



**MID-LEVEL
HEALTH WORKER
TRAINING MODULES**

Student Text

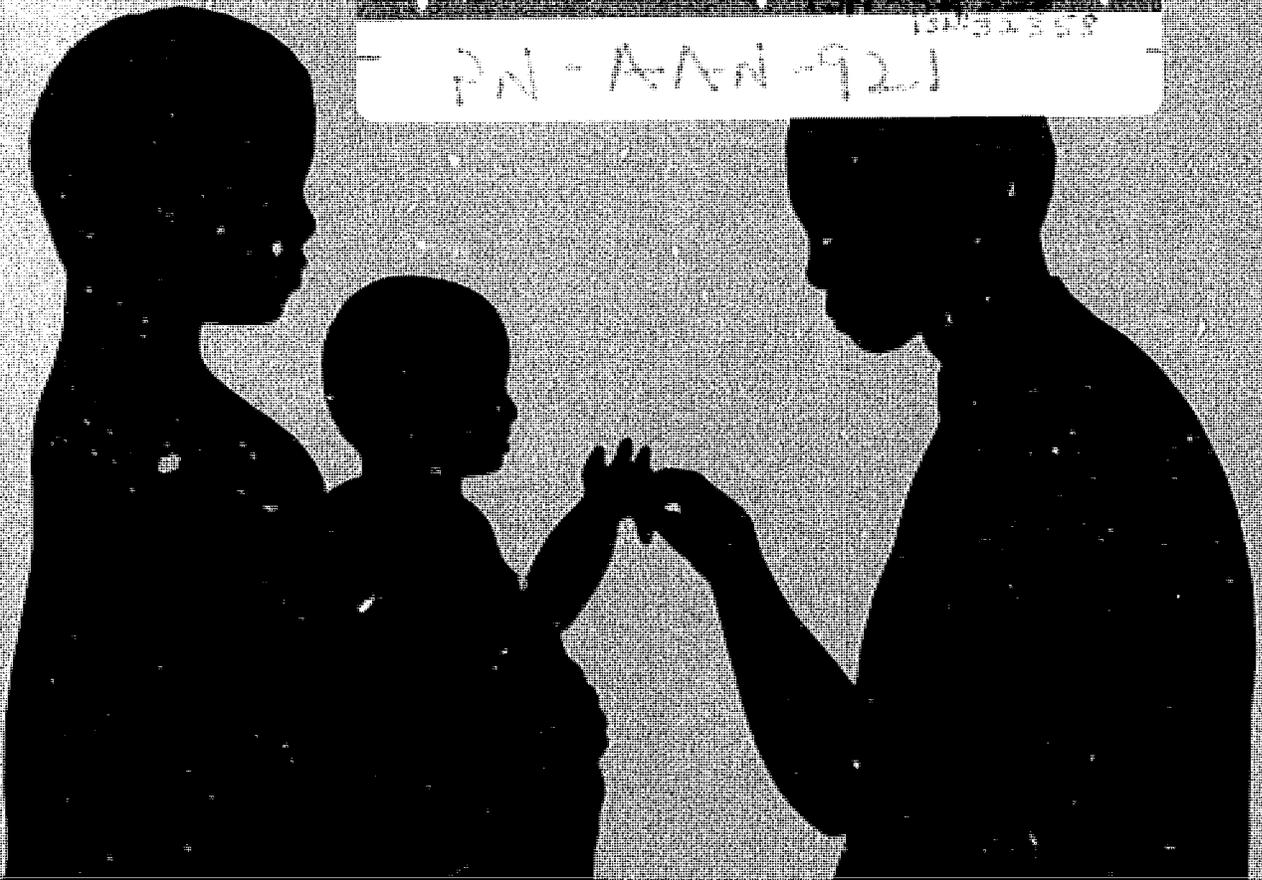
**MATERNAL &
CHILD HEALTH:**

Prenatal Care

**Labor and
Delivery**

Postnatal Care

ISBN 9553558
PN - ANN - 921



ISBN: 32358

PRENATAL CARE

UNIVERSITY OF HAWAII JOHN A. BURNS SCHOOL OF MEDICINE
DR. TERENCE A. ROGERS, DEAN

The Health Manpower Development Staff 1978-83

Director: RICHARD A. SMITH, M. D., M. P. H. Deputy Director: RODNEY N. POWELL, M. D., M. P. H.

Manpower Development

JOYCE V. LYONS, R. N., M. Ed., Ed. D.
THOMAS G. COLES, JR., B. S., Mx.
MONA R. BOMGAARS, M. D., M. P. H.
JOHN RICH, B. A., R. N., S. R. N.
GREGORY A. MILES, M. S., M. P. H.

Management Systems

ERNEST E. PETRICH, B. A., M. P. H.
ALBERT R. NEILL, B. A.
EUGENE R. BOOSTROM, M. D., DR. P. H.
PATRICK B. DOUGHERTY, B. S., M. R. P.

Communications

SUNIL MEHRA, B. A.

Evaluation

ROBERT W. MACK, M. D., M. P. H.

Project Coordinators

MARIAN DeWALT MORGAN, B. A., M. A., M. P. H.
ROSEMARY A. DeSANNA, B. S., M. P. H.

Production

DAVID R. ALT, B. S., M. P. H.
RICHARD D. MUNRO-McNEILL, B. A.
ALLISON L. STETTNER, B. A., M. P. H.
DAVID NELSON, B. A., M. A.
KENNETH A. MIYAMOTO, B. F. A.
EVE J. DeCOURSEY
TERESA M. HANIFIN, B. A.
SONYA A. STEELE

Administration

FRANK R. WHITE, JR. B. S., M. B. A.
EVELYN A. HEIN, B. A.
LINDA H. OSHIRO, A. A.
CYNTHIA L. STEPHENS, B. Ed.
RUTH D. JAMES, B. A.
MILDRED MACUGAY, B. S.
JOYCE K. UYENO, B. A.
LEILANI ANN B. COCSON, A. S.
LINDA A. TAGAWA
LYNN M. OSHIRO, B. A.
LORNA CARRIER SMITH, B. A.
MARILYN M. NG, B. A.

University of Hawaii Overseas Staff (Long Term Advisors)

Pakistan

JOHN R. WATSON, M. B. B. S., M. P. H.
MICHAEL J. PORTER, M. D.
MICHAEL D. O'BYRNE, M. D., M. P. H.
JOHN H. EATON, B. S.
RICHARD E. JOHNSON, B. S. N., M. P. H.

Lesotho

CLIFFORD D. OLSON, B. A., M. A.
ALVIN KESSLER HOTTLE, B. S., M. P. A.
SANDRA S. TEBBEN, B. S., P. N. P., C. N. M., M. P. H.
PAMELA T. PRESCOTT, F. N. P., M. H. S.
LESTER N. WRIGHT, M. D., M. P. H.

Guyana

RICHARD. BLAKNEY, B. S., M. P. H.
EDWARD MARGULIES, M. D., M. P. H.

Principal Program Collaborators

Pakistan

DR. MUSHTAQ A. CHAUDHARY, DEPUTY DIRECTOR
GENERAL, MINISTRY OF HEALTH, ISLAMABAD
DR. NAZIR-UL-HAQUE, NWFP
DR. ZAHUR A. KHAN, BALUCHISTAN
DR. NISAR A. SIDDIQUI, SINDH
DR. KHALID M. SULARI, PUNJAB

Lesotho

M. T. THABANE, PERMANENT SECRETARY
MINISTRY OF HEALTH, MASERU
NTHUNSE T. BOROTHO, R. N., B. S., M. P. H.
CHIEF PLANNING OFFICER
MINISTRY OF HEALTH, MASERU
NTSIENG RANKHETHOA, P. H. N., N. C.

Guyana

FRANK M. W. WILLIAMS, M. B. B. S., M. R. C. P.
DIRECTOR, MEDEX PROGRAM, GEORGETOWN
JAMES LAROSE, M. B. B. S.
HUGH HOLDER, M. B. B. S.
MELISSA HUMPHREY, ADMINISTRATOR
SASENARINE SINGH, NURSE DISPENSER, Mx.
YVETTE THOMAS-MOORE, P. H. N., Mx.

MEDEX Network Staff

University of Washington

ANDREW G. PENMAN, M. B. B. S.
ROBERT G. HARMON, M. D., M. P. H.
WILLIAM B. CALLEN, M. S., B. M. E., Ph. D.
SHARON L. ERZINGER, P. A.-C., M. P. H.
JOHN A. KETCHER, P. A.-C.
ROBERT DRICKEY, M. D.

University of North Dakota

ROBERT C. EELKEMA, M. D., M. P. H.
MICKEY KNUTSON, R. N., M. N., F. N. P.
BONNIE R. BATA, R. N., B. S., P. A.-C., F. N. P.
EDWARD J. KLECKER, B. S.
MERRILL M. SHUTT, M. D., M. P. H.

The MEDEX Primary Health Care Series

PRENATAL CARE

Student Text

© 1983

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

Library of Congress Catalog Card No. 83-80675

First Edition

Printed in U. S. A.

Any parts of this book may be copied or reproduced for non-commercial purposes without permission from the publisher. For any reproduction with commercial ends, permission must first be obtained from the Health Manpower Development Staff, John A. Burns School of Medicine, University of Hawaii, 1960 East-West Road, Honolulu, Hawaii 96822.

FUNDED BY THE U. S. AGENCY FOR INTERNATIONAL DEVELOPMENT CONTRACT NO. DSPE-C-0006. The views and interpretations expressed are those of the Health Manpower Development Staff and are not necessarily those of the United States Agency for International Development.

TABLE OF CONTENTS

TASK ANALYSIS TABLE	8
SCHEDULE	15
INTRODUCTION	17

UNIT 1

Changes during Pregnancy

Student Guide	20
Changes in the Woman	21
Fetal Development	22
Review Questions	24

UNIT 2

Assessing a Pregnant Woman

Student Guide	25
Taking a Prenatal Medical History	26
Performing a Prenatal Physical Examination	28
Identifying High Risk Factors	30
Recording a Prenatal Medical History and Physical Examination	34
Prenatal Revisits	35
Review Questions	37
Skill Checklist	41

UNIT 3

Providing Prenatal Care

Student Guide	46
---------------	----

6 PRENATAL CARE

Prenatal Care	47
Supportive Prenatal Care	47
Preventive Prenatal Care	50
Patient Care for Common Conditions during Pregnancy	52
Review Questions	54

UNIT 4

Pregnancy Problems

Student Guide	57
Severe Anemia	58
Diabetes	59
Heart Disease	61
Ectopic Pregnancy	62
Septic Abortion	64
Preeclampsia and Eclampsia	66
Fetal Death	67
Bleeding Early in Pregnancy	68
Bleeding Late in Pregnancy	70
Malaria	71
Sickle Cell Disease	72
Review Questions	74

UNIT 5

Sharing Health Messages about Prenatal Care

Student Guide	78
Sharing Health Messages about Prenatal Care	79
Review Questions	83

UNIT 6

Assessing Pregnant Women; Skill Development

Student Guide	84
---------------	----

UNIT 7

Providing Prenatal Care; Clinical Rotation

Student Guide 85

UNIT 8

Helping Pregnant Women Prevent and Care for Pregnancy Problems; Community Phase

Student Guide 87

Work Requirements DUTIES	Training Requirements	
	SKILLS	KNOWLEDGE
pregnant and is seeking prenatal care, and record the findings	Slightly enlarged uterus Soft, bluish cervix Bluish purple vaginal walls	
	2.2 Perform a complete prenatal physical examination and record the findings	2.1.2 Normal physical changes during pregnancy 2.2.1 How to perform a complete prenatal physical examination 2.2.2 How to use the Maternity Card to record a prenatal physical examination
	2.3 Calculate the expected date of delivery	2.3.1 How to calculate the expected date of delivery
	2.4 Examine pregnant women at prenatal revisits, and record the findings	2.4.1 How to examine a pregnant woman at a routine prenatal revisit 2.4.2 How to use the Maternity Card to record a prenatal physical examination
3. Identify, counsel, and refer high risk pregnant women	3.1 Identify these high risk factors from the prenatal medical history: Under 16 years of age Over 30, first pregnancy	3.1.1 How to use the checklist for high risk factors on the Maternity Card

Work Requirements

DUTIES

Training Requirements

SKILLS

KNOWLEDGE

Over 35
More than five previous pregnancies
Two or more miscarriages
Past stillbirth
Past cesarean section delivery
Past forceps or vacuum extraction delivery
Past retained placenta or severe bleeding
Past prolonged labor
Past preeclampsia or eclampsia
Infant died within one week of birth
Heart disease or shortness of breath
Kidney disease
Diabetes
Tuberculosis
Malaria
Sickle cell disease

3.2 Identify these high risk factors from the prenatal physical examination:

Under 152.5 cm tall
Small or deformed pelvis
Bleeding from the vagina

3.2.1 How to use the checklist for high risk factors on the Maternity Card

Work Requirements DUTIES	Training Requirements	
	SKILLS	KNOWLEDGE
4. Provide routine prenatal care	<p>Blood pressure above 140/90 Excess fluid in the uterus Large uterus for fetal age No fetal heart sounds or movement after the 24th week Abnormal presentation after the 28th week Early rupture of the bag of waters Malnutrition Severe anemia Heart disease or signs of heart failure Diabetes Tuberculosis Sickle cell disease</p> <p>3.3 Counsel high risk pregnant women and refer them for appropriate care</p> <p>4.1 Provide supportive prenatal care: Diagnose pregnancy Calculate the expected date of delivery</p>	<p>3.3.1 How to counsel pregnant women about high risk factors and the need for special care</p> <p>4.1.1 The normal process of pregnancy and delivery</p> <p>4.1.2 Nutritional needs of pregnant women</p>

Work Requirements
DUTIES

Training Requirements

SKILLS

KNOWLEDGE

Explain and discuss the process of pregnancy and delivery, self-care during pregnancy, and preparations for the delivery and care of a newborn

- 4.1.3 Social and emotional needs of pregnant women
- 4.1.4 Traditional beliefs and practices related to pregnancy and delivery
- 4.1.5 How to prepare for the delivery and care of a newborn
- 4.1.6 How to use small group discussions to share health messages about prenatal care

4.2 Provide preventive prenatal care:

Perform prenatal medical histories and physical examinations

Explain the dangers of drugs, medicines, smoking, and alcohol during pregnancy

Explain how to prevent tetanus of the newborn

Discuss breast care and breast-feeding

- 4.2.1 Dangers of drugs, cigarettes, and alcohol
- 4.2.2 Danger of tetanus to the newborn
- 4.2.3 Principles of prenatal breast care
- 4.2.4 Importance of good health habits for pregnant women
- 4.2.5 How to use small group discussion to share health messages about prenatal care

Work Requirements DUTIES	Training Requirements	
	SKILLS	KNOWLEDGE
<p>5. Recognize and provide patient care for these pregnancy problems:</p> <p>Severe anemia Diabetes Heart disease Ectopic pregnancy Septic abortion</p>	<p>Encourage good health habits during pregnancy</p> <p>4.3 Provide patient care for these common conditions during pregnancy:</p> <p>Morning sickness Heartburn Constipation and hemorrhoids Vaginitis Pain or burning on urination Anemia Chronic cough Swollen, twisted veins Backache Shortness of breath</p> <p>5.1 Use the Student Text and the Diagnostic Guides to identify pregnancy problems</p> <p>5.2 Use the Student Text, the Formulary, the Patient Care Procedures, and the Patient Care Guides to care for women with pregnancy problems</p>	<p>4.3.1 Patient care for common conditions of pregnancy</p> <p>5.1.1 The clinical picture and course and complications of pregnancy problems</p> <p>5.2.1 Where to find reference manuals and how to use them</p> <p>5.2.2 The medical treatment for pregnancy problems that do not require referral</p>

Work Requirements

DUTIES

Preeclampsia and eclampsia
Fetal death
Bleeding early in pregnancy
Bleeding late in pregnancy
Malaria
Sickle cell disease

Training Requirements

SKILLS

KNOWLEDGE

5.2.3 The side effects and contraindications of drugs used to treat pregnancy problems
5.2.4 Procedures for referring women with pregnancy problems

**SCHEDULE
PRENATAL CARE**

DAY 1	DAY 2	DAY 3	
<p>Introduction to the Prenatal Care module</p> <p>Changes during pregnancy</p> <p>Taking and recording a prenatal medical history</p>	<p>Assessing a pregnant woman; Clinical practice</p>	<p>Pregnancy problems</p>	
	<p>Providing prenatal care</p> <p>Providing patient care for common conditions during pregnancy</p>	<p>Sharing health messages about prenatal care</p>	
<p>Performing and recording a prenatal physical examination</p> <p>Identifying high risk factors</p>			

Skill development: one week
 Clinical rotation: one month
 Community phase: three months

Introduction

You have studied the Anatomy and Physiology, Medical History, and Physical Examination modules. You have also studied several clinical modules and have learned how to diagnose and care for clinical problems and to share health messages. What you learned has prepared you for the study of prenatal care. Before you start this module, be sure you know:

- The normal anatomy and physiology of the female reproductive system

- How to take and record a medical history

- How to perform and record a physical examination

- How to present health messages

If you are not sure how well you know this information or can do these procedures, review them before you go on.

LEARNING ACTIVITIES

Activities in this module will help you learn how to diagnose pregnancy and care for pregnant women. These activities will take place in the classroom and in a hospital clinic or health center.

Your schedule shows you when the learning activities will occur. Student Guides in front of each unit tell you more about what you will be expected to do. The units will be taught in order, from Unit 1 to Unit 5. Your instructor will make special arrangements for Units 6, 7, and 8 which will take place in a clinic and a community.

This training program can succeed only if you take an active part. Prepare for each session. Before each session:

- Read the Student Text and answer the review questions that go with it

- Read the Patient Care Guides and learn about the drugs that you will be using

- Read the Diagnostic Guides and compare the content to the discussions of problems in the module

Write down questions to ask your instructor about any part of the lesson that you do not understand

In class, the instructor will answer the review questions and any other questions you have.

EVALUATION

This training program will help you build your knowledge and skills. Regular evaluations will allow your instructor to watch your progress. If your progress does not meet the standard, you will be given more time to learn the subject. Your instructor will give you the clinical and community performance records to measure your progress. Look at these performance records to prepare for your evaluations.

EVALUATION Level I

After three days of classroom and clinical experiences related to providing prenatal care, you must be able to pass a written test of your knowledge with a score of 80% or higher.

After another one week of clinical experience, you must receive two Satisfactory ratings on your ability to:

- Take and record a prenatal medical history
- Perform and record a prenatal physical examination
- Identify high risk pregnancies

EVALUATION Level II

You will have one month of clinical practice. During this time you will be evaluated on your ability to:

- Provide supportive prenatal care, preventive prenatal care, and patient care for common conditions of pregnancy
- Identify high risk pregnant women and provide patient care according to the procedures outlined in the Prenatal Care module and in the Patient Care Guides
- Advise pregnant women seeking prenatal care about the process of pregnancy and delivery, self-care during pregnancy, and preparations for the delivery and the care of a newborn
- Share health messages about prenatal care with groups of pregnant women

EVALUATION Level III

During the three-month community phase of your training, a supervisor will observe your performance and rate your skill in:

Providing supportive prenatal care, preventive prenatal care, and patient care for common conditions of pregnancy

Identifying high risk pregnant women and arranging for special prenatal care

Advising pregnant women in the community about the process of pregnancy and delivery, self-care during pregnancy, and preparations for the delivery and the care of a newborn

Identifying and preparing other members of the health team who can help provide prenatal care and identify high risk pregnancies

Your clinical and community performance records list the number of acceptable ratings you must earn for each activity.

Unit 1

Changes during Pregnancy

STUDENT GUIDE

OBJECTIVES

1. Describe the changes that occur in a woman's body during pregnancy.
2. Describe the main stages in the development of the fetus.

LEARNING ACTIVITIES

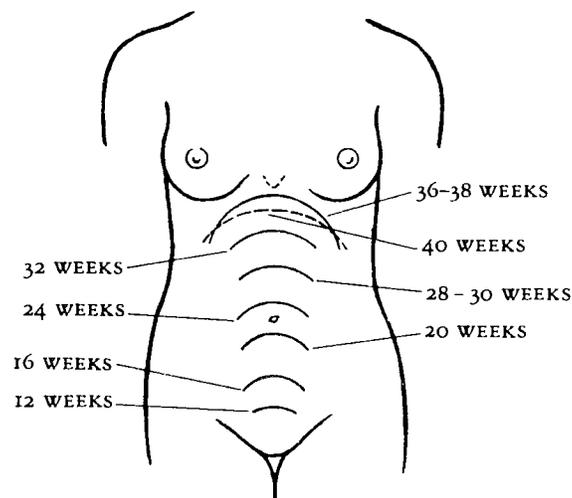
1. Listen to a student review of the reproductive process and the early stages of pregnancy.
2. Take part in a class discussion of the student presentation.
3. Listen to an instructor presentation on the signs of pregnancy.
4. Take part in a class discussion of the review questions for Unit 1.
5. Observe pictures or drawings of the physical changes that occur during pregnancy. Or, observe pregnant women at different stages of pregnancy.

1.1 CHANGES IN THE WOMAN

Pregnancy begins when the fertilized ovum implants in the wall of the uterus. Pregnancy normally lasts for forty weeks. During this time, the fetus grows and develops inside the woman's uterus. Pregnancy ends with the birth of a baby. The prenatal period includes the time from the first day of a woman's last menstrual period to the start of labor. Certain changes occur in the woman's body during the prenatal period as the fetus develops inside her uterus. Learning about these changes will help you diagnose pregnancy and assess the progress of a woman's pregnancy.

The stopping of monthly menstrual periods is often the first sign of pregnancy that a woman notices. A severely malnourished or ill woman, however, may not have regular menstrual periods but can still become pregnant. A woman can also become pregnant before her menstrual periods resume after the birth of a baby.

As the fetus grows, the woman's uterus grows and rises out of her pelvis. You can feel the uterus in the woman's abdomen by about the 12th to 13th week of pregnancy. By the 34th week, the uterus fills the abdomen. It is an obvious swelling reaching up to the breast bone.



Other changes in the woman are listed below according to the week of pregnancy during which they usually occur.

WEEK OF PREGNANCY

CHANGES IN THE WOMAN

4 - 8 weeks

The woman's breasts become tender and enlarged.

	Her nipples darken in color. She may experience nausea in the mornings or evenings. Her cervix softens and turns a bluish color.
8 - 13 weeks	The woman has increased urination. Her vagina is bluish purple in color.
16 - 20 weeks	The woman may feel the fetus moving in her uterus. Her abdomen is noticeably larger. Fetal heart sounds may be heard.
22 - 30 weeks	Stretch lines may appear on the woman's abdomen. Fetal parts and movements may be felt.
32 - 36 weeks	The woman may have shortness of breath and increased urination. Her ankles may swell.
38 - 40 weeks	The fetus' head settles into the woman's pelvis. The woman's ankles may swell. She may have some difficulty sitting and walking. She may have a vaginal discharge.

1.2 FETAL DEVELOPMENT

Conception occurs when a sperm and an ovum join. The fertilized ovum attaches itself to the uterine wall. The uterus supports the fertilized ovum as it develops into a fetus. The fetus receives oxygen and nutrients from the woman through the placenta. The umbilical cord links the placenta to the fetus. Blood vessels in the umbilical cord carry oxygen and nutrients from the placenta to the growing fetus and waste products away from the fetus to the placenta. The fetus grows inside a sac filled with fluid. Delivery usually occurs after forty weeks, or nine months, of fetal growth and development.

The development of the fetus in the uterus is outlined below.

WEEKS OF GESTATION	DEVELOPMENT	WEIGHT
16 weeks	<p>The head is large.</p> <p>The eyes, ears, and nose are visible.</p> <p>The arms, legs, fingers, and toes are present.</p> <p>The sex is evident.</p> <p>The muscles are active.</p>	170 g
20 weeks	<p>All body parts develop.</p> <p>Fine hair covers the body.</p> <p>Fingernails can be seen.</p> <p>Fetal heart sounds can be heard.</p> <p>The fetus is active.</p>	280 g
24 weeks	<p>The skin is red and wrinkled.</p> <p>The head appears large.</p> <p>If born at this stage, the fetus may try to breathe, but cannot survive.</p>	680 g
28 weeks	<p>The brain is developed but is unable to control temperature.</p> <p>The skin is red and covered with a white, greasy substance.</p> <p>If born at this stage, the fetus is able to move its limbs, breathe, and cry weakly.</p> <p>Only a very small percentage survive.</p>	1140 g
32 weeks	<p>The skin is still red and wrinkled.</p> <p>Less fine hair is present.</p> <p>If born at this stage, the fetus can live but needs expert care.</p>	1590 g
36 weeks	<p>The face is less wrinkled.</p> <p>The nails reach the fingertips.</p> <p>The fetus is able to live outside the uterus.</p>	2500 g
40 weeks	<p>The fetus is fully developed.</p> <p>The skin is red and smooth with little or no fine hair.</p> <p>The skin is covered with a white, greasy substance.</p> <p>The fetus is able to live outside the uterus.</p>	3200 g

REVIEW QUESTIONS

Changes during Pregnancy

1. TRUE (T) or FALSE (F)

_____ A woman cannot become pregnant after the delivery of a baby if her regular menstrual periods have not resumed.

2. When is it possible to feel the enlarged uterus during pregnancy?

3. Match the changes in pregnancy listed in column B with the approximate time in pregnancy in which they occur. Write the letter of your answer in the space provided.

A	B
_____ 4 - 8 weeks	a. The woman may have shortness of breath and swollen ankles
_____ 38 - 40 weeks	b. Fetal parts and movements may be felt
_____ 16 - 20 weeks	c. The fetus' head settles into the woman's pelvis
_____ 32 - 36 weeks	d. The woman has increased urination. Her vagina is bluish purple in color
_____ 8 - 13 weeks	e. The woman may experience nausea in the mornings or evenings
_____ 22 - 30 weeks	f. Fetal heart sounds may be heard

4. TRUE (T) or FALSE (F)

_____ A fetus born at twenty-four weeks cannot survive.

5. Describe the fetus at twenty-eight weeks of development.

6. About how much does a fetus weigh at forty weeks of development?

Unit 2

Assessing a Pregnant Woman

STUDENT GUIDE

OBJECTIVES

1. Demonstrate how to take a prenatal medical history.
2. Demonstrate how to perform a prenatal physical examination.
3. Describe the high risk factors that can be detected during a prenatal medical history and physical examination.
4. Demonstrate how to record a prenatal medical history and physical examination on the Maternity Card.

LEARNING ACTIVITIES

1. Listen to and observe the instructor demonstrate how to take and record a prenatal medical history.
2. Take part in a class discussion of the instructor's demonstration.
3. Take part in a role-play in which a health worker takes a prenatal medical history and records the information on the Maternity Card. Discuss the role-plays.
4. Observe the instructor demonstrate how to perform and record a prenatal physical examination.
5. Take part in a class discussion of the instructor's demonstration.
6. With two other students, go through the prenatal physical examination procedures. Discuss the small group work.
7. Listen to an instructor presentation on the high risk factors related to pregnancy.
8. Take part in a small group discussion of high risk factors.
9. Discuss the small group work and the review questions for Unit 2.
10. Practice performing and recording prenatal medical histories and physical examinations in a maternal and child health or outpatient clinic.
11. Summarize the session and the clinical experience.

2.1 TAKING A PRENATAL MEDICAL HISTORY

When a woman comes to the health center and says that she is pregnant, you must try to learn all you can about her condition. Perform a complete prenatal medical history and physical examination at any point in pregnancy that you see the woman for the first time. Provide follow-up care and assessment throughout her pregnancy. The purpose of the prenatal medical history and physical examination is to find out if a woman's pregnancy is progressing normally and to identify any problems. The steps for performing a medical history and physical examination are basically the same regardless of when in pregnancy you assess the woman.

Begin your assessment with a complete medical history. Interview the woman to obtain:

Patient Identification Information

Record information that identifies the woman. Include the date of the visit, and the woman's name, address, date of birth, and age.

History of Present Condition

Find out about the woman's present condition by asking these questions:

“When did you have your last menstrual period? What date did it start? Was it like your usual menstrual period?”

The stopping of normal menstrual periods is one of the first signs of pregnancy. Knowing when a woman's menstrual periods stopped will help you estimate the age of the fetus and the expected date of delivery. Some women continue to have menstrual periods during the first months of pregnancy. However, bleeding will often be lighter than normal.

“How are you feeling? Do you have any problems or discomfort related to pregnancy?”

Symptoms such as nausea, backache, and increased urination are commonly associated with pregnancy. Counsel pregnant

women about these problems. Ask about more serious conditions such as bleeding, swelling, and vision problems.

“Are you using a contraceptive method?”

A pregnant woman should not continue to use a contraceptive method. Oral contraceptives may harm the fetus. An intra-uterine device, or IUD, left in place during pregnancy can endanger the lives of the fetus and the woman. If a woman becomes pregnant with an IUD in place, refer her to the hospital. Do not remove the IUD.

“Are you taking any medications?”

Many medications can pass through the placenta and affect the development of the fetus.

“Do you smoke or drink?”

A woman who smokes cigarettes or drinks alcohol can harm the fetus growing inside her. She may give birth to a small, poorly developed infant.

“Do you plan to ask a traditional birth attendant to deliver your baby? Is she with you? What is her name?”

Meet the traditional birth attendant who will assist the woman. Take the opportunity to begin to work with the traditional birth attendant. Plan home visits with the birth attendant.

“How is your appetite? What did you eat yesterday?”

A pregnant woman must eat increased amounts of nutritious foods. Advise pregnant women to eat foods such as beans, milk, eggs, meat, fish, and green, leafy vegetables.

“Have you been taking folic acid and iron tablets regularly? How many tablets do you have left? Do you need more tablets?”

A woman should take folic acid and iron tablets regularly throughout pregnancy and breast-feeding. Check every woman's supply of tablets at each prenatal visit.

“Do you want this pregnancy?”

If the woman does not want the pregnancy, counsel her not to try dangerous methods of removing the fetus. Some methods harm the woman as well as the fetus.

History of Previous Pregnancies

Find out if the woman has been pregnant before. Find out the outcomes of any previous pregnancies in the order in which they occurred. Ask about miscarriages, stillbirths, and infant deaths. Find out when they occurred. Question the woman about possible causes and treatment. Ask about the length of pregnancies and labor, complications of pregnancy and delivery, instrument deliveries, and severe bleeding. Find out if she has had a cesarean section delivery. Ask about the health of her children.

Past Medical History

Find out about allergies, past illnesses, and immunizations. Question the woman about past operations, accidents, and injuries. Note especially any operations or injuries to her pelvis or abdomen. Ask about the health of family members. Find out about any family members with diabetes, high blood pressure, or tuberculosis.

2.2 PERFORMING A PRENATAL PHYSICAL EXAMINATION

You perform a prenatal physical examination to identify any problems that require care to ensure a safe pregnancy and a healthy baby. You examine a woman to determine:

If she is pregnant

Any physical conditions that might complicate the pregnancy or cause problems with delivery

The stage of fetal development

The fetal position

Performing a prenatal physical examination is very much like performing an adult physical examination. The difference is that you pay particular attention to the changes that occur in the woman's body during pregnancy. A detailed description of how to perform a prenatal physical examination and of the normal and abnormal signs that you will look for is included in the procedures for assessing a pregnant woman, in the appendix of the Physical Examination module.

Follow these steps to perform a prenatal physical examination.

Calculate the Expected Date of Delivery

You will compare physical examination findings with the expected date of delivery to assess the progress of pregnancy.

Take the Vital Signs

Be alert for weight or blood pressure abnormalities. Note the woman's height.

Test the Urine

Test for sugar and protein in the urine.

Inspect the General Appearance

Notice if the woman looks ill, tired, or malnourished.

Examine the Eyes, Ears, Nose, Mouth and Throat, and Neck

Examine these areas for signs of infection or anemia. Palpate the neck for thyroid gland enlargement.

Examine the Respiratory System and Heart

Look for signs of tuberculosis and heart disease.

Examine the Breasts

Note the changes in the breasts that accompany pregnancy. Look for abnormalities that might interfere with breast-feeding.

Examine the Abdomen

Inspect the woman's abdomen for uterine shape and fetal movements. Palpate her abdomen in four steps to determine the size of the uterus and the position of the fetus. Auscultate the abdomen for fetal heart sounds.

Examine the Arms and Legs and the Musculoskeletal System

Examine the woman's arms and legs for edema. Check for swollen, twisted veins. Look for deformities of her legs, back, and pelvis. A small or deformed pelvis may make vaginal delivery difficult or impossible.

Examine the Genitals

Examine the genitals to confirm pregnancy and to check for abnormalities and signs of infection. Determine the size of the uterus. Compare the size of the uterus to the expected date of delivery. Evaluate pelvic size.

2.3 IDENTIFYING HIGH RISK FACTORS

Pregnancy and delivery are normal processes. Most pregnancies and deliveries take place without problems or complications. The prenatal medical history and physical examination help you identify any problems that might complicate a woman's pregnancy or cause problems with delivery. These problems are called high risk factors. A high risk factor requires special patient care right away to ensure the health of the woman and the fetus. The most serious high risk conditions require immediate referral to the hospital. Early detection of high risk factors is the main reason for prenatal visits.

Refer a woman to the hospital for prenatal care if you detect any of the high risk factors listed below. Check pregnant women for these risk factors at each prenatal visit, and refer them to the hospital as necessary.

INFORMATION FROM THE MEDICAL HISTORY

AGE

Under 16	Women younger than 16 often have premature deliveries and give birth to small babies.
Over 30, first pregnancy	Women over 30 who are having a first child often have long labors and difficult deliveries. The pelvis of an older woman does not expand as much or as easily as a younger woman's pelvis.
Over 35	Women older than 35 have an increased tendency to bleed during and after labor. An older woman is also at risk of giving birth to an abnormal baby.

PREVIOUS PREGNANCIES

More than five	Women with a history of more than five previous pregnancies are likely to bleed immediately after delivery. They can also deliver so fast as to injure the newborn.
Two or more miscarriages	A disease such as tuberculosis or syphilis may have caused the previous miscarriages. Special patient care may prevent another miscarriage from occurring.
Stillbirth	A woman who has had a stillbirth is at risk of having another.
Cesarean section delivery	A woman who has delivered by cesarean section has a weak area in her uterus. The uterus may rupture during labor.
Forceps or vacuum extraction delivery	Instruments may be needed again if they were needed for a previous delivery.
Retained placenta or severe bleeding	Complications of pregnancy, such as a retained placenta or severe bleeding, that occurred once may occur again.
Prolonged labor	Prolonged labor that occurred in a previous pregnancy may occur again.
Preeclampsia or eclampsia	Preeclampsia or eclampsia that occurred in a previous pregnancy may occur again.
Infant died within one week of birth	Drugs or a disease such as diabetes or tetanus may have caused this death. Special patient care may prevent another infant death.

PRESENT PREGNANCY

Heart disease or shortness of breath	The heart must work harder during pregnancy. Heart disease puts more strain on the heart. Heart disease may lead to heart failure during pregnancy or delivery.
Kidney disease	The kidneys must work harder during pregnancy. Kidney disease puts more strain

	on the kidneys. Kidney disease during pregnancy may lead to high blood pressure and eclampsia.
Diabetes	Pregnancy makes diabetes worse. Diabetes affects the development of the fetus. Large, puffy babies born to diabetic mothers often need hospital care after delivery.
Tuberculosis	Pregnancy can cause tuberculosis to flare up. Pregnant women with tuberculosis need prompt treatment and improved nutrition.
Malaria	Untreated malaria may cause severe anemia and heart failure during pregnancy. Miscarriages are also common in malaria patients.
Sickle cell disease	Pregnancy makes sickle cell disease worse. Crises are more frequent and severe. Miscarriages are also common.

INFORMATION FROM THE PHYSICAL EXAMINATION

HEIGHT

Under 152.5 cm	A woman who is less than 152.5 cm tall, or who is much shorter than others in her ethnic group, may have a long, difficult labor.
----------------	---

PELVIS

Small or deformed	A small or deformed pelvis may be a sign of an abnormal pelvic opening. Vaginal delivery may be difficult or impossible.
-------------------	--

PRESENT PREGNANCY

Bleeding from the vagina	Bleeding during pregnancy is always a serious sign. Bleeding early in pregnancy is a sign of a possible miscarriage. Bleeding late in pregnancy is a sign of problems with the placenta. Never do a vaginal examination on a woman who is bleeding late in pregnancy. The placenta may rupture and cause severe, uncontrollable bleeding.
--------------------------	---

Blood pressure above 140/90	High blood pressure during pregnancy may be a sign of a hypertensive disease that can lead to convulsions as pregnancy progresses. High blood pressure occurring with edema is an even more serious sign.
Excess fluid in the uterus	A large, soft uterus may be a sign of excess fluid surrounding the fetus, indicating a serious illness of the woman or an abnormality of the fetus.
Large uterus for fetal age	A uterus that is larger than expected for the expected date of delivery may indicate twins.
No fetal heart sounds or movement after the 24th week	An absence of fetal heart sounds or movement after the 24th week may be a sign of fetal death.
Abnormal presentation after the 28th week	The fetus should be in the vertex, or head first, position after the 28th week. Breech and transverse presentations after the 28th week are abnormal. A breech presentation means that the buttocks or legs are presenting. A transverse presentation means that the fetus is lying sideways. A shoulder or arm is presenting. Breech and transverse presentations usually require cesarean section deliveries.
Early rupture of the bag of waters	The rupturing of the bag of waters several days before delivery can cause infection of the uterus.
Malnutrition	A woman with a poor diet and no weight gain during pregnancy may have a difficult delivery with risk to herself and the fetus.
Severe anemia	Severe anemia may lead to heart failure during pregnancy or delivery.
Heart disease or signs of heart failure	Women with signs of heart disease, such as a heart murmur, require frequent assessment during pregnancy. Heart disease may lead to heart failure during pregnancy and delivery.

Diabetes	Sugar in the urine may be a sign of diabetes. Pregnancy makes diabetes worse. Diabetes endangers the health of the pregnant woman and her fetus.
Tuberculosis	Pregnancy can cause tuberculosis to flare up. Pregnant women with tuberculosis need prompt treatment and improved nutrition.
Sickle cell disease	Pregnancy makes sickle cell disease worse. Crises are more frequent and severe. Miscarriages are also common.

2.4 RECORDING A PRENATAL MEDICAL HISTORY AND PHYSICAL EXAMINATION

Be sure that each woman who comes to the health center for prenatal care has both a Patient Card and a Maternity Card. Record the prenatal medical history and physical examination on the Maternity Card. Follow these steps.

- a. Fill in the patient identification information in the appropriate spaces on the front of the card. Record the date of the visit in the appropriate space on the back of the card. Start a new line for each visit.
- b. Record the date of the woman's last menstrual period and your calculated expected date of delivery in the labeled spaces on the back of the card.
- c. Describe any symptoms of problems or discomfort related to pregnancy in the space labeled "Symptoms and Signs." Also note information about contraceptive use and personal habits, such as smoking or drinking.
- d. Record the details of the woman's previous pregnancies in the appropriate spaces on the front of the card. Be sure to note complications of pregnancy and delivery, cesarean section deliveries, and the outcomes of previous pregnancies.
- e. The woman's past medical history should be recorded on her

- Patient Card. Record additional information related to pregnancy on the Maternity Card. Note the woman's tetanus immunization status in the appropriate space on the back of the card. Give details of operations or injuries to the woman's pelvis or abdomen. Note a family history of diabetes, high blood pressure, or tuberculosis.
- f. Record the prenatal physical examination on the back of the Maternity Card in the labeled columns. Describe any signs of problems or discomfort related to pregnancy in the "Symptoms and Signs" column.
 - g. Record details of the woman's pelvic size in the appropriate spaces on the back of the card. Record the diagonal diameter in centimeters. Describe the curve of the spine as well curved, flat, or irregularly shaped. Describe the right and left ischial spines as blunt or sharp. Describe the sacrosciatic notch and the sub-pubic angle as admitting more or fewer than two fingers. Record the size of the outlet in centimeters.
 - h. Review the findings of the prenatal medical history and physical examination. Check off any high risk factors that you have identified.
 - i. In the "Patient Care" column, briefly describe your treatment plan and your advice to the woman about her condition and care. Note when she is to return for her next prenatal visit.

2.5 PRENATAL REVISITS

After the initial prenatal medical history and physical examination, a pregnant woman should return to the health center regularly throughout her pregnancy for follow-up prenatal care. At each revisit, review the woman's Maternity Card, perform and record a brief medical history and physical examination, and provide counseling and patient care appropriate to the duration of pregnancy and the woman's particular concerns.

Review the Maternity Card

Review the Maternity Card at each prenatal revisit to remind yourself of the findings of previous visits. Review:

- a. Patient identification information
- b. Duration of pregnancy since the last menstrual period
- c. Findings from the initial prenatal medical history and physical examination
- d. Problems identified during past visits and the patient care for these problems
- e. Particular concerns of the woman and self-care for which she is presently responsible
- f. Plans for future patient care and advice

Take the Medical History

The medical history at the prenatal revisit will help you detect symptoms of any complications or problems that the woman has experienced since her last visit. Ask these questions:

“How are you feeling? Do you have any problems or discomfort related to pregnancy?”

“Are you taking any medications?”

“Have you been smoking or drinking?”

“How is your appetite? What did you eat yesterday?”

“Have you been taking folic acid and iron tablets regularly? Do you need more tablets?”

Perform the Physical Examination

The physical examination at the prenatal revisit will help you detect signs of any complications or problems that have developed since the woman's last visit and to assess the growth and development of the fetus. Check the woman's blood pressure, weight, and urine. Check for signs of edema and anemia. Perform an abdominal examination to determine the size of the uterus and the position of the fetus. Listen for fetal heart sounds.

Record the Findings

Record the medical history and physical examination on the Maternity Card in the spaces corresponding to the date of the revisit.

Refer High Risk Pregnancies

Refer the woman to the hospital if you detect any of the high risk factors on the Maternity Card checklist.

REVIEW QUESTIONS

Assessing a Pregnant Woman

1. During a prenatal medical history you ask the woman when she had her last menstrual period. Why is this information important?
2. What should you do if you find out that a woman is pregnant with an IUD in place?
3. TRUE (T) or FALSE (F)
_____ Medications taken during pregnancy can pass through the placenta and affect the development of the fetus.
4. What questions should you ask a pregnant woman at each prenatal revisit?
5. Why is it helpful to calculate a woman's expected date of delivery before you do a prenatal physical examination?
6. List the four steps in calculating the expected date of delivery.
7. TRUE (T) or FALSE (F)
_____ The main purpose of a prenatal physical examination is to determine the position of the fetus in the uterus.

8. During the abdominal examination you use four palpation steps. Briefly describe what you are looking for in each step.
9. Why should you examine the musculoskeletal system of a pregnant woman as part of a prenatal physical examination?
10. What signs of pregnancy might you detect during a female genital examination?
11. Match the pelvic measurement points in column A with the way these points are measured and recorded in column B. Write the letter of your answer in the space provided.

A	B
___ Diagonal diameter	a. Describe as admitting more or fewer than two fingers
___ Sacrosciatic notch	b. Should be 9 cm or more
___ Sub-pubic angle	c. Should be 12 cm or more
___ Space between the ischial tuberosities	d. Describe as blunt or sharp
___ Ischial spines	e. Describe as well-curved, flat, or irregularly shaped
___ Curve of the spine	

12. What parts of the prenatal physical examination should you perform at a prenatal revisit?
13. TRUE (T) or FALSE (F)
- ___ Early detection of high risk factors is the main reason for prenatal visits.

14. Explain how the age of a pregnant woman can be considered a risk factor.

15. Why is a woman who has had more than five pregnancies at risk of complications during subsequent pregnancies?

16. Why should a woman who has had a previous cesarean section delivery have a hospital delivery?

17. You find out that a pregnant woman has had two miscarriages and an infant who died within one week after birth. Why is this important information? What additional information would you want to have?

18. List some of the medical conditions that are risk factors for a pregnant woman.

19. Match the condition in column A with its indication or the complication it may cause in column B. Write the letter of your answer in the space provided.

A	B
____ Less than 152.5 cm tall	a. May be a sign of diabetes
____ Small or deformed pelvis	b. May cause infection of the uterus
____ Severe anemia	c. May cause a long, difficult labor
____ Blood pressure above 140/90	d. Sign of a possible miscarriage
	e. Sign of heart disease
	f. May be a sign of excess fluid in the uterus

- _____ Heart murmur
 - _____ Large, soft uterus
 - _____ No fetal heart sounds or movement after the 24th week
 - _____ Bleeding from the vagina
 - _____ Early rupture of the bag of waters
 - _____ Sugar in the urine
- g. May lead to heart failure
 - h. May be a sign of fetal death
 - i. Sign of possible preeclampsia
 - j. Vaginal delivery may be difficult or impossible

SKILL CHECKLIST

Assessing a Pregnant Woman

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students assess a pregnant woman.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When assessing a pregnant woman:

YES NO RATING COMMENTS

1. Take a prenatal medical history a. Record the patient identification information b. Take the history of the woman's present condition. Find out: The date and characteristics of the woman's last menstrual period Whether the woman has any problems or discomfort related to pregnancy Whether the woman is using a contraceptive method or taking any drugs or medicines Whether the woman smokes or drinks The name of the woman's traditional birth attendant, if she has one What the woman has been eating	YES	NO	RATING	COMMENTS

YES NO RATING COMMENTS

	YES	NO	RATING	COMMENTS
<p>Whether the woman is taking iron and folic acid tablets regularly, and whether she needs more tablets</p> <p>Whether the woman wants this pregnancy</p>				
<p>c. Take the history of the woman's previous pregnancies. Find out:</p> <p>Whether the woman has been pregnant before</p> <p>The outcomes of previous pregnancies, including miscarriages, stillbirths, and infant deaths</p> <p>The lengths of pregnancies and labor</p> <p>Whether the woman has had any complications of pregnancy and delivery, instrument deliveries, or episodes of severe bleeding</p> <p>Whether the woman has had a cesarean section delivery</p> <p>Whether the woman's other children are alive and healthy</p>				
<p>d. Take the woman's past medical history. Find out:</p> <p>Whether the woman has any allergies</p> <p>What childhood and adult illnesses the woman has had</p> <p>What immunizations the woman has had</p> <p>Whether the woman has had any operations, accidents, or injuries, especially involving the pelvis or abdomen</p> <p>Whether any family members have diabetes, high blood pressure, or tuberculosis</p>				

	YES	NO	RATING	COMMENTS
2. Record the prenatal medical history on the Maternity Card				
3. Perform a prenatal physical examination				
a. Assemble the necessary supplies and equipment				
b. Prepare the woman by describing the purpose and parts of the examination				
c. Ask the woman to empty her bladder. Collect a urine specimen				
d. Ask the woman to remove her clothing. Provide a drape				
e. Calculate the expected date of delivery: Add seven to the date of the start of the woman's last normal menstrual period Count nine months ahead Correct for the year				
f. Take the woman's vital signs				
g. Test the urine for sugar and protein				
h. Inspect the woman's general appearance for signs of fatigue or malnutrition				
i. Examine her eyes for signs of anemia				
j. Examine her ears for signs of infection				
k. Examine her nose for signs of infection				
l. Examine her mouth and throat for signs of anemia or infection				
m. Palpate her neck for thyroid gland enlargement				

YES NO RATING COMMENTS

	YES	NO	RATING	COMMENTS
n. Examine her respiratory system and heart for signs of tuberculosis or heart disease				
o. Inspect and palpate her breasts for abnormalities that might interfere with breast-feeding. Note the changes in the breasts that accompany pregnancy				
p. Examine the woman's abdomen: Inspect for uterine shape and fetal movements Palpate to determine the size of the uterus Palpate in four steps to determine the position of the fetus. First, determine which part of the fetus is in the top of the uterus. Next, palpate the sides of the uterus to feel the fetus' back. Then, determine which part of the fetus is in the lower abdomen. Finally, face the woman's feet and palpate from the abdomen toward the pelvis to confirm your findings Auscultate for fetal heart sounds				
q. Inspect and palpate the woman's arms and legs for edema and swollen veins				
r. Inspect the woman's musculoskeletal system for deformities of the legs, back, and pelvis				
s. Inspect and palpate the female genitals: Confirm pregnancy Check for abnormalities and signs of infection				

	YES	NO	RATING	COMMENTS
Determine the size of the uterus and estimate the duration of pregnancy				
<p>t Evaluate pelvic size:</p> <p>Measure the diagonal diameter. Reach back into the vagina until you touch the sacral promontory. Note where your hand touches the lower edge of the pubic bones</p> <p>Sweep your fingers back to note the curve of the spine</p> <p>Palpate the ischial spines on both sides</p> <p>Measure the sacrosciatic notch and the sub-pubic angle</p> <p>Measure the outlet. Ask the woman to lie on her side with her knees drawn up. Place the knuckle of your middle finger on the back edge of her anus. Push back until you feel the ischial tuberosities</p>				
4. Remove your hand from the woman's vagina				
5. Allow the woman to dress				
6. Explain the findings of the examination to the woman. Answer her questions				
7. Record the findings on the Maternity Card				
8. Check off any high risk factors that you have identified				

Unit 3

Providing Prenatal Care

STUDENT GUIDE

OBJECTIVES

1. Explain supportive prenatal care, preventive prenatal care, and patient care for common conditions during pregnancy.
2. Describe the patient care for these common conditions during pregnancy:

Morning sickness

Heartburn

Constipation and hemorrhoids

Vaginitis

Pain or burning on urination

Anemia

Chronic cough

Swollen, twisted veins

Backache

Shortness of breath

LEARNING ACTIVITIES

1. Take part in an informal question and answer session about providing prenatal care.
2. Work with a small group to prepare a brief presentation on common conditions during pregnancy.
3. Take part in a group presentation.
4. Join in a class discussion of the group presentations.

3.1 PRENATAL CARE

Prenatal care is the care that you give a pregnant woman to ensure a safe pregnancy and a healthy baby. Routine prenatal care consists of supportive care, preventive care, and patient care for common conditions during pregnancy. Offer a woman supportive, preventive, and patient care at each prenatal visit.

3.2 SUPPORTIVE PRENATAL CARE

Supportive prenatal care means offering the woman information, advice, and encouragement about her pregnancy. Provide supportive prenatal care by:

Diagnosing Pregnancy

One of the first ways that you provide prenatal care is to determine if the woman is pregnant. Ask about and look for these symptoms and signs of pregnancy.

SYMPTOMS	SIGNS
Stopping of menstrual periods	Soft, bluish cervix
Painful, swollen breasts	Tender breasts and darkened nipples
Enlarged abdomen	Enlarged uterus
Fetal movements	Fetal movements
	Fetal heart sounds

Calculating the Expected Date of Delivery

After you diagnose pregnancy, you should calculate the expected date of delivery. Follow the procedure outlined in the appendix of the Physical Examination module. Explain and discuss the expected date of delivery with the woman. Knowing approximately when she will deliver will help her plan her activities.

Explaining and Discussing Pregnancy and Delivery

A clear, positive explanation of the process of pregnancy and delivery is especially important for women who are pregnant for the first time. Explain fetal development, when the woman might expect fetal movement, and the stages of labor. Emphasize that pregnancy and delivery are normal processes. Reassure the woman that care will be available when she needs it. The health worker and, if the woman wishes, her traditional birth attendant will share in the care. The resources of the hospital will also be available if necessary.

Preparing for the Care of a Newborn

Take time during the prenatal visits to discuss preparations for the newborn. Talk about bedding and clothing needs. Talk about care for other children in the family. Discuss the time needed to care for a new baby. Discuss arrangements for help in the woman's home, if necessary.

Discussing Questions and Unusual Feelings

Pregnant women often have many questions or unusual feelings that they want to ask about. Reassure the woman about problems that commonly occur during pregnancy. Alert her to symptoms and signs of more serious conditions.

Discussing Places for Delivery

If a woman's pregnancy is progressing normally, her baby can be delivered in her home by the birth attendant she chooses or at the health center. Urge the woman to deliver in the hospital if you detect any high risk factors. Reconsider the decision at each prenatal visit.

If a woman plans a home delivery, visit her home during her last three months of pregnancy. With the traditional birth attendant and family members, select an area in the home for the delivery. Prepare for the delivery in other ways. For example, prepare a clean mat or bed clothes for the woman to lie on. Gather clean cloths, newspapers, or grass to soak up water and blood. Set aside a bar of soap and cord cutting instruments. Prepare clean pieces of cloth or sanitary pads for the woman to wear after delivery. Arrange to visit the home again two weeks before the expected date of delivery to ensure that all the items are ready.

Including the Traditional Birth Attendant

Invite the traditional birth attendant to accompany the woman on her prenatal visits. Take the opportunity to discuss home preparations and to share information with the traditional birth attendant.

Discussing Diet and Nutrition

A woman should gain about twenty-five pounds during pregnancy. Advise pregnant women to eat increased amounts of protein rich foods, such as beans, legumes, ground nuts, eggs, milk, fish, meat, and green, leafy vegetables. Tell a pregnant woman who is breast-feeding a child to increase her food intake even more. Advise her to gradually wean the breast-feeding child to other foods during the last three months of pregnancy so that he will be able to do without breast milk when the new baby is born.

Pregnant women also need increased amounts of iron and folic acid to prevent anemia and to ensure the health of the fetus. Advise women to take 1 mg of folic acid daily and 300 mg of iron sulfate three times a day during pregnancy and breast-feeding.

Describing Signs of Labor

A woman having her first baby will want to know what labor is like and when she should call her traditional birth attendant or go to the health center. Counsel the woman to call her birth attendant when she feels a sudden gush of fluid from her vagina, notices a bloody discharge, or experiences a series of repeated abdominal cramps within an hour.

Give high risk women specific directions for getting to the hospital early. Be sure to consider the distance the woman lives from the hospital and the means of transportation available.

Discussing Traditional Beliefs and Practices

Many women engage in cultural practices that they believe will strengthen the body, prevent prenatal problems, and ensure a healthy baby. Discuss traditional beliefs and practices with your patients. Support pregnant women by encouraging helpful practices and advising against harmful ones.

Harmful prenatal practices include avoiding certain protein-rich foods such as eggs and meat because of traditional beliefs, or taking part in practices that increase the risk of vaginal or pelvic infection. Explain why these practices are harmful. Provide the woman with ideas for safe alternative practices, if possible.

Also find out about practices that a traditional birth attendant might have used during a previous delivery. Explain the dangers of harmful delivery practices such as pushing or pulling a woman's abdomen to speed up labor, or putting animal dung on the umbilical stump or in the woman's vagina. Again, suggest safe alternatives if possible.

3.3 PREVENTIVE PRENATAL CARE

Preventive prenatal care involves early identification of possible problems that could affect the health of the woman and the newborn. Provide preventive prenatal care by:

Performing Prenatal Medical Histories and Physical Examinations

Perform a complete medical history and physical examination at a woman's first prenatal visit to identify problems that may require special care or referral. Provide follow-up care and assessment throughout pregnancy. Normally, you should see a woman at the health center at least three times during her pregnancy. Visit the woman in her home at least once, with either the traditional birth attendant or the community health worker. See the high risk pregnant woman more often during her pregnancy.

Preventing Abnormalities in the Newborn

Encourage pregnant women to avoid:

a. Drugs and medicines

Drugs and medicines that a woman takes during pregnancy can harm the fetus. Advise pregnant women not to take drugs or medicines except for iron and folic acid. Review any drugs or medicines prescribed by the hospital or by a health worker for their possible effect on the fetus. Allow a pregnant woman to continue taking a drug or medicine only if absolutely necessary.

b. Smoking

Smoking by a pregnant woman affects the development of the fetus. Tell pregnant women not to smoke.

c. Alcohol

If a pregnant woman drinks alcohol, her fetus may not develop normally. Advise pregnant women not to drink beer, wine, whiskey, and other alcoholic beverages.

Preventing Tetanus of the Newborn

Tetanus is usually fatal to a newborn. Proper care of the umbilical cord at the time of the delivery is the best way to prevent tetanus of the newborn.

Giving tetanus toxoid to the pregnant woman will also help prevent the disease. If the woman has been immunized against tetanus, give her a tetanus booster during her seventh month or anytime during the last three months of pregnancy. If the woman has not been immunized against tetanus, give her a series of three tetanus toxoid injections. Give one at the beginning of the seventh month of pregnancy, one at the beginning of the eighth month, and one at the beginning of the ninth month. The injections will help protect the newborn against tetanus in the early weeks of life.

Preventing Feeding Problems in Newborns

A woman with inverted nipples will have trouble breast-feeding her baby. Advise her to roll her nipples outwards several times a day to correct the condition. Teach pregnant women to massage their nipples daily with cold water. Daily massaging may help prevent cracks and fissures that can make breast-feeding painful.

Encouraging Good Health Habits

Good health habits during pregnancy can help a woman feel better and can help prevent many of the complications of pregnancy. Proper nutrition, while important at all times, is especially important during pregnancy. Tell pregnant women that their bodies need increased amounts of protein, iron, and folic acid during pregnancy. Teach them which foods are rich in these important nutrients. Tell them that a well-nourished woman has healthier babies and few complications of labor and delivery.

Teach pregnant women about the importance of exercise in strengthening the muscles used to give birth, relieving constipation, and aiding circulation. Encourage pregnant women to continue to work and exercise, but also to get the proper rest and to avoid becoming too tired.

3.4 PATIENT CARE FOR COMMON CONDITIONS DURING PREGNANCY

Many women experience one or more of these common conditions during pregnancy. Provide prompt patient care to relieve discomfort and to prevent more serious problems from developing.

Morning Sickness

Pregnant women commonly suffer morning sickness, or nausea, in the early months of pregnancy. Nausea may occur at any time of the day, but usually occurs in the morning when the woman's stomach is empty. Advise the woman suffering from morning sickness to:

- a. Avoid greasy or spicy foods
- b. Eat frequent small meals
- c. Eat a light snack before rising in the morning and before going to sleep at night

Refer the woman to the hospital if she develops severe nausea with frequent vomiting.

Heartburn

Pressure on the abdomen frequently causes heartburn in the last months of the pregnancy. Advise frequent light meals and a chewable antacid tablet for relief of heartburn symptoms.

Constipation and Hemorrhoids

Proper diet can usually relieve constipation and hemorrhoids. Advise women to eat plenty of fruits, vegetables, and whole grains and to drink plenty of water. If hemorrhoids become very swollen and painful, recommend sitting in a tub of hot water three times a day.

Vaginitis

Vaginitis is an inflammation of the vagina that usually causes itching, burning, and discharge. Refer to the Problems of Women module for patient care for vaginitis. Do not prescribe metronidazole to pregnant women. Advise pregnant women not to use this medicine.

Pain or Burning on Urination

Pain or burning on urination are often symptoms of a urinary tract infection. Treat urinary tract infections with sulfadimidine. Give tetracycline or ampicillin if the woman develops a reaction. See Patient Care Guides. If symptoms recur, repeat the treatment and refer the woman to the hospital.

Anemia

A mild degree of anemia is a common condition during pregnancy. Examine pregnant women for signs of anemia at each prenatal visit. If a woman is severely anemic during the later stages of pregnancy, refer her to the hospital. Advise all pregnant women to take iron and folic acid tablets.

Chronic Cough

A pregnant woman with a cough lasting more than four weeks should have a sputum smear for tuberculosis. Refer the woman to the hospital right away if the results are positive.

Swollen, Twisted Veins

A growing fetus can press on a woman's pelvic veins. This pressure often causes the veins in her legs to swell and twist. Swollen, twisted veins are also called varicose veins. A pregnant woman with swollen, twisted veins should rest during the day with her feet raised.

Further enlargement and inflammation of the veins can result in a condition called phlebitis. If phlebitis develops, refer the woman to the hospital.

Backache

Women sometimes suffer backaches toward the end of pregnancy. Increased pressure and the weight of the growing fetus cause backaches. Recommend daily exercise, such as walking, to prevent and ease backaches during pregnancy.

Shortness of Breath

The fetus fills the entire abdomen and pushes on the diaphragm during the last two to three weeks of pregnancy. This pressure may cause shortness of breath. Advise a woman with shortness of breath to walk slowly and to rest frequently. Be aware, however, that shortness of breath may be a sign of heart disease.

REVIEW QUESTIONS

Providing Prenatal Care

1. Name the three types of routine prenatal care.
2. What should you include in an explanation of the process of pregnancy and delivery?
3. Name four things that you should include in a discussion with a pregnant woman about preparing for the care of a newborn.
4. A high risk pregnant woman wants to have her baby at home. What should you tell her?
5. How should you and the woman's family prepare for a home delivery?
6. Why is it a good idea to invite the traditional birth attendant to accompany the woman on prenatal visits?
7. TRUE (T) or FALSE (F)
_____ A pregnant woman has a special need for carbohydrate rich foods such as sugar, bread, and potatoes.

8. A pregnant woman is breast-feeding a one-and-one-half-year-old child. What should you advise the woman about her own nutrition and that of her young child?

9. Why should a pregnant woman take iron and folic acid tablets?

10. A woman having her first baby will want to know what labor is like and when she should call her traditional birth attendant or go to the health center. How should you counsel a woman with a normal pregnancy?

11. TRUE (T) or FALSE (F)
____ You should see a pregnant woman at the health center at least three times during her pregnancy.

12. A pregnant woman wants to know why she should avoid drugs and medicines, smoking, and alcohol. What should you tell her?

13. Proper cord care at the time of delivery is the best way to prevent tetanus of the newborn. What else can help prevent this disease?

14. How should a pregnant woman prepare her nipples for breast-feeding?

15. Why is it important to discuss traditional beliefs and practices about pregnancy and childbirth with a pregnant woman?

16. What are some of the common conditions that occur during pregnancy?

17. Match the common condition found during pregnancy in column A with the appropriate patient care advice in column B. Write the letter of your answer in the space provided.

A	B
_____ Morning sickness	a. Do not use metronidazole for this condition
_____ Heartburn	b. May be prevented with iron and folic acid
_____ Constipation	c. If lasts more than four weeks, do sputum smears
_____ Hemorrhoids	d. Rest with feet raised
_____ Vaginitis	e. Preventable by exercising daily
_____ Pain or burning on urination	f. Walk slowly and rest frequently
_____ Anemia	g. Advise hot soaks
_____ Swollen, twisted veins	h. Eat plenty of raw fruits and vegetables and whole grains
_____ Backache	i. Take chewable antacid tablets as needed
_____ Shortness of breath	j. Eat a snack before rising in the morning
_____ Chronic cough	k. Treat with sulfadimidine

Unit 4

Pregnancy Problems

STUDENT GUIDE

OBJECTIVES

1. Describe the clinical picture for each of these pregnancy problems:

Severe anemia	Fetal death
Diabetes	Bleeding early in pregnancy
Heart disease	Bleeding late in pregnancy
Ectopic pregnancy	Malaria
Septic abortion	Sickle cell disease
Preeclampsia and eclampsia	
2. Describe the patient care and preventive measures for each of the problems.

LEARNING ACTIVITIES

1. Work with another student to prepare a ten-minute presentation on the clinical picture, patient care, preventive measures, and counseling points for one of the pregnancy problems discussed in Unit 4.
2. Make your presentation to the class. Answer any questions.
3. Join in a class discussion of the review questions for Unit 4.

4.1 SEVERE ANEMIA

The changes in a woman's body during pregnancy can cause anemia. Anemia is a lack of a normal number of red cells or of hemoglobin in the blood. The body needs iron to produce hemoglobin. The fetus growing inside a pregnant woman's uterus increases her normal need for iron and folic acid. Anemia often results. Frequent pregnancies and bleeding related to abortions or deliveries increase a woman's need for iron and may cause anemia. Hookworms and malaria may also cause anemia. A lack of iron and folic acid in a pregnant woman's diet can make anemia worse. Traditional beliefs sometimes keep a pregnant woman from eating foods that are rich in iron and folic acid.

A mild degree of anemia is common during pregnancy. Severe anemia can cause bleeding or heart failure during labor and delivery.

CLINICAL PICTURE

a. Presenting complaint

A woman with anemia may tell you that she *tires easily* or is *short of breath* when she walks.

b. Medical history

A woman who has had several pregnancies, abortions, or episodes of bleeding is at increased risk of developing anemia. Without treatment, her fatigue and weakness will continue until she can no longer work.

Ask about the woman's diet. Some traditional diets prohibit foods that are rich in iron and folic acid such as meats and green, leafy vegetables. Anemia may also be associated with malaria in areas where malaria is common.

c. Physical examination

An anemic woman will look pale. Her *conjunctivae*, *mucous membranes*, and *nail beds* will be *pale* or *white* if her anemia is severe.

Look for signs of heart failure, such as shortness of breath, rales in the lungs, and edema.

COURSE AND COMPLICATIONS

A woman with severe anemia may develop signs of heart failure during labor or delivery. Bleeding is a serious complication in a woman with severe anemia.

PATIENT CARE

- a. Look for the cause of the woman's anemia. Treat the cause.
- b. Tell the woman to take iron and folic acid tablets daily.
- c. Refer the woman to the hospital immediately if signs of severe anemia persist or if signs of heart failure develop. The woman should deliver in the hospital.

PREVENTION

Tell all pregnant and breast-feeding women to take iron and folic acid tablets. Encourage them to eat foods that are rich in iron and folic acid, such as meats and green, leafy vegetables.

Include sessions on nutrition in your community health education programs. Emphasize the need for increased amounts of nutritious food for pregnant women.

Provide preventive treatment for malaria to all pregnant women living in areas where malaria is common.

4.2 DIABETES

The changes that occur in the body of a pregnant woman can sometimes cause signs of diabetes. Care of diabetes during pregnancy is difficult. Babies born to diabetic women are often larger than normal. Stillbirths are common.

CLINICAL PICTURE

- a. Presenting complaint

A pregnant woman often has no complaint related to diabetes, unless she is a known diabetic.

- b. Medical history

Ask about a family history of diabetes. Ask about previous

pregnancies. A woman who has given birth to a large, stillborn baby or to a large baby who died soon after birth may have diabetes. A history of preeclampsia and excess fluid in the uterus is also common in women with diabetes.

Many diabetic women suffer repeated urinary tract, skin, and vaginal infections. Occasionally a woman may report symptoms of acute diabetes such as increased thirst, hunger, and urination.

c. Physical examination

Test for *sugar in the urine* if you suspect that the woman has diabetes. See Patient Care Procedures. Also check for signs of complications of diabetes, such as bacterial infections, excess fluid, and preeclampsia.

COURSE AND COMPLICATIONS

Without treatment, signs of severe diabetes, such as increased hunger, thirst, and urination, may develop. Coma and death may follow. Fetal death may occur late in pregnancy. A baby born to a diabetic woman is often unusually large and tends to have problems that require special care.

Pregnancy in a severely diabetic woman may cause the diabetes to progress and cause severe kidney and circulatory problems.

PATIENT CARE

Refer any pregnant woman with known diabetes to the hospital for prenatal care. She will need weekly follow-up checks and blood tests. Refer to the hospital any pregnant woman with signs of severe diabetes or with a family history of diabetes to the hospital. Refer any pregnant woman with a history of a large stillborn baby or a baby who died soon after birth.

Ask a pregnant woman who has no signs of diabetes other than a trace positive urine test for sugar to return to the health center for regular follow-up checks. Refer the woman to the hospital if the results become 1+ or higher.

All women with diagnosed diabetes should deliver in the hospital. The newborn needs special care.

Upon advice by a doctor, you may follow a mildly diabetic woman at home. Tell the woman to avoid sugar, honey, and sweets. Advise her to eat three balanced meals and one to three snacks a day. She should gain only twenty-five to thirty pounds during the pregnancy.

PREVENTION

Diabetes cannot be prevented. But proper child spacing practices can prevent pregnancies in severely diabetic women. An induced abortion may save the life of a pregnant woman with severe diabetes.

4.3 HEART DISEASE

Pregnancy makes the heart work harder. The physical stress of labor, delivery, and the adjustment period immediately after delivery also demands extra work from the heart. Normally, this extra work causes no problem. But if a pregnant woman is suffering from heart disease, her heart must work even harder. Heart disease may lead to heart failure and death during pregnancy or delivery.

CLINICAL PICTURE

a. Presenting complaint

A woman will often not know she has heart disease until she is examined. However, she may complain of *shortness of breath*, *fatigue*, and *swelling of her legs*.

b. Medical history

Ask about childhood and adult illnesses. A woman may have a history of rheumatic heart disease or of shortness of breath and fatigue when running or working hard. A woman with severe heart disease may have been diagnosed and treated in the past. She may have had an operation on her heart.

c. Physical examination

Look for *cyanosis*, or a bluish color, around the woman's *lips* and *fingertips*. Look for pallor and other signs of anemia. Anemia can increase the risk of heart failure. An examination of the heart may reveal *heart murmurs*. You may hear *rales in the lungs*.

Palpate the woman's liver. An *enlarged liver* may be a sign of heart failure. Check for edema of the arms and legs and fluid in the abdomen.

COURSE AND COMPLICATIONS

Signs and symptoms usually worsen as the pregnancy continues. Without treatment, the woman may die during or immediately after delivery.

PATIENT CARE

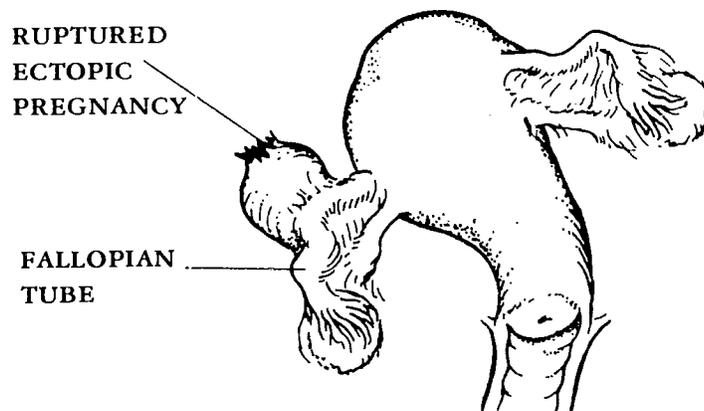
Refer any pregnant woman with signs of heart disease to the hospital for evaluation and follow-up. She should deliver in the hospital. An induced abortion may save the life of a pregnant woman with severe heart disease.

PREVENTION

Early diagnosis of heart disease during prenatal physical examinations will result in proper patient care and will help prevent deaths of pregnant women with heart failure. Early diagnosis and treatment of bacterial tonsillitis can help prevent heart disease. Supplemental iron and folic acid will prevent the worsening of heart disease symptoms associated with anemia. Anemia increases the risk of heart failure when the heart is weakened by disease.

4.4 ECTOPIC PREGNANCY

An ectopic pregnancy is a fertilized ovum that is growing outside the uterus, usually in a fallopian tube. A fetus cannot grow normally outside the uterus. The fetus separates from the placenta and causes severe pelvic bleeding. Rupture of the fallopian tube causes sudden, sharp lower abdominal pain. An ectopic pregnancy is a life-threatening emergency.



CLINICAL PICTURE**a. Presenting complaint**

A woman with an ectopic pregnancy will usually complain of **sudden, severe pelvic pain** and **bleeding** from the *vagina*. She may be in shock.

b. Medical history

Take a complete menstrual history. A woman with an ectopic pregnancy usually has **not had a menstrual period for one or two months**, or her menstrual bleeding has been very light. Lower abdominal pain may be severe.

c. Physical examination

A woman with an ectopic pregnancy will look ill and anxious. Her **lower abdomen** may be **tender** to palpation. Perform a limited pelvic examination. Do not do a bimanual examination. A bimanual examination may increase bleeding. The **cervix** will be **bluish, soft, and usually open**. You may notice some **bleeding** from the *cervix*.

Look for **signs of shock**, resulting from sudden, heavy blood loss. Signs of shock include low blood pressure, a weak but fast pulse, and clammy skin. A woman in shock may lose consciousness.

COURSE AND COMPLICATIONS

A ruptured ectopic pregnancy that is not treated immediately will result in death.

PATIENT CARE

Transfer the woman immediately to the hospital for an emergency operation to remove the fetus and placenta. If necessary, treat the woman for shock during the transfer. She will need blood transfusions at the hospital. Send relatives and friends to the hospital to give blood.

PREVENTION

Previous abdominal surgery and pelvic inflammatory disease increase the risk of ectopic pregnancy.

4.5 SEPTIC ABORTION

Abortion is the stopping of a pregnancy after the fertilized egg has attached to the uterine wall. An abortion can be either spontaneous or induced. A spontaneous abortion occurs naturally during the first twenty-eight weeks of pregnancy. A spontaneous abortion is also known as a miscarriage. An induced abortion is brought on intentionally. A septic abortion is an induced abortion associated with infection. A septic abortion can result in the death of the woman.

An abortion induced by a pregnant woman herself or by another untrained person can lead to septic abortion. Instruments, sticks, wires, or other unclean materials are put inside the uterus to cause the abortion. The unclean materials cause bleeding and infection. A septic abortion may also occur accidentally when an IUD is put into the uterus of a pregnant woman.

CLINICAL PICTURE

a. Presenting complaint

A woman with a septic abortion usually complains of *fever* and *bleeding from the vagina*.

b. Medical history

The woman may tell you that she asked someone to stop her pregnancy. She may tell you that she began to feel weak, sick, and feverish about six to twenty-four hours after the abortion. She may complain of mild pain in her lower abdomen.

The woman may be afraid to tell you that she asked someone to stop her pregnancy.

c. Physical examination

A woman with a septic abortion usually has a fever and a *rapid pulse*. Her blood pressure may be normal. Low blood pressure is

a sign of septic shock. The *lower abdomen* is often *tender to palpation*.

Perform a pelvic examination. Look for a *blood-tinged discharge from the cervix*. The *cervix* will be *soft, bluish*, and often *open*. You may see something stuck into the opening. The *uterus* will be *tender* and *slightly enlarged*.

COURSE AND COMPLICATIONS

Septic shock is the most serious complication of a septic abortion. The woman's blood pressure drops. Her heart and respiration rates speed up. Vomiting, chest pain, and abdominal swelling soon develop. Without treatment, septic shock may lead to death.

PATIENT CARE

- a. Remove any foreign object that you see in the woman's vagina or cervix. Place the woman in a semi-seated position to help drain the infected pelvic area.
- b. Transfer the woman to the hospital. Before the transfer, give her antibiotics quickly and in large doses to treat the infection. See Patient Care Guides.
- c. Treat septic shock or shock resulting from blood loss.

PREVENTION

Effective child spacing practices can help prevent septic abortion. A woman will not want to stop her pregnancies if she can decide when to have children and how many children to have.

In some countries, abortions are performed legally in hospitals. Well-trained persons use sterile instruments. In these cases, infections that threaten the lives of women usually do not occur.

4.6 PREECLAMPSIA AND ECLAMPSIA

Preeclampsia is a hypertensive disease that occurs during pregnancy. Preeclampsia occurs most often in young women who are giving birth for the first time. Mild preeclampsia consists of high blood pressure with edema and protein in the urine. Severe preeclampsia can cause symptoms related to high blood pressure, such as headaches, dizziness, vision problems, and abdominal pain. The disease is called eclampsia when convulsions occur. Its cause is unknown.

CLINICAL PICTURE

a. Presenting complaint

A pregnant woman with preeclampsia may complain of *headaches, vision problems, or swelling of her legs.*

b. Medical history

Preeclampsia usually occurs during the last three months of a woman's first pregnancy. The woman may have a history of high blood pressure. If she has been pregnant before, ask about a history of convulsions during previous pregnancies. She may also report a recent increase in swelling, vision problems, headaches, and abdominal pain.

c. Physical examination

Take the woman's vital signs. *Increased blood pressure* is the most important sign of preeclampsia. *A weight gain of more than one kilogram in two weeks* may be a sign of an increase in fluids that is also associated with preeclampsia.

Test the woman's urine. *Protein in the urine* is a sign of preeclampsia. Suspect preeclampsia especially if you detect no signs of a urinary tract infection.

Check for *swelling* of the *woman's face, hands, feet, or genital area.* Edema is a sign of preeclampsia.

COURSE AND COMPLICATIONS

Preeclampsia usually worsens as pregnancy progresses. Headaches, swelling, and visual problems increase. Tremors and convulsions

may occur. Preeclampsia that progresses to convulsions is eclampsia. Eclampsia can lead to fetal and maternal death.

PATIENT CARE

Check every pregnant woman's blood pressure and weight at each prenatal visit. Refer a woman to the hospital if her blood pressure rises above 140/90. Refer a woman to the hospital if she has other symptoms and signs of preeclampsia, such as weight gain, protein in the urine, headaches, or severe swelling of the face, hands, feet, or genital area.

A woman with signs of preeclampsia early in pregnancy may be advised to rest at home. Follow her condition. Check her blood pressure and weight weekly. Tell her to rest in bed several hours a day. She should lie on her side so that the weight of the fetus will not press on the large blood vessels that flow to her heart.

A woman with signs of preeclampsia should plan to deliver in the hospital. Her blood pressure may rise rapidly during labor and delivery. The woman will usually be advised to enter the hospital several days or even weeks before her expected date of delivery.

Treat eclampsia as a medical emergency. See Patient Care Guides.

4.7 FETAL DEATH

Fetal death is the death of the fetus in the uterus. Diabetes, syphilis, or a viral disease of the mother may cause fetal death. A genetic abnormality of the fetus or a combined abnormality between the mother and fetus may also cause fetal death. Fetal death may occur as a result of an accident or an attempted abortion. A fetus that has died in the uterus is called a stillborn.

CLINICAL PICTURE

a. Presenting complaint

The woman may tell you that the *fetus has stopped moving* or that her *uterus has stopped growing*. She may tell you about an accident or illness and ask you to check if her baby is all right.

b. Medical history

The woman may have had a *previous stillbirth*. She may be a *known diabetic* or have a *history of syphilis* or syphilis-like symptoms.

c. Physical examination

Listen carefully for fetal heart sounds. Compare the size of the uterus to the estimated fetal age.

Look for signs of disease such as sugar in the urine of a diabetic patient. Look for signs of septic shock, such as fever and chills, that may indicate an attempted abortion.

COURSE AND COMPLICATIONS

The dead fetus will eventually deliver but the woman risks infection if delivery does not occur right away. A woman will likely be anxious, concerned, and depressed after a fetal death.

PATIENT CARE

Refer the woman to the hospital for evaluation and care if you suspect a fetal death. Provide emotional support to the woman and her family.

4.8 BLEEDING EARLY IN PREGNANCY

Always consider vaginal bleeding during pregnancy a danger sign. The most common cause of bleeding early in pregnancy is a threatened miscarriage. An abnormality of the fetus, the placenta, or the woman's hormone system can cause a miscarriage. An infectious disease or severe trauma or shock can also cause a miscarriage.

CLINICAL PICTURE

a. Presenting complaint

A woman may complain of *increased or unusual bleeding not during her regular menstrual period*. She may or may not know she is pregnant.

b. Medical history

Ask for details about the woman's bleeding problem. She may report slight bleeding near her usual menstruation time. This

condition usually improves on its own. Heavy bleeding with cramping pain in the lower abdomen usually indicates that a miscarriage is occurring.

Bleeding with abdominal pain for several hours may be a sign of an incomplete miscarriage. Incomplete miscarriage occurs when the placenta is not expelled with the fetus. The retained tissue may cause heavy bleeding and symptoms of shock. Slight bleeding with lower abdominal pain may be a sign of an ectopic pregnancy.

c. Physical examination

Perform a pelvic examination. Look for signs of pregnancy. If the woman is pregnant, her *cervix* will be *bluish* and *soft*. Notice if the cervix is open or closed. Look for tissue or clots in the vagina or cervix. Note the amount of bleeding.

Monitor the woman's blood pressure, heart rate, and respiration. Look for signs of shock.

COURSE AND COMPLICATIONS

The pregnancy will probably continue if the cervix is closed and bleeding is slight. The pregnancy will probably be lost if the cervix is open and bleeding is heavy.

Prolonged heavy bleeding may indicate an incomplete miscarriage. Prolonged, heavy bleeding will lead to shock and threaten the woman's life.

PATIENT CARE

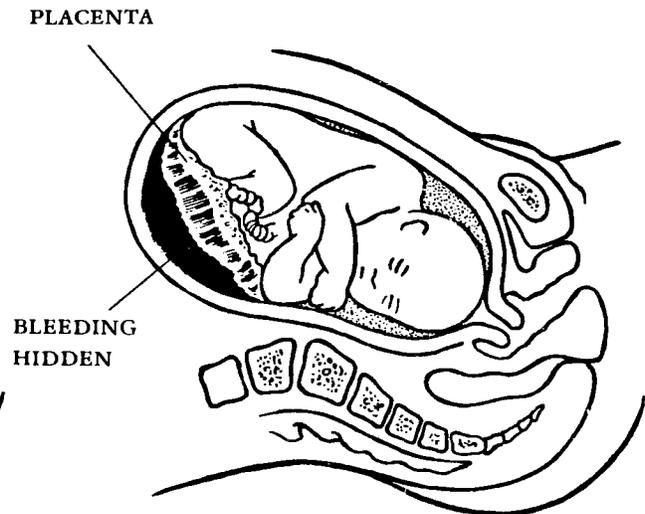
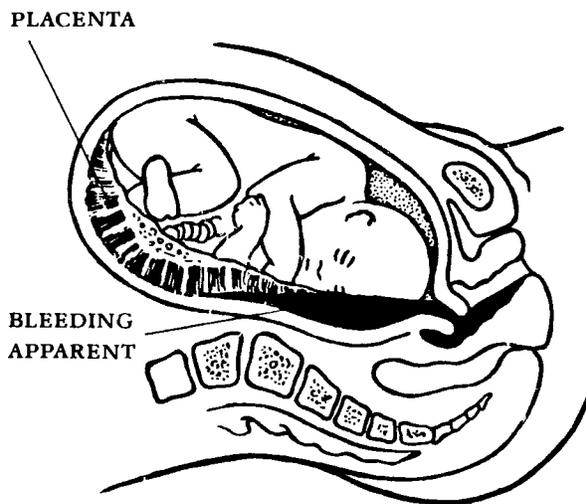
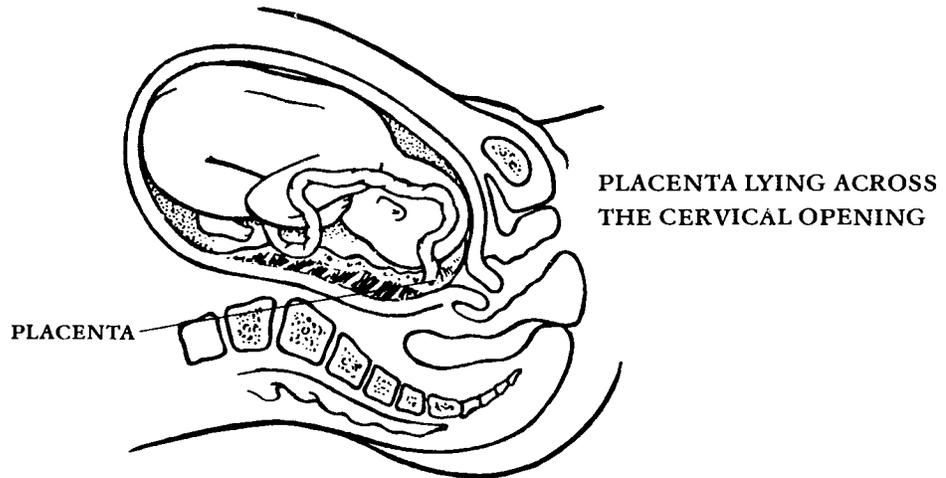
Advise pregnant women to report any vaginal bleeding immediately. If the woman's cervix is closed, recommend bed rest. Tell the woman to avoid sexual intercourse until the bleeding stops.

If the woman's cervix is open, transfer her to the hospital immediately. If bleeding is heavy, give ergonovine IM before the transfer. See Patient Care Guides. Start an IV with Ringer's lactate solution. Treat shock resulting from blood loss.

4.9 BLEEDING LATE IN PREGNANCY

Vaginal bleeding after twenty-eight weeks of pregnancy usually occurs when the placenta separates from the uterus before it should. Bleeding late in pregnancy is a serious threat to the lives of the woman and the fetus.

In some cases, the placenta lies across the cervical opening. The placenta is pulled away from the uterine wall as the cervix thins and dilates. Bleeding is sudden and painless. Bleeding caused by premature separation of a normally placed placenta will be very severe and may cause shock. The woman will complain of constant abdominal pain. Occasionally, bleeding is hidden inside the uterus. Vaginal bleeding, when it occurs, is sudden and heavy. The uterus feels tender and hard.



PREMATURE SEPARATION OF A NORMALLY PLACED PLACENTA

CLINICAL PICTURE**a. Presenting complaint**

A pregnant woman whose placenta has separated will have ***bright red vaginal bleeding***. She may report ***abdominal pain***. She may be in ***shock***.

b. Medical history

The onset of severe bleeding is usually sudden. In most cases, the woman will have a normal pregnancy history.

c. Physical examination

Check the woman's vital signs. She may be in shock. Do not perform a pelvic examination. Your examining hand may tear the placenta and cause even more bleeding.

The placenta may be blocking the cervix. Or, abdominal examination may reveal a ***hard, firm uterus*** if the placenta has separated early. Fetal heart sounds will be weak. Do not perform a pelvic examination if you suspect separation of the placenta with concealed bleeding.

COURSE AND COMPLICATIONS

Fetal death is common in cases of severe bleeding. Only prompt attention will prevent maternal death.

PATIENT CARE

Treat the woman for blood loss. Start an IV with Ringer's lactate solution. Transfer her as quickly as possible to the hospital. See Patient Care Guides.

4.10 MALARIA

The stress of pregnancy makes a woman more susceptible to malaria. A woman who lives in an area where malaria is common may have attacks during pregnancy. Malaria may cause the fetus to abort at any stage of pregnancy. Babies born to women with malaria are often smaller than normal.

CLINICAL PICTURE**a. Presenting complaint**

A pregnant woman with malaria may complain of *fever*. A woman who lives in an area where malaria is common will describe mild symptoms of the disease. A woman who lives in an area where malaria is not common will describe the typical symptoms of an acute malaria attack.

b. Medical history

A woman who lives in an area where malaria is common may report some fever. A woman who lives in an area where malaria is not common may report *episodes of high fevers with shaking chills*.

c. Physical examination

Take the woman's vital signs. A woman who lives in an area where malaria is common may have a temperature just above normal. A woman who lives in an area where malaria is not common may have a *high temperature*. Look for signs of *anemia, jaundice*, and heart failure.

COURSE AND COMPLICATIONS

Malaria patients often develop severe anemia. Anemia can lead to heart failure. Miscarriages are also common among malaria patients. Without treatment, a woman with malaria can die during labor.

PATIENT CARE

If you suspect malaria, refer the woman to the hospital for treatment. Give extra folic acid to women with anemia resulting from malaria. See Patient Care Guides.

PREVENTION

Give extra folic acid to pregnant women living in areas where malaria is common. Also give preventive malaria treatment during the last three months of pregnancy.

4.11 SICKLE CELL DISEASE

Sickle cell disease occurs among people of African descent. A person with sickle cell disease cannot make normal hemoglobin. His red blood cells become shaped like sickles.

Pregnancy makes sickle cell disease worse. Sickle cell crises occur more often and are more severe during pregnancy. Miscarriages and stillbirths are common. Babies born to women with sickle cell disease are often smaller than normal.

CLINICAL PICTURE

a. Presenting complaint

A woman in sickle cell crisis will complain of *severe pain* in her *bones or joints*.

b. Medical history

Most women with sickle cell disease will report a history of *repeated attacks* of bone pains *since childhood*.

c. Physical examination

Look for *signs of anemia*, such as pale mucous membranes, conjunctivae, and nail beds. Examine the woman for *jaundice*. Severe sickle cell disease may also cause *deformities of the bones* and *swollen joints*.

COURSE AND COMPLICATIONS

Severe anemia and infections may develop. Prolonged labor may cause severe crises requiring IV fluids and transfusions. Hypertension may also occur.

PATIENT CARE

Give the women with sickle cell disease large doses of folic acid during pregnancy. Refer pregnant women with sickle cell disease to the hospital for care. They should plan to deliver in the hospital.

The woman in sickle cell crisis needs extra fluid. Give her fluids intravenously and transfer her to the hospital. Continue IV fluids during the transfer. See Patient Care Guides.

PREVENTION

Taking folic acid three times a day throughout pregnancy may decrease the number and severity of sickle cell crises.

REVIEW QUESTIONS

Pregnancy Problems

1. A pregnant woman comes to the prenatal clinic. You notice that she looks pale. Her conjunctivae and mucous membranes are also pale. Her nail beds and tongue are pale. What condition do you suspect? How should you care for this woman?
2. TRUE (T) or FALSE (F)
___ Diabetes cannot be prevented.
3. How can you diagnose diabetes in a pregnant woman?
4. A pregnant woman has no signs of diabetes other than a positive urine test for sugar of 1 + or higher. What should you do?
5. Why is heart disease during pregnancy considered a high risk factor?
6. TRUE (T) or FALSE (F)
___ In examining a pregnant woman with suspected heart disease, look for pallor. Anemia can increase the risk of heart failure.
7. Describe how to prevent heart disease and some of its complications.

8. What is an ectopic pregnancy?

9. What is the most common presenting complaint of a woman with an ectopic pregnancy?

10. Describe how to care for a woman with a suspected ectopic pregnancy.

11. A woman whom you have seen recently in the prenatal clinic comes to the health center with vaginal bleeding and fever. Her lower abdomen is tender to palpation. A pelvic examination reveals a blood-tinged discharge from the cervix. The cervix is open. What condition do you suspect? How should you care for the woman?

12. What symptoms and signs of preeclampsia might you find during a prenatal medical history and physical examination?

13. TRUE(T) or FALSE(F)
_____ High blood pressure is the most important sign of preeclampsia.

14. You are called to a woman's home for an emergency. The woman is twenty-two years old. She is lying down and is in obvious discomfort. Her skin is cool and damp. She is not fully responsive. Her blood pressure is 90/50. She has severe abdominal pain. The family tells you that the woman is married and has a two-year-old child. Her abdominal pain started quite suddenly. She has

missed three menstrual periods, but has had some light bleeding for the last two weeks.

What is the most likely diagnosis?

15. Describe the patient care for a pregnant woman with a blood pressure reading of 140/90 or higher.

16. Circle the letter of your answer. If eclampsia occurs, the woman should be:
 - a. Advised to spend several hours resting in bed
 - b. Given antibiotics
 - c. Treated as an emergency

17. Explain some of the causes of fetal death.

18. A woman in her fourth month of pregnancy complains of vaginal bleeding and abdominal pain. You find that the woman's bleeding has been heavy and prolonged and that the abdominal pain has lasted several hours. The woman's cervix is open. What problem do you suspect? How should you care for the woman?

19. Circle the letter of your answer. Bleeding after twenty-eight weeks of pregnancy is usually caused by:
 - a. The placenta separating from the uterine wall
 - b. A cervical laceration
 - c. Preeclampsia

20. Describe how you should care for a woman suffering from premature separation of the placenta.

21. TRUE (T) or FALSE (F)
____ The stress of pregnancy makes a woman more susceptible to malaria.
22. What steps can you take to help prevent malaria in the pregnant women of your community?
23. Circle the letter(s) of your answer. Which of the following may be signs of sickle cell disease in a pregnant woman?
- a. Pale mucous membranes, conjunctivae, and nail beds
 - b. Skin rash
 - c. Bone deformities
 - d. Swollen joints
24. Describe how to care for pregnant women with sickle cell disease.

Unit 5

Sharing Health Messages about Prenatal Care

STUDENT GUIDE

OBJECTIVES

1. Explain the importance of sharing health messages about prenatal care with pregnant women.
2. List health messages related to prenatal care and pregnancy that you can share with pregnant women and possible ways to share these messages.
3. Describe how to use small group discussions to share health messages about prenatal care.
4. Demonstrate how to use small group discussions to share health messages about prenatal care.

LEARNING ACTIVITIES

1. Listen to an instructor presentation on the importance of sharing health messages about prenatal care with pregnant women.
2. Work in a group to prepare a presentation on sharing health messages about prenatal care.
3. As a group, demonstrate how you might share health messages about prenatal care with pregnant women.
4. Take part in a class discussion of the advantages of using small group discussion to share health messages about prenatal care.
5. Observe or participate in a role-play demonstration of how to conduct a small group discussion.
6. Take part in a class discussion of the session's activities.

5.1 SHARING HEALTH MESSAGES ABOUT PRENATAL CARE

Prenatal care helps pregnant women deliver live, healthy babies. Prenatal care consists of supportive, preventive, and patient care. Part of providing supportive and preventive prenatal care is sharing health messages with pregnant women.

Health messages about prenatal care help prepare a pregnant woman for the birth and care of her child. Information about the process of pregnancy and delivery, the importance of self-care during pregnancy, the advantages of breast-feeding, preparation for a home delivery, and preparation for a new baby is important to pregnant women. What are some health messages that are important to share with pregnant women? List the messages here.

- a. _____
- b. _____
- c. _____
- d. _____

Here are some health messages that you may have listed.

1. A woman's body changes during pregnancy. Her stomach and breasts grow. Some women also suffer from nausea during early pregnancy.
2. Labor is the natural process by which the fetus is pushed out of the uterus. Women having their first baby usually have longer labors than women who have given birth before.
3. A woman who is healthy and has no problems that might complicate pregnancy can usually deliver at home.

4. A pregnant woman needs extra food. She must eat enough to feed herself and the fetus growing inside her. She should be sure to eat foods that contain lots of protein and iron, such as meats, eggs, beans, and green, leafy vegetables.
5. A pregnant woman should rest at least one hour a day with her feet up.
6. Breast milk is the best food for a new baby. Breast milk helps protect the baby against sicknesses and infections.
7. A pregnant woman can prepare her breasts for breast-feeding. She can pull her nipples out and massage them between her fingers with cold water.
8. A pregnant woman can prepare for a home delivery. She and her family can gather the supplies for the delivery such as a clean mat or bed clothes, sanitary pads or clean pieces of cloth, a bar of soap, and cord cutting instruments.
9. A pregnant woman can prepare for her new baby. She can gather bedding and clothing for the newborn and talk with her family about help in the home once the baby is born.

You can share these messages with pregnant women in many ways. Sharing health messages with a small group of pregnant women is one of the best ways. Pregnant women feel comfortable discussing ideas with women like themselves. Follow these guidelines for using small group discussions to share health messages.

Meet in an Informal Setting

Make the setting for the discussion as informal as possible. Arrange chairs, mats, or pillows in a circle. Make sure that you are part of the circle, too. Standing up in front of the group will make the discussion seem formal. The women will not feel relaxed.

Explain the Purpose of the Discussion

Choose a topic for discussion, such as the process of pregnancy and delivery, or the importance of self-care during pregnancy. Tell the women that the purpose of the discussion is to learn from each other. Explain that no one knows everything about prenatal care and that everyone knows something. Each woman will have things to learn and will also have information to share with the others.

Ask Questions

Although you will be sharing information with the women about prenatal care, you will also be guiding the discussion and encouraging the women to share what they already know. Guide the discussion by asking questions. Different kinds of questions have different purposes.

a. Closed questions

A closed question focuses the discussion on one point. A closed question requires a short, exact answer. “What is labor?” is a closed question. It focuses discussion on the topic of labor. Ask closed questions to bring out specific facts or to introduce new subjects.

b. Open questions

An open question allows for several different, usually long, answers. An example of an open question is, “What should a woman do during pregnancy to ensure a healthy baby?” An open question forces the group to think. It encourages the women to give their opinions. An open question brings out new ideas for the group to discuss. Encourage each woman in the group to answer open questions. Ask the women to explain their views.

c. Redirected questions

A redirected question allows a group member to answer a question that was directed to you. Redirected questions give the group the responsibility for thinking a problem through rather than relying on you for all of the answers. An example might be: “Mrs. Diaz has asked me what foods she should eat during her pregnancy and why. Does anyone know the answer to her question?” This type of question directs attention to the group and away from you. It asks all of the women to think about the question and to remember what they have learned so far about nutrition during pregnancy. Share what you know only if the answer does not come from the group.

Summarize Discussion

At the end of a long discussion of a question, summarize what was said. Emphasize important ideas. Avoid introducing new ideas of your own.

Acknowledge Different Viewpoints

Be sure to acknowledge the different viewpoints of the women during the discussion and to introduce facts that will help to clarify difficult points. If sensitive issues come up that the group is not comfortable discussing, suggest that individuals discuss these issues with you after the session.

Use Visual Aids

Stimulate small group discussion with pictures, flash cards, and flip charts. Use these visual aids to introduce new subjects and to reinforce important ideas.

In summary, small group discussions can be an effective way to share health messages about prenatal care. As the discussion leader, remember to:

- a. Encourage all of the women in the group to express ideas and experiences
- b. Introduce factual information when needed
- c. Ask different types of questions to guide the discussion
- d. Make occasional summaries without adding your own ideas
- e. Be patient and give the women the opportunity to think for themselves. They, not you, should do most of the talking

Once you have shared health messages about prenatal care with a group of women, make some home visits to see if they are practicing good prenatal care. Or, during their regular prenatal visits, ask what they are doing to care for themselves during pregnancy. Remember that sharing prenatal information with the pregnant women in your community is an important way to provide supportive and preventive prenatal care. Remind women that taking good care of themselves during pregnancy builds the foundation for healthy children.

REVIEW QUESTIONS

Sharing Health Messages about Prenatal Care

1. What kind of information is important to pregnant women?
2. Why is a small group discussion a good way to share health messages about prenatal care?
3. TRUE (T) or FALSE (F)
____ The setting for a small group discussion should be as formal as possible. Arrange the chairs, mats, or pillows in straight rows.
4. Briefly describe the three types of questions you can use to guide a small group discussion.
5. What should you do if the discussion group members become uncomfortable with the topic or with any of the issues that come up?
6. How can you find out if the women with whom you have shared prenatal health messages actually learned the information?

Unit 6

Assessing Pregnant Women; Skill Development

STUDENT GUIDE

OBJECTIVES

1. Take and record a prenatal medical history.
2. Perform and record a prenatal physical examination
3. Identify high risk pregnancies

LEARNING ACTIVITIES

Take part in one week of skill development practice in a maternal and child health or outpatient clinic. This week of skill development coincides with the one week of skill development for the Postnatal Care module.

Unit 7

Providing Prenatal Care; Clinical Rotation

STUDENT GUIDE

ENTRY LEVEL

Before starting your clinical experience, you must:

1. Score at least 80% on a test of your knowledge about prenatal care.
2. Earn at least two Satisfactory ratings on how you:

Take and record a prenatal medical history
Perform and record a prenatal physical examination
Identify high risk pregnancies

OBJECTIVES

1. Provide supportive prenatal care, preventive prenatal care, and patient care for common conditions during pregnancy.
2. Identify high risk pregnancies and provide patient care according to the procedures outlined in the Prenatal Care module and the Patient Care Guides.
3. Advise pregnant women seeking prenatal care about the process of pregnancy and delivery, self-care during pregnancy, and preparations for the delivery and care of a newborn.
4. Share health messages about prenatal care with groups of pregnant women.

LEARNING ACTIVITIES

You will provide supervised prenatal care for one month in a maternal and child health or outpatient clinic. You will use the Diagnostic and Patient Care Guides to identify high risk pregnancies and provide appropriate patient care.

EVALUATION Level II

When you feel that you have had enough experience, ask your supervisor to evaluate you. He will do this using a log book. The log book contains a list of the prenatal care procedures that you need to learn as well as the pregnancy problems that you must recognize and manage. As your supervisor watches you care for a pregnant woman, he will write his rating in the log book. He will rate you in the following way on your performance:

- 1 = Diagnosis incorrect
- 2 = Diagnosis correct, treatment incorrect
- 3 = Diagnosis and treatment correct, but no patient advice given
- 4 = Diagnosis, treatment, and patient advice correct

You will be expected to get at least two Satisfactory ratings for the procedures and at least two ratings of 4 for pregnancy problems that you see.

Unit 8

Helping Pregnant Women Prevent and Care for Pregnancy Problems; Community Phase

STUDENT GUIDE

ENTRY LEVEL

Before you start your community experience, you must:

1. Score at least 80% on a written test of your knowledge about prenatal care.
2. Complete a month of clinical experience in a maternal and child health or outpatient clinic.
3. Earn at least two Satisfactory ratings for taking a prenatal medical history and performing a prenatal physical examination.
4. Earn at least two Satisfactory ratings for sharing health messages about prenatal care with pregnant women in the community or clinic.
5. Score at least two ratings of 4 for diagnosing and providing patient care for the pregnancy problems you see during your clinical experience.

OBJECTIVES

1. Provide supportive prenatal care, preventive prenatal care, and patient care for common conditions during pregnancy.
2. Identify high risk pregnant women and arrange for special prenatal care.
3. Advise pregnant women in the community about the process of pregnancy and delivery, self-care during pregnancy, and preparations for the delivery and care of a newborn.
4. Identify and prepare other members of the health team who can help provide prenatal care and identify high risk pregnancies.

LEARNING ACTIVITIES

1. Provide prenatal services for pregnant women in the community.
2. Survey the community to identify the number of pregnant women.
3. Identify local customs and practices that increase or decrease the occurrence of pregnancy problems.
4. Advise pregnant women in the community about the importance of prenatal care and ways that they can ensure a safe pregnancy and a healthy baby.
5. Prepare a community health worker to help provide prenatal care to pregnant women in the community.

EVALUATION Level III

During your community experience, your supervisor will evaluate you. To do this, he will use the standards set out in the log book.

The MEDEX Primary Health Care Series

**LABOR AND
DELIVERY**

Student Text

© 1983

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

Library of Congress Catalog Card No. 83-80675

First Edition

Printed in U. S. A.

Any parts of this book may be copied or reproduced for non-commercial purposes without permission from the publisher. For any reproduction with commercial ends, permission must first be obtained from the Health Manpower Development Staff, John A. Burns School of Medicine, University of Hawaii, 1960 East-West Road, Honolulu, Hawaii 96822.

FUNDED BY THE U. S. AGENCY FOR INTERNATIONAL DEVELOPMENT CONTRACT NO. DSPE-C-0006. The views and interpretations expressed are those of the Health Manpower Development Staff and are not necessarily those of the United States Agency for International Development.

TABLE OF CONTENTS

TASK ANALYSIS TABLE	8
SCHEDULE	15
INTRODUCTION	17

UNIT 1

History and Physical Examination of a Woman in Labor

Student Guide	20
Taking the Medical History of a Woman in Labor	22
Performing a Physical Examination of a Woman in Labor	23
Review Questions	29
Skill Checklist	31

UNIT 2

Labor and Delivery

Student Guide	37
Delivery in a Home	39
Delivery in a Health Center	40
Labor	40
The Progress of Labor	41
The First Stage of Labor	42
The Second Stage of Labor	42
The Third Stage of Labor	50
Review Questions	54
Skill Checklists	57

UNIT 3

Common Problems of Labor and Delivery

Student Guide	85
Fetal Distress	87
Maternal Distress	88
Urine in the Bladder	90
Premature Labor	91
Incomplete Fetal Rotation	92
Small or Abnormally Shaped Pelvis	93
Early Rupture of the Bag of Waters	94
Retained Placenta	96
Prolonged Labor	96
Breathing Problems of a Newborn	97
Review Questions	99
Review Exercise	101
Skill Checklist	102

UNIT 4

Abnormal Presentations during Delivery

Student Guide	105
Face-Up Presentation	106
Face Presentation	107
Breech Presentation	108
Transverse Presentation	110
Multiple Pregnancy	111
Review Questions	113
Review Exercises	115
Skill Checklists	118

UNIT 5

Emergencies during Labor and Delivery

Student Guide	132
Prolapse of the Cord	133
Rupture of the Uterus	134

Preeclampsia or Eclampsia	135
Bleeding	136
Postpartum Bleeding	137
Emergencies in a Newborn	138
Review Questions	140

UNIT 6

Assessing a Woman in Labor and Assisting Labor and Delivery; Skill Development

Student Guide	142
---------------	-----

UNIT 7

Assisting Labor and Delivery; Clinical Rotation

Student Guide	143
---------------	-----

UNIT 8

Assisting Labor and Delivery in a Community; Community Phase

Student Guide	145
---------------	-----

TASK ANALYSIS TABLE

MANAGING LABOR AND DELIVERY

Work Requirements <i>DUTIES</i>	Training Requirements	
	<i>SKILLS</i>	<i>KNOWLEDGE</i>
<p>The MLHW will:</p> <ol style="list-style-type: none"> 1. Take and record a labor history of all women in labor 	<p>The MLHW trainee will demonstrate his ability to:</p> <ol style="list-style-type: none"> 1.1 Question the woman about her labor 1.2 Record the woman's labor history on a labor chart 	<p>The MLHW trainee will demonstrate his knowledge of:</p> <ol style="list-style-type: none"> 1.1.1 How to question a woman about her labor 1.1.2 Information needed to complete the history of a woman in labor: <ul style="list-style-type: none"> When the woman's labor pains began and how often they come Whether the woman has been examined at a prenatal clinic Whether the woman has had any bloody show Whether the woman's bag of waters has broken When the woman last ate When the woman last passed stool Whether the woman has taken any medicine or treatment to increase or decrease her labor

Work Requirements DUTIES	Training Requirements	
	SKILLS	KNOWLEDGE
<p>2. Give women in labor a complete physical examination</p>	<p>2.1 Give each woman in labor a general physical examination and record the findings on a labor chart</p> <p>2.2 Give each woman in labor an abdominal examination and record the findings on a labor chart</p> <p>2.3 Give each woman in labor who does not have any vaginal bleeding a vaginal examination and record the findings on a labor chart</p>	<p>Whether the woman has a traditional birth attendant, the name of the traditional birth attendant, and whether the traditional birth attendant can assist with the labor and delivery</p> <p>Whether the woman has bled from her vagina</p> <p>1.2.1 How to use a labor chart</p> <p>2.1.1 How to do a screening physical examination for a woman in labor</p> <p>2.1.2 Signs and symptoms of labor</p> <p>2.2.1 How to do an abdominal examination for a woman in labor</p> <p>2.3.1 How to do a vaginal examination for a woman in labor</p> <p>2.3.2 Normal anatomy and physiology of the female reproductive system</p>

<p style="text-align: center;">Work Requirements</p> <p style="text-align: center;"><i>DUTIES</i></p>	<p style="text-align: center;">Training Requirements</p>	
	<p style="text-align: center;"><i>SKILLS</i></p>	<p style="text-align: center;"><i>KNOWLEDGE</i></p>
<p>3. Give women in labor physical and emotional support and care</p>	<p>3.1 Demonstrate interest and understanding of the importance of the birth to the woman and her family</p> <p>3.2 Help the woman in labor keep clean during her labor</p> <p>3.3 Help the woman in labor pass stool if she has not done so in the last twelve hours</p> <p>3.4 Help the woman in labor pass her urine at least every three hours</p>	<p>3.1.1 The importance of remaining calm and reassuring even if others are upset or disturbed</p> <p>3.2.1 The importance of cleanliness and sterility during labor and delivery</p> <p>3.3.1 How to give a low enema</p> <p>3.4.1 How to catheterize a woman in labor, if necessary</p>
<p>4. Check the progress of women in labor</p>	<p>4.1 Auscultate the abdomen of a woman in labor for fetal heart sounds</p> <p>4.2 Observe and palpate the abdomen of a woman in labor for the position of the fetus</p> <p>4.3 Observe the pelvic area for any bloody show and rupture of the membranes</p>	<p>4.1.1 Normal fetal heart sounds</p> <p>4.1.2 Signs of fetal distress</p> <p>4.2.1 Normal fetal positions and their relationships to labor and delivery</p> <p>4.2.2 Normal progression of labor</p> <p>4.2.3 Signs of maternal distress</p> <p>4.3.1 Considerations involved with rupture of membranes</p>

Work Requirements DUTIES	Training Requirements	
	SKILLS	KNOWLEDGE
<p>7. Provide care for mothers after delivery</p> <p>8. Give newborns a physical examination immediately after delivery</p> <p>9. Manage common problems of labor and delivery</p>	<p>7.1 Help deliver the placenta</p> <p>7.2 Inspect the placenta</p> <p>7.3 Massage the woman's uterus</p> <p>7.4 Inspect the birth canal for signs of trauma</p> <p>7.5 Suture any perineal lacerations and episiotomy incisions</p> <p>8.1 Assess the condition of the newborn</p> <p>9.1 Recognize and manage the following common problems which occur during labor and delivery: Early rupture of the membranes Urine in the bladder Premature labor Retained placenta Incomplete fetal rotation</p>	<p>7.1.1 General considerations involved in the delivery of the placenta</p> <p>7.2.1 Normal anatomy of the placenta</p> <p>7.3.1 Indications for uterine massage</p> <p>7.3.2 Method for uterine massage</p> <p>7.4.1 Signs of birth trauma such as lacerations and bleeding</p> <p>7.5.1 How to repair episiotomies and perineal lacerations</p> <p>8.1.1 How to assess the condition of a newborn using the APGAR score</p> <p>9.1.1 How to prevent or treat infection of the fluids around a fetus</p> <p>9.1.2 How to pass a catheter for a woman in labor</p> <p>9.1.3 How to manage premature labor</p> <p>9.1.4 How to manually remove a placenta</p>

Work Requirements DUTIES	Training Requirements	
	SKILLS	KNOWLEDGE
<p>10. Manage complications and emergencies during labor and delivery</p>	<p>9.2 Recognize and refer, if possible, the following common problems: Prolonged labor Fetal distress Maternal distress Small or abnormally shaped pelvis</p> <p>10.1 Recognize and manage the following abnormal presentations: Face-up presentation Face presentation</p> <p>10.2 Recognize and refer, if possible, the following abnormal presentations: Breech presentation Transverse presentation Multiple pregnancy</p> <p>10.3 Recognize and refer the following emergencies of labor and delivery: Prolapse of the cord Rupture of the uterus</p>	<p>9.1.5 How to manage a transverse position of a fetus' head</p> <p>9.2.1 Possible causes of prolonged labor</p> <p>10.1.1 How to manage a face-up presentation</p> <p>10.1.2 How to manage a face presentation</p> <p>10.2.1 How to manage a breech presentation if you cannot refer the mother to a hospital</p> <p>10.2.2 How to manage a multiple pregnancy if you cannot refer the mother to a hospital</p> <p>10.3.1 How to transfer a woman who is experiencing prolapse of the cord to a hospital</p> <p>10.3.2 How to treat a woman with a ruptured uterus for shock</p>

Work Requirements

DUTIES

Training Requirements

SKILLS

KNOWLEDGE

Preeclampsia or eclampsia
Bleeding
Postpartum bleeding

10.3.3 How to give emergency
treatment for convulsions
10.3.4 How to treat for blood loss
10.3.5 How to manage a uterus
which does not contract after
delivery

SCHEDULE
LABOR AND DELIVERY

DAY 1	DAY 2	DAY 3	DAY 4
History and physical examination of a woman in labor	Labor and delivery	Common problems of labor and delivery	Abnormal presentations during delivery
Assessing a woman in labor; clinical observation and practice	Assisting labor and delivery; clinical observation and practice	Assisting labor and delivery; clinical observation and practice	Assisting labor and delivery; clinical observation and practice

DAY 5			
Emergencies during labor and delivery			
Assisting labor and delivery; clinical observation and practice Posttest			

Skill development: one week
Clinical rotation: one month
Community phase: three months

Introduction

You have studied the Anatomy and Physiology, Medical History, Physical Examination, and Prenatal Care modules. What you learned has prepared you for the study of labor and delivery. Before you start this module, be sure you know:

The normal anatomy and physiology of the female reproductive system

The normal changes in a woman's body during pregnancy

How to take and record a medical history

How to perform a pelvic examination and a complete physical examination

If you are not sure how well you know this information or can do these procedures, review them before you go on.

LEARNING ACTIVITIES

Activities in this module will help you learn how to assist a woman during labor and delivery of her child. These activities will take place in a classroom, hospital clinic, health center, or home.

Your schedule shows you when the learning activities will occur. Student Guides in front of each unit tell you more about what you will be expected to do. The units will be taught in order, from Unit 1 to Unit 5. Your instructor will make special arrangements for Units 6, 7, and 8 which will take place in a clinic and a community.

This training program can succeed only if you take an active part. Prepare for each session. Before each session:

Read the Student Text and answer the review questions that go with it

Read the Patient Care Procedures referred to in each unit

Write down questions to ask your instructor about any part of the lesson you do not understand

In class the instructor will answer the review questions and any other questions you have.

EVALUATION

This training program will help you build your knowledge and skills. Regular evaluations will allow your instructor to watch your progress. If your progress does not meet the standard, you will be given more time to learn the subject. Your instructor will use the clinical and community performance records to measure your progress. Look at these performance records to prepare for your evaluations.

EVALUATION Level I

After five days of classroom and clinical experiences related to labor and delivery, you must be able to pass a written test of your knowledge with a score of 80% or higher.

After another week of clinical experience, you must receive two Satisfactory ratings on your ability to:

- Take and record a woman's labor history
- Perform and record the findings of a physical examination of a woman in labor, including an abdominal examination and a vaginal examination
- Assist a labor and delivery

EVALUATION Level II

You will have one month of clinical practice. During this time, you will be evaluated on your ability to:

- Provide physical and emotional support and care to a woman in labor
- Monitor the progress of a woman's labor
- Assist in a delivery
- Perform an episiotomy
- Provide immediate care for the newborn
- Cut the umbilical cord
- Determine a newborn's APGAR score
- Provide care for the mother after delivery, repairing an episiotomy and any perineal lacerations

EVALUATION Level III

During the three-month community phase of your training, a supervisor will observe your performance and rate your skill in:

Assessing women in labor

Providing physical and emotional support and care during labor

Monitoring labor

Performing episiotomies and repair of episiotomies and perineal lacerations

Providing care for the mother and newborn after delivery

A supervisor will also observe your performance and rate your skill in identifying women in the community who are near labor, advising them about the importance of a safe and clean delivery, and identifying and preparing other members of the health team with whom you may work to ensure safe labors and deliveries

Your clinical and community performance records list the number of acceptable ratings you must earn for each activity. Two additional duties listed in the Task Analysis Table also will be part of your job as a mid-level health worker. These are:

Managing common problems of labor and delivery

Managing complications and emergencies during labor and delivery

Because complications and emergencies of labor and delivery do not often arise, not every student will see to all of the common problems, complications, and emergencies discussed in this module. Therefore, you will not be evaluated on your skill at managing these problems but only on your knowledge of how to manage them.

Unit 1

History and Physical Examination of a Woman in Labor

STUDENT GUIDE

OBJECTIVES

1. Demonstrate how to take and record the medical history of a woman in labor.
2. Demonstrate how to perform a general examination, an abdominal examination, and a vaginal examination of a woman in labor.
3. Demonstrate how to use a labor chart.

LEARNING ACTIVITIES

1. Take part in a review of the Task Analysis Table.
2. Take part in a discussion of this unit, using the review questions for discussion.
3. Observe a role-play in which the instructor demonstrates how to take the history of a woman in labor.
4. Take part in a role-play in which a health worker takes the medical history of a woman in labor and records the information on a labor chart.
5. Outline a plan for caring for a woman in labor.
6. Discuss your group's work.
7. Observe an instructor's demonstration of a general examination, an abdominal examination, and a vaginal examination of a woman in labor. Record the instructor's findings on a labor chart.
8. Discuss the instructor's demonstration.
9. Take part in an informal question and answer session about assessing a woman in labor.

- 10. In a clinical setting, observe and practice the procedures for assessing a woman in labor.**
- 11. Join three or four students in a hospital, clinic, or home where you can observe and assist in a labor and delivery during one evening.**

1.1 TAKING THE MEDICAL HISTORY OF A WOMAN IN LABOR

When you take a medical history of a woman in labor, ask these questions:

“When Did Your Labor Pains Begin? How Often Do They Come?”

The length and frequency of labor pains will give you an idea of when to expect the woman to deliver. A woman's first labor may last from ten to twenty hours. If the mother has had other deliveries, her labor may last from seven to ten hours. Early labor pains may be fifteen to twenty minutes apart. The pains will come every three to five minutes as the labor progresses.

“Have You Been Examined at a Prenatal Clinic?”

If the woman has been to a prenatal clinic, review her Maternity Card. Her record will help you predict how the delivery will progress.

A woman who has had a prenatal examination and prenatal care often will have fewer problems than a woman who has not. Assess the general condition of a woman who has not had any prenatal examination. Take her prenatal history. Review her past pregnancies. Note any prenatal problems and medical conditions she can tell you about.

“Has Your Bag of Waters Broken?”

The bag of waters that surrounds the fetus breaks in early labor. The rush of waters that occurs is a sign that labor has begun or will soon begin.

“Have You Had Any Bloody Show?”

Bloody show is a spot of blood and mucus that comes out of the cervix during early labor. The woman may see the spot, or bloody show, on her underclothing. Bloody show is another sign of early labor.

“When Did You Last Eat?”

Labor may cause a woman with a full stomach to vomit. For this reason, a woman should not eat during labor.

“When Did You Last Pass a Stool?”

Stool in a woman’s rectum makes a woman’s delivery more difficult. A pregnant woman should try to pass stool within a few hours before her labor begins. You may have to give an enema to a woman who has not passed stool for twelve hours.

“Have You Taken Any Medicine or Treatment to Increase or Decrease Your Labor?”

A woman may have taken medicine for her labor pains. A traditional birth attendant may have given her some local medicine. You should know what medicine or treatment the woman has had.

“Do You Have a Traditional Birth Attendant? What Is Her Name? Can She Assist With Your Labor?”

Meet the woman’s traditional birth attendant if you can. The traditional birth attendant can give you additional history. You will have an opportunity to share information with her. You will also have an opportunity to convince her to work with you and learn from you.

“Have You Bled From Your Vagina?”

Decide whether any bleeding is normal bloody show or a more serious kind of bleeding. Bleeding during labor is a sign of serious problems. You will refer women who bleed from their vagina to a hospital.

1.2 PERFORMING A PHYSICAL EXAMINATION OF A WOMAN IN LABOR

The physical examination of a woman in labor focuses on the changes that occur at the start of labor and during labor. You examine a woman in labor to determine:

- The stage of her labor

- The presenting part of the fetus

- Any problems that might affect the safety of the woman or the fetus

A woman in labor needs a complete general physical examination and special examinations of her abdomen and vagina.

General Physical Examination

A general physical examination will allow you to find any new problems or any problems that you might have missed in prenatal visits. This examination is even more important for a woman who has not had a prenatal examination. You must determine all of the problems that should have been handled prenatally and make a decision about how to handle them.

Abdominal Examination

An abdominal examination will help you to determine the stage of labor, the progress of labor, and the condition of the fetus.

Perform an abdominal examination as soon as you see the woman in labor. Describe the steps of the examination and explain the reasons for the examination to the woman. Ask her to pass urine so her bladder will be empty. You will not be able to accurately feel the fetus if the woman has a full bladder. Parts of the examination will be repeated several times during labor.

Vaginal Examination

Perform a vaginal examination to determine the progress of labor and whether the fetal head is descending. Vaginal examinations are repeated only when absolutely necessary. The examination increases the risk of infection in the vagina, cervix, and uterus. Also, remember that once you have inserted your fingers into the woman's vagina, you should not withdraw them until your examination is complete. Reinserting your fingers increases the risk of infection. Any infection could affect the mother and the fetus.

Never perform a vaginal examination if the woman is bleeding. The bleeding may be from the placenta and a vaginal examination may make it worse.

When you perform a physical examination of a woman in labor, follow the steps outlined in the Special Assessment Procedures section of the Physical Examination module. Record your findings on a labor chart.

Using a Labor Chart

Use a labor chart to record the progress of a woman's labor. Information you record on the chart will help you or a traditional birth attendant decide whether the woman's labor is normal or whether she should be referred to a hospital.

Labor Chart

Name Melle Lomitusse

Place of Delivery Satitua Health Center

TIME	BP	PULSE	TEMP	URINE	STOOL	DRUGS	FHR	CONTRACTION		PRESENT- ING PART	STATION	CERVIX		COMMENTS
								LENGTH	FRE- QUENCY			EFFACE- MENT	DILA- TION	
7:00am	110/70	88	37	✓		∅	110	60sec	3min	top of head	engaged	partial	9cm	
8:00am	112/82	82			✓	∅	110	75sec	3min	"	engaged	complete	10cm	
8:30am	114/80	88			✓	∅	110	75sec	2min	"	engaged	complete		
9:00am	116/82	86				∅	110	75sec	2min	"	crowning			
9:30am	108/70	82	37			∅								

Time and Date of Birth 9:35a.m. 2 Dec. 1982

Weight 2.8 kg Male Female

APGAR Score: After 1 min 10 Newborn Assessment No abnormalities
 After 5 min 10

Complications of Delivery none

Time of Placenta 10:05 a.m.

Name of Attendant Malia Vailima, MLHW

Start a labor chart by writing the pregnant woman's full name on the first line. On the second line, write where she is delivering her child, whether that is at her home or at a health center. Now you are ready to begin your examination and filling in the columns.

a. Note the time

Noting the time gives you a record of the progress of labor.

Immediately after each examination, record the time. Start a new

line for each examination. Compare changes in the cervix, descent of the presenting part, and other developments in relation to the time they happen.

b. Note the woman's blood pressure

Taking the woman's blood pressure will give you an early warning of maternal distress, shock, or preeclampsia. Record the woman's blood pressure every half hour during labor and every fifteen minutes during the two hours following the delivery.

c. Record the woman's pulse

Record the woman's pulse when you record her blood pressure. Always take the woman's pulse between contractions.

d. Record the woman's temperature

Record the woman's temperature when you first see her and every two hours during her labor. A fever may be a sign of infection, one of the most common and serious complications of labor and delivery.

e. Note when the woman passes urine or stool

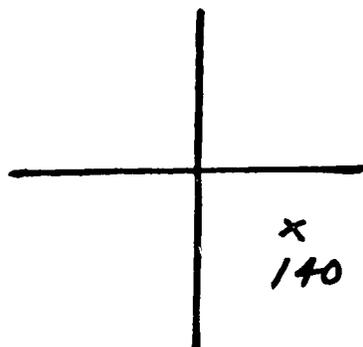
Check the column each time a woman in labor passes urine or stool. An empty bladder and rectum will make the delivery easier.

f. Note any drugs

List any medicines the woman takes. Medicines given to the woman may also affect the fetus.

g. Record the fetal heart rate

Record the fetal heart rate, listed as "FHR" on the labor chart, every half hour during labor. Record the fetal heart rate with a little diagram which shows where you heard the heart. The fetal heart rate is your best indication of the condition of the fetus.



h. Time the contractions

Record how long a woman's contractions last and how often they occur. These are listed as Length and Frequency on the labor chart. Contractions increase as a labor progresses.

i. Determine the presenting part

Describe the presenting part of the fetus as its head, legs, buttocks, arm, or whatever part you see. The presenting part will determine how you manage the delivery.

j. Record the station of the presenting part

Record the station of the presenting part in one of three ways. If you have done an abdominal examination, record it as engaged or not engaged. If you have done a vaginal examination, record its distance in centimeters above or below the ischial spines. If you can see the presenting part at the vaginal opening, record it as "crowning" if it is the fetal head, or name the presenting part.

k. Note any effacement of the cervix

Record the thinning, or effacement, of the cervix as being "none," "partial," or "complete."

l. Note any dilation of the cervix

Measure and record the opening of the cervix as "a finger tip," "two fingers," "4 to 5 cm," "6 cm," and so on to "complete."

m. Record your comments

Reserve the Comments column for any important events that occur during labor. These events might include the breaking of the bag of waters, bleeding, prolapse of the cord, absence of fetal heart rate, and so on.

n. Record the time and date

Record the exact time and date the fetus was delivered.

o. Record the sex and weight

Record the newborn's sex and weight at birth.

p. Record the APGAR score

The APGAR score is an immediate assessment of the newborn's appearance, pulse, grimace, activity, and respirations. You will determine a newborn's APGAR score one minute after birth and five minutes after birth. Record both scores on the labor chart.

q. Record the time of placenta

Record the exact time the placenta was delivered.

- r. **Assess the newborn**
Note any abnormal signs.
- s. **Record any complications**
Note any problems you or the other encountered during the labor and delivery in the column listed for complications.
- t. **Write the attendant's name**
Write in your name if you assisted the woman in her delivery or the name of the traditional birth attendant who assisted in the delivery.

REVIEW QUESTIONS
History and Physical Examination
of a Woman in Labor

1. Write nine questions you would ask a woman who came to you in labor.

2. TRUE (T) or FALSE (F)
_____ If a woman is having her first baby, labor usually will last five to ten hours.
_____ As labor progresses, the pains of labor will come every three to five minutes.

3. Briefly describe why you should perform a general examination of a woman in labor.

4. What is the purpose of an abdominal examination of a woman in labor?

5. After following the four steps in palpating the position of the fetus, you should listen for the fetal heart beat. How and why should you do this?

6. When you record the fetal heart rate on the labor chart, how can you show the place where you heard the heart

7. Why should you avoid repeating vaginal examinations of a woman in labor?

8. TRUE(T) or FALSE(F)

_____ Repeated vaginal examinations of women in labor should be avoided because the more examinations done, the greater the risk of infection.

9. Match the items in column A with those in column B. Place the letter of your answer in the space provided.

A	B
_____ Blood pressure	a. Best indication of the condition of the fetus
_____ Fetal heart rate	b. The thinning of the cervix
_____ Cervical effacement	c. Used to record the progress of labor
_____ Crowning	d. Gives information about a woman's status during labor
_____ Labor chart	e. When the presenting part can be seen at the vaginal opening

SKILL CHECKLIST

Assessing a Woman in Labor

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students assess a woman in labor.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When assessing a woman in labor:

	YES	NO	RATING	COMMENTS
1. Record on a labor chart				
a. When the woman began to have labor pains and how often the pains occur				
b. Whether the woman has been to a prenatal clinic				
c. Whether the woman's bag of waters has broken or whether she has had any bloody show				
d. When the woman last ate				

	YES	NO	RATING	COMMENTS
e. When the woman last passed stool				
f. Whether the woman has had any medicine to either increase or decrease the labor				
g. The name of the woman's traditional birth attendant; whether the traditional birth attendant knows the woman is in labor; and where the traditional birth attendant can be reached				
h. Whether the woman has bled from her vagina				
2. Prepare the woman for a physical examination by describing the purpose and stages of the examination				
3. Ask the woman to pass urine so her bladder will be empty				
4. Help the woman remove her clothing. Cover her with a clean cloth. Ask her to lie on an examining table or bed				

	YES	NO	RATING	COMMENTS
5. Note her general condition and perform a general examination				
6. Tell the woman that you are now going to do an abdominal examination. Explain why				
7. Stand at the woman's right side. Note the appearance of her abdomen and the position of the fetus				
8. Palpate the woman's abdomen to determine the strength and length of contractions as well as the time between them				
9. Starting at the top of the woman's abdomen, palpate for shape, size, firmness, and mobility. Determine what part of the fetus is in the top of the uterus				
10. Placing your hands lower on the abdomen, feel for the fetus' parts				
11. Ask the woman to bend her knees. With your right hand,				

	YES	NO	RATING	COMMENTS
grasp the part of the fetus in the lowest part of the woman's abdomen. Determine what part of the fetus you feel				
12. Facing the woman's feet, place both your hands on her abdomen and move them toward her pelvis. Compare these findings with the findings from your earlier palpation				
13. Use a stethoscope or fetoscope to listen for the heartbeat over the chest or back of the fetus. Determine the fetal heart rate and draw a diagram that shows the place you heard the heart				
14. Record your abdominal examination findings on a labor chart. Explain your findings to the woman				
15. If you are in a place that is safe enough and clean enough to do a vaginal examination, explain				

	YES	NO	RATING	COMMENTS
to the woman what you are going to do and why. Gather sterile surgical gloves, a bowl, antiseptic solution, sterile cotton balls, soap, and water				
16. Ask the woman to lie on the bed or examining table with her legs apart and her knees bent. Explain each step of the examination				
17. Wash the woman's vulva with soap and water. Wash your hands and put on sterile surgical gloves. Use cotton balls and antiseptic solution to wipe the woman's vulva clean.				
18. Dip the index and middle fingers of your right hand into the antiseptic solution. Insert these fingers into the woman's vagina. Palpate her vaginal wall. Feel for any hard scarring or stool in her rectum. Then palpate her cervix, checking its thickness and firmness. Determine				

	YES	NO	RATING	COMMENTS
<p>how much her cervix has dilated and effaced. Note whether her bag of waters has broken. Determine the presenting part of the fetus and how far the presenting part has come into the pelvis</p>				
<p>19. Remove your hand from the vagina. Allow the woman to return to a normal position. Record all your findings on a labor chart and explain your findings to the woman</p>				

Unit 2

Labor and Delivery

STUDENT GUIDE

OBJECTIVES

1. Describe the emotional and physical support and care a woman in labor needs.
2. Describe the three stages of labor and the differences among them.
3. Describe the usual movements of the fetus during a vertex presentation delivery.
4. Provide support and care to a woman in labor.
5. Assist in a delivery in a home, health center, or hospital.
6. Demonstrate how to perform and repair an episiotomy.
7. Describe the purpose and method of giving a newborn an APGAR score.
8. Provide immediate care to a newborn, determine the APGAR score, and cut the umbilical cord.
9. Demonstrate how to repair a perineal laceration.

LEARNING ACTIVITIES

1. Listen to an instructor's presentation on the importance of emotional and physical support for a woman in labor.
2. Work with other students to prepare and deliver a presentation on a stage of labor.
3. Listen to other students' presentations on the stages of labor.
4. Take part in a discussion about presentations on the stages of labor.
5. Listen to an instructor's presentation on the purpose and method of determining a newborn's APGAR score.

6. Take part in a discussion about the instructor's presentation.
7. In a clinical setting observe and practice:
 - Providing support and care to a woman in labor
 - Assisting a delivery
 - Performing and repairing an episiotomy
 - Providing immediate care to a newborn
 - Determining an APGAR score
 - Cutting an umbilical cord
 - Repairing perineal lacerations
8. Join three or four students during one evening in a hospital, clinic, or home where you can observe and assist in a labor and delivery.

2.1 DELIVERY IN A HOME

Most of the babies in the world are delivered at home. Most of these deliveries are attended by traditional birth attendants.

Traditional birth attendants often have years of practical experience. Some may have formal training. Traditional birth attendants also have the confidence of the woman and her family. They usually deserve the respect they have earned in their communities. Some may have training or experience in traditional or herbal medicine. You can learn about how a traditional birth attendant does her job by going with her when she delivers a baby in the mother's home.

Although skilled in assisting a delivery, a traditional birth attendant may not know how or why cleanliness prevents infections. Working with a traditional birth attendant during a home delivery will also give you an opportunity to explain the importance of sterility and cleanliness.

Either the family or the traditional birth attendant may ask you to help with a delivery at the mother's home. You should encourage the traditional birth attendant to come with you on home visits and for the delivery. As you help the family prepare for the birth, you can discuss your methods with the traditional birth attendant.

The traditional birth attendant may assist you or you may assist the traditional birth attendant. Both ways can be a learning experience and both ways will insure a safe delivery for the mother and her baby.

The traditional birth attendant often will reach the home before you do because she lives closer. Therefore, sharing your information about pregnant women in the area is very important.

Early Preparation

The family should decide who will be present during the birth and what each person will do to help. A discussion with the family several weeks before the delivery will help make the delivery a smooth and pleasant one.

The family should also decide on the place of the birth. The place may be almost anywhere. You should discuss the importance of a place that is clean, well-lit, and well-aired.

The family should prepare supplies for the delivery. Always keep a home delivery kit ready. See the Patient Care Procedure for Assisting a Delivery in a Home.

2.2 DELIVERY IN A HEALTH CENTER

Some women in labor may decide to come to the health center for delivery. A traditional birth attendant or a neighbor may refer them.

You will have to take special precautions when delivering a child in a health center. Because many sick people come to the health center, the risk of infection there is high. The area and equipment you use must be clean and sterile.

If the woman's traditional birth attendant has come, ask her to assist you in the delivery. Use this opportunity to teach and learn.

Early Preparation

The health center should have a private area which is protected from the usual flow of patients. It should be well-lit and well-aired. A set of sterile instruments and clean supplies should be ready at all times.

2.3 LABOR

Labor is a natural process in which a fetus, placenta, and membranes are expelled from the uterus. Labor demands a woman's total physical and emotional effort.

You will find women in various stages of labor when you go to them in their homes or when they come to you at the clinic. You will have to adjust your actions to meet their needs.

Emotional Support

The birth of a baby affects the whole family. If husbands or relatives want to be involved in the birth, include them. Let them watch, listen, and help when they can. Your interest and understanding of the importance of the birth to the family will reassure them.

A woman will suffer increased discomfort and pain if she worries about the delivery or if she has been mishandled before you see her. Act calm. Reassure the woman and her family even if others around you are upset and disturbed.

Cleanliness

Infections that occur during childbirth may cause the death of the mother or baby. A woman should bathe and wear clean clothes during labor. You should wash your hands frequently and use sterile instruments.

Passing Stool

A woman should pass stool before she starts labor. A full rectum takes space that the fetus will need when it descends.

A low enema is the best method of emptying the lower bowel if the woman cannot pass stool without aid. Give the enema early in labor. Never give an enema to a woman in late labor, when the woman is bleeding, or when she has high blood pressure.

After an enema, wash the woman's perineal area with soap and water.

Passing Urine

A woman in labor should pass urine at least once every three hours. A full bladder will slow the fetus' descent.

2.4 THE PROGRESS OF LABOR

Advise the woman in labor to remain in any position she finds most comfortable. She may walk, sit, squat, or lie down. Walking or sitting helps the fetus drop lower into the pelvis.

Urge the woman to drink nourishing fluids or water during early labor. Fluids will prevent dehydration. Do not give the woman fluids during late labor because her digestion slows down during that time.

Labor has three stages. The first stage begins with the first uterine contraction and continues until the cervix is completely dilated. This stage takes the longest time.

The second stage starts with the complete dilation of the cervix and continues until the baby is delivered. This second stage may take one hour in a woman giving birth for the first time but only a few minutes in a woman who has given birth before.

The third stage is the time between the delivery of the baby to the delivery of the placenta. This stage usually lasts less than thirty minutes. The total time of a normal labor should be less than twenty-four hours.

2.5 THE FIRST STAGE OF LABOR

During the first stage of labor, the uterus contracts and the cervix dilates and becomes effaced, or thin. The contractions occur every fifteen minutes at first and then gradually come more often. Each contraction lasts about one minute. Contractions begin at the top of the uterus and spread downward, allowing the lower part of the uterus to open so the fetus can pass out.

A woman's contractions increase the pressure of the fetus and the bag of waters on the low end of her uterus. The uterus stretches thin. Membranes of the bag of waters start to separate from the uterine walls. The bag of waters bulges toward the cervix. The cervix now expands under pressure from the bag of waters and the presenting part of the fetus. As the cervix expands, it shortens, effaces, and starts to open. The cervix opening is measured as its dilation.

You will usually see a patient during this first stage of labor. Start a labor history and physical examination and begin to monitor the progress of the labor.

2.6 THE SECOND STAGE OF LABOR

The second stage of labor begins when the cervix is fully dilated. One way of determining whether the cervix is fully dilated is by performing a vaginal examination. However, you should avoid repeating vaginal examinations because of the risk of infection. Other signs will help you determine whether the second stage of labor has begun, without doing a vaginal examination.

These signs tell you when the second stage of labor has begun.

- a. The woman's contractions become stronger. She begins to bear down almost without stop.
- b. The woman's rectum begins to open and remain open.
- c. The woman's vulva begins to open.
- d. You can see the presenting part.
- e. Late in the second stage, the woman's perineum begins to bulge.

When the perineum begins to bulge, the baby will deliver very soon.

Stage two is short. It should last less than thirty minutes if the woman has delivered a child before, and less than an hour if the woman is having her first child. A second stage of labor that lasts longer than one hour is a danger to the mother and to the fetus.

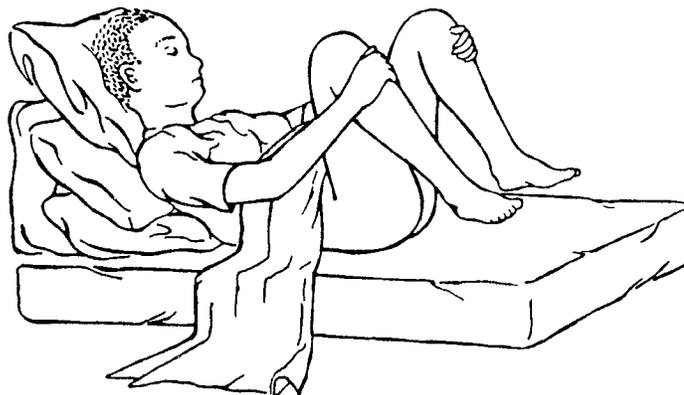
The second stage of labor is divided into a descent phase and a perineal phase.

In the descent phase, the presenting part drops to the vaginal opening. This descent usually occurs in only a few minutes if the woman has had a child before. If a woman is having her first child, the presenting part should be showing at the vaginal opening in thirty minutes. Perform a vaginal examination if you cannot see the presenting part after thirty minutes of strong, second-stage labor.

In the perineal phase, the fetus passes through the vaginal opening. This phase should not last longer than forty-five minutes. No advance in fifteen minutes with good contractions is a sign of a possible problem.

Check the fetal heart rate after each contraction during this stage. Also check the woman's pulse every ten minutes. Check her contractions for strength, frequency, length, and whether the uterus relaxes between contractions. You should only give the woman sips of water during this stage.

When the presenting part appears at the vaginal opening, the woman can help its progress by bearing down. Help her into a comfortable position. Place a pillow behind her to support her head and upper back. The woman can bend her knees and grasp her legs.

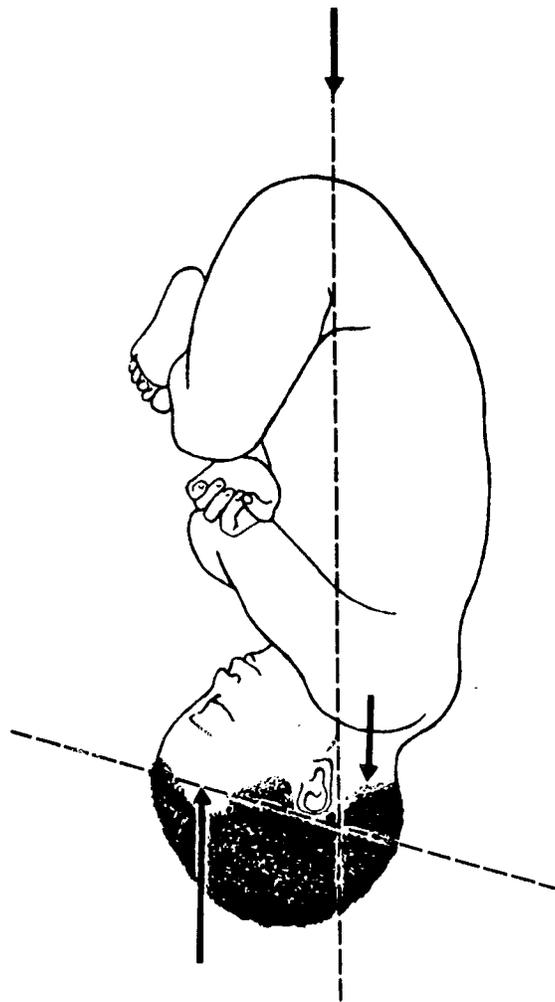


Tell the mother to take a deep breath and push down as if she were trying to pass stool. When she has pushed as hard and as long as she can, tell her to relax for a minute, to take another deep breath, and then to push again. She should push only during contractions. As the fetus advances, tell the mother about its progress. Prepare for the delivery.

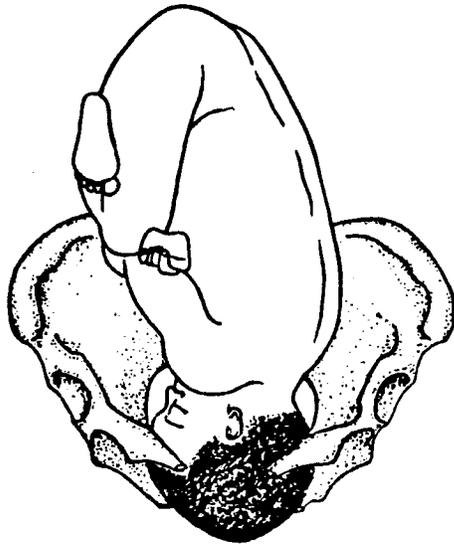
Movements of Delivery

The fetus moves in a predictable way as it is pushed through the birth canal. Knowing the usual movements for a vertex presentation will enable you to recognize any signs of problems or complications.

The uterus pushes the fetus.



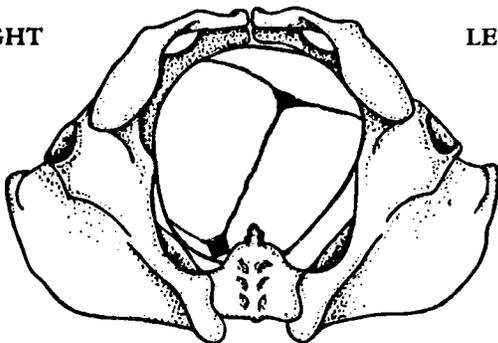
THE UTERUS PUSHES ON THE FETAL SPINE WITH CONTRACTIONS



a. Flexion

Flexion of the head may begin two weeks before labor. Flexion allows the smallest diameter of the head to pass through the birth canal.

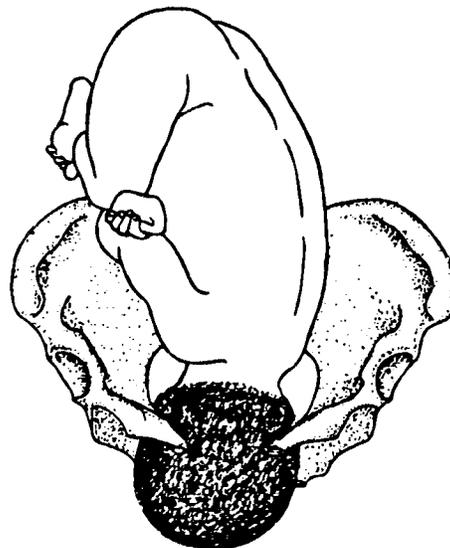
RIGHT



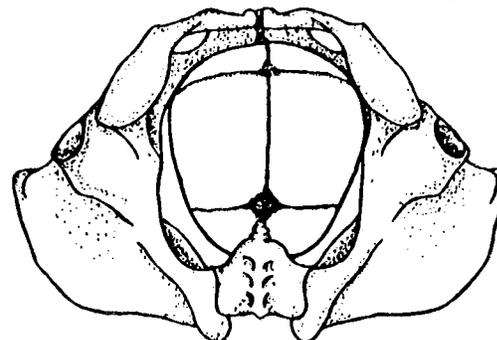
LEFT

b. Internal rotation of the head

Internal rotation is the turning of the head forward by moving against the pelvic floor.



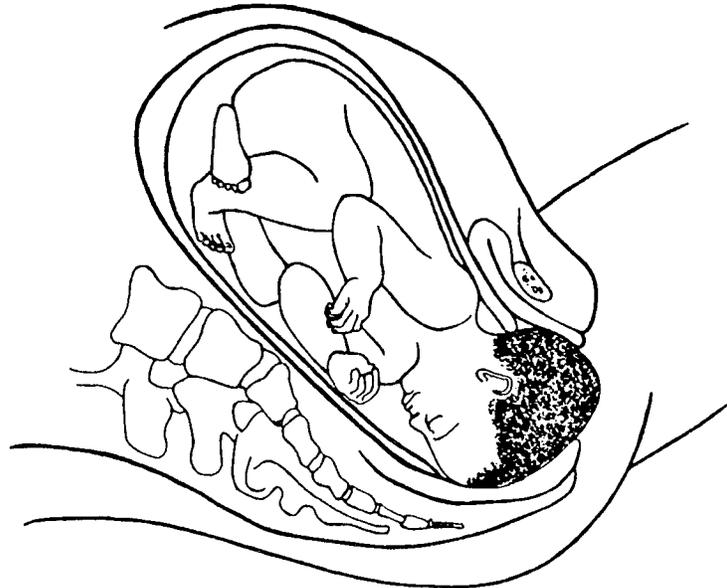
RIGHT



LEFT

c. Crowning

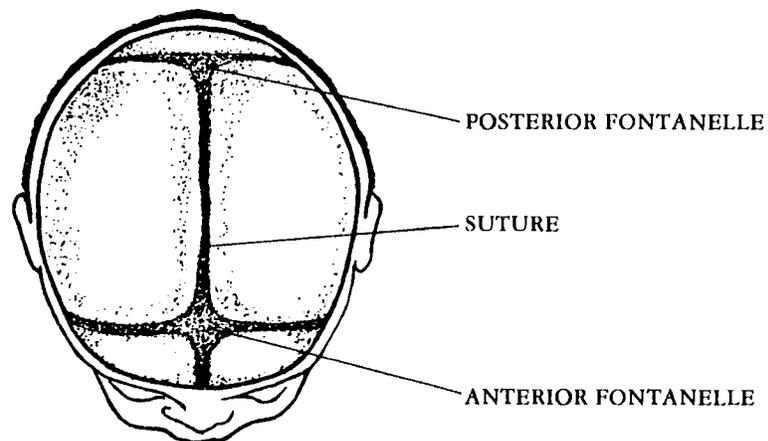
Crowning describes what you can see, the crown of the fetal head, as it passes under the symphysis pubis. The crown of the head no longer goes back inside between contractions. You can see it at the vulva.



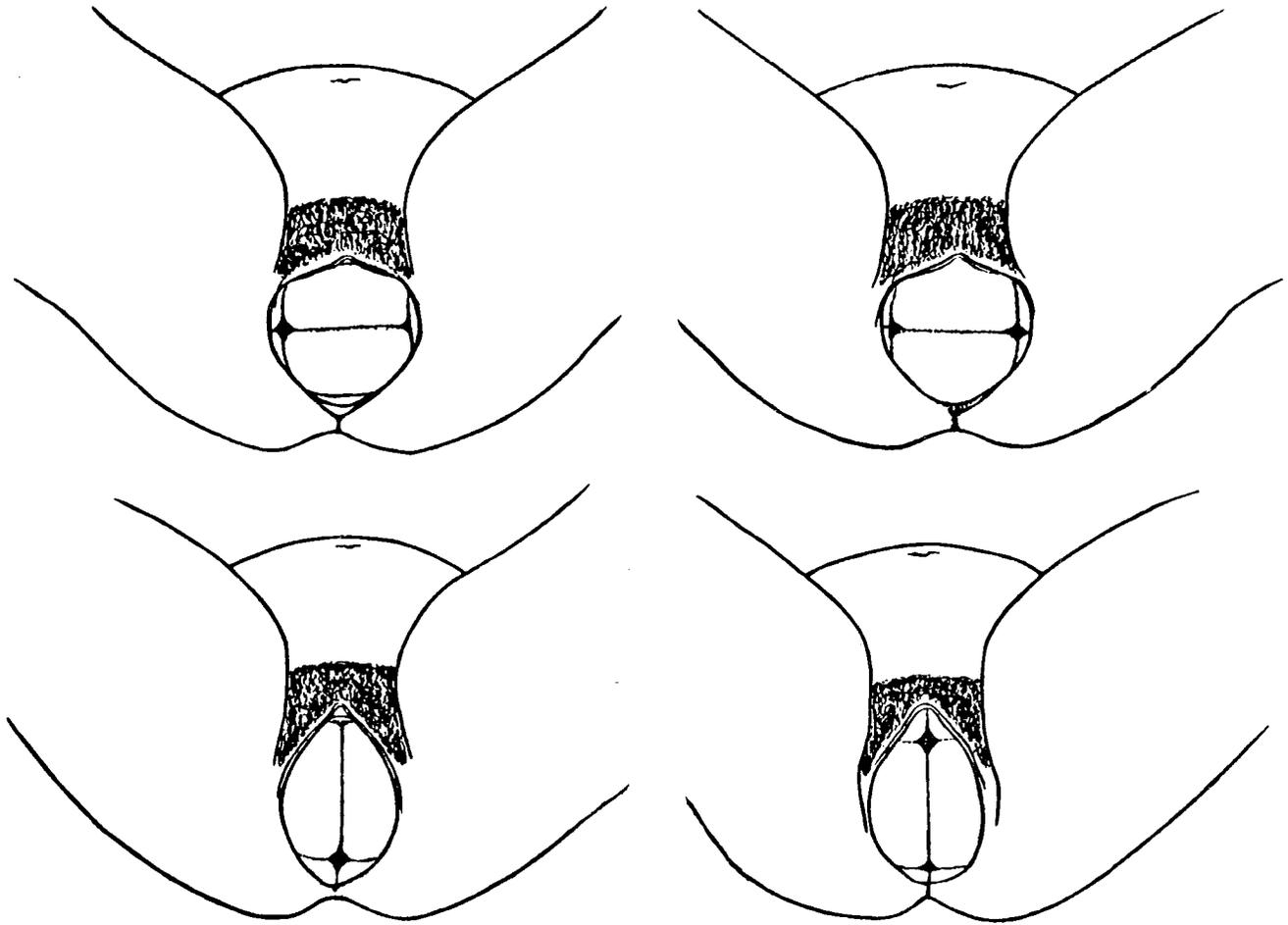
When you can see the crown of the fetal head, note the position of the fontanelles. The fontanelles are soft spots found in a line along the top of the head. The soft spot at the front of the head is diamond-shaped and between 2 cm and 4 cm long. You will be able to see and feel it if the fetus lies face-up.

The soft spot at the back of the fetal head is triangular-shaped. The triangle points toward the front of the head. The soft spot at the back of the head usually is much smaller than the soft spot at the front of the head.

A suture joins the front and back fontanelles. A suture is a line of soft, fibrous tissue which joins parts of the skull. By observing the crown of the fetal head and noting the fontanelles and sutures, you will be able to determine the position of the fetal head.

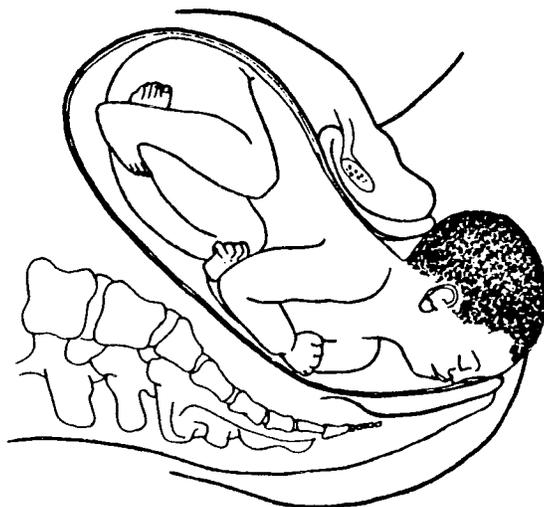


These are some of the positions of the fetal head at crowning, showing the position of the fontanelles and the sutures.



d. Extension

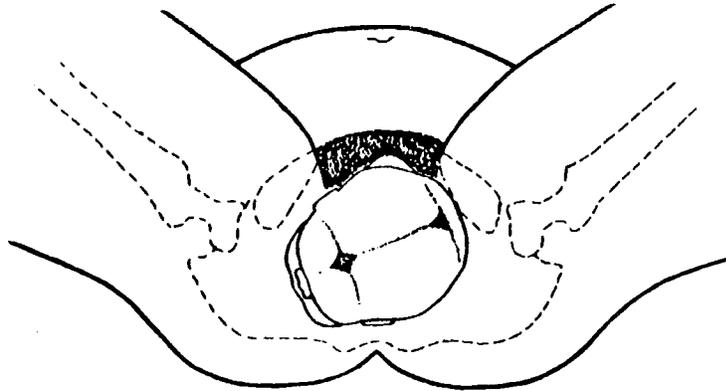
Extension describes the movement of the fetus as the back of the fetal neck rotates against the lower border of the symphysis pubis. As the neck extends, the face and chin pass the perineum.



133

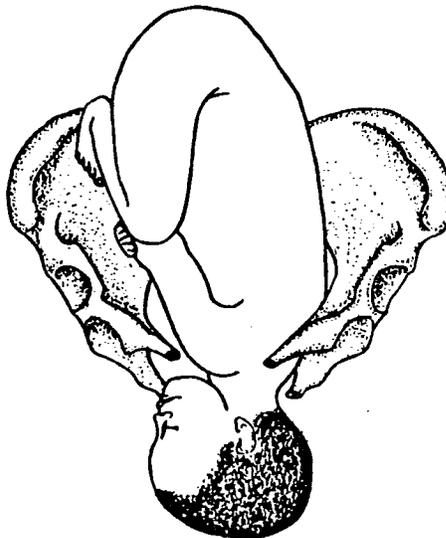
e. Restitution

Restitution describes the return of the fetal head to its natural position related to the shoulders. Internal rotation is undone by this movement.



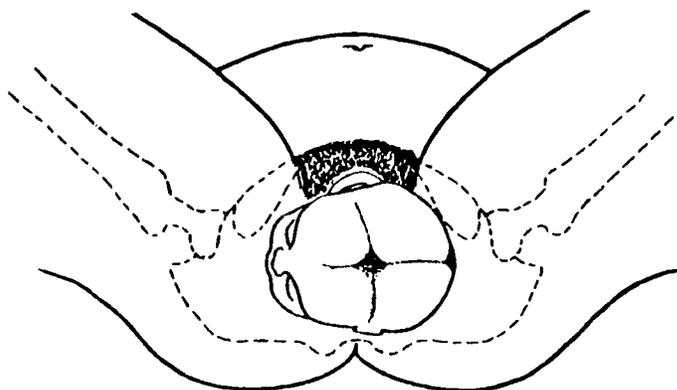
f. Internal rotation of the shoulders

Internal rotation of the shoulders is a movement like the internal rotation of the head. The shoulders turn as they move against the pelvic floor.



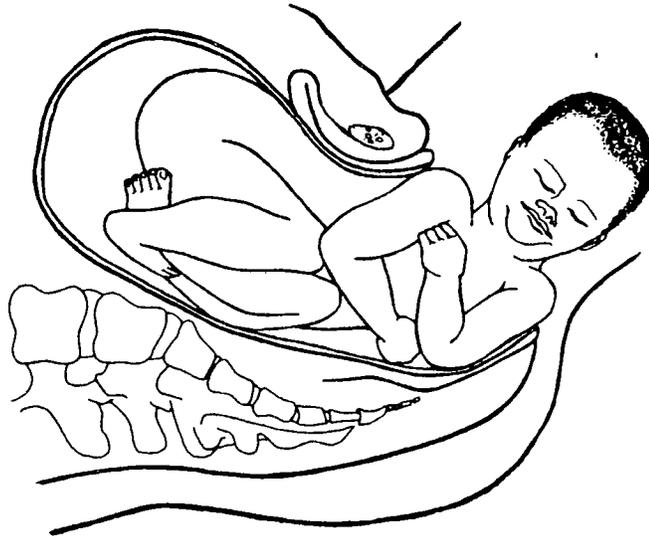
g. External rotation of the head

External rotation of the head occurs as the head follows the position of the shoulders.



h. Lateral flexion of the body

Lateral flexion of the body describes the sideways bending of the spine so the body fits the curve of the birth canal. The body passes over the perineum. The attendant carries it upwards over the symphysis pubis toward the mother's abdomen.



Episiotomy

An episiotomy is a surgical incision into the perineum. It enlarges the opening of the vulva to hasten the second stage of labor and the delivery. It also helps to prevent uncontrolled tears that might occur when the fetal head is too large or when the perineum will not stretch. A fetus in distress or a woman with eclampsia will be aided by a shorter second stage. Therefore, in these cases, an episiotomy may be helpful.

An episiotomy is usually done when the head is crowning. The vulva should be open and 2 cm to 3 cm of the head should be visible. The episiotomy is usually repaired after the delivery and early care of the newborn. See Patient Care Procedures.

Perineal Lacerations

The perineum will tear in some normal deliveries. This is most likely to happen in a woman who is having her first child and who does not have an episiotomy. If you encounter such cases, you may have to refer the woman or repair the lacerations yourself. The procedure is very similar to the repair of an episiotomy. But a tear is uncontrolled and may include deeper tissues. See the Patient Care Procedure for Repairing Perineal Lacerations.

2.7 THE THIRD STAGE OF LABOR

During the third stage of labor, you must care for two people, the mother and the newborn. A healthy newborn is best cared for by the mother. Give the newborn to the mother to suckle. The baby will remain warm by being close to the mother and the mother's uterus will contract because of the suckling.

You should check the woman's heart rate and blood pressure every fifteen minutes during this stage and watch for bleeding.

Breathing

The newborn must begin breathing as soon as it is born. At birth the placenta separates and no longer provides oxygen through the cord. Normally, the newborn's first action is a gasp for breath.

If the newborn's mouth and nose are full of mucus, he will suck it into his lungs with his first gasp for breath. Suck out the mucus from the nose and mouth with a bulb syringe or mucus extractor when the head is delivered. Usually this will be enough to start breathing. If not, hold the newborn with his head lower than his legs so the fluid can drain out. Newborns are slippery, so hold carefully. Flick his feet with your fingers, rub his back, and suck out more mucus.

Assess the Condition of the Newborn

A healthy newborn is pink. He has a strong heart that beats more than one hundred times per minute. He coughs, sneezes, or cries when you clear the mucus from his nose and mouth. He waves his arms and legs and his cry is strong.

Some newborns will not look pink. They will look blue or pale, instead. Their heartbeats may be slow or weak. They may not cry, or they may cry weakly. Their breathing may be labored or grunting. These newborns need help.

A simple test allows you to determine whether a newborn needs help. You give the test by observing the newborn one minute after his birth and again five minutes after his birth. You note and score his:

- A— Appearance
- P— Pulse
- G— Grimace
- A— Activity
- R— Respirations

This test gives you an APGAR score. The highest APGAR score for a healthy newborn is 10; the lowest is 0, but in that case, the newborn is not breathing. You determine the newborn's APGAR score by giving him 0 points, 1 point, or 2 points on each of the five parts of the test; appearance, pulse, grimace, activity, and respirations. The total number of points is the newborn's APGAR score.

Any newborn who has breathing or heart problems will need immediate attention. Transfer to a hospital any newborn who scores less than 7 five minutes after birth.

Study the APGAR scoring chart. Use it to assess the condition of a newborn.

PROCEDURES	NORMAL SIGNS	ABNORMAL SIGNS
A— Appearance: Look at the color of the newborn's skin.	SCORE: 1 - Pink body, blue arms and legs Pale body and face 2 - Completely pink body and face	SCORE: 0 - Pale or blue body and face
P— Pulse: Listen to the newborn's heart with a stethoscope. Count the number of beats per minute.	1 - 100 beats per minute or less Weak heart beat 2 - More than 100 beats per minute Strong heart beat	0 - No heart beat
G— Grimace: Rub back and forth on the soles of the newborn's feet with one of your fingers. Observe the reaction on his face. Or, notice the newborn's reaction when you suck the mucus from his mouth and throat.	1 - Grimace or puckering of the face 2 - Crying, coughing, or sneezing	0 - No response
A— Activity: Watch the newborn move his arms and legs. Or, pull an arm or a leg away from his body. Note how his arms and legs move in response to the stimulation.	1 - Some movement in response to stimulation 2 - Active movement Waving of arms and legs	0 - Limp arms and legs No movement in response to stimulation
R— Respirations: Look at the newborn's chest and abdomen. Watch him breathe.	1 - Slow, irregular breathing Retracting of chest wall Grunting, or weak cry 2 - Strong cry	0 - No breathing No cry
<hr/> Total the APGAR score. Record the score on the mother's Labor Chart.	<hr/> APGAR score of 7 to 10	<hr/> APGAR score of 0 to 6

Cutting the Cord

The umbilical cord connects the fetus to the placenta. Blood carrying oxygen to the fetus flows through a vein in the cord. Waste products from the fetus flow through two arteries to the placenta.

Since the cord carries oxygen to the fetus, it must be protected as long as possible. If it is torn during delivery, the fetus will lose blood. For a fetus, 30 ml of blood is as much as 600 ml in an adult.

Cut the cord only with sterile instruments. Improper cutting of the cord often causes septicemia or tetanus and can lead to death. Therefore, sterile techniques for properly cutting an umbilical cord are very important. Teach traditional birth attendants these techniques if they do not already know them. See the Patient Care Procedures for Cutting an Umbilical Cord.

Keeping the Newborn Warm

The most important immediate care of the newborn after making sure he is breathing is keeping him warm. A newborn is not able to control its temperature well. Wet and naked, it will rapidly chill. This chilling may be a cause of death. So dry the newborn after delivery. Wrap him in a cloth or towel. Cover the top and back of the newborn's head too. Do not bathe the newborn for twelve to twenty-four hours and then only in warm water.

Put the wrapped newborn in his mother's arm so he will keep warm and can nurse as soon as possible.

Delivering the Placenta

After the birth of the newborn, the uterus continues to contract. The placenta begins to buckle and separate from the wall of the uterus. Then the placenta is pushed into the lower part of the uterus, and it slides down the vagina.

These signs will tell you when the placenta starts to separate from the uterus.

- a. The uterus will feel hard and round instead of soft and flat.
- b. The uterus will rise to the umbilicus. You will be able to see it just beneath the abdominal wall.
- c. The umbilical cord at the vaginal opening will begin to lengthen as the placenta slides into the vagina.
- d. You will be able to see the placenta at the vaginal opening.

Check the woman's pulse and blood pressure every fifteen minutes during this stage of labor. Also watch for signs of bleeding.

When you suspect the placenta is starting to separate from the uterus, ask the woman to bear down again. The placenta may come right out. Examine it for completeness. Look at the cord and the shiny membrane. Turn it around and look at the rough surface. Look for missing parts. Missing parts may remain in the uterus and cause bleeding.

If the placenta does not come out, follow the procedures for delivery of the placenta.

Dispose of the placenta according to acceptable customs and traditions.

Caring for the Newborn's Eyes

After caring for the mother and within one hour of birth, put 1% silver nitrate solution or tetracycline eye ointment in both of the newborn's eyes. Wipe the eyelids with dry cotton or gauze and then put the solution or ointment into the lower outer corners of the eyes. This prevents infection from two kinds of bacteria which may cause blindness. See Patient Care Guides for prevention of gonococcal conjunctivitis.

Examining the Newborn

Examine the newborn before you leave the home or the health center. See the Special Assessment Procedures in the Physical Examination module.

REVIEW QUESTIONS

Labor and Delivery

1. Briefly describe labor.
2. Why should a woman in labor pass stools and empty her bladder?
3. What are the three stages of labor?
4. TRUE (T) or FALSE (F)
 - _____ Contractions of the uterus cause the thinning and dilating of the cervix.
 - _____ When labor contractions begin, they usually are fifteen minutes apart and gradually occur closer together.
5. A vaginal examination can help you determine whether a cervix is fully dilated. However, you should avoid repeating vaginal examinations because of the risk of infection. Therefore, you should look for other signs that the second stage of labor has begun. What are some of these signs?
6. When the fetal head appears at the vaginal opening, the perineal phase of the second stage of labor begins. How can you help the woman during this time?

7. **TRUE (T) or FALSE (F)**

_____ Once the perineal phase has begun, no advance in fifteen minutes with good contractions is a sign of a possible problem.

8. Describe four signs that indicate the separation of the placenta from the uterus.

9. Why should you know the usual movements for a vertex presentation delivery?

10. Match the words in column A with their meaning in column B. Place the letter of your answer in the space provided.

A	B
_____ Flexion	a. Sideways bending of the spine
_____ Internal rotation	b. When the head may be seen at the vulva
_____ Crowning	c. Turning of the head back to its natural position related to the shoulders
_____ Extension	d. Allows the smallest diameter of the head to pass through the canal
_____ Restitution	e. Turning of the head forward
_____ Lateral flexion	f. When the back of the neck rotates against the lower border of the symphysis pubis

11. Explain why working with a traditional birth attendant during a delivery in a home is important and helpful.

12. What is an episiotomy and why is it done?

13. The APGAR score is used to assess the condition of a newborn immediately after delivery. List the five parts of the APGAR score and describe what you should look for in each part.

14. Explain why you should cut an umbilical cord only with sterile instruments.

SKILL CHECKLIST

Assisting a Delivery in a Home

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students assist a delivery in a home.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When assisting a delivery
in a home:

	YES	NO	RATING	COMMENTS
1. Advise the woman's family to prepare these supplies about two weeks before the expected date of delivery: Clean mat or bed covers Clean clothes Newspaper or grass for soaking up water and blood Soap Sanitary pads or pieces of clean cloth A razor blade, knife, or scissors String or thread Clean water A pot for boiling water				

	YES	NO	RATING	COMMENTS
2. Check these supplies with the traditional birth attendant				
3. Remind the family to boil the water at the time of the first contractions. Explain that the boiling water is used for sterilizing instruments to cut the umbilical cord				
4. Make sure your home delivery kit includes: Scissors Mucus extractor Tetracycline eye ointment or 1% silver nitrate Sterile umbilical cord ties Soap Hand brush Nail file Ergonovine Sterile syringe Needle Labor chart				
5. When you arrive at the woman's home, check all the preparations a. The woman should have bathed, if				

	YES	NO	RATING	COMMENTS
possible, and she should be wearing clean clothes				
b. Find out what the woman has eaten				
c. Find out what the traditional birth attendant has done to prepare the woman or family.				
d. Check whether the supplies are ready for use. Check especially for the cord cutting materials and boiling water				
6. Examine the woman and begin to monitor and record the progress of her labor on a labor chart				
7. Ask the traditional birth attendant and family to prepare the cutting instrument and string by boiling them in water				
8. When the woman reaches the second stage of labor, urge her to push with each contraction. Advise her of different positions in which she may be most comfortable such as				

	YES	NO	RATING	COMMENTS
squatting, kneeling, or lying down. Advise her to rest between contractions				
9. Wash the pubic area, thighs, and buttocks with soap and water during the second stage				
10. You and the traditional birth attendant should wash your hands and arms with soap and water. Use a nail file, stick, or nail brush to clean your nails				
11. When the fetal head is crowning, sit or stand beside the woman, facing her pubic area. Place your hand on the crowning head. Ask her to stop pushing during the contractions and to pant instead				
12. Allow the fetal head to come over the perineum. Support the perineum with your right hand. Ask the woman not to push but to continue panting				

	YES	NO	RATING	COMMENTS
13. Make sure the umbilical cord is not looped around the baby's neck. If it is, slip it gently over the head				
14. Clean the fetus' mouth and nose with the mucus extractor				
15. Support the fetus as it turns and comes out. Place the newborn onto the mother's abdomen. Note the time and determine the newborn's APGAR score. If the newborn does not immediately cry, flick the feet with your fingers				
16. When the newborn is crying loudly and his color is good, tie the umbilical cord in three places with the boiled thread. Tie the cord three times with three different pieces of the thread. Make the first knot close to the newborn's abdomen. Leave a little space and tie the second and third knots. Use a double square knot				

	YES	NO	RATING	COMMENTS
17. Using a boiled or flamed razor, knife, or scissors, cut the cord. Leave two ties on the baby's side. Give the baby, wrapped in a clean cloth, to the mother to suckle				
18. Watch for separation of the placenta. When the placenta is separated, ask the woman to push it out				
19. Rub the woman's uterus with the palm of your hand until it hardens, becoming firm and round. If the woman is bleeding, give her ergonovine IM to contract the uterus and stop the bleeding				
20. Examine the placenta and membranes for missing parts. Then, give the placenta to the family for traditional disposal				
21. Clean the woman by washing her pubic area with soap and water. Place a sterile pad over her perineum. Clean the				

	YES	NO	RATING	COMMENTS
birthing area. Change the bed covers and change the woman's clothes				
22. Check the woman for bleeding. Check her vital signs every fifteen minutes for one hour				
23. Record the date and time of birth on the Labor Chart				
24. Examine the newborn. Advise the mother about breast-feeding and breast care				
25. Tell the family that you will return the next day. Ask the traditional birth attendant to return with you				

SKILL CHECKLIST

Assisting a Delivery in a Health Center

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students assist a delivery in a health center.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When assisting a delivery in a health center:

	YES	NO	RATING	COMMENTS
1. Make sure the supplies and sterile instruments are ready				
2. When the woman arrives at the health unit, assess the progress of her labor. If she is in second stage labor, prepare to assist with the delivery				
3. Help the woman lie on a clean, water-proof sheet that is covered with a clean, cloth sheet				

	YES	NO	RATING	COMMENTS
4. If the woman is unable to urinate and has a full bladder, catheterize her				
5. Wash the woman's pubic area, thighs, and buttocks with soap and water				
6. Scrub your hands with a soft brush and antiseptic soap for five minutes. Clean under your nails. If the traditional birth attendant is present, ask her to scrub her hands, also				
7. Swab the woman's vulva with an antiseptic solution, using cotton balls		.		
8. When the fetal head is crowning, place the palm of your left hand on the head. With your right hand, support the perineum. Ask the woman to stop pushing and begin to pant				
9. If the perineum is very tight, swollen or inflamed, or if it appears likely to tear, perform an episiotomy				

	YES	NO	RATING	COMMENTS
10. Allow the baby's head to glide over the perineum. Encourage the woman to pant. Apply firm pressure at the anus to aid in extension and prevent tears				
11. Use a finger of your hand which has not been near the woman's anus to feel if the umbilical cord is around the fetus' neck. If it is, gently slip it over the head				
12. Using the bulb syringe, suck the mucus from the mouth and nose of the fetus				
13. The shoulders normally follow the head during the next contraction. Support the body as it delivers by guiding it and the head upwards after the anterior shoulder is delivered. If the shoulder delivery is delayed, help the shoulders rotate by hooking your fingers under the anterior arm and rotating forward. Then,				

	YES	NO	RATING	COMMENTS
follow with downward traction for the delivery of the anterior shoulder				
14. Place the newborn onto the mother's abdomen. Note the time and determine the newborn's APGAR score				
15. When the newborn is crying loudly and his color is good, tie the cord in three places with the thread. If the newborn does not cry immediately, flick his feet with your fingers. Remove more mucus from his nose and mouth with the bulb syringe				
16. Cut the umbilical cord with the sterile scissors or razor blade. Leave two ties on the newborn's side. Wrap the newborn in a clean cloth and give him to the mother to suckle				
17. Watch for signs of separation of the placenta. When the placenta is separated, ask the woman to push it out. Catch it in a container				

	YES	NO	RATING	COMMENTS
18. Rub the uterus with the palm of your hand until it hardens, becoming firm and round. If the woman is bleeding, give her ergonovine IM to contract the uterus and stop the bleeding				
19. Examine the placenta and membrane for missing parts. Ask the family what they want to do with the placenta				
20. Clean the woman by washing her pubic area with soap and water. Place a sterile pad over her perineal area. Allow her to change her clothes and move into a clean bed				
21. Check the woman for bleeding. Check her vital signs every fifteen minutes for one hour				
22. Record the time of birth on the Labor Chart				
23. Examine the newborn and advise the mother about breast-feeding and breast care				

	YES	NO	RATING	COMMENTS
24. Allow the woman to go home in a few hours if she has transportation. If she must walk a long distance, advise her to stay in the health unit for at least twenty-four hours				
25. Plan a follow-up home visit with the family and the traditional birth attendant				

SKILL CHECKLIST

Performing and Repairing an Episiotomy

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students perform and repair an episiotomy.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When performing an episiotomy:

	YES	NO	RATING	COMMENTS
<p>1. Make sure these supplies and instruments are sterile and ready:</p> <ul style="list-style-type: none"> 1% lidocaine Syringe Needle Episiotomy scissors Gauze <p>Also make sure these supplies and instruments are sterile and ready for you when you repair the incision:</p> <ul style="list-style-type: none"> Suture, chromic catgut size 3-0 Suture, chromic catgut size 2-0 Needle holder Cutting needle 				

	YES	NO	RATING	COMMENTS
<p>Two round needles Suture scissors "Rat tooth" forceps Two Allis tissue forceps</p>				
<p>2. Numb the perineum by infiltrating 5 ml of 1% lidocaine. Put two fingers into the vagina along the path of the planned episiotomy. Insert the needle at the junction of skin and mucus membrane, between your two fingers. Pull back on the syringe to make sure no blood is drawn in. If no blood comes into the syringe, infiltrate while slowly withdrawing the needle</p>				
<p>3. Keeping your left fingers in place, put one blade of an episiotomy scissors inside the vagina between your two fingers. Begin the incision at the midline of the perineum and direct it toward the patient's right thigh. Make it 3 cm long. Avoid cutting the sphincter muscle. Make the episiotomy with one snip</p>				

	YES	NO	RATING	COMMENTS
<p>When repairing an episiotomy:</p> <p>1. Swab the episiotomy site and the vulva with antiseptic solution</p>				
<p>2. Inspect the episiotomy, especially at the anal sphincter to see whether it has been cut or torn. Pinch the skin near the anus to see whether it tightens completely. If it does, the sphincter has not been cut</p>				
<p>3. Transfer the patient to a hospital if her sphincter has been torn or cut. If you cannot transfer the patient to a hospital, grasp the torn ends of the sphincter muscle with Allis tissue forceps. Hold the ends and suture them together with a figure-of-eight stitch. Use size 2-0 chromic catgut on a round needle</p>				
<p>4. If the sphincter has not been torn or has been repaired, you are ready for the usual repair of an episiotomy. Find the top of the vaginal</p>				

	YES	NO	RATING	COMMENTS
<p>incision. Place two fingers into the vagina. Spread the fingers wide and pull down. Place the first stitch above the tip of the incision using a round needle with size 2-0 chromic catgut suture. Tie and continue with a running suture to where the mucosa meets the skin at the vulva. Put this needle down for a while</p>				
<p>5. Put size 2-0 chromic suture on the second round needle. Close the deep muscle tissue with interrupted stitches</p>				
<p>6. Pick up the suture and needle from the top and continue down the wound, closing the superficial layers with a running stitch</p>				
<p>7. When you reach the bottom of the wound, change to a cutting needle. Using the same suture, close the skin with an intradermal stitch. When you reach the vulvar opening, tie the suture inside the vagina</p>				

	YES	NO	RATING	COMMENTS
8. When you finish the repair, insert your finger in the rectum and feel for sutures. If you feel sutures, remove them, wash your hands or change your gloves, and do the repair again, following Steps 1 to 8				

SKILL CHECKLIST

Cutting an Umbilical Cord

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students cut an umbilical cord.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When cutting an umbilical cord:

	YES	NO	RATING	COMMENTS
1. Make sure a sterile razor, knife, or scissors and three sterile cord ties are ready. A knife often needs an opposing surface that also should be boiled. The cord ties should be strong yet broad and soft. If sewing thread is used, many strands should be placed together and then twisted to make one thick strand. Tape and strong yarn may be used but it must be boiled first				

	YES	NO	RATING	COMMENTS
2. Wait until the cord stops pulsating before cutting it, unless the cord is wrapped so tightly around the baby's neck that it will not slip off or unless it is very short and may tear the umbilicus if it is not cut				
3. Tie the cord three times with three different pieces of thread. Tie the first two pieces close to the newborn's abdomen. Then leave a little space and tie a third knot. Use a double square knot				
4. Cut between the two outer ties. Leave two ties on the newborn's side of the umbilicus				
5. Ask the woman or family member if they want to discard the placenta in a traditional way. If not, discard the placenta and cord				
6. Keep the newborn's side of the cord clean and dry				

	YES	NO	RATING	COMMENTS
7. Follow up the procedure by checking the cord for bleeding during the first twenty-four hours. Check for moisture, redness, or other signs of infection during the next week				

SKILL CHECKLIST

Determining a Newborn's APGAR Score

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students determine a newborn's APGAR score.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When determining a

newborn's APGAR score: YES NO RATING COMMENTS

1. Note the appearance. Check the color of the newborn's skin a. Score 0 if the newborn's body and face are pale or blue b. Score 1 if the newborn's body is pink but his arms and legs are blue c. Score 2 if the newborn is completely pink				
2. Note the pulse. Listen to the newborn's heart with a stethoscope. Count the number of beats per minute				

	YES	NO	RATING	COMMENTS
a. Score 0 if the newborn has no heartbeat				
b. Score 1 if the newborn's heartbeat is weak or less than 100 beats per minute				
c. Score 2 if the newborn's heartbeat is strong and more than 100 beats per minute				
3. Note the grimace. Rub back and forth on the soles of the newborn's feet with one of your fingers and observe the reaction on the newborn's face. Or, notice the newborn's reaction when you suck the mucus from his mouth and throat				
a. Score 0 if the newborn does not respond				
b. Score 1 if the newborn grimaces or puckers his face				
c. Score 2 if the newborn cries, coughs, or sneezes				
4. Note the activity. Watch the newborn move his arms and legs. Or, pull an arm or				

	YES	NO	RATING	COMMENTS
<p>a leg away from his body. Note how the arms and legs move in response to the stimulation</p> <p>a. Score 0 if the newborn's arms and legs are limp and if he does not move in response to stimulation</p>				
<p>b. Score 1 if the newborn responds to stimulation</p>				
<p>c. Score 2 if the newborn is moving actively, waving his arms and legs</p>				
<p>5. Note the respirations. Look at the newborn's chest and abdomen. Watch him breathe</p> <p>a. Score 0 if the newborn is not breathing or crying</p>				
<p>b. Score 1 if the newborn's breathing is slow or irregular, if you see retractions of his chest wall, or if he has a weak cry</p>				
<p>c. Score 2 if the newborn has a strong cry</p>				
<p>6. Total the score and record it on the mother's Labor Chart</p>				

SKILL CHECKLIST

Repairing Perineal Lacerations

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students repair a perineal laceration.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When repairing perineal lacerations:

	YES	NO	RATING	COMMENTS
1. Make sure these supplies and instruments are sterile and ready: Antiseptic solution 1% lidocaine 10cc syringe and needle Sterile gauze Suture, chromic catgut size 2-0 Suture, chromic catgut size 3-0 Needle holder Cutting needle Round needles Suture scissors Toothed pickups Two Allis tissue forceps Two hemostatic forceps				

	YES	NO	RATING	COMMENTS
2. Swab the torn area with antiseptic solution				
3. Examine the tear				
a. If any blood vessels are bleeding, clamp and tie them.				
b. If the tear is so extensive that the sphincter and the interior wall of the rectum are torn, refer the woman to a hospital for repair				
c. If the cervix has been torn in the delivery, refer the woman to a hospital. If the woman is bleeding from her cervix, apply a vaginal pack before transferring her				
4. Check the anal sphincter and note whether it has been torn				
a. Look for torn ends of the sphincter in the open wound				
b. Put your finger in the woman's anus and ask her to				

	YES	NO	RATING	COMMENTS
<p>tighten her rectal sphincter. If it is torn, the torn part will not tighten. Wash your hands thoroughly or change gloves after this test</p>				
<p>c. Pinch the skin near the sphincter and watch for complete contraction</p>				
<p>5. If the anal sphincter has been torn and a doctor is nearby, transfer the woman to the doctor for repair</p>				
<p>6. If a doctor is not available, grasp each of the torn ends with an Allis tissue forceps and pull them together. Suture them together with a figure-of-eight stitch and some interrupted stitches</p>				
<p>7. If the tear does not involve the sphincter, or you have repaired the sphincter, then continue the repair as you would for an episiotomy</p>				

	YES	NO	RATING	COMMENTS
<p>You do not need to repair shallow perineal tears or perineal tears which close when the woman's legs are placed together. However, these lacerations must be kept clean with soap and water and sterile perineal pads</p>				

Unit 3

Common Problems of Labor and Delivery

STUDENT GUIDE

OBJECTIVES

1. Describe these common problems of labor and delivery:
 - Fetal distress
 - Maternal distress
 - Urine in the bladder
 - Premature labor
 - Incomplete fetal rotation
 - Small or abnormally shaped pelvis
 - Early rupture of the bag of waters
 - Retained placenta
 - Prolonged labor
2. Describe breathing problems that may occur in a newborn.
3. Describe how to manage common problems of the woman, fetus, and newborn during labor and delivery.
4. Demonstrate the procedures for assisting a labor and delivery.

LEARNING ACTIVITIES

1. Take part in a discussion of the review questions related to common problems of labor and delivery.
2. With other students in your working group, study common problems of labor and delivery and prepare a presentation to share information about these problems with the rest of the class.
3. Join the instructor and other students in a discussion of the group presentations.
4. Discuss what you learned during your study of this unit and how you will use it in your work.

5. In a clinical setting, observe and practice the procedures for assisting a normal labor and delivery.
6. Join three or four other students on call in a hospital ward, clinic, or a home for one evening to observe and assist with labors and deliveries.

3.1 FETAL DISTRESS

Fetal distress occurs when some problem threatens the life of a fetus. For example, the umbilical cord may be pinched between the fetus and the mother's pelvis during delivery. Or the placenta may prematurely separate from the uterus. Both of these problems will decrease or cut off the supply of oxygen to the fetus. Drugs given to the mother may also cause fetal distress.

SIGNS OF FETAL DISTRESS

Warning signs usually accompany fetal distress. Monitoring the fetus during labor should give you early notice of any problem. The signs of fetal distress are:

- Irregular fetal heart rate
- Thick, green meconium discharge
- Extreme fetal movement

a. Irregular fetal heart rate

Check the fetal heart rate every thirty minutes during the first stage of labor and every fifteen minutes during the second stage. The fetus is in danger if the *fetal heart rate is less than 120 beats per minute or more than 160 beats per minute. Sudden changes in the fetal heart rate* may also be a sign of fetal distress. For example, if the fetal heart sounds change from very strong to very weak, suspect fetal distress. Remember to check the fetal heart rate between contractions, not during contractions.

b. Thick, green discharge

When you examine a woman in labor, you should always note any discharge from her vagina. A *thick, green discharge* called meconium is a sign of fetal distress. The meconium comes from the fetus' rectum. The fetus passes the meconium in distress from lack of oxygen.

c. Extreme fetal movement

Extreme fetal movement may mean that the fetus is having fits caused by a lack of oxygen. Normally there is little fetal movement during labor.

CAUSES OF FETAL DISTRESS

When any of the signs of fetal distress alert you, immediately determine its cause. The problem may be:

- A prolapsed cord
- Separation of the placenta from the uterus
- Maternal distress
- Drugs or medicines given to the mother
- Prolonged labor

COURSE AND COMPLICATIONS

If the delivery is not quickly completed or if the problem is not quickly corrected, a fetus in distress may die or suffer brain damage.

PATIENT CARE

Determine the cause of the fetal distress. Correcting the cause may bring the fetus out of distress. A speedy delivery may prevent damage to the fetus if the cause of the distress cannot be corrected. However, if possible, refer the mother to a hospital for delivery.

3.2 MATERNAL DISTRESS

A woman in labor who suffers a problem that threatens her life and the life of her fetus is in maternal distress. Labor and delivery strains all of a woman's physical and emotional systems. For this reason, monitoring the mother's condition during labor and delivery is as important as monitoring the fetal condition.

CAUSES OF MATERNAL DISTRESS

A prenatal history and examination will help you anticipate maternal distress. For example, you might expect a woman who suffers a heart disease to show signs of distress during labor. Common causes of maternal distress include:

- Severe anemia
- Tuberculosis
- Malnutrition

Heart disease

Diabetes

High blood pressure

Prolonged labor

Lack of sleep before labor begins

Severe pain during labor

Pelvic infection or generalized infection which may occur with the early rupture of membranes

Diarrhea

Vomiting

Bleeding

SIGNS OF MATERNAL DISTRESS

Signs of maternal distress include:

Blood pressure of 140/90 and above

Blood pressure of 90/60 and below

More than forty respirations per minute

Difficulty breathing

Abnormal breath sounds

Distended neck veins

Irregular heart rate

A pulse that stays above ninety beats per minute or below seventy beats per minute

Heart murmur

Temperature higher than 37.5°C

Vomiting

Diarrhea

COURSE AND COMPLICATIONS

If the cause of maternal distress is not treated, the problem may lead to death. Late signs of maternal distress include an anxious expression, paleness around the mouth, perspiration on the upper lip, dry mouth, concentrated urine, and dark vomit.

PATIENT CARE AND PREVENTION

a. Monitoring the woman in labor

Close monitoring of a woman's pulse, blood pressure, and temperature during labor and delivery will detect early signs of maternal distress. Prepare to transfer the woman to a hospital at the first sign of maternal distress.

b. Identify problems early

Identifying possible problems in a prenatal examination and referring the woman to a hospital for delivery is the most important means of preventing maternal distress. Women with diabetes, heart disease, high blood pressure, anemia, tuberculosis, or malnutrition should deliver at a hospital.

c. Determine the cause of maternal distress

Determine the cause of maternal distress and provide care, using Patient Care Guides and Patient Care Procedures.

3.3 URINE IN THE BLADDER

If a woman does not pass urine at the start of her labor, her bladder may be full. A full bladder will block the path of the fetus' presenting part and prolong the fetal descent.

CLINICAL PICTURE

a. Presenting complaint

The presenting part of a fetus does not advance as it should during labor. The *labor is delayed*. You may notice this problem while monitoring the woman's labor, or she may be brought to you after prolonged labor elsewhere.

b. Medical history

The labor is extended and the presenting part has not advanced. You find that the *woman has not been able to pass urine for several hours*.

c. Physical examination

On physical examination you will find a *bulging, slightly tender mass midline* in the *lower abdomen*. At times you can see a bulge with a distinct upper margin.

COURSE AND COMPLICATIONS

Prolonged labor harms the fetus. Labor may stop. If the labor continues and the newborn finally delivers despite the urine retention, the woman may damage her bladder.

PATIENT CARE

Urge women in labor to urinate at least once every three hours. She should empty her bladder completely at the beginning of the second stage of labor. If she cannot urinate, pass a catheter. Passing a catheter may be difficult if the presenting part presses against the urethra. In this case, hold the forefinger of your left hand against the front wall of the vagina, keeping the presenting part away. Pass the catheter through the urethra alongside your finger.

3.4 PREMATURE LABOR

Premature labor is labor which begins before the infant has reached a mature size. Causes of premature labor include: preeclampsia, eclampsia, bleeding, multiple pregnancy, abnormal formation of the fetus, or acute physical illness. Premature labor may also occur for no known reason.

CLINICAL PICTURE**a. Presenting complaint**

A woman will begin labor before her due date.

b. Medical history

The woman may have a history of a problem that may cause premature labor. She may have a history of bleeding, high blood pressure, convulsions, or a serious illness. However, she may have no abnormal history.

c. Physical examination

On abdominal examination, you will find a *fetus which is smaller than a term fetus*. Also, you will find all the signs of active labor.

COURSE AND COMPLICATIONS

Labor will continue through delivery if the woman has severe bleeding,

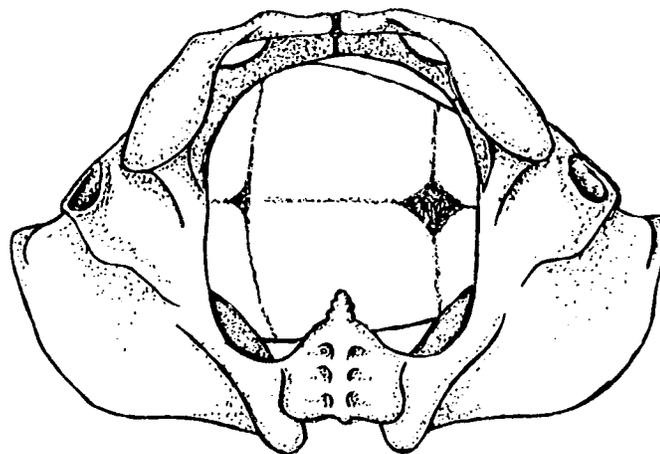
if her membranes are ruptured, or if her cervix is dilated. If labor occurs after twenty-eight weeks, survival of the newborn is possible. You may be able to stop the labor if the woman does not have severe bleeding, ruptured membranes, or a dilated cervix.

PATIENT CARE

Refer the woman to a hospital if possible. If the woman has severe bleeding, start an intravenous infusion. Hasten delivery by rupturing the membranes. If the woman is not bleeding and her labor is not advanced, put her at complete bed rest. Give her a mild sedative such as phenobarbital. If a living premature newborn is delivered, give it special care.

3.5 INCOMPLETE FETAL ROTATION

A woman with a narrow pelvic outlet may have a prolonged second stage of labor because internal rotation of the fetus will not occur without help. You will know that internal rotation is not complete because the suture between the fontanelles remains horizontal rather than rotating to vertical. The head cannot deliver until rotation occurs.



CLINICAL PICTURE**a. Presenting complaint**

A woman may come to you with a history of *prolonged labor*, or you may monitor a woman who has reached the second stage of labor but delivery has not progressed.

b. Physical examination

On vaginal examination, you will find the *cervix fully dilated*. The fetal head will be low in the pelvis, but the *sutures will be horizontal instead of vertical*.

If the woman has been in labor for a long time, look for signs of maternal distress.

COURSE AND COMPLICATIONS

Some fetuses may rotate and deliver without assistance. In other cases, however, labor continues, leading to fetal and maternal distress.

PATIENT CARE

First, check for signs of maternal or fetal distress. Treat these problems first. You may have to transfer the woman to a hospital.

While performing the vaginal examination, insert your hand alongside the fetal head. Try to sweep the head into a vertical position.

3.6 SMALL OR ABNORMALLY SHAPED PELVIS

Some women have a small or abnormally shaped pelvis. This condition causes problems during delivery because the fetus cannot pass through. A small or abnormally shaped pelvis is discovered during a previous pregnancy, in a prenatal examination, or when labor is prolonged.

CLINICAL PICTURE**a. Presenting complaint**

The presenting complaint may be *prolonged labor* in a woman who is giving birth for the first time.

b. Medical history

A small or abnormally shaped pelvis becomes a problem when a woman is in labor for several hours with little or no progress.

c. Physical examination

The woman may be very short. She may have *bony deformities* or *paralysis*. On abdominal and vaginal examinations, you may find that the fetus is still high in the pelvis or the presenting part is wedged into a *narrow pelvis*.

Fetal and maternal distress may occur if labor has lasted a long time.

COURSE AND COMPLICATIONS

Fetal death may occur.

PATIENT CARE

Transfer the woman to a hospital. She may need a cesarean delivery.

3.7 EARLY RUPTURE OF THE BAG OF WATERS

The bag of waters is a membrane sac that contains the fetus and fluids that surround the fetus. During labor, the bag of waters ruptures to allow the fluid and fetus to come out. When the bag of waters ruptures before labor begins, it is an early rupture. A delivery that occurs more than twenty-four hours after rupture of the bag of waters increases the risk of infection.

CLINICAL PICTURE

a. Presenting complaint

A woman may say she felt a *sudden rush* of *fluid* from her vagina, but she is not in labor.

b. Medical history

Usually the woman is near term. The rush of fluid might make her think her labor was going to begin, so she might go to the health center or she might call her traditional birth attendant. However, she will have no contractions if the bag of waters breaks prematurely.

In some cases, the woman may come to you in labor but say her bag of waters ruptured a day before. Ask all women in labor when their bag of waters broke. Write it in the comments section of your Labor Chart.

c. Physical examination

You may find that the woman is not in labor, but ***fluid is leaking from her vagina***. The fluid is clear, pale, and straw colored. It may also be milky. If it is green, meconium is in the fluid. Meconium in the fluid is a sign of fetal distress.

You may smell a foul odor if the bag of waters ruptured several hours earlier and the fluid is infected.

Fever in a woman with a ruptured bag of waters is a sign of infection and possible maternal distress.

COURSE AND COMPLICATIONS

Fluid which remains in the uterus can become infected. An infection can cause the death of the fetus. Also it can spread to other pelvic organs and become a generalized infection. Severe fever and infection can cause the death of the woman.

PATIENT CARE

- a. If labor starts soon after the rupture of the membranes and the infant delivers within twenty-four hours, no special treatment is necessary.
- b. If labor does not begin within twelve hours after the membranes rupture, give the mother ampicillin every six hours.
- c. If the woman has a fever above 37.5°C or if the fluid that remains in her uterus has a foul odor, start her on ampicillin and transfer her to a hospital.

3.8 RETAINED PLACENTA

After birth, the fetus' placenta usually slides out of the mother's uterus without help. However, sometimes it separates from the uterine wall but is not pushed out of the uterus or vagina. In other cases, it remains attached to the uterine wall. A placenta that does not separate from the uterine wall or slide out of the mother's vagina is a retained placenta.

A retained placenta is one that *does not deliver within sixty minutes after the delivery* of the baby. Bleeding may occur.

COURSE AND COMPLICATIONS

A placenta retained for several hours without bleeding may lead to intrauterine infection. Bleeding due to a retained placenta may lead to the death of the woman.

PATIENT CARE

The object is to remove the placenta. Gently and steadily pull on the cord. Support the uterus by placing your left hand on the woman's abdomen.

If this first method is unsuccessful, manual removal may be necessary. If the mother is not bleeding, transfer her to a hospital for the manual removal. If she is bleeding, remove the placenta quickly. See Patient Care Procedures.

3.9 PROLONGED LABOR

Prolonged labor is labor that takes longer than it should. Normal labor should last less than twenty-four hours from the time contractions begin to the time the baby is born. A woman who has had children before will often have a much shorter labor.

Time the stages of labor. Any *stage of labor that lasts longer than it normally should* is prolonged labor.

The causes of prolonged labor include: incomplete fetal rotation, disproportion of the pelvis, urine in the bladder, face-up presentation, face presentation, breech presentation, transverse presentation, and improper assistance in the delivery by an attendant.

COURSE AND COMPLICATIONS

Prolonged labor leads to maternal and fetal distress.

PATIENT CARE

First, identify the causes of prolonged labor and treat them. If you are not able to find a cause for the woman's prolonged labor, refer her to a hospital.

3.10 BREATHING PROBLEMS OF A NEWBORN

Remember that the most important general care of the newborn is to keep it warm. Keep most of the baby's body covered with a warm cloth while you handle any problems.

Trouble breathing is always a serious sign in a newborn. A newborn who does not breathe or cry soon after delivery will die.

If the newborn is pink and struggling to breathe, but does not cry as soon as he is delivered, follow these steps:

- a. Hold the newborn so his head is lower than his body.
- b. Gently rub his back and flick the bottom of his feet with your fingers.
- c. Use your hand to milk any fluid from his nose.

If the newborn does not cry and is pale and limp, follow these steps:

- a. Gently lay the newborn down flat.
- b. Use a bulb syringe or mucus extractor to suck out fluid from his nose and mouth.

If the bulb syringe or mucus extractor does not make the newborn breathe, try mouth-to-mouth respirations:

Put one hand under the newborn's neck

Straighten his airway by tilting his head back so his chin points up
Fill your cheeks with air and place your mouth over the newborn's
mouth and nose

Puff lightly. Remove your mouth between puffs to take in fresh air.
Puff at the rate of about twenty puffs per minute.

If the newborn takes only shallow and irregular breaths, follow these steps:

- a. Lay the newborn flat on his back.
- b. Make certain the newborn's airway is straight by tilting his head forward and then back.
- c. Bend the newborn's legs up, then straighten them. Continue bending and straightening his legs until his breathing improves.

Always handle a newborn gently and keep him warm. Never slap a newborn; never use very hot or very cold water; never roughly rub or bend the newborn. Refer a newborn who has trouble breathing to a hospital.

REVIEW QUESTIONS

Common Problems of Labor and Delivery

1. List at least three causes of fetal distress during labor and delivery.
2. What patient care is recommended for fetal distress?
3. List six causes of maternal distress.
4. TRUE (T) or FALSE (F)
_____ A pulse that stays above ninety beats per minute is an early sign of maternal distress.
5. List four signs of maternal distress that you should watch for during labor and delivery.
6. What is the most important means of preventing maternal distress?
7. Describe some of the complications of labor and delivery that urine in a woman's bladder might cause.

8. How can you help a woman prevent prolonged labor caused by a full bladder?

9. If a woman is experiencing premature labor and is bleeding, what should you do?

10. Explain what is meant by incomplete fetal rotation.

11. A fetus in incomplete rotation may eventually rotate and deliver without assistance. However, fetal distress is common. Explain how you would manage a fetus in incomplete rotation.

12. TRUE (T) or FALSE (F)
_____ A small or abnormally shaped pelvis can prolong labor and lead to fetal distress.

13. What physical examination findings would probably indicate a small or abnormally shaped pelvis?

14. What is a green fluid discharge from a pregnant woman's vagina a sign of?

15. The most severe complication of an early rupture of a woman's bag of waters is: Circle the letter of the correct answer.
 - a. Infection

- b. Bleeding
 - c. Premature labor
16. Describe the patient care you would give a woman who has experienced early rupture of her bag of waters.
17. A woman delivers a healthy baby but you notice that after nearly forty-five minutes the placenta has still not delivered. What would you do?
18. Describe what you would do if the baby you helped deliver is pink and struggling to breathe, but does not cry as soon as he is delivered.

REVIEW EXERCISE

1. A woman has successfully delivered a healthy, 3.5 kg boy. However, an hour after the delivery, the placenta has still not delivered. Describe the procedures you would use to manually remove the placenta from the woman's uterus. Do not look at your text to describe the procedures until you have finished.

SKILL CHECKLIST

Manually Removing a Placenta

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own and other students' knowledge and skills.
- 2) Supervisors should use it when they evaluate how well students understand the procedures for manually removing a placenta.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When manually removing a placenta:

	YES	NO	RATING	COMMENTS
1. Collect sterile surgical gloves, soap, water, and antiseptic solution				
2. Thoroughly scrub your hands and arms and put on the sterile surgical gloves				
3. Ask the woman to lie on her back with her knees bent and her legs raised. Be certain that her bladder is empty. Quickly clean her vulva with soap and water and antiseptic solution				

	YES	NO	RATING	COMMENTS
4. If you are right handed, hold the cord taut with your left hand				
5. Insert your right hand into the vagina and follow the cord up into the uterus to the placenta				
6. Release the cord. Place your left hand on the abdomen to steady the uterus and hold it in the pelvis within reach of the right hand				
7. Slip the fingers of your right hand between the edge of the placenta and the uterine wall. With your palm facing the placenta, use a sideways slicing movement to gently detach the placenta				
8. With your left hand, rub the abdominal wall above the uterus to produce a contraction. Remove the placenta with your right hand during the contraction				

	YES	NO	RATING	COMMENTS
9. If bleeding continues, rub the uterus through the abdominal wall and give 1 ml of ergonovine IM				
10. Examine the placenta thoroughly. If you think remnants of the placenta or the membranes remain in the uterus, refer the woman to a hospital				

Unit 4

Abnormal Presentations during Delivery

STUDENT GUIDE

OBJECTIVES

1. Describe the clinical picture for each of these abnormal presentations:
 - Face-up presentation
 - Face presentation
 - Breech presentation
 - Transverse presentation
 - Multiple pregnancy
2. Describe how to manage a face-up and a face presentation.
3. Describe how to manage a breech presentation and a multiple pregnancy in cases where it is impossible to refer them.
4. Demonstrate the procedures for assisting a labor and delivery.

LEARNING ACTIVITIES

1. Take part in a discussion of the review questions about abnormal presentations during delivery.
2. Listen to and observe an instructor's presentation about abnormal presentations during delivery.
3. Take part in a discussion of the instructor's presentation.
4. Take part in an informal question and answer session to evaluate your understanding of abnormal presentations.
5. In a clinic, observe and practice the procedures for assisting a labor and delivery.
6. Join three or four students during one evening in a hospital, clinic, or home where you can observe and assist in a labor and delivery.

4.1 FACE-UP PRESENTATION

Most babies emerge from their mother's birth canal head first, facing down. One of ten babies, however, presents head first, facing up. A baby's face-up position may prolong the mother's labor.

CLINICAL PICTURE

a. Presenting complaint

The woman usually will not have any complaints unless her labor is already prolonged.

b. Medical history

The mother's first stage of labor may be slow even if her contractions are regular and strong.

c. Physical examination

Examine the woman's abdomen while you monitor her labor. *Where you normally would expect to feel the baby's back against the mother's abdominal wall, you will find a depression.* This depression occurs at the umbilicus or just below it. The depression should warn you that the baby is in a face-up position.

On vaginal examination, you will see that the fontanelles are reversed.

COURSE AND COMPLICATIONS

Active labor in a face-up presentation often will flex the fetus' head forward. This flexion of the head allows the descent and delivery of the fetus.

However, active labor will not always flex the fetal head forward. In these cases, a face-up presentation will prolong the labor. Prolonged labor can lead to fetal and maternal distress.

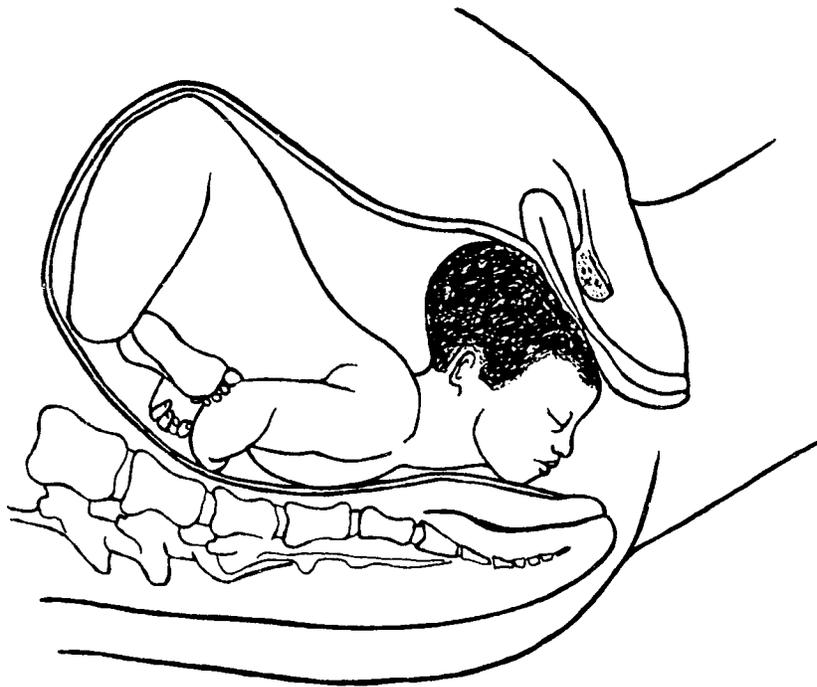
PATIENT CARE

A normal delivery occurs in most cases of a face-up presentation. When labor does not flex the head forward, however, you can assist by pushing on the front of the head or by rotating the head.

Transfer the patient to a hospital if labor is so prolonged that the mother or fetus begin to show signs of distress.

4.2 FACE PRESENTATION

A face presentation occurs when the head of the fetus extends so high that the face appears first. This condition is rare.



CLINICAL PICTURE

a. Presenting complaint

The woman will have no specific complaints, except for a long labor.

b. Physical examination

You will feel the fetus in face presentation while performing a vaginal examination. The **presenting part** is usually **high, soft, and irregular**.

You will be unable to feel the smooth, hard top of the head. Examine the presenting part with caution so you do not harm the eyes.

COURSE AND COMPLICATIONS

Most fetuses in a face presentation are born without complications. In some cases, however, the head remains high and labor is prolonged.

This can lead to fetal and maternal distress.

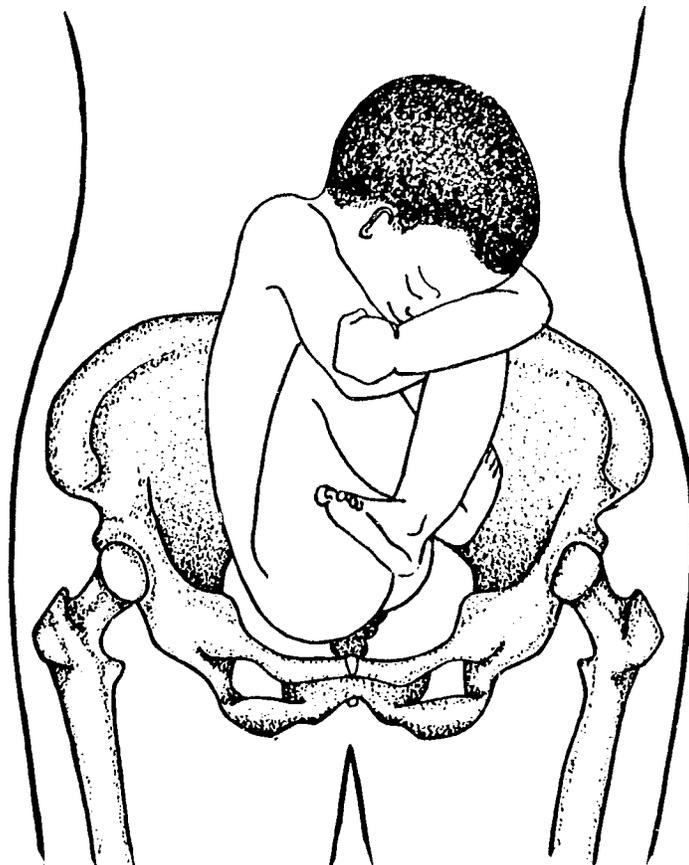
PATIENT CARE

You can assist the delivery of a fetus in a face presentation two ways. First, you can perform an episiotomy. See Patient Care Procedures. Second, you can help turn the fetus' chin outward so it delivers first. You can help the chin into this frontal position by gently holding back the forehead. With active labor and your assistance, the delivery usually will be normal.

Refer the woman to a hospital if normal delivery does not follow. Two conditions could interfere with normal delivery in a face presentation. The head may stop high in the birth canal and fail to complete delivery. Or, the chin may not push forward, also interfering with delivery. Refer women in these cases to a hospital.

4.3 BREECH PRESENTATION

Most babies deliver with the head presenting first. But in some cases, the buttocks or legs come out first. These are called breech presentations.



CLINICAL PICTURE**a. Presenting complaint**

Either you or a traditional birth attendant discovers during an examination that the fetus is in a breech presentation.

b. Medical history

When a breech is discovered during a prenatal examination, the woman would be advised to go to a hospital for delivery. But if the woman has not had prenatal care, you would not discover the breech presentation until she is already in labor.

A traditional birth attendant may refer a woman to the health center or call you when she discovers a breech presentation. In some cases, the woman may have already started delivery at home. The traditional birth attendant may be unable to deliver the fetus' head. This fetus will be dead when you arrive.

c. Physical examination

On abdominal examination, you will find the *fetus' head* in the *woman's upper abdomen* and the *fetus' buttocks and legs* in the *lower abdomen*. On *vaginal examination*, you find either *one foot, two feet, or the buttocks* as the *presenting part*.

COURSE AND COMPLICATIONS

A breech presentation poses two major risks. The first is that the cervix may dilate enough to deliver the fetus' legs and shoulders, but not enough to deliver the head. The head is the largest part of the fetus. Also, the woman's pelvis may be wide enough to admit the fetus' legs and shoulders, but not the head. Again, delivery of the head, coming last, may be blocked and the fetus may die.

The second risk is that of a prolapsed cord. The umbilical cord, coming before the shoulders and the head of the fetus, may be compressed, cutting off the fetus' life support. This, too, can cause the death of the fetus.

PATIENT CARE AND PREVENTION

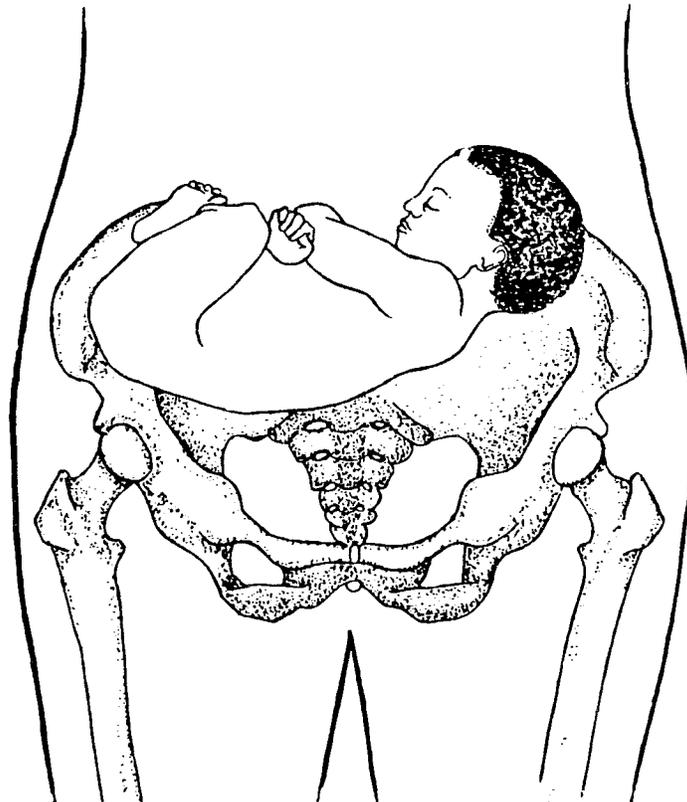
A breech delivery should be performed in a hospital by a doctor who can do a cesarean section. A cesarean section is a surgical operation in which the fetus is delivered through the abdominal wall. The woman's family and traditional birth attendant should be told that delivery at a hospital is best for the woman and her child.

However, on some occasions you will be unable to transfer the woman to a hospital. The delivery may already be in progress or the distance to the hospital may be too great. In these situations, you may have to assist in the delivery. See the Patient Care Procedure for Delivery of Breech Presentations.

If the woman's membranes rupture during labor or before labor, you must check immediately for a prolapsed cord.

4.4 TRANSVERSE PRESENTATION

When a fetus in the uterus lies sideways, with its head on one side of the abdomen and buttocks on the other, the presentation is transverse. Transverse means lying across, and it describes the position of the fetus.



CLINICAL PICTURE

a. Presenting complaint

A woman will have ***prolonged labor*** with no progress. Or, ***an arm may be presenting***.

b. Medical history

When a transverse presentation is discovered during a prenatal examination, the woman would be referred to a hospital for delivery. If the transverse position has not been discovered in prenatal examinations, the woman may have prolonged labor and be in distress. She may have a history of bleeding if the placenta or a tumor is blocking the normal positioning of the fetus.

c. Physical examination

An abdominal examination will reveal that ***neither the buttocks nor the top of the head is in the pelvis***. You may note signs of maternal and fetal distress. An arm may be presenting through the cervix and vagina. ***On vaginal examination, an arm, elbow, or shoulder may be present at the cervical opening***. Do not do a vaginal examination if the woman has vaginal bleeding.

COURSE AND COMPLICATIONS

The fetus cannot deliver in this position. If labor continues, fetal and maternal distress will occur. The uterus may rupture. If neglected, the fetus and mother may die.

PATIENT CARE AND PREVENTION

Refer the woman with a fetus in the transverse presentation to a hospital for a cesarean section. Give the woman dextrose and water during the transfer if she is in distress.

4.5 MULTIPLE PREGNANCY

Usually a woman has only one fetus during a pregnancy. However, on occasion, a woman may have two, three, or four babies at one time. The multiple pregnancies cause special problems.

CLINICAL PICTURE

a. Presenting complaint

Usually the woman has no special complaint nor knowledge that she has more than one fetus in her uterus. A multiple pregnancy is usually found during the prenatal examination.

Occasionally, a woman will be brought to you after delivering one child at home for help delivering a second.

b. Medical history

The only history you may get from a woman who you think may have a multiple pregnancy is that *she seems to be getting bigger than she thinks she should*. Multiple pregnancies are more common in some families than in others.

c. Physical examination

During a prenatal examination, you may find that the *uterus is larger than you would expect* for the stage of the woman's pregnancy. As the fetus grows, you may have a harder time determining the position of the fetus. You may feel two heads, or two buttocks, and so on. If you also hear two fetal heart beats, you will be able to make the diagnosis of a multiple pregnancy.

If the woman comes to you after the delivery of the first infant, assess the woman and the undelivered fetus.

COURSE AND COMPLICATIONS

A woman with a multiple pregnancy often delivers small or premature newborns. These newborns need special care.

Breech and transverse presentations are more common in multiple presentations.

A delay of one or two days between the delivery of the first fetus and the second may cause infections or death of the second fetus from lack of oxygen.

PATIENT CARE

Refer women with multiple pregnancies to a hospital. You should only deliver a multiple pregnancy if labor has already started and the woman does not have enough time to get to a hospital. See Patient Care Procedures. Also refer the woman if a remaining fetus does not deliver within two days or if you suspect one of the fetuses has died.

REVIEW QUESTIONS

Abnormal Presentations during Delivery

1. In most cases of a face-up presentation, the delivery will be normal. However, if flexion does not occur and labor is prolonged, what may you do to help?
2. TRUE (T) or FALSE (F)
 You should perform an episiotomy when delivering a fetus in a face presentation.
3. Write two conditions in which you should refer a woman whose fetus is in face presentation to a hospital for delivery.
4. TRUE (T) or FALSE (F)
 The risk of a prolapsed cord at the time of the rupture of the membranes is greater in a breech presentation than in a vertex presentation.
5. Briefly describe the difference between a breech presentation and a vertex presentation.
6. A fetus lying sideways in the uterus with the head on one side of the abdomen and the buttocks on the other is called a: Circle the letter of the correct answer.
 - a. Face-up presentation
 - b. Breech presentation
 - c. Transverse presentation

7. TRUE (T) or FALSE (F)

_____ The fetus cannot deliver in a transverse position. A cesarean section is necessary.

8. Explain what patient care you would give a woman whose fetus is in a transverse presentation.

9. Describe some of the complications that may arise with a multiple pregnancy.

10. Under what circumstances should you attempt to deliver a woman with a multiple pregnancy?

REVIEW EXERCISES

1. All the steps in the procedure for assisting delivery of a fetus in breech presentation are listed below, but they are not in their correct order. Number the steps in their correct order without looking at your text. Then check your answer with your text.

- _____ Allow the buttocks and body of the baby to deliver to the level of the umbilicus.
- _____ Wash the pubic area, thighs, and buttocks with soap and water.
- _____ Grasp the baby by the iliac crests and apply downward pressure.
- _____ If the arms are extended over the head, turn the baby's body 180°.
- _____ Scrub your hands with antiseptic soap for five minutes.
- _____ Suck out fluid and mucus from the nose and mouth.
- _____ Note the time of delivery and examine the newborn very carefully.
- _____ If the feet have not come down by themselves, use one finger to flex the knees.
- _____ Make sure the same supplies and equipment as for a normal delivery are prepared.
- _____ Rotate the baby's body a half circle in the opposite direction.
- _____ Catheterize the woman if she has a full bladder and cannot urinate.
- _____ Pick up the feet until the mouth and nose are free of the perineum.
- _____ Determine the location of the baby's arms.
- _____ Decide whether it is possible to transfer the woman to a hospital. If not, proceed.
- _____ Deliver the shoulders.
- _____ Scrub the woman's vulva and the feet and legs of the baby with an antiseptic solution.

- _____ When the umbilicus is visible, gently pull down on the cord.
- _____ Cover a table with a waterproof sheet and clean cloth sheet.
Have the woman lie on the table so her buttocks are at its edge and her feet are supported.
- _____ Let the mother slowly push out the rest of the baby's head.

2. Following is a description of how a mid-level health worker assisted delivery of a multiple pregnancy. Read the description and decide if the health worker performed the procedure correctly. If he did not, explain what steps are missing or what he did incorrectly. Do not refer to your text when you do this exercise. Refer to the text to check your findings only when you have finished.

Jono is a respected health worker in a very remote area. People from very distant villages come to him for care. One day a young woman who Jono had been seeing in the prenatal clinic came to Jono's health center complaining of labor pains. This surprised Jono for he had calculated the woman's expected date of delivery as being another month and a half away. Even more surprising was that during his assessment of this young woman, he detected two fetal heart beats. Jono was now faced with the task of assisting the delivery of twins. The district hospital was too far away to refer the woman. So Jono began preparing all of the necessary supplies and sterile instruments for the delivery. He prepared two sets of these so he would have a sterile set for each baby. He sent a message to the home of his auxiliary nurse to tell her that he would need her help.

During this time, the young woman's labor pains became more frequent and more intense. Jono knew that delivery of the first baby would happen soon. He monitored the young woman's labor as he would for a normal delivery, but he recorded and monitored both of the fetal heart rates. He watched the young woman closely for any signs of maternal distress.

After about seven hours of labor, the woman's bag of waters broke. The first fetus began to come out. Jono performed an episiotomy to ease the resistance of the perineum and speed the process. Jono also had the auxiliary nurse monitor the second fetus while he assisted the delivery. The first child was born with no problem.

Jono tied and cut the cord of the first child. He wrapped the child in a clean wrap and gave him to the nurse assistant to monitor. Jono then took over monitoring the second fetus. During his palpations of the

young mother's abdomen, he detected that the second fetus was lying sideways in the uterus. He listened to the fetal heart but did not detect any distress. He immediately located the head and back of the fetus and began to apply steady pressure to the young woman's uterus so that the fetus' head was pushed toward its chest. With the other hand, he pushed the lower part of the fetus' body in the opposite direction. He did this because he knew that the fetal head must be flexed against the chest for delivery to occur normally. When he felt that the fetus was in the correct head-down and feet-up longitudinal position, he ruptured the membranes of the second fetus and the fetus' head became engaged in the pelvis. The young woman had about three more intense contractions and the second fetus delivered.

Jono then instructed the auxiliary nurse to give the first baby to the mother to hold and let suckle. The auxiliary nurse also gave the young mother 1 ml of ergonovine so the mother's uterus would begin contracting. The young woman's bleeding stopped and Jono examined the second baby carefully. Soon, the second baby's placenta delivered. Jono sutured the episiotomy incision and cleaned the delivery table and the young woman. He monitored the twins and the mother for several hours. He also gave the mother important advice on breast-feeding and nutrition.

Jono did not let the mother and her twins go home that day. He decided that since the babies were more than a month premature, he would keep them at the health center for observation. However, by the next day he saw that the mother and the twins were very healthy. The twins had exceptional appetites and the young mother and father, who arrived late the night before, beamed with pride.

What do you think? Did Jono assist this delivery using the correct procedures? If not, what did he forget to do or what did he do incorrectly?

SKILL CHECKLIST

Assisting Delivery in a Multiple Pregnancy

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students understand the procedures for assisting delivery in a multiple pregnancy.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When assisting delivery in
 a multiple pregnancy:

	YES	NO	RATING	COMMENTS
1. Prepare these supplies and sterile instruments: Antiseptic solution Basin Table or bed Waterproof sheet Clean cloth sheet Cotton balls Clean wraps for the newborns Two containers for placentas Clean cloth apron or gown Waste bin Soap Brush Water Nail file Hand towel				

	YES	NO	RATING	COMMENTS
<p>Catheter Urine bowl Mucus extractor Bulb syringe Episiotomy scissors Ergonovine Needles Syringes Scissors Two or more cord ties Perineal pad or cloth</p> <p>Have two sets of supplies and equipment available for delivery</p>				
<p>2. Find an assistant to help you</p>				
<p>3. Monitor the woman's labor as with a normal delivery, but record and monitor two fetal heart rates. In addition, monitor the second fetus while the delivery of the first baby is being assisted. Watch the mother's condition closely</p>				
<p>4. Deliver the first baby, performing an episiotomy to ease the resistance of the perineum and speed the process</p>				

	YES	NO	RATING	COMMENTS
5. After the cord is tied and cut and the first baby wrapped, give it to an assistant to monitor				
6. Palpate the mother's abdomen to be certain the second fetus is lying lengthwise in the uterus. Listen to the fetal heart				
7. If contractions have not resumed after five minutes, rupture the membranes of the second baby. Rub the uterus through the abdomen to stimulate a contraction. If the contractions do not begin thirty minutes after rupturing the membrane, transfer the woman to the hospital, but go with her in case labor begins on the way				
8. If the second fetus is lying transversely, turn it before the membranes rupture a. Locate the head and back of the fetus by palpating the abdomen				

	YES	NO	RATING	COMMENTS
b. Apply steady pressure to the uterus so that the baby's head is pushed toward its chest. With the other hand, push the lower part of the body in the opposite direction				
c. When the fetus is in the correct position, rupture the membranes so the head or the breech will engage				
d. After three or four good contractions, the second baby should be delivered				
9. Deliver the second baby as a vertex or breech presentation				
10. Give 1 ml of ergonovine after the last fetus is delivered. Do not give ergonovine if another fetus is in the uterus				
11. After the delivery of the second newborn,				

	YES	NO	RATING	COMMENTS
give the first newborn to the mother to hold and suckle while the second is being examined				
12. Proceed with the delivery of the placenta as in a normal delivery				
13. Monitor the newborns and the mother several hours after the deliveries				
14. Give the mother advice on eating and breast-feeding				

SKILL CHECKLIST

Assisting Delivery in a Breech Presentation

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students understand the procedures for assisting delivery in a breech presentation.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When assisting delivery
 in a breech presentation:

	YES	NO	RATING	COMMENTS
1. Assess the progress of the woman's labor. Decide whether you can transfer her to a hospital for delivery. If you cannot, then you must proceed				
2. Make sure that the supplies and equipment for a normal delivery are prepared. Include a clean, dry towel or cloth for handling the fetus				
3. When the woman reaches the second				

	YES	NO	RATING	COMMENTS
stage of her labor, have her lie on a clean, waterproof sheet covered with a clean, cloth sheet. Her buttocks should be at the edge of the table or bed. Her feet should be supported				
4. Make certain that the woman's cervix is fully dilated. If she has been unable to urinate and has a full bladder, catheterize her				
5. Wash the woman's pubic area, thighs, and buttocks with soap and water. If the feet and legs of the fetus are outside the vagina, wash them also				
6. Scrub your hands with a soft brush and antiseptic soap for five minutes. Clean under your nails				
7. Use cotton balls to scrub the woman's vulva and the fetus' feet and legs with an antiseptic solution				
8. Perform an episiotomy				

	YES	NO	RATING	COMMENTS
9. If the buttocks are in the vagina and the feet and legs of the fetus are not outside the vulva, use one finger to flex the fetus' knees				
10. Grasp both feet and pull them together through the vulva				
11. As the legs emerge, wrap them in a dry, clean towel. Grasp the thighs. Apply traction by very gently pulling the fetus until the buttocks and hips are delivered				
12. When the umbilicus is visible, gently pull out a long loop of the cord				
13. Place your thumbs over the end of the fetal spine and your fingers over the hips. Gently apply downward traction until the ribs and then the shoulders are visible				
14. Continue your steady and gentle downward traction until the lower halves of the				

	YES	NO	RATING	COMMENTS
shoulder are delivered outside the vagina and one armpit is visible				
15. If the fetus' arms are flexed and the elbows are on the chest, deliver the shoulders and arms. Ask the mother to bear down during her next contractions. Continue your downward traction until the anterior shoulder and arm are delivered. Rotate the fetus in the opposite direction to deliver the other shoulder and arm				
16. If the arms do not deliver in Step 15, deliver the posterior shoulder first. Grasp the fetus' feet with one hand and pull them upwards over the mother's groin to deliver the posterior shoulder and arm over the perineum				
17. When the posterior shoulder is delivered, lower the fetus and continue applying gentle				

	YES	NO	RATING	COMMENTS
traction. Deliver the anterior shoulder under the symphysis pubis and then the arm				
18. If the arms are flexed on the chest and do not deliver, free the posterior arm first				
a. As in Step 16, grasp the feet in one hand and pull them toward the mother's groin				
b. Insert two fingers of the other hand into the vagina, following the humerus to the fetus' elbow				
c. Splint the arm between your fingers and bring it downward to deliver it through the vulva				
19. Deliver the anterior arm by lowering the fetus' body. If the arm does not deliver, use two fingers to splint the humerus. Pull it downward over the chest and through the vulva				
20. If the fetus' arms are extended over the head deliver them by				

	YES	NO	RATING	COMMENTS
<p>following Steps 18 and 19. Pay special attention to splinting the humerus. Insert two fingers into the vagina to the fetus' elbow. Splint the arm between your fingers and bring it downwards to deliver it through the vulva</p>				
<p>21. If an arm is extended over the head but flexed at the elbow, follow these steps:</p> <p>a. Grasp the fetus by placing your thumbs over the end of the spine and your fingers over the hips</p>				
<p>b. Turn the fetus' body in the direction that the hand behind the neck is pointing. Continue turning for a quarter to a half rotation until the arm is freed from behind the neck. The birth canal will force the elbow toward the face and move the arm to a position from which it can be delivered</p>				

	YES	NO	RATING	COMMENTS
c. Splint the arm as in Step 20 and deliver it as an extended arm				
d. If the other arm is behind the neck, repeat Step 21b turning the fetus in the opposite direction through a half circle until the elbow is forced toward the face and is in a position to be delivered				
e. Splint the arm as in Step 20 and deliver as an extended arm				
22. If turning the fetus' body fails to free the arms from behind the head, hook a finger over the humerus. Force it downward over the face and deliver it. This step may fracture the arm. After the delivery, splint the arm and transfer the mother and infant to a hospital				
23. Ask an assistant or family member to apply pressure on the uterus above the				

	YES	NO	RATING	COMMENTS
pubis to maintain flexion of the head until it is delivered				
24. Hold the fetus with your left arm. Place your middle and index fingers over the upper jaw. Do not allow your fingers to slip onto the chin. Use the fingers over the jaw only to maintain the head in flexion. Do not apply pressure to assist in the delivery of the head				
25. Place your other hand on the upper back of the fetus. Hook your index finger over one shoulder on one side of the neck and your middle finger over the other shoulder on the other side of the fetus' neck. Keep these two fingers spread as far as possible from the fetus' neck				
26. Grasp the shoulders with your thumb and remaining fingers				
27. Apply downward traction only with				

	YES	NO	RATING	COMMENTS
<p>your hand on the fetus' shoulders. When the fetus' hairline is visible under the symphysis pubis, apply upward pressure with the hand over the shoulders. At the same time, raise the fetus' body toward the mother's abdomen with your other arm</p>				
<p>28. Deliver the head slowly. Suck out the mucus from the fetus' nose and mouth when they emerge. Let the mother slowly push out the rest of the fetus' head</p>				
<p>29. When the fetus is delivered, note the time and proceed as you would for a normal delivery</p>				

Unit 5

Emergencies during Labor and Delivery

STUDENT GUIDE

OBJECTIVES

1. Describe the following emergencies during labor and delivery:
Prolapse of the cord Bleeding
Rupture of the uterus Postpartum bleeding
Preeclampsia or eclampsia
2. Describe some of the emergencies that may occur in a newborn.
3. Describe how to manage emergencies during labor and delivery as well as emergencies of the newborn.
4. Demonstrate the procedures for assisting a labor and delivery.

LEARNING ACTIVITIES

1. Join in a discussion of the review questions for this unit.
2. Listen to an instructor's presentation on how to recognize and manage emergencies of the newborn.
3. Work with a small group of students to describe an emergency that might occur during labor and delivery.
4. Work with a small group of students to describe what action you would take in labor and delivery emergencies.
5. Take part in a discussion of students' solutions to the emergency situations and of what you learned during this session.
6. Observe the procedures for assisting a normal labor and delivery and practice them in a clinic.
7. Join three or four students during one evening in a hospital, clinic, or home where you can observe and assist in a labor and delivery.

5.1 PROLAPSE OF THE CORD

A prolapsed umbilical cord is one that has slipped through the cervix ahead of the presenting part. During uterine contractions and advancement of the presenting part, the prolapsed cord may be squeezed against the pelvic tissues. This squeezing may close off blood flow to the fetus and lead to fetal death.

CLINICAL PICTURE

a. Presenting complaint

A sudden rupture of the bag of waters when the presenting part is not engaged may wash the cord out ahead of the presenting part. This may happen in a vertex presentation, a transverse lie, a breech presentation, and a foot or arm presentation. It can happen in a foot or arm presentation because the presenting part is small and the cord can easily slip around it. In a multiple birth, the cord of the second fetus may slip out after the delivery of the first baby.

b. Physical examination

The fetal heart rate will increase and then decrease as death nears. ***A vaginal examination will reveal a firm, slippery, pulsating, rope-like mass.***

COURSE AND COMPLICATIONS

If uncorrected, the fetus will die during the delivery.

PATIENT CARE

You may be able to push the cord back into the uterus during a vaginal examination.

Rapidly transfer the woman to a hospital, if possible. Put the woman on her knees with her head down. This position will take pressure off her pelvis. If you cannot quickly transfer her to a hospital or slip the cord back into the uterus, delivery must continue, but you should expect a dead fetus. Prepare the family for this outcome.

5.2 RUPTURE OF THE UTERUS

A rupture of the uterus occurs when the uterus splits during labor. This unusual but serious complication may occur when the woman has had a cesarean section. The healed scar tissue may be too weak. A ruptured uterus may also occur during an obstructed labor or during hard massage of the uterus during labor.

CLINICAL PICTURE

a. Presenting complaint

A woman in labor suddenly no longer feels pain. Her strong contractions stop.

b. Medical history

She may feel as if something gave way during a strong, hard contraction. *She may also feel faint.* She may *be unconscious and in deep shock.*

c. Physical examination

Strong contractions suddenly stop. *Signs of fetal distress* are present. The fetal heart rate increases for a time, decreases, and then stops. *The woman will go into shock.* Her blood pressure will fall. She will have clammy, cold skin. Shock may progress to coma.

COURSE AND COMPLICATIONS

Severe abdominal bleeding will lead to death of the fetus and the woman unless an operation is performed.

PATIENT CARE AND PREVENTION

Immediately refer the woman to a hospital for an operation and blood transfusions. Treat her for shock during the transfer.

Any woman who has had a cesarean section should deliver in a hospital because an operation and blood transfusion may be necessary.

5.3 PREECLAMPSIA OR ECLAMPSIA

Preeclampsia is a hypertensive disease that occurs during pregnancy. Preeclampsia occurs more often in young women who are giving birth for the first time than in women who have given birth before. The disease is called eclampsia when convulsions occur.

CLINICAL PICTURE

a. Presenting complaint

A woman suffering preeclampsia or eclampsia during labor will have **high blood pressure** and **increased tendon reflexes**, such as knee reflex or ankle reflex. She may have had a **convulsion** at home.

b. Medical history

A history of high blood pressure, especially in a woman giving birth for the first time, should be found during prenatal examinations. The woman should deliver in a hospital. A woman in labor with high blood pressure or convulsions will look and act very ill. She may be in a coma. She may have a history of **trouble with her vision, headaches, edema, or pain in her abdomen**.

c. Physical examination

A woman with preeclampsia or eclampsia will have high blood pressure. She may have **tremors, increased reflexes, and convulsions**. She may be **in a coma**, and she may have **severe edema**.

COURSE AND COMPLICATIONS

Preeclampsia and eclampsia can lead to fetal and maternal death.

PATIENT CARE

Preeclampsia and eclampsia usually improve after delivery. For this reason, deliver the fetus as quickly as possible. If possible, transfer the woman to a hospital for delivery. Give her magnesium sulfate deep IM before you transfer her. See Patient Care Guides.

If the woman suffers a convulsion, turn her on her side so she will not breathe in any vomited material. Stop the convulsions by giving her diazepam. See Patient Care Guides.

5.4 BLEEDING

Bleeding during labor usually occurs when the placenta separates from the uterus before it should. In some cases, the placenta lies across the cervical opening. When the cervix dilates, it pulls the placenta from the uterine wall. The bleeding is painless, but serious. If the bleeding is caused by premature separation of a normally placed placenta, the bleeding will be very severe and may cause shock. The woman will complain of constant abdominal pain.

CLINICAL PICTURE

a. Presenting complaint

A woman in labor whose placenta has separated will have ***bright red, vaginal bleeding***.

b. Medical history

The ***onset*** of severe bleeding is usually ***sudden***.

c. Physical examination

Never perform a vaginal examination in a woman who has vaginal bleeding during labor. You may tear the placenta and cause even more bleeding.

Check the woman's vital signs. She may be ***in shock***. The fetal heart tones may or may not be present.

COURSE AND COMPLICATIONS

Fetal death is common in cases of severe bleeding. Only quick action will prevent maternal death.

PATIENT CARE

Treat the woman for blood loss. Start an intravenous infusion with normal saline. Transfer her as quickly as possible to a hospital.

5.5 POSTPARTUM BLEEDING

Bleeding during the twenty-four hours after a delivery is postpartum bleeding. Postpartum bleeding is a life-threatening complication of labor and delivery.

Incomplete contraction of the uterus, retained pieces of the placenta in the uterus, or a lacerated cervix or vagina can cause postpartum bleeding.

CLINICAL PICTURE

a. Presenting complaint

A woman suffering postpartum bleeding will complain of **heavy vaginal bleeding after delivery**. She may be in shock.

b. Physical signs

Postpartum bleeding may be so heavy that it looks like bleeding from an open tap. **Signs of shock** including low blood pressure and clammy skin are common.

Examination of the woman's abdomen may reveal a **soft, boggy uterus**. This uterus has not contracted after delivery to close the large blood vessels.

If the uterus is firm and contracted, look for a **laceration**. If a laceration is suspected, examination of the vagina is necessary although the examination may be difficult because of the blood.

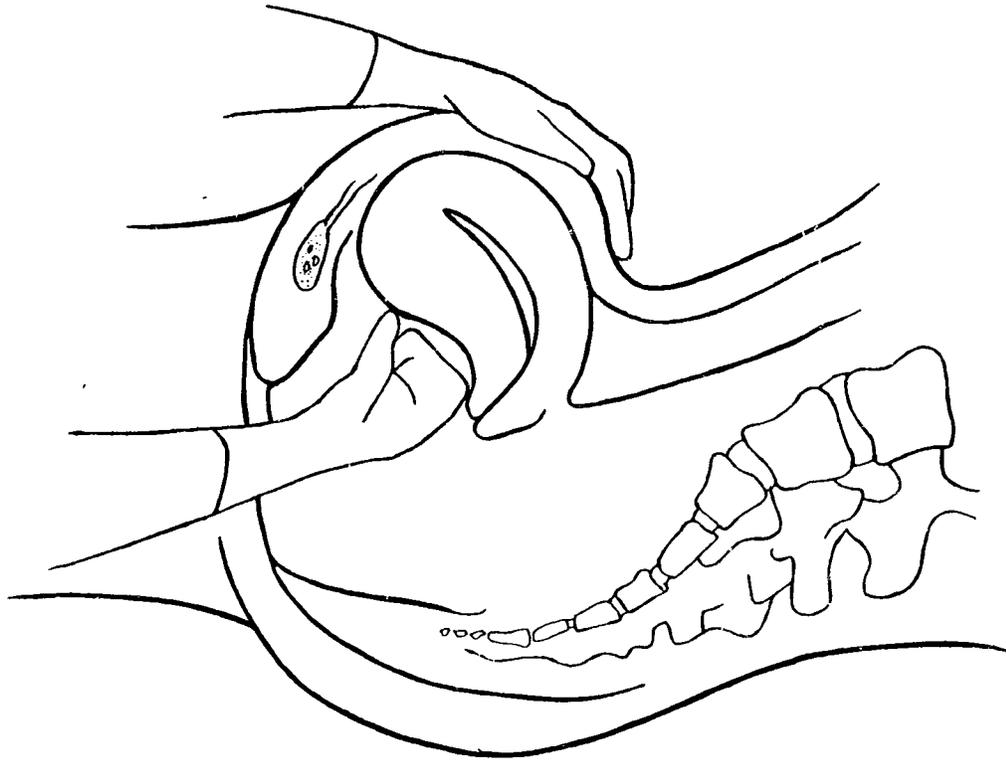
COURSE AND COMPLICATIONS

Severe and continuous blood loss leads to shock, coma, and rapid death.

PATIENT CARE

This is a life-threatening emergency. Rapid treatment is necessary.

If the uterus is soft and boggy, massage it until it contracts. When it contracts, you may stop the massage, but you should check the uterus frequently. If the uterus does not contract, place your right fist into the vagina. Press the uterus between your right fist and your left hand on the abdomen.



Start an IV of Ringer's lactate and allow it to run in for one to two hours. Give the woman ergonovine IM. See Patient Care Guides.

If the bleeding continues after the uterus is firm and you find no sign of a laceration, transfer the woman to a hospital. She may have a piece of the placenta still inside her uterus.

If the woman's uterus feels firm, the bleeding is probably caused by a laceration. You will have to suture the laceration to stop the bleeding. If the laceration is too high to suture, pack the woman's vagina, and apply direct pressure to the laceration site. Treat the woman for shock and transfer her to a hospital.

5.6 EMERGENCIES IN A NEWBORN

Certain problems in a newborn must be seen by a doctor in a hospital as soon as possible. Transfer the newborn with the mother. Allow the mother to hold the newborn, keeping it warm and secure. Transfer a newborn with any of the following problems.

Irregular Breathing after Delivery

Transfer a newborn if his breathing continues to be irregular after delivery. The doctor will determine the cause of the problem and the treatment.

Blueness of the Lips and Skin

Blueness of lips or skin may be caused by a problem of the lungs or the heart.

Jaundice

A doctor should determine the cause of jaundice appearing in the first twenty-four hours after birth.

Continuous Vomiting

Continuous vomiting is a sign of a problem in the newborn's gastrointestinal system.

No Opening in the Anus

This rare condition requires an operation to allow the intestinal tract to empty.

Unusual Actions Such As Rolling Eyes, Extreme Irritability, or Stiffness

Unusual actions are a sign of a problem with the newborn's nervous system. Trauma, drugs, or infection can cause nervous system problems.

Refer any newborn whose leg or arm is fractured or paralyzed. Refer very small or premature newborns who cannot suckle. Refer any newborn whose APGAR score is in the moderate or severe range at five minutes after birth.

REVIEW QUESTIONS

Emergencies during Labor and Delivery

1. Why does prolapse of the umbilical cord threaten the fetus?

2. What should you do if it is impossible to correct prolapse of the cord during labor?

3. What are three signs of rupture of the uterus?

4. Describe one way to prevent a rupture of the uterus.

5. Briefly describe the difference between preeclampsia and eclampsia.

6. Describe the patient care for a woman diagnosed as having preeclampsia.

7. What is the usual cause of bleeding during labor? Circle the letter of the correct answer.
 - a. Laceration of the membranes

- b. Early separation of the placenta from the uterus
- c. Laceration of the cervix

8. TRUE (T) or FALSE (F)

_____ Fetal death is common in cases of bleeding during labor.

9. Explain why you should never do a vaginal examination of a woman who has vaginal bleeding during labor.

10. What usually causes postpartum bleeding?

11. Why is postpartum bleeding an emergency?

12. If a woman continues to bleed after delivery and her uterus is firm, what will you suspect and how will you handle the situation?

13. Name six problems in a newborn that must be seen by a doctor as soon as possible.

Unit 6

Assessing a Woman in Labor and Assisting Labor and Delivery; Skill Development

STUDENT GUIDE

OBJECTIVES

1. Take and record the labor history of a woman in labor.
2. Perform and record the findings of a physical examination of a woman in labor, including an abdominal examination and a vaginal examination.
3. Assist in a woman's labor and delivery.

LEARNING ACTIVITIES

1. Take part in one week of skill development in a hospital, clinic, or home.

Unit 7

Assisting Labor and Delivery; Clinical Rotation

STUDENT GUIDE

ENTRY LEVEL

Before starting your clinical experience, you must:

1. Score at least 80% on a test of your knowledge about labor and delivery.
2. Earn at least two Satisfactory ratings on how you:

Take and record the labor history of a woman in labor

Perform and record the findings of a physical examination of a woman in labor including an abdominal examination and a vaginal examination

Assist in a labor and delivery

OBJECTIVES

1. Provide physical and emotional support and care to a woman in labor.
2. Monitor the progress of a woman's labor.
3. Assist a delivery, performing an episiotomy, if necessary.
4. Provide immediate care for the newborn including cutting the umbilical cord.
5. Provide care for the mother after delivery, repairing an episiotomy and perineal lacerations, if necessary.
6. Determine the newborn's APGAR score.

LEARNING ACTIVITIES

You will provide supervised patient care for one month in a hospital, clinic, or a woman's home. During that time, you will be help-

ing identify and treat women with reproductive system problems as well as assisting with labors and deliveries. You will be expected to use Diagnostic Guides, Patient Care Guides and the Patient Care Procedures related to Labor and Delivery.

EVALUATION: Level II

When you feel that you have had enough experience, ask your supervisor to evaluate you. He will do this using a log book. This log book contains a list of the procedures you will use in assisting normal labors and deliveries. It also shows how many times you should be evaluated on these procedures. As your supervisor watches you perform the procedures, he will write his rating in the log book. He will rate you in the following way on your performance:

- 1 = Inadequate
- 2 = Needs improvement
- 3 = Satisfactory
- 4 = Above average
- 5 = Excellent

You will be expected to get at least a Satisfactory rating for all of the procedures.

Unit 8

Assisting Labor and Delivery in a Community; Community Phase

STUDENT GUIDE

ENTRY LEVEL

Before you start your community experience, you must:

1. Score at least 80% on a test of your knowledge about labor and delivery.
2. Complete a month of clinical experience in a hospital or clinic.
3. Earn at least a Satisfactory rating for:

Providing physical and emotional support and care to a woman in labor

Monitoring the progress of a woman's labor

Assisting a normal delivery, performing an episiotomy when necessary

Providing immediate care for the newborn, cutting the umbilical cord and determining an APGAR score

Providing care for the mother after delivery, repairing an episiotomy or any perineal lacerations

Giving the newborn a thorough physical examination

OBJECTIVES

1. Assist labors and deliveries in the community by:

Taking a medical history and performing a physical examination of women in labor

Providing physical and emotional support and care to women during labor and monitoring their labor

Performing any necessary procedures such as episiotomies, repair of episiotomies, and repair of perineal lacerations

Providing care for the mother and newborn after delivery

2. Identify women in the community who are near labor and advise them about the importance of a safe and clean delivery.
3. Identify and prepare other members of the health team with whom you may work to ensure safe labors and deliveries.

LEARNING ACTIVITIES

1. Survey the community to identify women who are near labor.
2. Identify any local customs and practices that increase or decrease the occurrence of unsafe labors and deliveries.
3. Advise women who are near term about the importance of a safe and clean delivery.
4. Prepare a community health worker to help advise women near labor about the importance of a safe and clean delivery.

EVALUATION: Level III

During your community experience, your supervisor will evaluate you. To do this, he will use the standards set out in a community experience log book.

The MEDEX Primary Health Care Series

POSTNATAL CARE

Student Text

© 1983

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

Library of Congress Catalog Card No. 83-80675

First Edition

Printed in U. S. A.

Any parts of this book may be copied or reproduced for non-commercial purposes without permission from the publisher. For any reproduction with commercial ends, permission must first be obtained from the Health Manpower Development Staff, John A. Burns School of Medicine, University of Hawaii, 1960 East-West Road, Honolulu, Hawaii 96822.

FUNDED BY THE U. S. AGENCY FOR INTERNATIONAL DEVELOPMENT CONTRACT NO. DSPE-C-0006. The views and interpretations expressed are those of the Health Manpower Development Staff and are not necessarily those of the United States Agency for International Development

TABLE OF CONTENTS

TASK ANALYSIS TABLE	9
SCHEDULE	17
INTRODUCTION	18

UNIT 1

Postnatal Changes in a Woman

Student Guide	22
Normal Changes that Occur in a Woman after Delivery	23
Taking a Postnatal Medical History	25
Performing a Postnatal Physical Examination	27
Review Questions	30
Skill Checklist	31

UNIT 2

Postnatal Care

Student Guide	34
Supportive Postnatal Care	35
Breast-Feeding and Breast Care	35
Care of the Genitals	36
Exercise	37
Nutrition	38
Extra Iron and Folic Acid	38
Intercourse and Child Spacing	39
Review Questions	40

UNIT 3

Normal Changes in a Newborn

Student Guide	41
Physical Changes in a Newborn	42
Newborn Physical Examination	44
Review Questions	46
Skill Checklist	48

UNIT 4

Care of a Newborn

Student Guide	51
Care of the Newborn	52
Review Questions	57

UNIT 5

Postnatal Problems

Student Guide	59
Swollen Breasts	60
Lack of Breast Milk	61
Hemorrhoids	63
Review Questions	65

UNIT 6

Other Postnatal Problems

Student Guide	67
Cracks on Nipples	68
Breast Abscess	69
Puerperal Sepsis	70
Unrepaired Perineal Tears	71
Mother with a Dead Baby	73
Review Questions	74

UNIT 7

Common Problems of the Newborn

Student Guide	76
Cradle Cap	77
Diaper Rash	78
Colds	79
Simple Jaundice	80
Simple Swelling of the Scalp	81
Review Questions	82

UNIT 8

Other Problems of the Newborn

Student Guide	84
Bleeding into the Scalp	85
Fractures	86
Diarrhea	87
Fever	88
Low Birth Weight	89
Jaundice	90
A Newborn without a Mother	91
Review Questions	93

UNIT 9

Birth Defects

Student Guide	95
Birth Defects	96
Preventing Birth Defects	100
Review Questions	101

UNIT 10

Selecting Health Education Material and Giving Health Messages

Student Guide	102
---------------	-----

Selecting Health Education Material and Giving Health Messages	103
Choosing Health Education Material	104
Combining Distribution of Health Education Material with Health Talks	105
Skill Checklist	106

UNIT 11

Assessing Postnatal Women and Newborns; Skill Development

Student Guide	108
---------------	-----

UNIT 12

Providing Care for Postnatal Women and Newborns; Clinical Rotation

Student Guide	109
---------------	-----

UNIT 13

Helping a Community Prevent Problems and Care for Postnatal Women and Newborns; Community Phase

Student Guide	111
---------------	-----

TASK ANALYSIS TABLE

Providing postnatal care to women in the community.

<p>Work Requirements <i>DUTIES</i></p>	<p>Training Requirements</p>	
	<p><i>SKILLS</i></p>	<p><i>KNOWLEDGE</i></p>
<p>The MLHW will:</p> <ol style="list-style-type: none"> 1. Take and record a medical history of each woman seeking postnatal care for herself or her newborn 	<p>The MLHW trainee will demonstrate his ability to:</p> <ol style="list-style-type: none"> 1.1 Question a woman about her condition 1.2 Question a woman about her medical history 	<p>The MLHW trainee will demonstrate his knowledge of:</p> <ol style="list-style-type: none"> 1.1.1 How to question a woman about her labor and delivery and her postnatal period 1.2.1 Information needed to complete a postnatal medical history: <ul style="list-style-type: none"> Date and result of the delivery Information about an episiotomy or cesarean section Whether the woman is breast-feeding and whether she produces enough milk Whether the woman feels discomfort in her breasts or abdomen Whether the woman has had a fever Whether the woman smokes or takes any medications

Work Requirements
DUTIES

Training Requirements

SKILLS

KNOWLEDGE

2. Perform and record a physical examination of all women seeking routine postnatal care

1.3 Question a woman about the condition of her newborn

1.4 Record medical history information on a Maternity Card

2.1 Identify these normal physical changes that occur after a woman has delivered:

Whether the woman's appetite is good and what she eats
Whether the woman takes folic acid and iron

1.3.1 Questions to ask a woman about the condition of her newborn:

Whether the woman is breast-feeding and if she is having any problems breast-feeding

Whether the newborn is sleeping well

Whether the newborn can be comforted when he cries

Whether the mother has noticed any problems

1.4.1 How to use a Maternity Card

2.1.1 The anatomy and physiology of the female reproductive system

Work Requirements

DUTIES

Training Requirements

SKILLS

KNOWLEDGE

Change in the size of the uterus
 Change in the cervix
 Shedding of the lining of the uterus
 Change in the vagina
 Lactation

2.2 Identify these signs of postnatal problems in women:

Painful, swollen breasts
 Lack of breast milk
 Enlarged anal veins
 Cracks on nipples
 Tender, red, and swollen breast
 Soft, yellow area on a breast
 Superficial lacerations of the vagina
 Deep lacerations into the muscle of the vagina
 Lacerations of the anus
 Fever
 Foul smelling vaginal discharge
 Low abdominal pain
 Spongy uterus
 Mother with a dead baby

2.1.2 How to do a physical examination

2.1.3 How to use the Maternity Card to record the findings of a physical examination

2.1.4 Normal physical changes following a delivery

2.2.1 Definition of abnormal signs associated with women who have delivered

Work Requirements DUTIES	Training Requirements	
	SKILLS	KNOWLEDGE
3. Provide routine postnatal care	3.1 Provide care for common postnatal problems	3.1.1 Patient care for common postnatal problems
4. Recognize and provide care for these postnatal problems: Swollen breasts Lack of breast milk Hemorrhoids Cracks on nipples Breast abscess Puerperal sepsis Unrepaired perineal tears Mother with a dead baby	4.1 Use the Student Text and Diagnostic Guides to identify postnatal problems 4.2 Use the Student Text, Formulary, Patient Care Procedures, and Patient Care Guides to decide how to care for postnatal problems	4.1.1 The clinical picture and course of postnatal problems 4.1.2 Where to find reference manuals and how to use them 4.2.1 The correct medical treatment of postnatal problems 4.2.2 The properties of drugs and medicines used to treat postnatal problems 4.2.3 Procedures for referring women with postnatal problems
5. Perform and record a physical examination on all newborns brought to the clinic for routine postnatal care	5.1 Identify the normal physical changes in a newborn that affect his: General body appearance Skin Stools	5.1.1 Anatomy and physiology of newborns

Work Requirements

DUTIES

Training Requirements

SKILLS

KNOWLEDGE

Umbilical cord
Reflexes
Weight

- 5.1.2 How to perform a newborn physical examination
- 5.1.3 How to record the findings of the newborn's physical examination on an Under-Five Card
- 5.1.4 Normal physical changes of the newborn
- 5.2.1 Definition of common signs of problems in a newborn

5.2 Identify these signs of problems in a newborn:

Scaly, oily crusts on the scalp
Red, irritated skin beneath the diaper
Clear discharge from the nose
Jaundice
Swelling of the scalp
Swelling with hard edges and soft center on the scalp
Inability to move one side of body
Irregularity in bone
Frequent, watery stools
Sunken fontanelles
Dry mucous membranes
Tenting of skin

Work Requirements <i>DUTIES</i>	Training Requirements	
	<i>SKILLS</i>	<i>KNOWLEDGE</i>
8. Share with women ideas about how to prevent and care for postnatal problems	<p>7.2 Use the Student Text, Formulary, Patient Care Procedures, and Patient Care Guides to decide how to care for problems of the newborn</p> <p>8.1 Advise women about personal, preventive postnatal care including: Supportive postnatal care Breast-feeding and breast care Care of the genitals Exercise Nutrition Extra iron and folic acid Intercourse and child spacing</p>	<p>7.2.1 The correct medical treatment for problems of the newborn</p> <p>7.2.2 The properties of drugs and medicines used to treat newborns</p> <p>7.2.3 Procedures for referring newborns with complications</p> <p>8.1.1 Normal postnatal physical changes</p> <p>8.1.2 Importance of exercise, hygiene, and rest</p> <p>8.1.3 Nutritional needs of a lactating woman</p> <p>8.1.4 Safe times for intercourse during the postnatal period</p> <p>8.1.5 Information about forms of birth control, their use, and side effects</p> <p>8.1.6 How to use small group discussions to share postnatal health messages</p>

Work Requirements DUTIES	Training Requirements	
	SKILLS	KNOWLEDGE
9. Advise health workers, patients' families, and others about how to care for and prevent postnatal problems	8.2 Advise women about preventive postnatal care of a newborn, including: Breast-feeding Warmth Sleep Burping Spitting up Circumcision Crying Bathing Care of the umbilical cord Immunizations	8.2.1 Basic needs of the newborn 8.2.2 Techniques for breast-feeding 8.2.3 How to burp a newborn 8.2.4 Safe circumcision practices 8.2.5 Why a newborn cries and what to do when he cries 8.2.6 How to bathe a newborn 8.2.7 Normal care of the umbilical cord 8.2.8 Importance of immunizations When immunizations should be given 8.2.9 How to use small group discussions to share health messages about postnatal care
	9.1 Tell a patient's family and community about postnatal problems and how to prevent them	9.1.1 How to tell groups of people about postnatal care
	9.2 Teach community health workers about postnatal problems	9.2.1 The content of community health worker workbooks

SCHEDULE POSTNATAL CARE

DAY 1	DAY 2	DAY 3	DAY 4
Introduction to Postnatal Care module Postnatal changes in a woman	Normal changes in a newborn	Postnatal problems Other postnatal problems Common problems of the newborn	Selecting health education materials and giving health messages
	Care of a newborn		Clinical practice
Postnatal changes in a woman Postnatal care			Other problems of the newborn Birth defects

Skill development: five days
 Clinical rotation: one week
 Community phase: three months

Introduction

You have already studied the Anatomy and Physiology, Medical History, Physical Examination, Prenatal Care, and Labor and Delivery modules. In addition, you have studied several clinical modules and have learned how to diagnose and care for clinical problems as well as how to share health messages. What you have learned thus far has prepared you for the study of postnatal care. Before you start this module, be sure you know:

- The normal anatomy and physiology of the female reproductive system

- How to take and record a medical history

- How to perform a physical examination and record your findings

- How to give health messages

If you are not sure how well you know this information, review the modules you have studied before you go on.

LEARNING ACTIVITIES

Activities in this module will help you learn how to properly care for a postnatal woman and her newborn.

Your schedule shows you when the learning activities will occur. Student Guides in front of each unit tell you more about what you will be expected to do. The units will be taught in order, from Unit 1 to Unit 10. Your instructor will make special arrangements for Unit 11, Unit 12, and Unit 13 which will take place in a clinic and community.

This training program can succeed only if you take an active part. Prepare for each session. Before each session:

- Read the Student Text and answer the review questions that go with it

- Read the Patient Care Guides and learn about the drugs that you will be using

Write down questions to ask your teacher about any part of the lesson you do not understand

In class, the teacher will answer the review questions and any other questions that you may have.

EVALUATION

This training program will help you build your knowledge and skills. Regular evaluations will allow your teacher to watch your progress. If your progress does not meet the standard, you will be given more time to learn the subject. Your instructor will give you the clinical and community performance records to measure your progress. Look at these performance records to prepare for your evaluations.

EVALUATION Level I

After three days of classroom and clinical experiences related to providing postnatal care, you must be able to pass a written test of knowledge with a score of 80% or higher.

After another one week of clinical experience, you must receive two Satisfactory ratings on your ability to:

- Take and record a medical history of a postnatal woman and her newborn

- Perform a physical examination of a postnatal woman

- Perform a newborn physical examination

- Identify signs of problems in a postnatal woman and her newborn

- Present health messages about care of the woman and the newborn during the postnatal period

EVALUATION Level II

You will have one month of clinical practice. During this time you will be evaluated on your ability to provide care for a postnatal woman and her newborn and to diagnose and treat at least two patients for each of the problems taught in this module. You are expected to earn two ratings of 4 (diagnosis, treatment, and patient advice correct) for your performance. The postnatal problems of women include:

Swollen breasts
Lack of breast milk
Hemorrhoids
Cracks on nipples
Breast abscess
Puerperal sepsis
Unrepaired perineal tears
Mother with a dead baby

Problems and conditions of the newborn include:

Cradle cap
Diaper rash
Colds
Simple jaundice
Simple swelling of the scalp
Bleeding into the scalp
Fractures
Diarrhea
Fever
Low birth weight
Jaundice
A newborn without a mother

You will be evaluated on your ability to advise women seeking postnatal care and care for their newborns. You will also be evaluated on your ability to share information with groups of postnatal women in the community.

EVALUATION Level III

During the three-month community phase of your training, a supervisor will observe your performance and rate your skill in:

Providing care for a postnatal woman and her newborn
Diagnosing and treating problems of postnatal women and their newborns
Advising postnatal women in the community about care for themselves and their newborns

Identifying and preparing other members of the health team who can assist in providing care for postnatal women and their newborns

Your clinical and community performance records list the number of acceptable ratings you must earn for each activity.

Unit 1

Postnatal Changes in a Woman

STUDENT GUIDE

OBJECTIVES

1. Describe the normal physical changes in a postnatal woman.
2. Interview a woman about her delivery and the condition of her newborn.
3. Perform a physical examination of a postnatal woman.
4. Record your findings on official forms.

LEARNING ACTIVITIES

1. Take part in a review of the Task Analysis Table that describes your work in caring for a postnatal woman and her newborn.
2. Review the Medical History module.
3. Read the Appendix section of the Physical Examination module on assessing a postnatal woman.
4. Take part in discussions about the normal physical changes that occur in a postnatal woman.
5. Observe the instructor as he takes the medical history of a postnatal woman.
6. Observe the instructor demonstrate how to perform a physical examination of a postnatal woman.
7. Practice how to take a medical history and perform a physical examination of a postnatal woman.

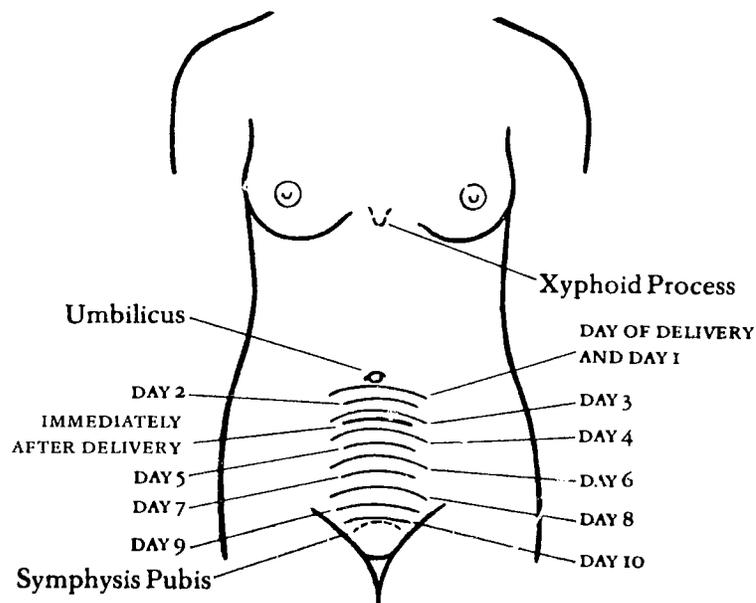
1.1 NORMAL CHANGES THAT OCCUR IN A WOMAN AFTER DELIVERY

A woman's body changes after she has delivered a child. Her uterus shrinks and sheds its lining, her cervix closes, her vagina returns to normal size, and her breasts begin producing milk.

These are postnatal changes, changes that occur after delivery. The postnatal period lasts six to eight weeks. During that time, the woman's body returns to its nonpregnant state. That does not mean the woman will ever be exactly as she was before her pregnancy. Some changes in her reproductive system are lasting changes. By studying postnatal changes, you will be able to determine the progress of a woman's postnatal recovery.

Change in the Size of the Uterus

A woman's uterus begins to shrink immediately after her fetus is delivered and the placenta is expelled. The uterus usually is a few centimeters below the woman's umbilicus at this time. Within hours, it swells slightly. You can feel it at the umbilicus. Each day thereafter, the uterus shrinks. As the uterus shrinks, it becomes firmer. By about the sixth week, it has almost returned to its nonpregnant size. A woman who has had children usually has a slightly larger uterus than a woman who has not had children.



CHANGES IN THE SIZE OF THE UTERUS AFTER DELIVERY

A uterus should gradually shrink during the postnatal period. As the uterus shrinks, it should remain firm. If it does not shrink and does not remain firm, check for bleeding. Bleeding makes the uterus feel soft.

Some women may feel mild to moderate cramping pain as their uterus shrinks. The pain lasts for one to three days. A full bladder and loose or lax uterine muscle tone may increase the pain, but passing urine or stimulating the uterus to contract eases the discomfort.

Change in the Cervix

A woman's cervix is soft, swollen, and does not have its usual form during the first hours after delivery. The opening of the cervix at this time admits two to three fingers. However, the cervix begins to regain its form and is less soft within the first day.

The opening of the cervix continues to admit two fingers for the first week after the delivery. By the fourth week after delivery, the cervix has completely closed. It will not admit even one finger without difficulty. The form of the cervix after delivery depends on the number of pregnancies the woman has had and whether the woman had any lacerations during delivery.

Shedding of the Lining of the Uterus

As the uterus shrinks, it sheds and discharges its lining. The discharge is called lochia.

Throughout the postnatal period, the discharge, lochia, gradually changes color. Immediately after delivery it is red. The lochia stays red for about three days. Four to seven days after delivery the discharge is pink. Eight to ten days after the delivery the discharge is a combination of pink, yellow, and white. From eleven to eighteen days after delivery it is creamy white. The discharge ends by the eighteenth day after delivery.

Menstruation also is a shedding of the lining of the uterus. If the woman breast-feeds her baby, her normal menstruation may not resume for several months. If the woman does not breast-feed, her normal menstruation may begin as early as twelve weeks after the delivery.

Change in the Vagina

A woman's vagina is stretched and swollen and has very little muscle tone after delivery. Within one to two days, the swelling

decreases and the vagina starts to return to its normal shape. The walls of the vagina are very smooth while they are swollen, but they show ridges by the third week. However, the vagina usually remains larger than it was before the pregnancy. Exercises can improve the muscle tone of the vagina.

Lactation

Throughout a woman's pregnancy, her breasts prepare for lactation, the secretion of milk. Her breasts become larger and fuller. Colostrum, a white, sticky fluid, is secreted. It contains antibodies that provide special protection for the baby.

After childbirth, a woman's breasts prepare for the secretion of milk. The breasts continue to produce colostrum until about the third day after delivery when milk starts to come. The breasts are harder, fuller, and heavier now. The skin of the breasts becomes tense and the veins appear to be swollen. The mother may feel some discomfort on the day the milk comes in because the blood vessels are congested. After the milk begins to flow, the breasts become softer and more comfortable. The milk is white and rich in sugar.

A mother usually secretes about one half pint of milk a day during the first week of lactation. During the second week, she secretes a pint a day and one to two pints a day for the week thereafter. A calm, relaxed woman who drinks plenty of fluids produces milk most easily.

Human milk is best for a newborn because it contains antibodies that protect the baby from certain infections. Breast milk also contains lactose, a form of sugar. Human milk has more lactose than any other milk. Breast milk also contains fats. The milk fat is easily digested by babies and contains vitamins and minerals babies need.

1.2 TAKING A POSTNATAL MEDICAL HISTORY

When you first visit a woman after she delivers, or if she comes to see you at the health center, ask her these questions.

“When Was Your Delivery and What Was the Result?”

Knowing how much time has passed since the woman's delivery will help you determine whether the symptoms and signs you find are normal or abnormal. Also find out whether her baby is healthy or not. A woman who has delivered a stillborn fetus or an abnormal infant may have postnatal problems.

“Describe Your Vaginal Discharge. How Has It Changed Since Delivery?”

The woman's lochia should be the normal color and amount for the length of time since delivery. A foul smelling lochia may be a sign of infection. Bright red lochia or bleeding that is not lochia is a sign of a possible problem.

“Did You Have an Episiotomy or a Cesarean Section?”

An episiotomy and a cesarean section both involve an incision. You should examine the incision sites to see that they are healing normally.

“Are You Breast-Feeding? Do You Have Enough Milk for Your Baby?”

This question allows you to determine whether the mother is feeding the baby well. If she thinks she does not have enough breast milk, she may be giving other milk or foods which may harm the baby and lead to a decrease in the supply of breast milk.

“Are You Having Any Pain or Tenderness of the Abdomen or Breasts?”

If a woman says she feels pain in her abdomen or breasts, examine them. Her breasts may be engorged normally for a time, but they may also become inflamed. Breast-feeding will usually relieve the discomfort. The uterus takes about six weeks to return to its nonpregnant size and may be painful for that time. Always consider the possibility of an infection with pain.

“Have You Had a Fever?”

Fever in the postnatal period can be caused by inflammation of the breasts, puerperal sepsis, malaria, and other infections. Fever in a postnatal woman should always be treated as a very serious problem.

“Are You Smoking? Are You Taking Any Medicine?”

The nicotine in smoke can pass into breast milk. Mothers should not smoke while their children are young and breast-feeding. Drugs and oral contraceptives can affect the production of breast

milk, so they should not be used. Almost all drugs are secreted in breast milk and can affect the baby.

“How Is Your Appetite? What Did You Eat Yesterday?”

Eating enough of the right kinds of food is very important for a lactating woman. She should eat beans, milk, eggs, meat or fish, and green, leafy vegetables at each meal.

“Have You Been Taking Folic Acid and Iron Regularly?”

All lactating women should take folic acid and iron tablets. This will protect the woman from becoming anemic. Folic acid and iron supplements should be given throughout pregnancy and lactation.

Ask a mother these questions about her newborn.

“Are You Breast-Feeding? Are You Having Any Problems with Breast-Feeding?”

Breast-feeding is the best source of food for a newborn. Find out whether the newborn is being breast-fed. If he is, find out whether the mother is having any problems. You may be able to help make breast-feeding easier.

“Is the Newborn Sleeping Well?”

Sleep is important for a newborn. Most newborns sleep often. A newborn who is not sleeping well may have a problem.

“When the Newborn Cries Can He Be Comforted Easily?”

Newborns who cannot be comforted may have a problem.

“Have You Noticed Any Problems?”

The woman may have questions that she would like to ask about the care of the newborn. She may also notice changes in the newborn that could be a sign of a problem.

1.3 PERFORMING A POSTNATAL PHYSICAL EXAMINATION

Perform a postnatal physical examination to identify any problems that developed after the woman delivered her baby. When you perform a postnatal physical examination, pay particular attention to the normal changes that occur in a woman's body after delivery. See the Appendix section of the Physical Examination module.

Certain signs that you find during a postnatal physical examination will help you diagnose a patient's problem.

Check the Vital Signs

Check the woman's weight. It should be about what she weighed before she became pregnant.

Take the woman's blood pressure, pulse, and temperature. A high blood pressure several weeks after delivery is a sign of kidney disease. A high temperature and increased pulse rate is a sign of infection.

Examine the Woman's General Appearance

Observe her general condition. Look for edema, signs of fatigue, anemia, and malnutrition.

Examine the Eyes

Check the conjunctivae for signs of anemia.

Palpate the Neck

Feel the size of the thyroid. The size of the thyroid gradually decreases after a delivery. It should not be enlarged eight weeks following delivery.

Inspect and Palpate the Breasts

Inspect the appearance of the woman's breasts. The breasts should be full. Milk should flow easily. Inspect the nipples for cracks. Palpate the breasts for tenderness, warmth, and localized swelling.

Examine the Abdomen

Inspect the abdomen for swelling. The lower quadrants over the uterus will be swollen for two or three days after delivery. Three days after delivery, a woman's abdomen should be flat when she lies down. Inspect the incision of a cesarean section for redness or swelling.

Palpate the abdomen. Note the size and firmness of the uterus. Palpate the lower abdomen for tenderness.

Examine the Genitals

Inspect the labia and the vaginal opening for swelling, discharge, bleeding, tears, and episiotomy repair.

Use a speculum to inspect the vagina and cervix for swelling, discharge, and tears.

Palpate the Genitals

Palpate the vagina. Feel for any swelling. Feel the muscle tone.

Palpate the cervix. Feel the form of the cervix. Feel the opening of the cervix and note how many fingers can be introduced into the opening.

Palpate the size of the uterus. Feel the uterus for tenderness and firmness.

Palpate the areas around the ovaries and fallopian tubes. Feel for tenderness or swelling.

Use a Maternity Card to record a woman's postnatal medical history and physical examination findings. At the woman's first visit, record:

The date she delivered

The place she delivered, whether at her home or at a health center

The condition of her newborn at birth

The weight of her newborn at birth

Any complications of labor and delivery

Each time you perform a physical examination of a postnatal woman, record:

The date of her visit

The number of days since her delivery

Her blood pressure

Her temperature

Her weight

The findings of your examination of her breasts

A description of her discharge

The size of her uterus

Any complications or problems you have noted

Whether you talked about child spacing with her and what methods you discussed

The condition of her newborn

REVIEW QUESTIONS

Postnatal Changes in a Woman

1. List five physical changes that occur in a postnatal woman.
2. TRUE (T) or FALSE (F)
 - ___ One week after delivery, the uterus is almost as small as it was before the pregnancy.
 - ___ The uterus begins to shrink right after the delivery.
 - ___ The uterus usually sheds its lining after delivery.
 - ___ Five days after the delivery, the discharge from the uterus is usually bright red.
 - ___ Colostrum is secreted during the pregnancy and continues for three days after the delivery.
3. Describe the normal discharge from the uterus:
 - a. Immediately after delivery _____
 - b. Four to seven days after the delivery _____
 - c. Eight to ten days after the delivery _____
4. Describe the normal appearance of a woman's breasts before her milk begins to flow.
5. List at least six questions that you would ask a postnatal woman about her condition.
6. List seven steps you would follow when performing a postnatal physical examination after you have assembled your equipment and supplies.

SKILL CHECKLIST

Assessing a Postnatal Woman

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills.
- 2) Supervisors should use it when they evaluate how well students assess a postnatal woman.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When assessing a postnatal woman:

	YES	NO	RATING	COMMENTS
1. Take a postnatal medical history				
a. Ask the woman about any problems related to her delivery				
b. Ask the woman about her lochia or any other vaginal discharge				
c. Ask the woman whether she had an episiotomy or cesarean section and whether it is causing any pain				
d. Ask the woman whether she is breast-feeding and producing enough milk for her newborn				
e. Ask the woman whether her breasts or abdomen are tender				
f. Ask the woman whether she has had any fever				
g. Ask the woman whether she smokes tobacco or is taking any medicine				

YES NO RATING COMMENTS

	YES	NO	RATING	COMMENTS
h. Ask the woman about her diet				
i. Ask the woman whether she has been taking folic acid and iron tablets				
2. Assemble your equipment and supplies				
3. Prepare an examination table in a well-lighted room				
4. Test the woman's urine for sugar and protein				
5. Determine the woman's blood pressure, weight, and temperature				
6. Examine the woman's General appearance Eyes Ears Mouth and throat Neck Respiratory system Heart Abdomen				
7. Examine the woman's breasts. Check for cracks in the nipples, tenderness, or inflammation				
8. Inspect and palpate the woman's genitals				
a. Ask her to lie with her buttocks at the edge of the examining table and to spread her legs as far apart as possible				
b. Warm and lubricate the speculum in warm water				
c. Check for swelling, discharge, and bleeding. Look for tears at the vaginal opening. Check any episiotomy repair				

	YES	NO	RATING	COMMENTS
d. Insert the speculum into the woman's vagina. Check the vagina and cervix for swelling, discharge, and tears. Remove the speculum				
e. Palpate the vagina and cervix for swelling and tenderness. Check the adnexal areas				
9. Explain your findings to the woman and record them on her Maternity Card				

Unit 2

Postnatal Care

STUDENT GUIDE

OBJECTIVE

Describe the most important points about these topics of interest to postnatal women:

- Supportive postnatal care
- Breast-feeding and breast care
- Care of genitals
- Exercise
- Nutrition
- Need for extra iron and folic acid
- Intercourse and child spacing

LEARNING ACTIVITIES

1. Seven students will be chosen to give a five minute presentation on the postnatal care topics presented in this unit. The presentation should include a discussion of the most important points that a postnatal woman should be told about the assigned topic.
2. Join in a discussion of each of the presentations.

2.1 SUPPORTIVE POSTNATAL CARE

Find a quiet time to talk with a new mother. Explain the process of involution of the uterus, the changes in the lochia that will occur, her responsibilities in caring for a new baby, breast-feeding techniques, and how she may return to a healthy nonpregnant state most quickly. Leave time for many questions but remember, a woman with her first pregnancy may not know what questions to ask. Allow the husband, mother-in-law, and friends to be present during the discussion if the mother prefers. Friends and relatives often can be very helpful.

2.2 BREAST-FEEDING AND BREAST CARE

A woman's breasts will begin to feel slightly full and tight the first day after delivery. A thick, yellow fluid will come from her breasts for the first two to three days as the newborn sucks. After the second or third day, white milk will come. When the milk begins to flow, the breasts may become large and firm and feel very tight. Breast-feeding will relieve the tightness and firmness.

Breast-feeding is the best nutrition for a newborn. Breast-feeding should begin as soon as possible after the delivery.

A mother should breast-feed her newborn frequently during the first few days after birth. She should use both her breasts, feeding him from one until it is empty, then giving him the other. A newborn will take about twenty minutes to empty one breast. However, after suckling all the milk from one breast, a newborn may not empty the second. For this reason, the mother should always start feeding her baby with the breast that is not the breast she started feeding him from last time. She should always alternate the breast with which she starts breast-feeding.

Discuss breast care with the new mother. If her breasts are not well cared for, they will become sore. Her nipples may become cracked and infected. Tell her to follow these instructions in caring for her breasts.

a. **Keep your breasts clean**

A postnatal woman should wash her hands with soap and water before touching her breasts and before each breast-feeding. She should wash her breasts only with water. Cleaning breasts with soap or alcohol may dry the nipples and lead to cracking.

b. **Support your breasts**

A postnatal woman should wear a bra or support her breasts with a binder. Support helps keep the breasts from becoming sore. A bra or binder also helps to keep the clothing from rubbing and irritating the nipples.

c. **Expose your breasts to the air.** A postnatal woman should expose her breasts to the air or sunshine after each breast-feeding. Exposing the nipples to the air or sunshine helps to toughen the skin and keep it from cracking.

2.3 CARE OF THE GENITALS

Lochia, the postnatal discharge, begins the day after delivery. Tell the woman what to expect. Describe how the lochia changes color. Tell her to visit the clinic if her lochia remains red or if her lochia has a foul smell. Most important, tell her to keep her genital area clean.

Cleaning the genitals prevents infection in the uterus and at the site of an episiotomy. The postnatal woman's reproductive system is recovering from childbirth. Infection can easily occur during this time. The episiotomy site, like any other wound, can also easily become infected. The woman should keep the site of an episiotomy clean and dry.

To keep her genitals clean, a woman should wipe from front to back after passing urine or stool. She should wash her genitals with soap and water at least once a day. If she has had an episiotomy, she should wash her genitals every time she passes stool. She should change her perineal pad or cloth at least twice a day while her discharge is heavy. She should change the pad at least once a day as her discharge decreases. She should wash her hands with soap and water before touching her genitals. She should try not to touch the stitches of the episiotomy.

2.4 EXERCISE

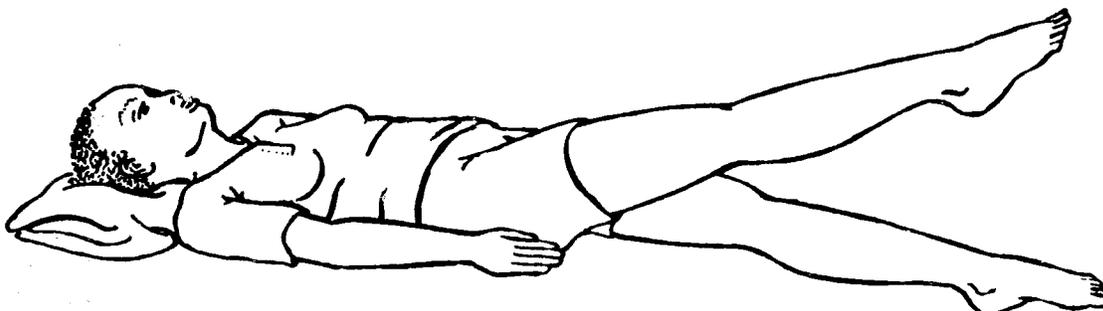
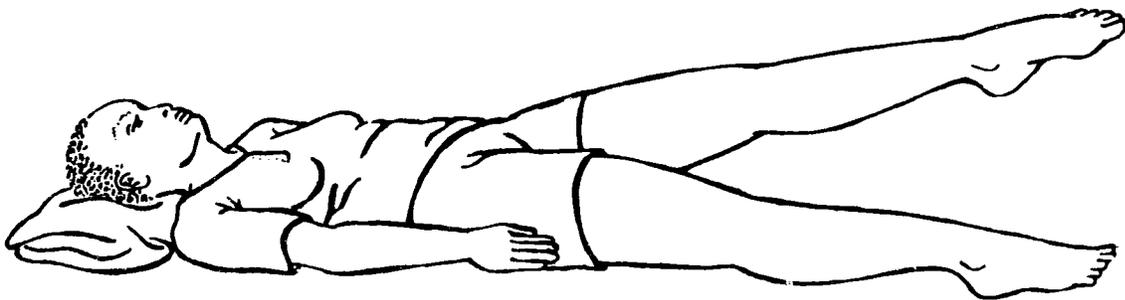
Exercise helps return stretched abdominal and pelvic muscles to their normal size after delivery. Gradually taking on normal household duties also helps. A woman can begin easy exercises on the second or third day after delivery. She can gradually start more difficult exercises as she becomes stronger. Suggest these exercises.

Deep Breathing

For deep breathing exercises, a woman lies on her back with her arms at her side. She breathes slowly and deeply, using her abdomen to draw in and push out the air.

Single Leg Raises

Again, the woman lies on her back with her hands at her side. Keeping her legs straight, she raises one leg, then slowly lowers it. Then she raises and slowly lowers the other leg, repeating the exercise five times. As the woman gains strength, she may increase the number of single leg raises to fifteen or twenty.



Double Leg Raises

A double leg raise is like a single leg raise, except both legs are raised and slowly lowered at once. A woman should start by doing five of these and increase the number to fifteen and twenty as she gains strength.

Abdominal Exercise

A woman stands up for abdominal exercises. She draws in her abdominal muscles as far as she can and holds them while she slowly counts to five. Then she relaxes a moment and repeats the exercise four more times.

Pelvic Exercise

For pelvic exercises, the woman stands with her thighs together. She tightens her buttocks and the pelvic muscles and holds them tight for a count of five. Then she relaxes and repeats the exercise five times.

2.5 NUTRITION

A new mother needs the same healthful foods she needed when she was pregnant. She is feeding her baby through her breast milk, so she should eat more body-building foods such as beans, eggs, milk, meat, and fish. She should also eat more protective foods such as spinach and carrots. She should also drink at least three quarts of fluids a day. At least one quart should be milk.

2.6 EXTRA IRON AND FOLIC ACID

A lactating woman needs more iron and folic acid than most diets can provide. Therefore, every lactating woman should receive 1 mg of folic acid daily and 300 mg of iron sulfate three times a day.

The iron and folic acid prevent anemia. A woman taking supplemental iron will have black stools. This causes no harm. Tell her to expect dark stools.

2.7 INTERCOURSE AND CHILD SPACING

Postnatal women should avoid intercourse until the lochia ends, four to six weeks after the delivery. Episiotomy stitches may cause some discomfort when intercourse begins. If a woman has discomfort, she should be examined.

A woman who has recently delivered will normally not be fertile while her reproductive system is returning to its nonpregnant state. A woman's body needs time to adjust and rebuild its strength. Although this is usually a natural rebuilding period, it is not always certain. Some women become pregnant again in a very short time. The stress of a repeated pregnancy and lactation drains these women of their strength and energy. It also means the first child will lose his best source of food when the second child is born.

A postnatal woman who wants to avoid early pregnancy should use some form of contraception. Tell her about available methods of contraception, including the condom and the intrauterine device (IUD). Advise her that oral contraceptives may lessen the amount of milk she is able to produce for her child.

Also tell the woman that even though she is not menstruating yet, she may still become pregnant. Normal menstruation does not begin until three or four months after delivery.

REVIEW QUESTIONS

Postnatal Care

1. List three changes that a woman may notice in her body after a delivery.
2. List five points that you would tell a mother about breast-feeding.
3. List three points of advice to tell a mother about care of her breasts.
4. Why does a woman need to wash her genitals after a delivery?
5. List at least four points that you would tell a mother about the care of her genitals.
6. List five exercises a woman can do to strengthen her abdominal and vaginal muscles.
7. Describe the recommended diet for a postnatal woman.
8. When may intercourse be resumed after a delivery?

Unit 3

Normal Changes in a Newborn

STUDENT GUIDE

OBJECTIVES

1. Describe the normal physical changes that occur in a newborn.
2. Perform a physical examination of a newborn.
3. Correctly record your findings on official forms.

LEARNING ACTIVITIES

1. Read the physical examination procedures for performing a newborn physical examination in the Appendix of the Physical Examination module.
2. Take part in a discussion about the normal changes that occur in a newborn.
3. Take part in a discussion about the physical examination of a newborn.
4. Observe the instructor demonstrate how to perform a physical examination of a newborn.
5. Perform physical examinations of newborns in a nursery or outpatient clinic.

3.1 PHYSICAL CHANGES IN A NEWBORN

Changes in a newborn begin at the moment of birth. The newborn no longer depends on his mother's womb for oxygen, food, or warmth. He begins to survive on his own. The first and most obvious change occurs with the first breath of air the newborn takes.

The newborn's skin turns from pale blue to pink as his blood begins carrying oxygen through his circulatory system. His temperature rises and falls as it adjusts to the temperature outside the uterus. He begins to suckle, taking his first food. The food passes through his body as his gastrointestinal system digests it.

General Appearance

The newborn's head is large in proportion to the rest of his body. His chest seems small compared to his protruding abdomen. This body shape remains throughout the newborn period.

Skin

At birth, a newborn's skin is covered by vernix caseosa, a white, cheesy, greasy substance that acts as a lubricant during birth. Vernix caseosa also protects the skin and retains heat. It is easily removed when the newborn is bathed.

A newborn's skin is not well developed. It does not adjust quickly to changes. Certain conditions frequently occur as a newborn's skin begins to adjust.

- a. White bumps appear on the nose, chin, and cheeks about the second day after birth. They last about two weeks. They are caused by oil glands in the skin.
- b. A thick, white, easily removed oil covers the head. This is sometimes called cradle cap. Cradle cap is also caused by oil glands in the skin.
- c. The skin on a newborn's body and arms begins to peel.

A newborn's skin is easily irritated. Irritation most often occurs at the genitals. Since many newborns wear diapers, urine and stool collects next to the skin. Unless the diapers are changed frequently, the urine and stool can cause skin irritation called diaper rash.

Most newborns' skin is pink. It gradually darkens or lightens according to the race of the newborn. Some newborns develop jaundice between the second and fifth day. Jaundice makes the skin look yellow. The jaundice usually passes without any problems.

Stools

The first stool usually is passed in the first twenty-four hours after birth. The appearance of the stools changes during the first few days.

- a. The first stool, meconium, is dark green or brown. It may be almost black. Stool of this color continues for one to three days.
- b. Three to five days after birth, a newborn's stools show the last of the meconium. They begin to change with feeding and are usually yellow brown.
- c. After the fifth day, the stools of the breast-fed newborn look bright yellow. The stools of the formula-fed or cow's milk-fed newborn look pale yellow.

A newborn's stools may contain blood that was swallowed during delivery.

Umbilical Cord

The umbilical cord begins to dry on the first day after delivery. It completely dries and falls off by the first or second week.

Reflexes

A newborn can see, hear, and feel. He shows his responses very simply. When he is satisfied, he lies quietly or sleeps. When he is upset, he cries.

A newborn usually holds his arms and legs close to his body. His movements are random and not well controlled. They are usually jerky. When startled, the newborn usually responds by quickly pulling his arms away from his body. His hands open. He pulls his knees up slightly and then his legs turn out from the hips. The arms then return to his chest.

Weight

Most newborns lose two to three ounces weight in the first three days after birth. Newborns usually return to their birth weight within seven to ten days. They gain four to eight ounces per week after that.

3.2 NEWBORN PHYSICAL EXAMINATION

A physical examination is performed to check a newborn's growth, to find any injuries that occurred during birth, to find any birth defects, and to find any signs of illness.

Examine newborns delivered at the health center within the first six hours after birth. Examine newborns delivered at home within the first six weeks after birth. Examine all newborns who are brought to a post-natal clinic or under-five clinic.

Certain signs that you find during a physical examination will help you find and diagnose a newborn's problem.

Examine the General Appearance

Look at how the newborn holds his body. Notice any tremors or convulsions.

Examine the Skin

Examine the color of the newborn's skin. Look for cyanosis, jaundice, and pallor. Also look for the cheesy, white, and greasy vernix caseosa on the skin.

Examine the Head

Look for irregular shapes and bruised, swollen areas. Feel the skull for molding at the suture lines. Feel the fontanelles. Note the size of the fontanelles.

Inspect the Eyes

Look at the newborn's conjunctivae. Note any redness, bleeding, or discharge. Look at the sclerae. Note any jaundice. Shine a light into the eyes. Note how the pupils react. Examine the lenses.

Inspect the Ears

Notice the shape of the newborn's ears. Look for any birth defect.

Inspect the Nose

Shine a light into the newborn's nose. Make sure it is not blocked.

Examine the Mouth

Look at the newborn's lips. Note any clefts. Feel the inside of the mouth. Feel the gums for small cysts. Feel the palate for any clefts. Feel the tongue for a break in the surface. Check the sucking reflex with your finger.

Examine the Respiratory System

Check the newborn's rate and rhythm of breathing. Count his respirations. Note any signs of obvious breathing problems such as flaring nostrils and retraction of the intercostal spaces.

Feel the chest for defects.

Listen to the newborn's lungs with a stethoscope. Listen to his breath sounds. Note any abnormal breath sounds.

Examine the Abdomen

Look at the umbilical cord. Check for redness at the base, discharge, or bleeding.

Use a stethoscope to listen for bowel sounds. Palpate the abdomen. Feel the liver, kidneys, and spleen. Check for enlarged organs. Inspect the anus. Make sure it is open.

Examine the Male Genitals

Inspect the foreskin and gently pull it back. Check the urethra. Palpate the scrotum. Check for swelling of the testes. Check to see if the testes are in the scrotal sac.

Examine the Female Genitals

Inspect the opening of the vagina. Look for bleeding.

Examine the Musculoskeletal System

Palpate all the bones in the body. Start at the shoulders and feel down to the toes. Check for breaks and dislocations. Count the fingers and toes.

REVIEW QUESTIONS

Normal Changes in a Newborn

1. Describe three changes in a newborn which occur immediately after birth.

2. Complete the following statements about a newborn's general appearance using the words "large" or "small".
 - a. The newborn's head is _____ in proportion to the rest of the body.
 - b. The newborn's chest is _____ compared to his abdomen.

3. What is the white, cheesy, and greasy substance that covers a newborn's skin at birth?

4. Describe the appearance of a newborn's stool at the following times:
 - a. First stool after birth:

 - b. Three days after birth:

 - c. Five days after birth:

5. TRUE (T) or FALSE (F)
 - _____ The umbilical cord begins to dry on the first day after birth.
 - _____ A newborn can normally see, hear, and feel.
 - _____ Most newborns lose one pound during the first three days after birth.

_____ Some newborns develop a yellow skin color between the second and fifth day after birth but it usually passes without any problems.

6. Describe how you would examine these areas in a newborn:
 - a. Head
 - b. Respiratory system
 - c. Abdomen
 - d. Musculoskeletal system

7. Describe at least two abnormalities that you might find in a physical examination of a newborn's:
 - a. Skin
 - b. Respiratory system
 - c. Abdomen
 - d. Musculoskeletal system

SKILL CHECKLIST

Assessing a Newborn

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills
- 2) Supervisors should use it when they evaluate how well students assess a newborn.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When assessing a newborn:

YES NO RATING COMMENTS

When assessing a newborn:	YES	NO	RATING	COMMENTS
1. Take the newborn's medical history by asking the mother about breast-feeding, sleeping, crying, or any problems she might have noticed				
2. Prepare for the examination by arranging to use a warm, well-lighted room. Make sure your stethoscope works properly				
3. Wash your hands with soap and water				
4. Keep the newborn warm during the examination. Do not completely undress him				
5. Ask the mother whether her newborn sleeps well. Ask her if he is easily comforted. Ask her about any problems she thinks her newborn may have				

YES NO RATING COMMENTS

6. Check the newborn's general appearance. Look for tremors or convulsions				
7. Examine the skin. Look for cyanosis, jaundice, or pallor				
8. Examine the head. Look for an irregular shape or bruised, swollen areas. Feel the suture lines and fontanelles				
9. Examine the eyes. Look for redness, bleeding, discharge, jaundice, or cataracts. Check the pupils' reactions to light				
10. Examine the ears. Note the shape				
11. Examine the nose. Look for any blockage				
12. Examine the mouth. Check for a suck reflex. Check the shape of the lips, gums, palate, and tongue				
13. Examine the respiratory system. Check the rate and rhythm of breathing. Check for any obvious breathing problems. Check the nostrils, intercostal spaces, and breath sounds. Palpate the chest. Check for deformities				
14. Auscultate the heart. Count the heartbeats				
15. Examine the abdomen. Check the umbilical cord. Listen for bowel sounds. Palpate the liver, kidneys, and spleen				
16. Check the anus opening				

YES NO RATING COMMENTS

	YES	NO	RATING	COMMENTS
17. Examine a male newborn's genitals. Pull back the foreskin. Check the location of the urethra. Palpate the scrotum for testes and swelling				
18. Examine a female newborn's genitals. Check the opening of the vagina. Look for bleeding				
19. Examine the musculoskeletal system. Palpate all the bones. Check for broken bones or dislocations. Count the fingers and the toes				
20. Weigh the newborn				

Unit 4

Care of a Newborn

STUDENT GUIDE

OBJECTIVES

1. Describe three basic needs of a newborn.
2. Describe nine facts about breast-feeding that you might share with a new mother.
3. Describe what you might share with a mother about her newborn's:

Warmth

Sleep

Burping

Spitting up

Circumcision

Crying

Bathing

Umbilical stump care

Immunizations

4. Identify teaching aids that would help you share with a new mother information about a newborn's health.
5. Develop health messages about newborns.
6. Present health messages about care of newborns.

LEARNING ACTIVITIES

1. This unit will be taught with Unit 2. After discussing postnatal care of women, join in a discussion of care of the newborn.
2. Work in small groups to review education material available for developing health messages on care of the newborn.
3. Work with other students in a small group to plan a health message to give women at a postnatal clinic about the care of their newborn.
4. Present and discuss the health messages in small groups.
5. Practice giving health messages to postnatal women at a clinic about the care of their newborns.

4.1 CARE OF THE NEWBORN

A newborn needs food, warmth, and sleep.

Breast-Feeding

The best food for a newborn is breast milk. Learning how to breast-feed is a new mother's most important task. These techniques may help a woman when breast-feeding her newborn.

- a. Give the newborn to the mother to nurse in the first hour after birth. The newborn will suckle.
- b. Breast-feed newborns when they are hungry or at least every two hours during the first few days of life. Allow the newborn to feed for at least ten minutes on each breast, increasing the time to twenty minutes by the third day. The more the baby suckles the more milk will come.
- c. Hold the newborn halfway between lying flat and sitting up. The mother may hold the newborn in the crook of her arm so one hand supports the baby's back and the other is free to move about. The mother should hold the newborn close to her breast. The newborn's chin should touch the breast. The nipple should reach the top of his mouth. If the nipple only lies on the newborn's tongue and lower jaw, little milk will come from the breast.
- d. Some newborns need help before they start to suckle. A mother can rub her nipple against the newborn's cheek, causing a rooting reflex. She may also squeeze a little colostrum or milk into the baby's mouth. The baby will learn how to feed. Be patient. Do not give up when teaching a mother how to breast-feed her newborn.
- e. Some newborns have trouble taking the nipple. Show the mother how to hold her nipple between her fingers and direct it into her newborn's mouth.

The newborn's nostrils must be open while suckling or he won't be able to breathe. Sometimes the mother's nipples and breasts are so large that they press against the newborn's nose.

Show the mother how to keep her breast from covering the newborn's nose so he can breathe freely.

- f. Tell the mother that for her own comfort, she should always alternate the breast on which she starts her newborn suckling. Tell her to start feeding with the breast that was not the breast she started feeding from last time. For example, if she starts breast-feeding with her left breast for the first feeding, she should start with her right breast for the next feeding. This will help the flow of milk and prevent discomfort for the mother.
- g. Newborns need to be suckled more frequently than older babies. Newborns tire quickly. They need frequent, short feedings.
- h. Breast-feeding twins takes special care. Not only should a mother alternate breasts when she begins feeding, she should also alternate which newborn she feeds first. If one newborn is much smaller than the other, the smaller one should be fed more often for shorter times. Since the mother is feeding two infants, she should take special care to eat enough good foods.
- i. If a newborn or the mother must go to a hospital during the postnatal time, they should go together. If the newborn is hospitalized, the mother should be there to provide breast milk either directly or by expressing it and giving it with a nasogastric tube or cup and spoon.

If the mother is hospitalized, the newborn should go with her and be given to her to breast-feed regularly. Without breast milk, the newborn probably will not live.
- j. A newborn should not feed on milk or foods other than breast milk. Other milk and foods can cause diarrhea and affect the newborn's appetite for breast milk. Also a good supply of breast milk depends on regular suckling, so decreased suckling may reduce the amount of breast milk the mother produces.

Warmth

Keep newborns warm. However, infants who are a few weeks old who weigh about eight or nine pounds do not need to wear too many clothes. They need fresh air. Take infants outside every day the weather permits. Sunlight prevents rickets.

Sleep

For two weeks after birth, a newborn sleeps most of the time. Gradually he starts to stay awake between feedings. Place the baby on his stomach to sleep. He will not choke if he spits up in this position. He should sleep out of drafts but with some fresh air.

Burping

Babies swallow air while they are suckling. Gently patting or rubbing a baby's back will help him burp, releasing the air he has swallowed. A mother should help her baby burp at the middle and end of each feeding. She may place her baby on its abdomen over her thigh and gently pat or rub his upper back until he burps.

Spitting Up

All babies spit up some milk. The milk slowly drools from the baby's mouth. Spitting up is not like vomiting. Vomit comes up with force. Spitting up is normal but can be decreased by burping. A mother should clean her baby after he spits up or the baby will begin to smell very sour.

Circumcision

Traditional circumcisions can cause as much tetanus of the newborn as unsterile cord cutting techniques. Little medical reason has been found to support circumcision. If no traditional reasons call for the operation, do not encourage it. The procedure has risks including tetanus, infection, and bleeding.

Crying

A new mother may need help in learning what to do when a baby cries. A newborn needs a lot of holding. If the newborn cries, the mother should see what is wrong. She should pick up the baby and hold it. Newborns have meaningful cries. The newborn will have a cry for when he awakens, another for when he is hungry, another for when he is wet, and maybe more. A mother should learn to understand her newborn's cries.

A baby who cries all the time or whose cry is shrill and high pitched should be examined.

Bathing

Offer to share with new mothers information about bathing their babies. Explain that newborns should not be put in water for a bath until after their umbilical cord heals. The afterbirth, blood,

and vernix are gently wiped off the newborn at birth. Twelve to thirty-six hours later he may have a sponge bath. But he should not have a full bath until his umbilical cord has dried and the stump has healed.

Suggest that the mother use a small basin for a tub when her newborn is ready for a full bath. She should use water that feels between warm and cool on her wrist. Show the mother how to hold her newborn with one arm supporting both his head and buttocks so his head will not slip under the water. She should gently lower her newborn into the water and gently wash him with a soft cloth and soap. She should be sure to wash in all the creases and folds of the newborn's skin.

A newborn should stay in the water only about five minutes. When he is removed from the water, he should immediately be dried and wrapped in a dry blanket. The newborn's face and head can be washed separately, remembering to clean all the crevices of the ears and neck.

A newborn should be bathed every other day. Each time a baby urinates or passes stool, his dirty diaper should be removed. The baby's perineal area should be washed with soap and water and then dried after each change of diaper.

Care of the Umbilical Cord

The area around the umbilical cord should be kept clean and dry. Until the umbilical cord dries and falls off, it can be a site of infection. Dirty diapers can cause irritation and infection. Herbs, dung, or any other traditionally used materials may cause tetanus if a mother puts them on her newborn's umbilical stump.

Urge mothers to prevent irritation and infection of the umbilical stump by changing diapers whenever they are soiled. The mother should also wash the newborn with soap and water. Nothing should be put against the umbilical cord.

Immunizations and Well Baby Care

A postnatal visit is a good time to discuss the importance of immunizations and care necessary to keep the baby well. Give a BCG immunization to newborns. Give the immunization intradermally on the upper arm. It will cause a bump and sometimes a small sore for several months. If this bump does not occur,

the vaccine is not effective and should be repeated. BCG helps protect the newborn from tuberculosis in childhood.

Give an infant DPT vaccine and oral polio vaccine at three months of age. The vaccines, given again at five and seven months of age, will protect the baby from diphtheria, tetanus, whooping cough, and polio.

IMMUNIZATION SCHEDULE

AGE	IMMUNIZATIONS
Newborn	BCG
3 months	DPT 1 Oral polio vaccine 1
5 months	DPT 2 Oral polio vaccine 2
7 months	DPT 3 Oral polio vaccine 3
9 months and after	Measles vaccine
18 months	DPT 4 Oral polio vaccine 4
When the child enters primary school(5-6 years)*	DT Oral polio vaccine

* Follow the national guidelines of your country regarding a second BCG vaccination for the child entering school.

Weigh the baby. Record the immunization and the weight for age on the baby's growth chart.

REVIEW QUESTIONS

Care of a Newborn

1. List three of a newborn's basic needs.
2. Describe at least eight techniques of breast-feeding.
3. Describe how to burp a newborn.
4. How does spitting up differ from vomiting?
5. What complication can be caused by a circumcision if all the instruments used are not sterile?
6. What advice can you give a mother about what to do when her newborn cries?
7. TRUE(T) or FALSE(F)
 - ___ A newborn should be bathed immediately after birth.
 - ___ A newborn should receive a full bath the third day after birth.
 - ___ A newborn should only remain in the water about five minutes when taking a bath.

- _____ A newborn should be bathed twice a day after his umbilical stump dries.
- _____ The umbilical cord will dry and shrivel naturally.
- _____ Until the umbilical cord dries and falls off, the umbilical area can be a source of infection.

8. List at least three possible sources of infection of the umbilical cord.

9. How can a mother prevent irritation and infection of the umbilical cord?

10. List three immunizations that are given to infants. After each, write when they should be given.

Unit 5

Postnatal Problems

STUDENT GUIDE

OBJECTIVES

1. Recognize and describe these signs and symptoms of common postnatal problems:
Painful, swollen breasts
Lack of breast milk
Enlarged anal veins
2. Interview and examine patients to identify the signs and symptoms of swollen breasts, lack of breast milk, and hemorrhoids.
3. Describe how to treat and care for women with common postnatal problems.
4. Tell patients and their families how to care for common postnatal problems.

LEARNING ACTIVITIES

1. Take part in a discussion of swollen breasts, lack of breast milk, and hemorrhoids.
2. Practice taking and recording a medical history and performing a physical examination.
3. During skill development in a clinic, observe and practice how to interview, examine, and care for women with common postnatal problems.

5.1 SWOLLEN BREASTS

A woman's breasts sometimes swell and become painful in the first week after delivery. The rapid production and retention of milk in her breasts causes the swelling and pain.

CLINICAL PICTURE

a. Presenting complaint

The woman will present with heavy, painful, and swollen breasts.

b. Medical history

The woman will tell you that she has delivered within the past week. She may or may not be breast-feeding.

c. Physical examination

Breasts swollen with milk are not infected; the woman's temperature should be normal. Examine the woman's breasts. Note their shape and size and the appearance of the skin. Both breasts will be large and swollen. The skin will look tight and shiny. The breasts will feel warm and firm or hard on palpation. The woman may complain of tenderness.

COURSE AND COMPLICATIONS

Treatment will relieve the swelling, pain, and discomfort.

PATIENT CARE AND PREVENTION

a. Gently massage the breasts

A gentle massage will help relieve tension on swollen breasts. A woman who is troubled by swollen breasts should gently massage them before starting to breast-feed her baby.

b. Express milk during feeding

After the baby has suckled for a few minutes, the woman should express some milk to decrease the swelling and discomfort.

c. Dry the nipples and massage the breasts

The woman should dry her nipples and massage her breasts after

breast-feeding her baby. If the dark skin around the nipples remains swollen after breast-feeding, the woman should express more milk before beginning to massage her breasts.

d. Support the breasts

Breasts swollen with milk need support. The woman should use a good bra or binder.

5.2 LACK OF BREAST MILK

Most women are able to produce enough milk to feed their babies. A woman usually begins producing enough milk to feed her baby by about the third day after delivery. The amount of milk she produces generally depends on how often she feeds her baby and for how long she feeds him. Her milk supply does not depend on the size of her breasts.

Some women may be afraid they are not producing enough milk to feed their babies. You must determine whether the woman is producing enough milk. If she is not producing enough milk, determine the cause.

CLINICAL PICTURE

a. Presenting complaint

The woman will tell you she is not producing enough milk to feed her baby. She will say her baby always seems hungry and is not satisfied by breast-feeding. When the baby suckles, he easily becomes troubled and he cries even though his suckling seems strong. The baby may be losing weight. The woman may also say her breasts do not feel full and do not leak milk.

b. Medical history

Ask the woman about how she feeds her baby. She may tell you that she stopped breast-feeding for a time or that her breast-feeding has not been regular. She may say she has been giving her baby additional food.

Ask the woman about drugs or medicines she may be taking. Some drugs, like birth control pills, may suppress the production of milk.

c. Physical examination

Examine the woman's breasts. They will not be tender or full. You will not be able to express any milk from her breasts.

Also weigh the baby. If the baby has not been getting enough milk, he may not be gaining weight.

COURSE AND COMPLICATIONS

Once a woman's breasts stop producing milk, they will not easily start again without another pregnancy. The woman's baby may not receive the amount of mother's milk he needs to grow.

PATIENT CARE

- a. If the woman is taking birth control pills or any other drug that suppresses the flow of milk, have her stop.
- b. Tell the woman to wear warm clothes or to warm her breasts with warm soaks before she starts to breast-feed her baby. The warmth on her breasts will help the flow of milk.
- c. Tell the woman to breast-feed her baby every two or three hours. Frequent feeding will increase the amount of milk her breasts produce.
- d. Tell the woman to use both her breasts when she breast-feeds her baby. She should start by breast-feeding for five or ten minutes on each breast, increasing the time to twenty minutes as her nipples toughen.
- e. Tell the woman to express the milk that remains in her breasts after her baby has nursed.

PREVENTION

Urge women to begin breast-feeding as soon as possible after delivery. Also, tell women not to give their babies food other than breast milk for four to six months after birth. Other foods will fill the baby and the baby will lose interest in nursing. When the baby does not nurse, the mother's breasts produce less milk.

5.3 HEMORRHOIDS

Hemorrhoids are enlarged veins in the rectum. Sometimes they protrude at the anus. Hemorrhoids often develop during the prenatal period because of increasing pressure on the pelvic veins caused by the growing fetus. The hemorrhoids may continue to be a problem after delivery.

CLINICAL PICTURE

a. Presenting complaint

The woman will complain of pain and itching at her anus.

b. Medical history

The pain and itching starts during the woman's pregnancy. The hemorrhoids may cause a small amount of bleeding. Hard stools aggravate the problem.

c. Physical examination

Look for swollen, protruding, large, blue blood vessels at the anus. Palpate them. Feel for a hard clot of blood inside the blood vessel.

COURSE AND COMPLICATIONS

Hemorrhoids cause itching. An internal hemorrhoid may protrude from the anus. Some patients may push internal hemorrhoids back into the anus. Patients lose blood from their hemorrhoids.

PATIENT CARE

a. Rectal suppository

Give the patient with hemorrhoids a rectal suppository. The suppository must be inserted into the rectum. It will relieve some pain. Tell the patient to use two to three suppositories daily.

b. Stool softeners

Hard stools make hemorrhoids worse. Taking mineral oil by mouth will soften stools. Tell the patient to take one to two teaspoons of mineral oil twice a day. Urge the patient to drink extra water, and to eat fruits, vegetables, and whole grain cereals.

c. Regular exercise

Regular exercise will help relieve the hemorrhoids.

d. Soaks

If hemorrhoids are painful and swollen, tell the woman to soak them by sitting in warm water for thirty minutes three times a day.

If the hemorrhoids continue to cause pain and discomfort, refer the woman to a hospital. A doctor may have to remove the hemorrhoids.

REVIEW QUESTIONS

Postnatal Problems

1. Describe what causes swollen breasts.
2. List two symptoms of swollen breasts.
3. Describe five signs that you would look for when examining a woman with swollen breasts.
4. List four ways a woman can decrease swelling and pain when her breasts are swollen.
5. What does “lack of breast milk” mean?
6. Describe four ways a mother may tell that she is not producing enough breast milk.
7. Describe at least two ways you can determine whether a mother is producing enough breast milk.

8. Describe what patient care you would advise for a woman who you suspect is not producing enough breast milk to feed her baby.

9. TRUE(T) or FALSE(F)

- A newborn should be breast-fed every two to three hours.
- Only one breast should be used at each feeding.
- Warm clothes or warm water on the breasts before feeding will help stimulate the flow of milk.
- Manually expressing milk decreases the flow of milk.
- Oral contraceptives improve the flow of milk.
- Giving a newborn food between breast-feedings will increase his desire for breast milk.

Unit 6

Other Postnatal Problems

STUDENT GUIDE

OBJECTIVES

1. Recognize and describe the signs and symptoms of these postnatal problems:
 - Cracks on nipples
 - Tender, red, and swollen breast
 - Soft, yellow area on a breast
 - Superficial lacerations of the vagina
 - Deep lacerations into the muscle of the vagina
 - Lacerations of the anus
 - Fever
 - Foul smelling vaginal discharge
 - Lower abdominal pain
 - Spongy uterus
 - Mother with a dead baby
2. Interview and examine patients to identify the signs and symptoms of cracks on nipples, a breast abscess, puerperal sepsis, and unrepaired perineal tears.
3. Describe how to treat and care for women with postnatal problems described in this unit.
4. Tell patients and their families how to care for the postnatal problems described in this unit.

LEARNING ACTIVITIES

1. Join the instructor and the class in a discussion of nipple cracks, breast abscesses, puerperal sepsis, unrepaired perineal tears, and a mother with a dead baby.
2. During skill development in a clinic, observe and practice how to interview, examine, and care for women with postnatal problems.

6.1 CRACKS ON NIPPLES

Suckling an infant may cause small cracks on a mother's nipple.

CLINICAL PICTURE

a. Presenting complaint

The mother will feel sharp pain from her nipple when her baby suckles.

b. Medical history

The pain usually will last only a short time. The mother may notice a crack in her nipple.

c. Physical examination

Examine the nipples for cracks. You may see a small amount of blood.

COURSE AND COMPLICATIONS

A crack in a woman's nipple can become infected and form a breast abscess. The greatest danger of a painful nipple crack is to the baby. If the mother stops nursing her child, he may suffer diarrhea or malnutrition.

PATIENT CARE

The mother should not breast-feed her baby for twenty-four hours. Her milk should be manually expressed and fed to the baby with a cup and spoon during this time.

The mother should keep her nipples dry and expose them to sunlight for twenty minutes three times a day.

PREVENTION

A woman may prepare for suckling by massaging her breasts with cold water daily during the last two months of pregnancy.

6.2 BREAST ABSCESS

A breast abscess is a painful inflammation which forms when a nursing mother's milk glands become blocked. The milk glands do not completely empty because of the block. The inflammation is painful for the mother, but nursing from the breast will not harm her baby.

CLINICAL PICTURE

a. Presenting complaint

The mother will complain of a very tender, red swelling on her breast. Pus will drain from a ruptured abscess.

b. Medical history

The mother may have had cracks around her nipple. Pain and swelling of the breast are the most common symptoms.

c. Physical examination

The mother may have a fever. Look for a warm, firm, red area that is tender on one breast.

COURSE AND COMPLICATIONS

Without antibiotics, the abscess will form a soft, yellow, pussy center. The soft, yellow center can become a tense point and burst, releasing a large amount of pus. When the abscess bursts, the pain and fever usually disappear, leaving a deep, open sore with purulent drainage.

PATIENT CARE

Tell the mother to continue breast-feeding so she regularly empties her breast of milk. Assure her that her baby will not become ill from nursing on this breast.

Tell the mother to apply clean pads warmed in hot water to the swollen area for fifteen minutes three times a day.

Give the mother ampicillin to take four times a day for seven days. See Patient Care Guides.

If the abscess forms a soft, yellow center, make an incision and drain it. See Patient Care Procedures.

If the abscess is draining when you first see it, care for it as you would an infected wound. Soak it with sterile, warm saline solution for fifteen minutes three times a day until it heals. If the drainage hole is too small for good drainage, open it and insert a piece of sterile gauze to improve drainage. Remove the gauze in one or two days.

6.3 PUERPERAL SEPSIS

Puerperal sepsis is a postnatal infection of the reproductive system. The infection spreads through the vagina into the uterus and fallopian tubes. Puerperal sepsis may start with the premature rupture of the membranes, during prolonged deliveries, or after vacuum extraction deliveries.

CLINICAL PICTURE

a. Presenting complaint

Fever is the usual presenting complaint. The woman may also complain of chills and a foul smelling vaginal discharge.

b. Medical history

The woman with puerperal sepsis will have delivered or aborted a few days earlier. She will have a fever and perhaps chills. Her vaginal discharge may increase. It will have a foul smell. The woman will feel and look sick. As her infection spreads, she may begin to have some pain in her lower abdomen.

c. Physical examination

Her temperature will be high and her heart rate will be fast. She may look flushed. Her lower abdomen often is tender when palpated.

The discharge will be foul smelling, blood tinged, and sometimes purulent. The woman's uterus often will be spongy and tender to palpation.

COURSE AND COMPLICATIONS

If untreated, puerperal sepsis will spread from the uterus into the abdomen. An abscess may form in the pelvis. The infection may also spread into the blood stream, causing septic shock. The signs of septic shock include fever, low blood pressure, fast heart rate, and fast respiration rate. The woman will look anxious. Septic shock may progress to coma and death.

PATIENT CARE

The woman should be put at bed rest in a semi-seated position. Keep her pelvis low to allow drainage of fluids and pus from the uterus and the vagina.

Give a woman with signs of puerperal sepsis procaine penicillin and streptomycin. Immediately refer to a hospital. See Patient Care Guides.

Give the woman fluids by mouth until she is able to return to her regular diet. She may not be able to drink enough fluids if a generalized abdominal infection occurs. In that case, give her 1000 ml of 5% glucose in half normal saline and 1000 ml of 5% glucose solution. See Patient Care Guides.

PREVENTION

Using sterile equipment, facilities, and procedures during deliveries will prevent almost all cases of puerperal sepsis. These include bathing and washing the woman, thoroughly washing the birth attendants' hands, sterilizing all equipment, and avoiding frequent pelvic examinations.

Harmful traditional practices such as the use of animal dung during a delivery must be avoided.

6.4 UNREPAIRED PERINEAL TEARS

A perineal tear can occur during any delivery. A woman with a complicated delivery managed by a traditional birth attendant or a woman who has an unsupervised delivery may have had a perineal tear which

has not been repaired. The severity of the tear depends on its size, its depth, and whether or not it is infected.

CLINICAL PICTURE

a. Presenting complaint

The woman will come in or be brought in by her family because of the perineal tear.

b. Medical history

The woman will explain that she delivered a few days before and that she had a long delivery and a large baby.

She may tell you that some traditional medicine such as oil, leaves, herbs, or even animal dung were applied to the wound.

c. Physical examination

Examine the woman's genitals. Look at the outside of the vagina and the anus. The opening of the vagina may only have surface lacerations. The anus will be intact. Severe tears lacerate the vaginal opening all the way to the anus.

Feel the vagina. Only surface layers of the vagina will be lacerated in minor tears. Severe tears will lacerate deep tissue and the muscles of the vagina.

If the anus is torn, the rectal muscle will not tighten on your finger.

If the wound is covered with any traditional medicine, clean it to see how large the wound is.

The edges of a clean wound will be pink and moist. An infected wound will be covered with pussy discharge. The edges may be swollen and red.

COURSE AND COMPLICATIONS

An unrepaired perineal tear may lead to such life threatening infections as tetanus. A woman may lose control of her stool and urine if her urethra or rectal sphincter have been torn. Also, an unrepaired perineal tear may leave the woman's vagina gaping open.

PATIENT CARE

Treat the woman whose perineal tear is infected as if she had puerperal sepsis. Give her antibiotics and refer her to a hospital.

If her wound is only slightly infected, advise her to sit in a tub or bath

of hot, soapy water for thirty minutes three times a day. After the slight infection clears, refer the woman to a hospital for possible repair.

If the wound has been packed with animal dung or other unclean materials, clean and soak it. Also, treat the woman with penicillin and begin a tetanus toxoid series.

6.5 MOTHER WITH A DEAD BABY

A mother whose baby dies in the uterus or shortly after delivery needs special care and support. She will be depressed. She may believe she is responsible for what happened. Encourage her to express her grief and her concerns. Talk to her and to her family.

Refer the woman to a hospital if you suspect she may have a problem that led to the death of her fetus. Otherwise, give her the best personal and medical advice you can. Encourage her to consider having another baby. Advise her to come for prenatal care as soon as she is pregnant again.

REVIEW QUESTIONS

Other Postnatal Problems

1. Nipple cracks can occur when a woman breast-feeds. Describe the usual symptoms and signs that will occur with nipple cracks.
2. List two complications of nipple cracks.
3. List three findings that will help you decide whether a woman has a breast abscess.
4. Describe what treatment you would give a woman who has a breast abscess.
 - a. Drug treatment:
 - b. Home treatment:
5. What patient care would you give a woman who has an unrepaired perineal tear with a minor infection?
6. What is puerperal sepsis?
7. What is the usual cause of puerperal sepsis?

8. List four findings that will help you to decide whether a woman has puerperal sepsis.

9. Describe what care you would give a woman who has puerperal sepsis.
 - a. Drug treatment:

 - b. If the woman shows no improvement in twelve hours, what should you do?

Unit 7

Common Problems of the Newborn

STUDENT GUIDE

OBJECTIVES

1. Recognize and describe these signs and symptoms of common problems of the newborn:
 - Scaly, oily crusts on the scalp
 - Red, irritated skin beneath the diaper
 - Clear discharge from the nose
 - Jaundice
 - Swelling of the scalp
2. Interview mothers and examine newborns to identify cradle cap, diaper rash, a cold, simple jaundice, and simple swelling of the scalp.
3. Describe how to treat and care for newborns with common problems.
4. Tell the families of newborns how to care for common problems of the newborn.

LEARNING ACTIVITIES

1. Take part in a discussion of cradle cap, diaper rash, a cold, simple jaundice, and simple swelling of the scalp.
2. Be prepared to discuss the signs and symptoms a mother might notice about her newborn's common problems and the most important points to cover when advising mothers about the common problems of newborns.

7.1 CRADLE CAP

Cradle cap is a common skin condition among newborns. Cradle cap is caused by an increase of scalp oils which form a crust.

CLINICAL PICTURE

a. Presenting complaint

A mother will seek help because her newborn has a scaly, oily crust on his scalp.

b. Medical history

The scaly lesions will not go away with washing. The mother will often describe soaps, oils, or lotions that she has used to try to treat the scales.

c. Physical examination

Inspect the scalp. Look for a scaly, oily crust on the scalp, forehead, and ears.

COURSE AND COMPLICATIONS

Cradle cap is common. It can last for years. No complications usually develop unless the mother uses too many lotions and oils to treat the problem. Using too many lotions or oils may cause an infection.

PATIENT CARE

Show the mother how to wash away the scaly patches on the scalp with soap and water. Use a very soft brush to scrub the head. Apply 2.5% selenium sulfide. See Patient Care Guides

7.2 DIAPER RASH

Diapers soiled by urine and stool irritate a baby's skin and cause diaper rash.

CLINICAL PICTURE

a. Presenting complaint

A mother will seek help because her baby's skin is red and irritated beneath his diaper.

b. Medical history

The mother will describe a gradual increase of redness and irritation beneath her baby's diaper. She may also describe lotions, oils, herbs, or creams that she has been applying to the irritated skin.

c. Physical examination

Examine the skin. Look for red, chafed, moist skin beneath the diaper. You may also find that some oils, lotions, herbs, or creams have been applied.

COURSE AND COMPLICATIONS

Many newborns develop diaper rash. Early treatment helps prevent severe skin irritation and infection. Oils, lotions, and creams may increase irritation.

PATIENT CARE

Tell the mother to change her baby's diaper as soon as possible after it gets dirty or wet. She should wash the baby's groin with a soft soapy cloth when she changes his diaper. She should rinse the area in clean, clear water and dry it with a soft cloth. Exposing the affected area to the air without a diaper for several hours a day will help heal the diaper rash.

Advise the mother not to use creams or oils until her baby's skin is healed.

7.3 COLDS

Colds, which are minor upper respiratory infections, can affect a newborn's ears, nose, and throat. The baby may have trouble sleeping and breast-feeding. Antibiotics will not help him because colds are infections caused by a virus, not bacterium. The baby's symptoms can be treated until the cold clears on its own.

CLINICAL PICTURE

a. Presenting complaint

A mother will usually seek help because her baby has a runny nose, is irritable, and is not sleeping well.

b. Medical history

The mother will have noticed the symptoms of a cold during the past one or two days. She may say that her baby has not been nursing well because he cannot breathe well when he nurses.

c. Physical examination

The baby's temperature is normal. He may be active and alert, but irritable. He will cry. His breathing will be slightly noisy and nasal at times, but he will not look very ill. Look for clear discharge from his nose.

COURSE AND COMPLICATIONS

Symptoms of a cold usually last from three to ten days. A newborn usually recovers with no problems. However, the baby needs to be observed for complications from the infection. The infection may spread to the larynx and epiglottis, swelling tissues and blocking the airway. A blocked airway will cause a hoarse and barking cough. The baby will have trouble breathing. If these symptoms occur, immediately refer the baby to a hospital.

PATIENT CARE

- a. Give the mother a rubber syringe so she can clear her baby's nose just before feedings. This will help the baby breast-feed.

- b. Urge the mother to continue to breast-feed her baby frequently. This will ensure that the newborn receives enough fluid and nutrients.
- c. Tell the mother to give her baby nose drops before feeding two to three times a day. This will clear the baby's nose so he can breast-feed more comfortably and easily. See Patient Care Guides.

7.4 SIMPLE JAUNDICE

A normal newborn can develop jaundice between the second and fifth day after delivery. Jaundice turns the skin and sclera yellow.

CLINICAL PICTURE

- a. Presenting complaint
The mother will seek help because her child's skin looks yellow.
- b. Medical history
The only symptom will be jaundice. The newborn will be eating and sleeping normally.
- c. Physical examination
The only sign is jaundice. The newborn should have a normal temperature. He will be alert, active, and without any distress. His stools and urine will be a normal color.

COURSE AND COMPLICATIONS

The usual course is uneventful. The color will gradually fade within a week.

PATIENT CARE

- a. Breast-feed frequently to ensure that the newborn receives enough fluids to help the body clear the jaundice.
- b. Reassure the mother. Tell her that her baby's skin color will gradually fade. The newborn will suffer no ill effects.

7.5 SIMPLE SWELLING OF THE SCALP

Swelling of the scalp can occur as a result of pressure on a fetus' head during delivery. The swelling is caused by fluid leaking into the scalp. The parts of the scalp that will be swollen depend on the position of the head during delivery.

CLINICAL PICTURE

a. Presenting complaint

The mother will usually seek help within two days of delivery because of swelling of her newborn's scalp.

b. Medical history

The mother will usually say that shortly after delivery the newborn's scalp began to swell. The delivery may have been uneventful or the mother may say that it was long and difficult. The mother will notice no other symptoms. The newborn will be breast-feeding well.

c. Physical examination

The newborn does not have a temperature. He is easily aroused. When awake, he is active and alert.

Examine the scalp. You will probably find swelling without definite borders on some part of the scalp. If the examination is done within twenty-four hours after the delivery, you may find crossing over of the skull bones that occurred during delivery.

COURSE AND COMPLICATIONS

The swelling usually decreases without complications in twenty-four to forty-eight hours.

PATIENT CARE

Reassure the mother that the swelling will decrease on its own.

REVIEW QUESTIONS

Common Problems of the Newborn

1. What causes cradle cap?

2. Describe the usual signs of cradle cap.

3. How would you treat cradle cap?

4. Diaper rash is a skin problem that is caused by irritation from urine and stool in diapers.
 - a. Describe the usual medical history.

 - b. Describe what signs of diaper rash you should look for in a physical examination.

 - c. What will be your patient care for diaper rash?

5. TRUE(T) or FALSE(F)
 - ___ A cold in a newborn is usually caused by a virus.
 - ___ You will need antibiotics to treat a cold.
 - ___ The symptoms of a cold usually last from three to ten days.
 - ___ One possible complication of a cold is that the infection may spread to the larynx and epiglottis.

Unit 8

Other Problems of the Newborn

STUDENT GUIDE

OBJECTIVES

1. Recognize and describe these signs and symptoms of problems of the newborn:
 - Swelling with hard edges and soft center on the scalp
 - Lack of movement on one side of the body
 - Irregularity in bone
 - Frequent, watery stools
 - Sunken fontanelles
 - Dry mucous membranes
 - Tenting of skin
 - Lethargy
 - Vomiting
 - Fever
 - Not breast-feeding well
 - Birth weight less than 2,500 g
 - Jaundice
 - Newborn without a mother
2. Interview mothers and examine newborns to identify bleeding into the scalp, fractures, diarrhea, fever, low birth weight, and jaundice.
3. Describe how to treat and care for newborns with other problems.
4. Tell mothers how to care for other problems of the newborn.

LEARNING ACTIVITIES

1. Join the instructor and the class in a discussion of bleeding into the scalp, fractures, diarrhea, fever, low birth weight, jaundice, and newborns without mothers.
2. During skill development in a clinic, observe and practice how to interview mothers of newborns and examine newborns with other problems of the newborn.

8.1 BLEEDING INTO THE SCALP

Pressure on a fetus' head during delivery sometimes causes bleeding into the scalp. The blood pools beneath the skin and a hematoma, or swelling, forms.

CLINICAL PICTURE

a. Presenting complaint

The mother will show you a swelling on the newborn's head.

b. Medical history

The mother usually will have a history of a long labor and possibly special intervention such as a vacuum extraction. Or, pitocin given during delivery may have increased pressure on the fetus' head.

c. Physical examination

The newborn will have a normal temperature. He will be active and alert. He will easily wake up.

Examine the scalp. Look for a swelling with hard edges and a soft center. The mass has definite borders.

COURSE AND COMPLICATIONS

Usually the swelling will be absorbed within a few weeks or months. However, you should be alert to possible swelling of the brain and further bleeding into the scalp. The same pressure or trauma that caused the hematoma could have caused swelling of the brain. Observe the newborn for drowsiness and unconsciousness. Watch for an irritable cry, inability to comfort the newborn, vomiting, and fits. All of these are signs of swelling of the brain. If these occur, the newborn needs to be immediately transferred to a hospital.

If bleeding into the scalp continues, the hematoma will become larger. Refer the newborn to the hospital if the hematoma grows.

PATIENT CARE

Reassure parents whose newborn seems normal except for a mild swelling on the head.

Refer a newborn with a swelling on his scalp to a hospital if:

- His cry is shrill
- He has fits
- He is in a coma
- His APGAR score was low

PREVENTION

Good prenatal care and correct management of high risk factors should prevent prolonged labor and hematoma.

8.2 FRACTURES

Injuries to arms, legs, and clavicles most commonly occur during breech deliveries. The clavicle and humerus are most often fractured.

CLINICAL PICTURE

a. Presenting complaint

You may have felt the snap when doing a breech delivery, or the mother may notice that the baby does not move one side of his body as much as the other.

b. Medical history

Usually fractures occur in difficult deliveries such as a breech delivery.

c. Physical examination

The newborn will only move one side of his body.

You may feel the fracture by palpating the edges of the bones.

PATIENT CARE

If the clavicle or humerus is fractured, strap the arm of the fractured side to the chest and refer the newborn to a hospital. If the femur is fractured, splint the leg and refer the newborn to a hospital.

PREVENTION

Good prenatal care and management of high risk factors includes hospital deliveries of breech presentations.

8.3 DIARRHEA

Diarrhea can cause dehydration and can lead to rapid death of a newborn. To diagnose and treat diarrhea, you must be able to recognize the difference between it and normal soft stools of a newborn.

CLINICAL PICTURE

a. Presenting complaint

The mother will say that her baby is having diarrhea.

b. Medical history

The mother will tell you that her baby has had frequent, watery stools. The mother or another family member may have fed the baby from a bottle or fed him foods that may have caused the diarrhea.

c. Physical examination

The newborn's diaper will be covered with watery, light colored stool.

Look for signs of dehydration. The best sign of dehydration in a newborn is sunken fontanelles. If the fontanelles are sunken, the baby is dehydrated. Also look for dry mucous membranes and tenting of the skin.

COURSE AND COMPLICATIONS

Untreated diarrhea will lead to dehydration. Dehydration quickly leads to coma and death of the newborn.

PATIENT CARE

Advise the mother to continue breast-feeding. Begin giving the newborn with diarrhea sips of oral rehydration solution with a cup and spoon. Transfer him as quickly as possible to a hospital. Newborns with dehydration often require IV fluids.

PREVENTION

Avoid giving a newborn anything by mouth except breast milk. If water is necessary, it must be boiled and given by cup and spoon. Never use a bottle.

8.4 FEVER

A fever or a low body temperature in a newborn can be a sign of a general infection. These are signs of serious problems, especially if the newborn is also lethargic and unresponsive.

CLINICAL PICTURE

a. Presenting complaint

The mother or a family member says the baby seems hot and unresponsive.

b. Medical history

Often the baby has not been breast-feeding as well as usual. He sleeps most of the time and when awake does not seem alert.

He may spit up or vomit. His skin feels hot.

c. Physical examination

The baby's rectal temperature is higher than 38° C. He seems lethargic and difficult to arouse. Check the baby's umbilicus and throat for signs of infection. Listen to his lungs. Check for a tense or bulging fontanelle.

COURSE AND COMPLICATIONS

Fever in a newborn is a very serious sign. He may have a generalized infection such as meningitis or septicemia which are life-threatening infections.

PATIENT CARE

Immediately refer the newborn to a hospital. See Patient Care Guides.

8.5 LOW BIRTH WEIGHT

A low birth weight is any weight less than 2,500 g. A newborn who has a low birth weight is at great risk. His lungs, nervous system, and digestive organs are weak. He has little body fat to protect him from the cold. He has trouble fighting infections. He needs special care.

Some causes of low birth weight are:

Smoking during pregnancy	Anemia
Poor nutrition	Malaria
Eclampsia	Multiple pregnancy

CLINICAL PICTURE

a. Presenting complaint

The baby has a birth weight of less than 2,500 g.

b. Medical history

You may record a history of smoking, eclampsia, poor maternal nutrition, anemia, malaria, or multiple pregnancy. The baby may have been premature.

c. Physical examination

The baby will weigh less than 2,500 g. A lack of body fat will make the newborn's face, arms, legs, and trunk look very thin. A premature baby will look much smaller than a term infant.

Associated physical findings may include problems with respiration. The baby may either be active or weak and limp.

COURSE AND COMPLICATIONS

Low birth weight babies have a high death rate. They are at greater risk than larger babies because of respiratory problems, colds, or infections.

PATIENT CARE

The most important immediate treatment of a low birth weight baby after it is breathing on its own is to be certain that it stays warm. This baby should be held by its mother and be kept well wrapped at all times.

Two to six hours after birth the baby should be given breast milk. If he is able to suckle and swallow, the baby should be breast-fed. If the baby cannot breast-feed, refer the baby and mother to a hospital.

If the babies are twins, rotate feedings on breasts. Feed one child first one time and the other child first the next.

If the baby is getting enough milk, he should start to gain weight the first week. If he is not getting enough milk to gain weight, refer him and his mother to a hospital.

PREVENTION

Good prenatal care, good nutrition, iron and folic acid supplements, no smoking, and early recognition of high risk factors should prevent many low birth weight babies.

8.6 JAUNDICE

Not all jaundice in a newborn is simple jaundice. Some jaundice in a newborn is a sign of a life-threatening problem. You must learn to recognize the difference between simple jaundice and jaundice of a more severe kind.

Simple jaundice occurs because of a normal breakdown of red blood cells soon after birth. Abnormal jaundice also occurs because red blood cells break down, but they break down for abnormal reasons. Some of these reasons are:

- A reaction to the mother's blood type
- Low birth weight
- Infections such as hepatitis, syphilis, or sepsis

CLINICAL PICTURE

a. Presenting complaint

The baby will cause concern because of his yellow skin and sclerae.

b. Medical history

Find out when the baby became yellow. If the jaundice began at birth or on the first or second day, the cause of jaundice may be a reaction to his mother's blood.

c. Physical examination

Five signs of abnormal jaundice in a newborn are:

Yellow skin on the first day of life or after the sixth day

Deep yellow color

Yellow soles or palms

Jaundice lasting more than one week

Fever or lethargy

Look at the baby's skin in a good light. Look at the palms of his hands and the soles of his feet. Check his sclerae. Note the presence and degree of color. Also check for fever and lack of activity.

COURSE AND COMPLICATIONS

Untreated forms of abnormal jaundice can cause mental retardation. Abnormal jaundice may also cause death.

PATIENT CARE

Transfer a newborn with abnormal jaundice to a hospital for tests and treatment.

PREVENTION

Refer a woman who has had one baby with abnormal jaundice to a hospital for prenatal care.

8.7 A NEWBORN WITHOUT A MOTHER

A baby born without a living mother is at great risk. A newborn baby needs the body warmth of its mother and its mother's breast milk. If the mother dies in childbirth or soon after, help find a substitute mother, a woman who can begin holding and nursing the baby immediately. This woman might be part of the mother's own family, a neighbor, or a friend.

If breast milk is not available, teach the family to feed the baby milk from a cup and small spoon. This process will take long and patient care, but it is a safer method than using a bottle. The cup and spoon should

be thoroughly washed and dried between feedings. The baby should be fed every two hours.

If feeding with a cup and spoon is not possible, you may have to consider feeding with a sterile bottle. Children cared for by single fathers or in orphan's homes have high death rates. Malnutrition is common among those children who do not die.

REVIEW QUESTIONS

Other Problems of the Newborn

1. How do hematomas in a newborn's scalp usually occur?

2. Describe at least four signs of normal or abnormal conditions that you might find on physical examination of a newborn with an uncomplicated hematoma of the scalp.

3. What is the treatment of hematoma of the scalp?

4. Name at least two sites where fractures usually occur during delivery of a newborn.

5. Describe two signs of a fracture in a newborn.

6. Why is diarrhea dangerous in a newborn?

7. List four signs of diarrhea and dehydration of the newborn.

8. What is the treatment of diarrhea and dehydration of the newborn?

9. Fever or low body temperature in a newborn can be a sign of _____ .
10. What is the treatment of fever of a newborn?
11. Low birth weight newborns weigh less than _____ .
12. List six possible causes of low birth weight.
13. Describe the physical appearance of a low birth weight newborn.
14. What is a frequent complication of low birth weight newborns?
15. List three recommendations for care of a low birth weight newborn.
16. When does abnormal jaundice usually occur?
17. Where would you look for jaundice of the newborn?
18. What is the patient care for jaundice of the newborn?

Unit 9

Birth Defects

STUDENT GUIDE

OBJECTIVES

1. Describe birth defects.
2. Discuss the signs and symptoms of these birth defects:

Extra finger or toe	Congenital heart disease
Birth marks	Clubfoot
Umbilical hernia	Dislocated hips
Undescended testes	Down's syndrome
Hare lip	Hypertrophic pyloric stenosis
Cleft palate	Gastrointestinal defects
Hydrocephalus	Imperforated anus
Spina bifida	Ectopic bladder
3. Describe how to treat and care for newborns with birth defects.
4. Tell families how to care for newborns with birth defects.

LEARNING ACTIVITIES

1. Take part in a discussion of birth defects.

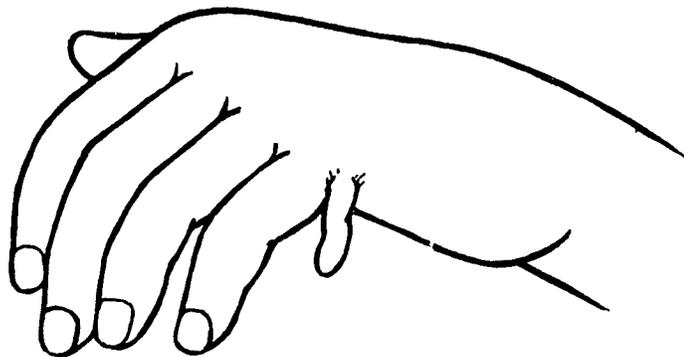
9.1 BIRTH DEFECTS

Birth defects are physical problems which develop while a fetus grows in the uterus. Some birth defects can be prevented. Other birth defects can be treated so the child suffers no lasting effects.

Extra Finger or Toe

An extra finger or toe presents no serious problem. If the base of the extra finger or toe is narrow, tightly tie a string around it. The extra part will fall off about the same time as the umbilical cord.

If the base of the extra finger or toe is large, refer the newborn to a hospital.



Birth Marks

Birth marks are large dark or red spots on the skin. Some will fade away by themselves. Others will need special treatment. Refer the newborn with large birth marks to a hospital.

Umbilical Hernia

A baby may be born with a large pouch protruding from the middle of his abdomen at the umbilicus. The pouch holds part of his intestines which have slipped between his abdominal muscles. This umbilical hernia usually corrects itself within a few years as the baby's abdominal muscles grow stronger.

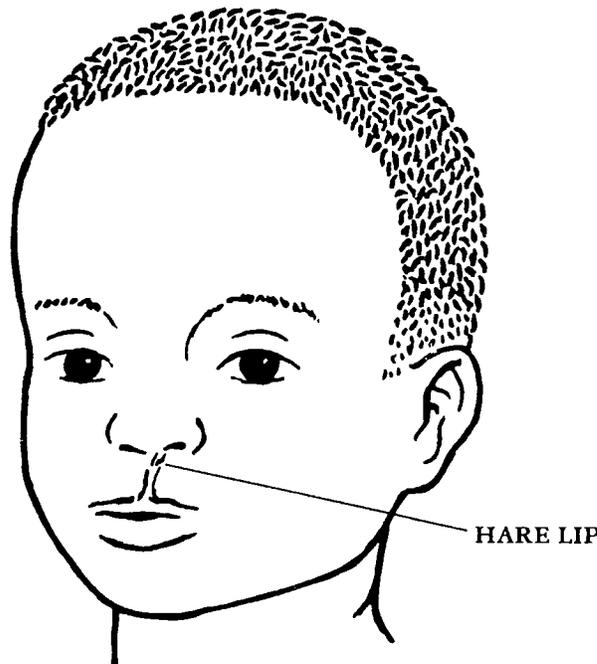
Undescended Testes

Most newborn's testes are in the scrotum or can be palpated in the groin. Testes that cannot be palpated usually come down in the first few weeks after birth. Check for testes each time you examine a newborn. If the testes are not descended within one year, refer the child to a hospital. Surgery is necessary to bring the testes out of the abdomen into the scrotum.

Hare Lip and Cleft Palate

Incomplete closure of the upper lip is called a hare lip. Incomplete closure of the center of the palate is called a cleft palate. These should be closed by operation after the infant is three months old if he is growing well. Refer the infant to a hospital.

Babies with hare lip or cleft palate may not be able to suckle. Show the mother how to express her milk and feed her baby with a small spoon. Weigh the baby every week to be sure he is getting enough milk.



Hydrocephalus

Fluid normally drains from a person's brain to his spinal cord. However, some birth defects block the fluid from draining. In these cases the fluid collects inside the newborn's skull. The skull grows abnormally large. The condition, hydrocephalus, can prolong labor if it affects a fetus, and it can threaten the life of a newborn. Refer to a hospital a newborn whose head is larger than

normal or whose head grows abnormally fast. Surgery can correct the problem in some cases.

Spina Bifida

Spina bifida, an open spine, is a birth defect in which the bones around the spinal cord fail to close. Spina bifida leaves a part of the spinal cord exposed. The problem can be so minor that it will cause no symptoms or so severe that it will paralyze the child's legs.

Refer to a hospital any newborn with an open spine. If a sac or pouch has formed over the open part of the spine, cover it with sterile dressings.

Congenital Heart Disease

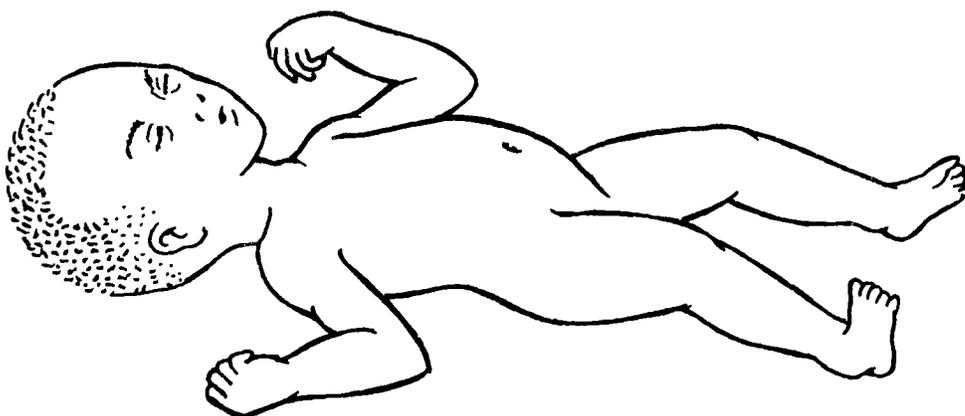
Congenital heart disease is heart disease that is present at birth.

Five signs of congenital heart disease are:

- An abnormally fast heart rate
- An abnormally fast respiration rate
- An enlarged liver
- A loud heart murmur
- Cyanosis

Refer all babies you suspect have congenital heart disease to a hospital.

Clubfoot



A newborn with one or both feet turned inward and downward has clubfoot. Untreated, a child with clubfoot may remain crippled all his life. Treated with massage, exercise, and splinting, the child may not have problems. Refer a child with a clubfoot to a hospital in the first week after birth so treatment can begin.

Dislocated Hips

Sometimes a newborn's femur slips out of its joint in the pelvis, causing a dislocated hip. Examine all newborns for this condition.

Refer newborns who you suspect have a dislocated hip to a doctor. Keep the newborn's knees high and wide apart, using many thicknesses of diapers. The mother may carry the baby on her hip or back so his legs remain wide apart.

Untreated, a baby with a dislocated hip will be crippled. Treated properly, the baby may have no trouble when he begins to walk.

Down's Syndrome

Down's syndrome is a common form of mental retardation. Down's syndrome babies look alike. They have low set ears, marked inner eyelid folds, and very flexible joints. They also may have serious congenital heart defects.

Down's syndrome babies are usually calm and pleasant. With special help, they can learn to care for themselves.

More Down's syndrome children are born to women older than thirty-five than to younger women.

Hypertrophic Pyloric Stenosis

Hypertrophic pyloric stenosis occurs when the end of the stomach closes off because of a swelling of the pylorus muscle. Poor weight gain, constipation, and vomiting are all signs of hypertrophic pyloric stenosis. Refer newborns with this birth defect to a hospital.

Gastrointestinal Defects

Openings between the esophagus and trachea cause immediate problems with feeding and breathing. If gastrointestinal defects are suspected, refer the baby to a hospital for surgery.

Imperforated Anus

Rarely the anus of the newborn does not properly open. Taking a rectal temperature during the newborn physical examination will help you determine whether the anus is open. If the anus is closed, refer the baby to a hospital for surgery.

Ectopic Bladder

Some newborns' bladders are outside their abdomen and pelvis. This is almost impossible to correct by surgery. The baby often dies.

9.2 PREVENTING BIRTH DEFECTS

Parents should know why birth defects happen and what they can do to prevent them.

Seek Prenatal Care

Prenatal care will uncover possible problems early in a woman's pregnancy and help prevent birth defects.

Do Not Marry Close Relations

Birth defects occur frequently in babies whose parents are closely related. Couples should know about the dangers of marrying someone from within their family.

Do Not Drink Alcohol or Smoke Tobacco

Pregnant women should not drink alcohol or smoke tobacco. The alcohol and smoke travels through the mother's blood to the fetus and may affect it. Drinking alcohol and smoking may also affect the mother's eating habits.

Do Not Take Drugs or Medicine

Pregnant women should not take drugs or medicine without first asking a health worker or a doctor. Drugs and medicines can affect a fetus even more severely than alcohol and tobacco.

Avoid Infection

Some illnesses that may have little effect on a pregnant woman can cause severe birth defects in a fetus. German measles is such an infectious disease. Tell pregnant women how to avoid illness and disease.

Eat Well

A pregnant woman's health affects her fetus' growth. Pregnant women should eat well to stay strong. Tell pregnant women to eat vegetables, fruits, eggs, beans, and meat.

Plan Your Family

Women older than thirty-five bear babies with birth defects more often than younger women. Couples who are planning to have a family should know this.

REVIEW QUESTIONS

Birth Defects

1. What are birth defects?
2. List at least six ways birth defects can be prevented.

Unit 10

Selecting Health Education Material and Giving Health Messages

STUDENT GUIDE

OBJECTIVES

1. Identify health education material that might be given to postnatal women.
2. Develop health messages for postnatal women about postnatal care.
3. Give health messages to women at a postnatal clinic.

LEARNING ACTIVITIES

1. Join the instructor and the class in a discussion of how to select educational material and how to use it with health talks.
2. Read and discuss health education material.
3. Work with other students in small groups to plan health talks based on health education material.
4. Present and discuss the health talk and the health education material with the rest of the class.
5. Practice giving health talks and distributing health education material on postnatal care during clinical practice sessions.

10.1 SELECTING HEALTH EDUCATION MATERIAL AND GIVING HEALTH MESSAGES

Postnatal women may be interested in advice about how to care for themselves and their newborns. They also may be interested in information about what to do when a problem occurs. Each woman will have different interests and will want information about topics that are important to her. You can find topics that interest women by talking to them at the health center or talking to them in their communities.

Two methods you can use to give women advice and information about topics that interest them are:

- Give the women health booklets, pamphlets, or fact sheets
- Present health messages to women in clinics or in their communities

10.2 CHOOSING HEALTH EDUCATION MATERIAL

Make a list of the postnatal topics that interest women in your area. Once you have the list of topics, decide where you can obtain health educational material about them. Some agencies that usually have health education material are:

- Mid-level health worker training units
- Health education units
- World Health Organization
- United Nations Children's Fund
- Library

Go to the agencies with your list of topics. Look at the health education material available. Collect samples of what you need.

Read all of the booklets, pamphlets, and fact sheets that you have collected. Decide whether the information in the health education material would interest a postnatal woman. Decide whether the information in the health education material will be useful by answering these questions:

- “Will the postnatal woman easily understand the information? Will she need an explanation to understand the content?”
- “Does the material clearly describe the important points about the topic? Is there too much detail or too little detail?”
- “Are the pictures, diagrams or photographs clear?”
- “Does the material cover the topics that are on your list?”
- “Will the material help postnatal women?”

Choose the health education material that you feel will be useful. Obtain copies for distribution.

10.3 COMBINING DISTRIBUTION OF HEALTH EDUCATION MATERIAL WITH HEALTH TALKS

Talking directly with people or groups of people is an important way to share information about preventing postnatal problems. Health talks also give women information about how they can solve problems that have already occurred.

Give health talks at every opportunity. Talk to women at the health center about their problems. Talk to women at a postnatal clinic about how to prevent problems from occurring. Talk about health when you distribute education material. For example, when you talk about the need for immunizations for newborns, give out a fact sheet stating again why immunizations are important and how often they should be given. Combining health talks with health education material supports the important points that you make about a topic.

Choose health topics that will interest women and be useful. After choosing your topic, list the most important points about it. Read your training material or health education material to think of ideas for the important points that you should cover about a topic. Write the important points in the order that you will present them when you give your health talk.

Choose a booklet, pamphlet, or fact sheet that covers the most important points that you chose about a topic. Obtain enough copies of the health education material to distribute to all the women you talk to.

When giving your health talk, tell the women about the importance of your topic. Talk about all the important points that you outlined. Ask for any questions when you finish.

Distribute the booklet, pamphlet, or fact sheets. Briefly tell the women what information is in the material. Tell them why they should read the material.

SKILL CHECKLIST

Choosing and Distributing Health Education Material and Giving Health Talks

This checklist has two purposes:

- 1) Students should use it as a guide for checking their own skills or other students' skills
- 2) Supervisors should use it when they evaluate how well students choose and distribute health education material and give health talks.

After observing a student, enter a rating in the appropriate column.

Rating: 1 = Inadequate
 2 = Needs improvement
 3 = Satisfactory
 4 = Above average
 5 = Excellent

When choosing and distributing health education material and giving health talks, you should:

	YES	NO	RATING	COMMENTS
1. List the topics of interest to postnatal women				
2. Decide where to obtain the health education material about those topics				
3. Look at the material you find. Compare the topics on your list with the health education material available				
4. Collect samples of the health education material				
5. Read all the health education material. Decide whether the information will be useful to postnatal women				

YES NO RATING COMMENTS

	YES	NO	RATING	COMMENTS
6. If you feel that the health education material will be useful, order copies for distribution				
7. Choose a topic of interest to postnatal women for a health talk				
8. Read the health education material to find important points that should be covered about the topic				
9. Write down all the important points about the topic in the order that you will present them in your health talk				
10. Choose a booklet, pamphlet, or fact sheet that covers the most important points about the topic				
11. Collect enough copies of the health education material for distribution				
12. At the time of the health talk, tell the audience why the topic is important				
13. Give the health talk. Cover the important points that you wrote down				
14. At the end of the health talk, ask for questions				
15. Distribute the health education material. Tell the audience what information is in the health education material and why they should read it				

Unit 11

Assessing Postnatal Women and Newborns; Skill Development

STUDENT GUIDE

OBJECTIVES

1. Interview and examine postnatal women and their newborns
2. Recognize and record the signs and symptoms of problems of postnatal women and their newborns
3. Counsel postnatal women about personal care and care of their newborns and how to identify and prevent possible problems

LEARNING ACTIVITIES

1. Take part in five days of general skill development in a hospital ward or postnatal clinic.

Unit 12

Providing Care for Postnatal Women and Newborns; Clinical Rotation

STUDENT GUIDE

ENTRY LEVEL

Before starting your clinical experience, you must:

1. Score at least 80% on a test of your knowledge of care of postnatal women and their newborns.
2. Earn at least two Satisfactory ratings on your ability to:

Take and record a postnatal medical history of a postnatal woman and her newborn

Perform a physical examination of a postnatal woman

Perform a newborn physical examination

Identify signs of postnatal problems in a woman and her newborn

Present health messages about care of a postnatal woman and her newborn

OBJECTIVES

1. Diagnose all of the diseases of postnatal women and newborns described in this module.
2. Record information about medical history, physical examination, and patient care.
3. Provide patient care using the treatments and management procedures in this module.
4. Advise women about the home care and prevention of postnatal and newborn problems.

LEARNING ACTIVITIES

Provide supervised patient care for one week in a postnatal

clinic. During your time in the postnatal clinic, your supervisor will help you identify and treat postnatal women and their newborns. You will be expected to use Diagnostic and Patient Care Guides.

EVALUATION Level II

When you feel that you have had enough experience, ask your supervisor to evaluate you. He will do this by using a log book. This log book contains a list of the problems you will work with in the postnatal clinic. It also shows how many postnatal women and their newborns you should see. As your supervisor watches you deal with a problem, he will write his rating in the log book. He will rate you in the following way for diagnosis and patient care:

- 1 = Diagnosis incorrect
- 2 = Diagnosis correct, treatment incorrect
- 3 = Diagnosis and treatment correct,
but no patient advice given
- 4 = Diagnosis, treatment, and patient advice correct

You will be expected to get a 4 rating.

Unit 13

Helping a Community Prevent Problems and Care for Postnatal Women and Newborns; Community Phase

STUDENT GUIDE

ENTRY LEVEL

Before you start your community experience, you must:

1. Score at least 80% on a test of your knowledge of postnatal care.
2. Complete one week of clinical experience in caring for postnatal women and newborns.
3. Score a 4 on diagnosis, treatment, and patient advising skills.
4. Earn at least two Satisfactory ratings on presenting community health messages.

OBJECTIVES

1. Provide clinical services to postnatal women and newborns.
2. Identify postnatal and newborn problems and plan a program to prevent them from occurring and spreading.
3. Advise the community about its role in preventing postnatal and newborn problems.
4. Identify other members of the health team who can assist in prevention of postnatal and newborn problems.

LEARNING ACTIVITIES

Your community experience will last three months. During that time, in addition to providing clinical services, you should:

1. Survey the community to identify the most common postnatal problems.

2. Identify any local customs that increase or decrease the occurrence of postnatal problems.
3. Meet with community members and obtain their help in preventive activities.

EVALUATION Level III

During your community experience, your supervisor will evaluate you. To do this, he will use the standards set out in the community phase log book.