaction occur, stop the drug and return to the clinic.

Case Study 41

Name of Patient: Bonnet, Sarah
Sex: Female
Date of Birth: 20 January 1963
Date of Visit: 13 March 1982
Vital Signs: Temperature 39°C
 Pulse 94
 Respirations 20
 Blood pressure 120/80
 Weight 52 kg

Presenting Complaint and Medical History:	The patient has had severe back pains for five days. She says the pain is located in the left side of her back. She points to the area below the last rib. The pain is dull and aching. The pain started suddenly five days ago. It seems to be getting worse. The patient also explains that she has had a fever for five days. She says she feels a burning pain when she urinates. She was treated in the hospital after a similar attack last year.
Physical Examination:	This young woman looks ill and seems to be in pain. Her mucous membranes are pink. Her tongue is moist. Her tonsils are not inflamed. Her breath sounds are normal. No heart murmurs were heard. She has slight tenderness on deep palpation over her pubic bones. She complains of tenderness in her left loin upon percussion.
Diagnosis:	Acute upper urinary tract infection
Patient Care:	<ol style="list-style-type: none"> 1. Start antibiotics 2. Refer to hospital 3. Urge patient to drink a glass of water every hour
Diagnostic Points:	<ol style="list-style-type: none"> 1. High fever 2. Low backache 3. Urinary symptoms of burning, frequency 4. Past history of similar episode 5. Left flank tenderness

Teaching Plan 5

Diagnosing Nephritis and Nephrotic Syndrome and Caring for Patients

- OBJECTIVES**
1. Describe the signs and symptoms of nephritis and nephrotic syndrome.
 2. Describe the complications of nephritis and nephrotic syndrome.
 3. Interview and examine patients to identify signs and symptoms helpful in the diagnosis of nephritis and nephrotic syndrome.
 4. Test urine for protein.
 5. Tell patients and their families how to care for nephritis or nephrotic syndrome at home.
- METHODS** Self-instruction, discussion, instructor demonstration, small group work, practice
- MATERIALS** Student Text- Unit 3, Diagnostic and Patient Care Guides, history and physical examination skill checklists, Patient Care Procedures, supplies and equipment to test urine for protein
- PREPARATION** Prepare a brief presentation on the clinical picture and care of patients with nephritis and nephrotic syndrome. Remind the students to write two questions or comments about Unit 3 for the discussion session. Prepare to present the procedure for testing urine for protein. Locate a patient with nephrotic syndrome who is willing to talk with the students.

TIME: 3 hrs

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Make a presentation and lead the class in a discussion about identifying and caring for patients with nephritis and nephrotic syndrome. Students present their prepared comments and questions for discussion. | 45 min |
| 2. A person who has chronic nephrotic syndrome talks about how a person adjusts to chronic illness and answers student questions. | 45 min |
| 3. Demonstrate the procedure for identifying protein in the urine. Students practice the procedure using the checklist as a guide to performance. | 30 min |
| 4. Student groups practice diagnosis, patient care, and recording procedures using case studies 42 and 43. In small groups, the students role-play the interview and examination procedures. The students alternate the roles of patient, health worker, and observer. The observer compares the health worker's performance with the history and physical examination skill checklists and offers comments about performance. | 45 min |
| 5. Students summarize what they learned during the session and how they will use it in their work. | 15 min |

ANSWERS TO REVIEW QUESTIONS

Kidney Problems

1. A six-year-old boy comes to your clinic. His mother says he has a fever. She says his urine looks red. She notes that he is usually healthy but that about six weeks ago he had a severe skin infection. The infection improved without treatment. You note swelling of the eyelids.

a. What problem do you suspect?

Nephritis

b. Should you refer the child?

Yes

2. Nephritis is a serious inflammation of the kidneys. Nephritis can occur following a bacterial infection. Give two examples of bacterial infections associated with nephritis.

Skin infections and bacterial tonsillitis.

3. A person of any age can suffer from nephritis. At what age is nephritis most common?

Nephritis is most common in children below the age of puberty.

4. The signs of nephritis are caused by an inflammation of the kidneys. Explain the link between an earlier skin infection and nephritis.

Acute nephritis is an inflammation of the kidneys caused by an allergic reaction. The most frequent cause of the allergic reaction is a certain type of bacterial infection.

5. In serious cases of nephritis, the patient will have signs of another serious illness. Name this illness.

Heart failure.

6. Generalized body swelling is a major sign of nephrotic syndrome. Swelling occurs when body fluid normally contained in the circulatory system moves into the body tissues. Explain the role of the kidneys in this process.

The kidneys are damaged. Large amounts of protein pass into the urine. The amount of protein in the blood falls very low. Water leaks out of the blood vessels and into the tissues throughout the body.

7. Describe the physical examination findings that are common in a person with nephrotic syndrome.

Temperature: *Normal*

Urine: *Protein +++ with no blood*

Blood pressure: *Normal*

General appearance: *The patient complains of swelling around his eyes, arms, and legs. Pitting edema will be evident in the arms and legs.*

Chest examination: *Possibility of pleural effusion*

Abdominal examination: *Possibility of free fluid in the abdomen*

8. You have diagnosed nephrotic syndrome in a patient but cannot arrange to transfer the patient to the hospital for two weeks. What is your patient care plan during that time?

Treat any infections. Encourage the patient to eat a diet that is low in salt but high in protein.

9. Nephrotic syndrome is a serious disease that can become chronic. Your patient has a history of chronic nephrotic syndrome. What complication of this disease is a constant threat to the health of this patient?

Infection occurs very easily in patients with nephrotic syndrome and can quickly lead to death.

10. Swelling is a physical examination finding associated with kidney disease. Patients with other diseases also develop signs of swelling. Match the diseases listed below with the physical signs for that disease.

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- 2 Nephrotic syndrome
- 1 Nephritis
- 3 Heart failure

1. Bloody urine, swelling of the face, and low grade fever
2. Protein in the urine, generalized swelling
3. Heart murmur, pitting ankle swelling

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Case Study 42

Name of Patient: Williams, Joseph
Sex: Male
Date of Birth: 20 June 1972
Date of Visit: 10 March 1982

Vital Signs:

Temperature	38.2°C
Pulse	110
Respirations	26
Blood pressure	105/70
Weight	25 kg

Presenting Complaint and Medical History: The mother reports that her child's eyelids have been swollen for the last five days. Today she noticed that his ankles are swollen. The child complains of a headache. He has a fever. The mother reports a normal delivery. The child had no illnesses in infancy. He had measles at the age of five. He has also had scabies.

Family history: Joseph is the oldest of three children. The others are alive and well.

Physical Examination: The child appears ill and is listless. His face is puffy, especially around the eyes. His mucous membranes are pink. His tongue is coated. No glands were felt in his neck. His tonsils are not inflamed. His legs and buttocks show signs of recent sores. His chest is resonant on percussion and his breath sounds are normal. His heart rate is rapid. No murmurs were heard. His abdomen protrudes slightly. His bowel sounds are normal. No free fluid is present in his abdomen. No enlarged organs were felt. His genitals are normal.

Diagnosis: Acute nephritis
Patient Care: Refer to hospital

- Diagnostic Points:**
1. Puffy face and dark, cloudy urine
 2. Protein in urine
 3. Signs and history of recent skin lesions

Case Study 43

Name of Patient: McAdams, Jo
Sex: Female
Date of Birth: 13 January 1976
Date of Visit: 14 February 1982

Urine: Protein +++
Vital Signs: Temperature 37°C
Pulse 85
Respirations 28
Blood pressure 105/70
Weight 22 kg

Presenting Complaint and Medical History: The patient's ankles have been swollen for about one month. For the past ten days, she has noticed that she runs short of breath when she exercises. The swelling of her ankles and her shortness of breath seem to be worsening. Her mother says she has not had a fever or lost her appetite recently. She has no other complaints. Several years ago, she was admitted to a hospital because her face was swollen and she had a fever. She stayed in the hospital for about three weeks. She felt fine afterwards.

Physical Examination: The patient is pale and she has rapid respirations. Her mucous membranes are pink. Her tongue is

clean and her throat is not inflamed. She has no enlarged glands. A chest examination revealed decreased movement of the right lower chest and dullness to percussion in the same area. No breath sounds are present in the area of dullness. Her left chest is normal. Her heart rate is rapid. No murmurs are audible. Her abdomen is slightly distended, and she has signs of shifting dullness. No organs were palpable. Examination of her arms and legs revealed pitting edema half way up both legs. Both hands are swollen.

- Diagnosis: Nephrotic syndrome
- Patient Care: Refer to hospital
- Diagnostic Points:
1. Generalized swelling and pitting edema of the arms and legs
 2. History of similar complaint
 3. Shortness of breath and signs of pleural effusion and ascites

Teaching Plan 6

Diagnosing Problems of the Prostate and Scrotum and Caring for Patients

- OBJECTIVES**
1. Describe the signs and symptoms of an enlarged prostate, prostatitis, and scrotal swelling.
 2. Describe the complications of an enlarged prostate, prostatitis, and scrotal swelling.
 3. Interview and examine patients to identify signs and symptoms of an enlarged prostate, prostatitis, and scrotal swelling.
 4. Describe how to catheterize the bladder of a man who is unable to pass urine.
 5. Tell patients and their families how to care for prostate problems at home.
- METHODS** Self-instruction, discussion, demonstration, small group work, practice
- MATERIALS** Student Text - Unit 4, Diagnostic and Patient Care Guides, history and physical examination skill checklists, Patient Care Procedures, supplies and equipment to catheterize a patient, manikin with male genitals
- PREPARATION** Select two students and help them prepare a brief presentation on the clinical picture and care of patients with prostate problems and scrotal swellings. Collect the supplies you will need to demonstrate how to catheterize a bladder.
- Remind students to review the text and write two comments or questions about Unit 4 for the discussion session.

Prepare ten questions about prostate and scrotal problems to give as an oral quiz at the end of the session.

	<u>TIME</u> 3 hrs
LEARNING ACTIVITIES	
1. Students and instructor join in a presentation and discussion of prostate and scrotal problems.	45 min
2. Demonstrate how to catheterize a male's bladder and select a student to demonstrate the procedure on a manikin.	30 min
3. Students practice the procedure for male catheterization.	45 min
4. Student groups use case studies to practice diagnosis, patient care, and recording procedures. Each student group is assigned a case study for prostate and scrotal problems. The group prepares its answers to the case study review exercise questions and presents findings for discussion. Add new case studies to the exercise, if possible.	45 min
5. Give an oral quiz to review diagnostic points and patient care for patients with prostate and scrotal problems.	15 min

ANSWERS TO REVIEW QUESTIONS

Problems of the Prostate and Scrotum

1. What group of men most commonly suffer enlarged prostates?

Men in their forties and fifties may begin to develop symptoms of an enlarged prostate.

2. The enlarged prostate narrows the urethra and can block urine flow. The urine left in the bladder is easily infected. What additional complication can occur if the blockage is not relieved?

The urine can build up and fill the kidneys. The pressure against the kidney tissue can destroy the kidneys.

3. A seventy-year-old man arrives at the clinic complaining about his inability to control his urine. He says he dribbles urine onto his clothing. He complains of always feeling that his bladder is full. The bladder is palpable at 2 cm above the pubic bones after urination. What is the likely diagnosis?

Enlarged prostate.

4. What is your recommended treatment for a patient with an enlarged prostate who also has signs and symptoms of urinary tract infection?

Refer the patient to the hospital.

5. When a patient comes to the clinic because of an enlarged prostate, what symptoms will he describe?

The man often complains that he cannot start his urine stream or that he dribbles and wets himself after urinating. The patient will often complain that his bladder always feels full and that he awakens at night to pass urine.

6. Describe your physical examination findings for a patient with advanced prostate enlargement.

Palpation and percussion of the bladder: *Enlarged bladder, urine-filled bladder*

Palpation of the prostate: *Enlarged prostate that feels rubbery and smooth*

7. An enlarged prostate is a problem that gradually worsens and will require surgery. Explain how you decide when a person needs to be referred.

Refer any patient with signs and symptoms of an enlarged prostate who has a urinary tract infection, who has great difficulty starting the stream of urine, or who is constantly wetting himself.

8. Catheterization is a simple procedure for emptying the bladder of urine. When you catheterize a patient, you must avoid damaging the tissues or causing shock. What three rules should you follow to avoid injuring your patient?

- Never remove more than 1,000 cc of urine at one time.*
- Do not try to force the catheter past a blockage.*
- Do not push the catheter more than 2.5 cm into the bladder.*

9. Describe the presenting complaint of a man with prostatitis.

A man with prostatitis will have pain in his penis and at the base of his penis. He will have a dull, achy feeling in the muscles of this area.

10. Describe the physical examination procedure and the findings that will help you diagnose prostatitis.

- Rectal examination to palpate the prostate.*
- The prostate will be soft and very tender. If you press on the prostate, you will cause a discharge from the penis.*

11. How would you treat a patient with prostatitis?

Drug: *Tetracycline*

Dosage: Loading dose: *500 mg every six hours for two days*

Maintenance dose: *One 250 mg dose every six hours for twelve days*

12. How would you treat a patient with a scrotal swelling?

Refer all patients with scrotal swelling.

Case Study 44

Name of Patient: Courtney, M. James

Sex: Male

Date of Birth: 12 January 1919

Date of Visit: 29 December 1981

Vital Signs:

Temperature	37° C
Pulse	72
Respirations	22
Blood pressure	160/90
Weight	65 kg

Presenting Complaint and Medical History: This man has been unable to pass urine for the last six hours. He has had some trouble passing urine for the last two years. He says that he has to strain to make it come. He has no complaints of burning. He has not noticed blood in his urine. He gets up about four times during a night to pass urine and passes urine about six times during the day.

Past medical history: The patient has no history of high blood pressure or diabetes. He has not been hospitalized. He denies that he has had any discharge from the urethra or any history of sexually transmitted diseases.

Physical Examination: This man is in distress. He paces up and down and is quite restless. His mucous membranes are pink and healthy. His tongue is moist. He shows no sign of dehydration. His breath sounds are normal. His heart sounds are normal. No murmurs are heard. The liver, spleen, and kidneys are not enlarged. He has signs of a mid-line mass in the lower abdomen on palpation. Rectal examination reveals a firm and enlarged prostate gland.

Diagnosis: Enlarged prostate blocking urine flow.

Patient Care:

1. If the patient has early signs of enlargement of the prostate and is not troubled with urinary tract infections, tell him how the problem gradually worsens. Explain that he will eventually require surgery. Tell him to return to the clinic if he develops a urinary tract infection or if any of the signs and symptoms become worse.
2. Refer the patient to the hospital for surgery if he has a urinary tract infection, or if he has great difficulty starting his stream of urine, or if he constantly wets himself.
3. If the patient's bladder is distended and he cannot pass any urine, have him sit in a tub of warm water and try again to pass his urine. If he still cannot pass urine, catheterize him.
4. When you catheterize the patient, slowly remove 1,000 cc of urine. When the bladder has been very dilated, do not remove more than 1,000 cc of urine at one time. It can cause shock.

Diagnostic Points:

1. Two-year history of increasing difficulty with urination
2. Lower abdominal mass
3. Inability to pass urine

Case Study 45

Name of Patient: Rudolf, James
Sex: Male
Date of Birth: 1 April 1926
Date of Visit: 14 January 1982

Vital Signs: Temperature 37°C
 Pulse 75
 Respirations 18
 Blood pressure 140/85
 Weight 77 kg

Presenting Complaint and Medical History: The patient has had a swelling in the left side of his scrotum for six months. Since the patient noticed the swelling six months ago, it has been growing larger. It does not cause any pain. He has no urinary complaints. The patient has a good appetite, sleeps well, and passes stool regularly.

Physical Examination: This patient is a healthy looking adult male. His mucous membranes are pink. Nothing abnormal was found during a chest examination. His heart sounds are normal. No masses or organs were felt in his abdomen. The left side of his scrotum looks larger than the right side. The swelling is oval and is not tender. His testicles feel normal.

Diagnosis: Swelling of scrotum

Patient Care: Refer to hospital

Diagnostic Points: Mass in scrotum

Case Study 46

Name of Patient: Samuels, Collin
Sex: Male
Date of Birth: 13 November 1967
Date of Visit: 15 March 1982
Vital Signs: Temperature 37.5°C
Pulse 96
Respirations 28
Blood pressure 110/80
Weight 40 kg

Presenting Complaint and Medical History: While playing soccer, the patient was kicked in the scrotum. The pain has grown worse over the last twelve hours. He has vomited. No other symptoms are apparent. The patient says he has never had sexual intercourse.

Past medical history: The patient has no history of burning, frequency of urination, or urethral discharge.

Physical Examination: The examination is normal except for the genitourinary examination. The left side of the scrotum appears larger than the right side. On palpation, the entire left testicle feels swollen and very tender. Some inflammation is evident on the left side of the scrotum. The right testicle is of normal size.

Diagnosis: Possible damage to the testicle

Patient Care: Refer to hospital

Diagnostic Points:

1. Adolescent male
2. Trauma involving scrotum followed by pain
3. Testicle swollen and very tender on the left side

Teaching Plan 7

Diagnosing Problems Spread by Sexual Contact and Caring for Patients

OBJECTIVES	<ol style="list-style-type: none">1. Describe the signs and symptoms of gonorrhea and syphilis.2. Describe the complications of gonorrhea and syphilis.3. Interview and examine patients to identify these signs and symptoms of gonorrhea and syphilis:<ul style="list-style-type: none">Burning pain during urinationUrethral dischargeVaginal dischargeGeneralized body rashLesions on the external genitals4. Tell patients how gonorrhea and syphilis are spread and how to avoid these diseases.
METHODS	Self-instruction, presentation, discussion, small group work
MATERIALS	Student Text - Unit 5, Diagnostic and Patient Care Guides, Formulary
PREPARATION	<p>Prepare a brief presentation on the clinical picture and care of patients with gonorrhea and syphilis.</p> <p>Tell students to discuss the spread and control of gonorrhea and syphilis with a friend or neighbor. During this interview, the student should note any discomfort he and the person interviewed felt when discussing sexually transmitted diseases.</p> <p>The students should review Unit 5 and prepare questions about identifying and caring for problems spread by sexual contact.</p>

TIME: 2 hrs 30 min

LEARNING ACTIVITIES

- | | |
|--|--------|
| 1. Make a presentation and lead the class in a discussion about identifying and caring for patients with gonorrhoea or syphilis. | 30 min |
| 2. After reviewing the case studies, the students write a description of their patient care for each case. | 45 min |
| 3. The small groups role-play a discussion about preventing the spread of gonorrhoea and syphilis. During the discussion, each member of the group portrays the friend or neighbor he interviewed. This discussion should increase the groups' awareness of the reactions that people have about diseases that are spread by sexual contact. | 30 min |
| 4. Answers students' questions about any of the genitourinary problems presented in the module. | 30 min |
| 5. Students summarize what they learned during this session. | 15 min |

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ANSWERS TO REVIEW QUESTIONS

Problems Spread by Sexual Contact

1. Describe the usual complaint of a male patient with gonorrhoea.
A man with gonorrhoea will complain of burning pain on urination and a white or yellow discharge from the penis.
2. Explain why many women who have gonorrhoea do not seek treatment.
Women with gonorrhoea often have no symptoms that would alert them to seek treatment.
3. Gonorrhoea that is not treated can cause chronic genitourinary tract infections. What complications of chronic infections occur?
In men: *Scarring of the urethra can lead to obstruction*
In women: *Scarring of the fallopian tubes can lead to tubal pregnancy or block the tube and cause sterility.*
4. What advice should you give patients to decrease their chances of becoming infected with gonorrhoea or syphilis?
A man should wear a condom when he has sexual intercourse with a partner who is possibly infected. A woman should avoid intercourse with a man who has a urethral discharge.
5. What is the drug of choice, recommended dosage, and course of treatment for gonorrhoea and syphilis?
Gonorrhoea: *Drug: Procaine penicillin*
Dosage: A dose of 4.8 million units IM divided into two injections
Syphilis: *Drug: Benzathine penicillin*
Dosage: A dose of 2.4 million units IM

6. What drug should be used to treat gonorrhea and syphilis if the patient is allergic to penicillin?

Tetracycline

7. What abnormal physical examination findings are most common in a man with gonorrhea?

A thick, yellow discharge from the urethra is most common.

8. Syphilis is not often diagnosed in its early stages because patients ignore or do not notice chancres. Another sign of the disease might bring the patient to your clinic for treatment after the chancre has healed.

- a. Describe this late sign of syphilis.

A generalized body rash that often includes the palms of the hands and soles of the feet.

- b. Why is this sign of syphilis often missed?

The rash can look like the rash of almost any skin disease.

9. Syphilis that is not treated in its early stages will often cause problems many years later. What is the treatment for syphilis in its late stages?

There is no treatment.

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Case Study 48

Name of Patient: Gibb, Aubrey
Sex: Male
Date of Birth: 6 March 1957
Date of Visit: 17 March 1982
Vital Signs: Temperature 37.5°C
Pulse 76
Respirations 13
Blood pressure 120/80
Weight 62 kg

Presenting Complaint and Medical History: This man complains of a small sore on his penis. He noticed the sore about one week ago. The sore has been draining a small amount of clear fluid. He has no discharge from his urethra and does not complain of burning or frequency of urination.

When questioned about his sexual contacts, the patient explained that he occasionally has sex with women he meets at the social club.

Past medical history: He has been treated for urethral discharge in the past, but has never had a sore like this on his penis.

Physical Examination: The patient appears healthy. His mucous membranes are pink. His throat is clear. His chest sounds are normal. His heart sounds are normal. No enlarged organs are identified during an abdominal examination. A small raised lesion with some clear discharge coming from the center is on the penis. The lesion is about 1 cm across. The patient has several enlarged and firm lymph glands in the right groin. They are not tender.

Diagnosis: Syphilis with chancre

Patient Care: 1. Give 2.4 million units IM benzathine penicillin

2. Urge the patient to wear a condom when having sex. Tell him about the dangers of sexually transmitted diseases, especially that women with these diseases often have no symptoms.

Diagnostic Points: Painless lesion on the penis

Case Study 49

Name of Patient: Ellis, Albert
Sex: Male
Date of Birth: 29 December 1957
Date of Visit: 31 January 1982

Vital Signs:

Temperature	36.5°C
Pulse	80
Respirations	14
Blood pressure	90/60
Weight	56 kg

Presenting Complaint and Medical History: The patient says he has felt pain in the right testicle for three days. He had a discharge from his urethra last week. He visited the health center and received a shot. The discharge cleared. He started getting pain in his right testicle about three days ago. The pain has been growing steadily worse. The pain is worse when he walks. He has been feeling feverish. He does not complain of burning or frequency of urination.

Past medical history: He reports no previous history of urethral discharge or pain in his testicles. He has no recollection of trauma to his genitals.

Physical Examination:	This man appears healthy. His mucous membranes are pink. His tongue is moist. His tonsils are not enlarged. His breath sounds are normal. His heart sounds are normal. His abdomen is soft. He has no sign of enlarged organs. No abdominal masses were felt. Examination of his genitals reveals a swollen, warm, and tender right testicle. The left testicle feels normal. No lesions were seen on the penis. No discharge comes from the urethra.
Diagnosis:	Right testicle inflamed as a complication of gonorrhoea
Patient Care:	<ol style="list-style-type: none">1. Refer to a hospital2. Tell the patient to use a condom when having sexual intercourse
Diagnostic Points:	<ol style="list-style-type: none">1. History of urethral discharge a week earlier2. Swollen, painful testicle

Teaching Plan 8

Sharing Health Messages About the Prevention and Care of Diseases Spread by Sexual Contact

- OBJECTIVES**
1. Describe some social and cultural factors that cause diseases spread by sexual contact.
 2. Select a community group to which you could direct health messages about diseases spread by sexual contact.
 3. Identify health messages about diseases spread by sexual contact that you would share with members of the community.
 4. Choose a method of sharing health messages about diseases spread by sexual contact that is appropriate for the audience you have selected.
 5. Share health messages about the prevention and care of diseases spread by sexual contact.
- METHODS** Self-instruction, discussion, small group work, presentations, class review, comments on presentations
- MATERIALS** Student Text - Unit 6, flipchart paper for visual aids, markers, paper
- PREPARATION** Prepare materials for students' presentations. Prepare questions and ideas for a discussion of social and cultural factors and health messages related to diseases spread by sexual contact.
- Remind the students to read their texts. They should come to class prepared to discuss questions about diseases spread by sexual contact.

TIME: 3 hrs 15 min

LEARNING ACTIVITIES

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| 1. Students form small working groups. These groups compare and discuss answers to the questions asked in the text. | 30 min |
| 2. Working groups and instructor join in a discussion. | 30 min |
| 3. Students return to their small working groups. Ask the groups to:
Select an audience with whom health messages could be shared
Outline the health messages to share with this audience
Choose a method of sharing these health messages and develop a ten minute presentation for the rest of the class showing how you would use this method | 15 min |
| 4. Groups prepare presentations. | 45 min |
| 5. Each group presents its finding to the rest of the class. A brief class discussion follows each presentation. | 1 hr |
| 6. Students summarize what they have learned during the session and how they plan to use it in their work. | 15 min |

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ANSWERS TO REVIEW QUESTIONS

Sharing Health Messages About the Prevention and Care of Diseases Spread by Sexual Contact

1. Explain why diseases spread by sexual contact are difficult to control.

Diseases spread by sexual contact are difficult to control for many reasons. Many people do not like to discuss their sexual activities. They will not go to a health center when they suspect they have such a disease. Other people may not know that they have a problem. A woman may not know she has a disease spread by sexual contact in its early stages because symptoms are not always noticeable. Others may not be aware of the complications of diseases spread by sexual contact. They do not seek care even when they know they have a problem. Many people do not protect themselves from such diseases.

2. Describe two health messages you could share with a patient who presents with symptoms of a disease spread by sexual contact.

Tell the patient that his recent sexual contacts must also be treated. Tell him that even though his contacts may not appear to have symptoms, they could still have the disease. Also tell the patient that he can help prevent the spread of diseases spread by sexual contact by using a condom during sexual intercourse.

3. You should pick your health messages to suit your audience. Describe some messages on diseases spread by sexual contact that would best suit certain groups.

Tell a women's group that a woman who has a disease spread by sexual contact may not show symptoms during the disease's early stages. Therefore, if a woman has had any sexual contact with an infected man, she also should be treated for the disease even if she has no symptoms. Also tell the women that diseases spread by sexual contact during pregnancy may cause serious problems for the mother and her newborn. Tell a men's group about the benefits of using a condom to avoid diseases spread by sexual contact.

4. Health messages about diseases spread by sexual contact may be shared with patients and the community in many ways. Briefly describe four of these ways.

- a. *By talking with a patient, you may be able to share a number of health messages.*
 - b. *You can share health messages by leading a discussion or making a presentation to groups. These groups may then be able to help gather community support for more health education activities.*
 - c. *Including information about diseases spread by sexual contact in a school's health or physical education class is a way of sharing health messages with the community.*
 - d. *You may use local radio programs or newspapers to share health messages with the community. You may also use written information and visual aids such as posters.*
5. How should you begin to prepare a presentation or discussion to share health messages with the community?
- The best way to begin is by outlining the health messages to be shared. These should be simple and appropriate for the group with whom they will be shared.*
6. List at least six important health messages related to diseases spread by sexual contact that you would share with the community.
- a. *People who have diseases spread by sexual contact may not know they have a disease or they may not pay any attention to it.*
 - b. *Diseases spread by sexual contact that are left untreated can cause serious health problems. In men, this may be an infection of the testicles or prostate or it may be a heart or brain disease. In women, this may be an infection of the fallopian tubes or sterility.*
 - c. *Diseases spread by sexual contact are easy to diagnose and treat during their early stages. However, they are very difficult and expensive to treat in their later stages.*
 - d. *If you have pain, an itch, or secretion from your genitals, you may have a disease spread by sexual contact.*
 - e. *If you think you have a disease spread by sexual contact, you should see a health worker immediately.*
 - f. *Early diagnosis and treatment of a patient and his sexual contacts can stop diseases spread by sexual contact. Using a condom during sexual intercourse will also help prevent the spread of these diseases.*

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Teaching Plan 9

Diagnosing Genitourinary Problems and Caring for Patients; Skill Development

OBJECTIVES	<ol style="list-style-type: none">1. Take medical histories, examine patients, and diagnose genitourinary problems.2. Recognize and identify the physical signs of genitourinary problems listed on Clinical Performance Records Evaluation Level I.3. Test urine for protein and catheterize a male patient.4. Advise patients and families about the home care and prevention of genitourinary problems.
METHODS	Supervised clinical practice
MATERIALS	Skill checklists, Clinical Performance Records, Diagnostic and Patient Care Guides, Patient Care Procedures
PREPARATION	Arrange supervision for one and one-half days of student activity in a hospital ward or outpatient clinic during the week of classroom instruction, and for two weeks of student activity in a hospital ward or clinic, coordinated with skill practice opportunities for other clinical modules.

TIME: 13.5 days

LEARNING ACTIVITIES

1. Give student groups one and one-half days to practice:
 - Interviewing and examining patients
 - Providing patient care and practicing patient

care procedures for testing urine samples
and catheterizing male patients

Delivering health messages to patients and
their families

2. Students provide care for patients with genito-
urinary problems
3. Clinical experience is coordinated with two
weeks of skill practice for other clinical modules.

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Teaching Plan 10

Caring for Patients with Genitourinary Problems; Clinical Rotation

- OBJECTIVES**
1. Diagnose all the genitourinary problems described in this module.
 2. Record information about medical history, physical examination, and patient care.
 3. Provide patient care using the treatment described in this module and in the Patient Care Guides.
 4. Advise patients about the home care and prevention of genitourinary problems.
 5. Perform the patient care procedures for testing urine for protein and catheterizing the bladder of a male.
- METHODS** Supervised clinical practice
- MATERIALS** History and physical examination skill checklists, evaluation records, Diagnostic and Patient Care Guides
- PREPARATION** See Student Text - Unit 7 for entry level skills and knowledge. Students will have one month of clinical experience in health centers and hospitals where they will develop their skills in the care of patients with genitourinary problems. The rotation experience will give students an opportunity to care for patients who are seeking treatment for any of the problems that have been taught in the general clinical modules.

Since this activity will occur at the same time as the other clinical rotations, you will probably be placing only two or three students in a given clinic for the month. Arrange for supervision and evaluation during this activity.

TIME: 1 month

LEARNING ACTIVITIES

1. Students obtain medical histories and perform physical examinations.
2. Students diagnose and treat genitourinary problems.
3. Students present health messages to individual patients or groups of patients.

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Teaching Plan 11

Helping a Community Prevent and Care for Genitourinary Problems; Community Phase

- OBJECTIVES**
1. Provide clinical services to patients who suffer from genitourinary problems.
 2. Identify genitourinary problems and plan a program to prevent them from occurring and spreading.
 3. Advise the community about its role in preventing genitourinary problems.
 4. Identify other members of the health team who can assist in prevention.

METHODS Practice providing patient care, assessing the community, and training community health workers

MATERIALS Log book, reference materials

PREPARATION This activity is part of a three-month community experience. Unit 9 in the student text provides details of entry level skills and knowledge. See the Community Phase manual for details on organization and supervision of community practice.

TIME: 3 months

LEARNING ACTIVITIES

1. Students provide clinical services for genitourinary problems.
2. Students assess the prevalence of diseases of the genitourinary system. They record their findings in a written report.

TIME

- | | |
|---|--|
| <ol style="list-style-type: none">3. Students plan activities that will help the community reduce the occurrence of diseases spread by sexual contact.4. Students begin training a community health worker to care for genitourinary problems. | |
|---|--|