Prepared for the Ministry of Public Health (MOPH) of Afghanistan as the national refresher training course in basic essential obstetric care (EOC), for use by all those organizations implementing a basic EOC refresher training course.

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March 2005
FOREWORD

Dear Readers,

Women and child health is one of the top priorities of the MoPH and as reflected in its Strategy for 2005 – 2006 the MoPH will further strengthen human resources development, especially of female staff through quality basic training and continuing education in parallel with further development of human resource planning and retention strategies.

Basic Essential Obstetric Care (BEOC) as an international approach to improve safe motherhood is proved an effective and useful approach that has declined maternal mortality and morbidity in many counties of the world. Afghanistan with the incredibly high maternal mortality ratio of 1600/100,000 live births is in great need for improving quality of services and availability of EOC to women. This package of training will enable clinicians to improve their communication with women, make appropriate clinical decisions and get competency on mostly needed skills while providing Basic EOC.

The MoPH jointly with its partners will make sure that clinical care providers involved in EOC get the chance of attending these training and meanwhile will further improve quality of training sites. Taking this opportunity MoPH also appreciates the efforts of those who had organized BEOC trainings including program managers and trainers.

The Ministry of Public Health (MoPH) Government of Afghanistan acknowledges and appreciates the efforts of all those organizations and their professional staff who supported the Women Reproductive Health Department of the MoPH to accomplish developing the EOC Learning Resource Package through the EOC working group of the Reproductive Health Taskforce. The MoPH recognizes this LRP as official training material for the EOC courses and strongly encourages and recommends health organizations conducting EOC courses to use this LRP in their workshops.

Regards,

Dr. Sayed Mohammad Amin Fatime
Minister of Public Health
Kabul – Afghanistan
# BASIC ESSENTIAL OBSTETRIC CARE COURSE
## TRAINER’S NOTEBOOK

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FOUNDATION TOPICS

In this section, the three topics that are integral to the provision of high quality basic essential obstetric care (EOC) are described:

- clinical decision-making,
- interpersonal communication, and
- infection prevention.

It is important to note that the topics are incorporated throughout the materials in the learning resource package.

CLINICAL DECISION-MAKING

Clinical decision-making is the systematic process by which skilled providers make judgments regarding a patient's/client's condition, diagnosis and treatment. Despite the importance of sound clinical decision-making to the provision of high quality services, it is not usually well taught in either preservice or inservice training programs.

Until recently, very little was known about how decisions are made. For many experienced providers, decision-making is an intuitive process based on knowledge and experience. Many of the steps necessary to arrive at a decision may be completed rapidly and unconsciously. These experienced providers may not be able to explain how they make decisions, which in turn makes it difficult to teach this skill to others. Nor is it easy for participants to identify how a decision is made when simply observing other providers in action.

There is, however, a process for clinical decision-making that can be broken down into a series of steps. Together, these steps provide a framework for the provider to gather the information needed to form accurate judgments, begin appropriate care and evaluate the effectiveness of that care.

When teaching clinical decision-making it is important to ensure that participants understand this step-by-step process (see below) and what occurs in each step. They also must understand that, although there is a sequence of steps for clinical decision-making, movement through the steps is rarely linear or sequential. Rather, it is an ongoing, circular process, in which the provider moves back and forth between the steps as the clinical situation changes and different needs or problems emerge.

Participants should be introduced to the steps in clinical decision-making early in their training. After that, these steps should receive continual emphasis and be used in a variety of situations. Throughout training, participants should be given opportunities to apply these steps and practice their decision-making skills. Whether they are actively practicing their own skills or observing more experienced providers, participants should focus on understanding the reasoning and judgment that form the basis of each step in the process. How a decision is made is as important as what decision is made. Explaining how a decision is made usually requires the active involvement of the trainer because the process of decision-making is not easy to observe or identify.

Terms Used in Clinical Decision-Making

There are various terms used to describe the process that a skilled provider goes through in reaching a final conclusion about a patient's/client’s condition. These terms may differ somewhat from country to country and include:

Differential Diagnosis. When a patient/client presents with a specific clinical sign and/or symptom, the provider usually considers a number of possible or differential diagnoses. For example, there may be a number of explanations why a woman has
vaginal bleeding in early pregnancy. Possible explanations include complete, incomplete, or threatened abortion, or ectopic pregnancy. These possible diagnoses provide a starting point for understanding the exact pathology underlying the patient’s/client’s presenting clinical sign or symptom and serves as the basis for gathering information through history taking, physical examination or, sometimes, laboratory investigations. By creating a list of differential diagnoses, the provider helps to ensure that the many possible causes for the patient’s/client’s problem are considered.

**Hypothesis Testing.** Typically, through a process known as hypothesis testing, a provider accepts or rejects as quickly as possible the various diagnoses that are on the list. The provider will consider other available information to give more or less priority to a particular diagnosis, and will “rule out” (find unlikely), or “rule in” (find more likely) a given diagnosis because of:

- other signs or symptoms;
- laboratory tests;
- the probability of the diagnosis in this particular age group or ethnic group; or
- intuition or experience.

**Working diagnosis.** After evaluating the possible diagnoses, using all available information from the history, physical examination and laboratory tests (if performed), the provider reaches a working diagnosis. This diagnosis is also known as a provisional or initial diagnosis and, given what is known, is the single best explanation for the patient’s/client’s signs or symptoms. The provider may continue to gather information at this point or may begin to plan treatment. It is important to realize that sometimes a provider must choose a working diagnosis without having all of the necessary information. Sometimes the provider does not “know” that this is the correct diagnosis, but “thinks” or “suspects” that it is, based on experience and the limited information available.

**Final diagnosis.** A final diagnosis is reached after more definitive information becomes available. Making a final diagnosis is useful in trying to understand or teach the process of clinical decision-making, but it is not always possible or necessary in order to make a rational treatment plan and take action. For example, in a life-threatening situation or when the tests needed to confirm a working diagnosis are not available, the provider will need to move forward with treatment based on the working diagnosis alone.

**Steps In Clinical Decision-Making**

1. **Assessment (Gathering Information)**

Both the patient/client, through self-assessment, and the provider complete this first step in clinical decision-making. Usually it is the patient/client who first recognizes that there is a problem and goes to the provider for help. Often, the patient’s/client’s chief complaint leads to a more significant or underlying problem. To identify the problem correctly, the provider needs to collect information from and about the patient/client that will assist in accurately diagnosing and treating the problem. Providers obtain information through history taking, physical examination and diagnostic tests, if available and necessary. It is important to collect only the information that is relevant to reaching a diagnosis and providing appropriate treatment or care. Collecting unnecessary information may:

- slow the provision of services,
- prolong the time that patients/clients are in the clinic,
- endanger patients’/client’s lives in emergency situations,
increase costs, and
lead to patients'/clients’ dissatisfaction with the healthcare system.

Participants and inexperienced providers usually use a standard format, or “external guide,” for history and physical examination, to assist them in gathering information about a patient/client in an orderly way. Experienced providers, however, have “internalized” this guide and gather information based on key diagnostic characteristics that help to direct their information gathering; they tend to ask fewer, more focused questions and perform a physical examination relevant to the patient's/client’s chief complaint.

2. Diagnosis (Interpreting the Information)

After gathering information, the provider begins to formulate a differential diagnosis. Working from this point, the provider uses her/his experience, fund of knowledge and clinical inference to guide the collection of additional information to accept or reject certain diagnoses and move toward a working diagnosis. Ultimately, through the process of hypothesis testing, the provider chooses a working diagnosis as a basis for planning treatment.

Initial impressions are often formulated early in the interaction with the patient/client. Experienced providers may consider several possible diagnoses within the first five minutes with the patient/client, often based on very little information. New providers, who may not be as familiar with the possible diagnoses, may take longer. The differential diagnoses will guide the collection of additional information that will help accept, reject or distinguish between diagnoses. This additional information will also help the provider in selecting the appropriate treatment if the working diagnosis has several different treatment options.

3. Planning (Developing the Care Plan)

After reaching a working diagnosis, the provider decides on a treatment or care plan, using the information collected in the previous steps. For example, a young mother who is reluctant to breast feed because she has sore nipples, may be provided counseling and assistance for proper attachment and positioning during breastfeeding, and encouragement to continue exclusive breastfeeding on demand. When deciding on a treatment or care plan, the provider will discuss the risks and benefits with the mother and agree on implementation and follow-up.

There are a number of factors that influence the choice of a treatment option, including:
- Provider’s experience
- Research and clinical evidence
- Provider’s values
- Patient’s/client’s values
- Bias due to missing or incomplete data

4. Intervention (Implementing the Care Plan)

The next step in clinical decision-making is implementing the treatment or care plan. Implementation requires certain clinical skills and attention to detail during the performance of these skills. Some actions will have to be carried out simultaneously and others in sequence. In either case, advance preparation of equipment, supplies and personnel will make the implementation of the treatment or care plan easier.
5. Evaluation (Evaluating the Care Plan)

In this step of clinical decision-making the treatment or care provided is evaluated for its effectiveness. For example, evaluation of care for a young mother with sore nipples may include further observation of breast feeding technique which, in turn, may indicate the need for additional counseling and assistance to continue breastfeeding. Thus, planning, intervention and evaluation follow a circular pattern in much the same way that assessment and diagnosis do.

Sometimes the evaluation of treatment or care, especially if it has not been effective, will require the collection of additional information and revision of the diagnosis, thus restarting the entire clinical decision-making process. Evaluation of the treatment or care plan can also lead the provider to a final diagnosis—a working diagnosis that has been confirmed by more objective information. When the final diagnosis agrees with the working or provisional diagnosis, the provider will use the details of this case in her/his body of clinical experience.

A final diagnosis that is different from the working diagnosis should not necessarily be considered "wrong." Because treatment is planned on the basis of available information, information that is incomplete or misleading will affect the provider's ability to make a correct diagnosis. When new information contradicts the working diagnosis, it should be carefully considered if the diagnosis is to be revised. When the working diagnosis is changed, the provider should review what led to the choice of the original working diagnosis, and consider whether too much weight was given to some of the initial information. Through this process, the provider can improve her/his clinical decision-making ability.

Tools for Teaching Clinical Decision-making

Tools for teaching clinical decision-making are presented throughout the learning resource package. The case studies have been designed to facilitate the teaching of decision-making by reinforcing the steps involved in the process described above. Clinical simulations have also been included in the package. These clinical simulations are not included in the formal course schedule or outline, and are included in the package as an optional method to help the trainer facilitate learning of clinical decision-making and management of shock, eclampsia, and bleeding in early pregnancy and after childbirth, as well as management of an asphyxiated newborn. When using these tools, the trainer must take an active role in discussing, questioning, explaining and challenging participants about how decisions are being made. This interaction must continue as the participants move into the clinical area and work with patients/clients.

Clinical decision-making is a difficult skill to teach. But by beginning early in a training program and continually providing practice opportunities and guidance—whether by using the tools included in this learning resource package or through experience with patients/clients—trainers will help participants more fully understand the decision-making process and develop their decision-making skills.

INTERPERSONAL COMMUNICATION

Effective relationships between health care providers and patients/clients are made possible through interpersonal skills that enable the health care provider to understand and relate to the experiences of patients/clients.

When a health care provider talks with a patient/client, the aim is to use interpersonal skills and/or communication techniques that help the development of an honest, caring and trusting relationship. If the patient/client feels that the health care provider has her best interests at heart, she will be more likely to come back for ongoing care.
The interpersonal skills needed for effective relationships with a patient/client include **listening and understanding**; these are the key skills that enable the health care provider to interact effectively with a patient/client and establish a meaningful relationship between the two.

**Listening.** Through listening, health care providers learn about patients/clients as people who have unique experiences and needs related to health and illness. Listening enables patients/clients to be heard and accepted by health care providers. Listening is critical to effective interpersonal relationships because it:

- persuades patients/clients to share their experiences,
- acknowledges patients/clients as people with important things to say,
- encourages understanding between the health care provider, and patient/client
- provides the health care provider with information on the basis of which to act

Attending, which means directing attention outward, is an important part of listening. The attending behavior of the health care provider communicates to the patient/client that she/he is available and ready to listen. Body posture and eye contact are the main attending behaviors. Appropriate use of these nonverbal behaviors promotes interaction between the health care provider and patient/client. The following acronym\(^1\) provides a helpful way of remembering the general guidelines for attending:

- **S**it squarely facing the person being listened to.
- **O**pen position or posture to be maintained (arms should not be crossed).
- **L**ean slightly toward the person to demonstrate interest in what the person has to say.
- **E**ye contact to be maintained (may vary according to cultural norms).
- **R**elaxed position or posture to be used, demonstrating ease with the situation.

Observing, which involves paying attention to both what is being said and how it is being said, is also an important part of effective listening. Health care providers need to observe the nonverbal cues that patient/clients use. These cues often provide information relevant to how patients/clients are feeling about particular experiences. To convey feelings, patients/clients commonly use body posture, facial expression, eye contact and other nonverbal behaviors.

**Understanding.** While listening helps the health care provider form impressions of the patient's/client's experiences, further interaction is needed to qualify these impressions. Taking the time to understand a patient's/client's experience enables the health care provider to offer care that is based on the patient's/client's reality.

After listening to the patient/client and forming an initial impression, the health care provider responds verbally to move the interaction toward mutual understanding. Although it is important that responses be spontaneous and sincere, it is also important that they have the intention of moving the interaction between the health care provider and the patient/client toward greater understanding. Responses that confirm and acknowledge the patient's/client's reality promote understanding, whereas responses that indicate rejection of the patient's/client's perception of her situation prevent understanding.

**Tools for Teaching Interpersonal Skills**

Effective role modeling is essential to teaching interpersonal skills. When demonstrating a skill or coaching a participant who is developing a skill, whether in a simulated situation or in a clinical setting, the trainer must demonstrate effective interpersonal skills, as described above. These skills are woven throughout the

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components of the learning resource package. For example, learning guides and checklists highlight good interpersonal skills, emphasizing understanding and respect for the patient's/client's needs. Case studies do the same, and also take into account the socio-cultural environment of the woman and her family. And role plays provide unique opportunities for demonstration and development of these interpersonal skills.

**INFECTION PREVENTION PRACTICES**

Infection prevention practices are essential in all health care settings to:
- decrease the transmission of blood-borne pathogens such as HIV and HBV (hepatitis B virus),
- protect patients/clients,
- protect staff, and
- protect the community.

The standard infection prevention practices are:
- handwashing,
- use of protective barriers such as gloves, gowns, plastic aprons and goggles to prevent direct contact with blood and other body fluids,
- safe decontamination of instruments and other contaminated equipment,
- safe handling and disposal of sharps, and
- safe disposal of waste contaminated with blood and other body fluids

These infection prevention practices are integrated into all components of the learning resource package and included in the learning guides, checklists, and skills practice sessions. The trainer must model infection prevention practices, and be vigilant in demonstrating and coaching these throughout the learning experience. In addition, the trainer must emphasize that a skill will not be assessed as having been performed competently if infection prevention practices are not followed.
INSTRUCTIONS FOR USING ANATOMIC MODELS

The following anatomic models are suggested for use with this learning package for teaching clinical skills in simulated situations:

- Childbirth simulator
- Vinyl or cloth pelvic model
- Foam block (for episiotomy and repair)
- Fetal model
- Placenta/cord/amnion model
- Newborn resuscitation model

CHILDBIRTH SIMULATOR

A Gaumard® S500 AOA Advanced Childbirth Simulator is a model of a full-sized, pregnant adult female lower torso (abdomen and pelvis). It is a versatile training tool developed to assist in teaching the processes and skills needed to perform many childbirth techniques. The Childbirth Simulator is ideal for demonstrating and practicing the following procedures:

- Palpation of the fetal backbone, knees and elbow
- Normal vaginal childbirth
- Complete, frank and footling childbirth
- Vertex presentation
- Intra-uterine manipulation
- Multiple births, including vertex/vertex, vertex breech, breech/vertex and breech/breech presentation
- Prolapse of umbilical cord
- Placenta previa: total, partial and marginal
- Vacuum extraction (with optional vacuum childbirth fetus)

Contents of the Childbirth Simulator

The Gaumard® S500 AOA Advanced Childbirth Simulator kit includes the following:

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<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
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<tr>
<td>Newborns (one male, one female)</td>
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</tr>
<tr>
<td>Placentas</td>
<td>2</td>
</tr>
<tr>
<td>Detachable umbilical cords</td>
<td>6</td>
</tr>
<tr>
<td>Stomach covers</td>
<td>2</td>
</tr>
<tr>
<td>Vulval inserts</td>
<td>3</td>
</tr>
<tr>
<td>Umbilical cord clamps</td>
<td>1</td>
</tr>
<tr>
<td>Container of talcum powder</td>
<td>1</td>
</tr>
<tr>
<td>Soft nylon carrying bag</td>
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The simulator may also be purchased with specialized modules to demonstrate Leopold maneuvers and cervical effacement. A 19-piece articulating newborn for demonstration of many unusual birth presentations is also available. An optional module is available to simulate the conditions of the cervix and vagina before and
during labor, and an optional vacuum childbirth fetus is also available for practicing that skill with the simulator.

Instructions for Use

The simulator is placed flat on its back to demonstrate one possible childbirth position. It can also be used to simulate other birthing positions such as sitting and squatting. The life-size pelvic cavity has all major anatomic landmarks and a hand-painted outline of the bony pelvis. It is designed with both an open abdomen, which has a soft, detachable, replaceable vinyl cover that attaches with snaps to the outside of the abdominal wall, and an open diaphragm on the torso, which has an end plate that may be removed by unscrewing the three nuts that secure the end plate to the simulator. The birth canal is of average/normal dimensions and the vulvar/perineal insert is manufactured in soft plastic and is replaceable.

The simulator is provided with two newborns to allow the demonstration of multiple births. The newborns each measure approximately 48 cm (19 in). Relevant landmarks, such as the fontanelles (“soft spots” on the skull where unfused cranial bones meet), orbit, nose, mouth, ears and vertebral column are palpable. A detachable umbilical cord is attached to each newborn so that the cord can be removed without cutting. The umbilical cord has a simulated umbilical blue vein and two red arteries. The hand-painted placenta is detachable from the umbilical cord and is attached to the interior abdominal wall with velcro. This simulates the placement of the placenta on the uterine wall.

Procedures with the Childbirth Simulator

NORMAL LABOR AND CHILDBIRTH

Fetal Palpation

The fetus may be palpated while in the abdominal cavity. To palpate the backbone, do the following:

- Place the fetus face down in the abdominal cavity.
- Snap the abdominal cover into place.
- Gently press on the cover until the length of the backbone can be felt.

To palpate the head and facial features, place the fetus face-up in the abdominal cavity and repeat the above procedure. The fetus may be placed in the abdominal cavity so that the presenting part is either the head or the feet.

Fetal Descent

To simulate fetal descent, do the following:

- Apply talcum powder to the fetal head and shoulders and inside the vulval insert to simulate amniotic fluid.
- Remove the diaphragm end plate or the abdominal cover.
- Insert one hand in the abdominal cavity and gently grasp the fetal body above the shoulders to allow greater control.
- Move the newborn caudally (downward through the birth canal).
Internal/External Rotation

Internal rotation of the head takes place as the fetal head meets the muscles of the pelvic floor. Thus, the fetus rotates so that it is face down or face up in the pelvis. Internal rotation may be simulated by manually turning the fetus as it enters the upper portion of the vaginal canal.

External rotation can be demonstrated by manually rotating the newborn within the vaginal canal through the open diaphragm or abdomen after the head has been delivered.

Expulsion

Expulsion can be demonstrated by allowing the provider who is delivering the newborn to gently pull down and then up on the fetus to deliver both shoulders. Once the shoulders have been delivered, the rest of the newborn should deliver easily. After expulsion, the newborn may be placed on the simulator’s stomach while the cord is detached.

Active Management of the Third Stage of Labor

This stage may be simulated by first gently disengaging the placenta from the interior abdominal wall. The placenta may then be gently pulled through the vaginal opening using the umbilical cord. Manual exploration of the uterus may also be demonstrated by inserting a hand up through the vaginal opening.

Abnormal Labor and Childbirth

Prolapse of the Umbilical Cord

This condition can be demonstrated by placing the umbilical cord in the front of the presenting part of the fetus before it is placed in the birth canal.

Placenta Previa

To simulate this condition, place the placenta in the uterine cavity in the desired position to simulate total, partial or marginal placenta previa, with the maternal side against the uterine wall or cervical os. Then, place the fetus within the uterine cavity, with the presenting part closest to the placenta.

CARE AND MAINTENANCE OF THE MODELS

The following information applies to both the simulator and the newborns included in the kit:

- The models are constructed of material that approximates skin texture. Therefore, in handling them, use the same gentle techniques as you would in working with a patient.
- To avoid tearing the models’ skin when performing a procedure, use talcum powder to lubricate the newborn’s head or shoulders and inside the vulval insert. DO NOT use too much talcum powder within the abdominal cavity of the model because this will prevent the velcro from keeping the placenta in place.
- Clean the models after every training session using a mild detergent solution; rinse with clean water.
- Store the models in the carrying case and plastic bag provided with your kit.
- DO NOT wrap the models in other plastic bags, newspaper, plastic wrap or any other kinds of material, as these may discolor their skin.
- DO NOT write on the models with any type of marker or pen, as these marks may
not wash off.

- **DO NOT** use alcohol, acetone or Betadine® or any other antiseptic solution that contains iodine on the models. They will damage or stain the skin.

- **DO NOT** use excessive force to push the newborn out the vaginal opening or to remove the placenta during active management of the third stage of labor because this may damage the models.

- **DO NOT** cut the model’s skin to demonstrate any procedure such as episiotomy or cesarean section. These cuts cannot be repaired and will damage the model.

- **DO NOT** cut the umbilical cord. Instead, simulate cutting it so that it may be used repeatedly.

**PELVIC MODEL, FETAL MODEL, OR PLACENTA/CORD/AMNION MODEL**

The cloth or vinyl pelvic model, fetal model and placenta/cord/amnion model are designed to be used individually or together to assist in teaching the processes and skills needed to perform many childbirth techniques. These models are ideal for demonstrating and practicing the following:

- Physiology of the placenta, cord, amnion and chorion
- Obstetric aspects of the fetal head
- Pelvic station
- Fetal lie and presentation
- Fetal position, attitude and rotation
- Mechanism and maneuvers of normal labor and childbirth
- Cord clamping and cord difficulties

**Instructions for Use**

**Physiology of the Placenta, Cord, Amnion and Chorion**

Attach the umbilical cord to the fetal model and put them both inside the amniotic sac. Use this to show the fetal and maternal sides of the placenta. It also demonstrates how the amniotic sac attaches across the surface of the fetal side and envelopes the fetus.

**Obstetric Aspects of the Fetal Head**

Identify the sutures and fontanelles on the head of the fetal model. Explain how they are used to identify fetal position during childbirth. Flex the chin of the fetal model to its chest to show how this movement helps to present the smallest surface of the head as it moves through the birth canal during childbirth.

**Pelvic Station**

Pick up the fetal model by the shoulders. Place the fetal head just above the inlet of the pelvic model. While holding a pencil at the level of the ischial spines (zero station), lower the fetal head indicating the -4, -3, -2 and -1 locations until the widest transverse diameter of the fetal head (biparietal diameter) is just below the level of the pencil/spines (engagement). Show further descent to the pelvic floor while describing the +1, +2, +3 and +4 (on the perineum).

**Fetal Lie and Presentation**
Fetal lie refers to the long axis of the fetus as it relates to the mother’s pelvis. To demonstrate fetal lie, fold the legs of the fetal model up to its chest and hold it perpendicular to the inlet of the pelvic model. The fetal model can also be held in the transverse and oblique positions. Presentation is determined by the part of the fetus that first enters the pelvic inlet, and can be demonstrated with the fetal and pelvic models. A breech presentation, for example, can be demonstrated by having the buttocks enter first.

**Fetal Position, Attitude and Rotation**

Position refers to the direction in which the fetus is facing in the birth canal. All of the vertex positions can be demonstrated using the pelvic and fetal models.

Attitude is the angle of the fetal head as it approaches the pelvic inlet. Holding the head in normal alignment with the trunk shows synclitism. Tilting the head of the fetal model to the left or right while holding the fetal model in the pelvic model can show asynclitism, either anterior or posterior.

During childbirth, the fetal head turns, or rotates, within the birth canal to help it move more easily through the canal. Usually the head rotates so that it is facing the mother’s back and then rotates so that it is facing upward once the head is out and the shoulders are being delivered.

Rotation can be demonstrated by rotating the fetal model while moving it through the pelvic model. The posterior position and the more extensive rotation required for childbirth can also be demonstrated the same way. This demonstration is useful to show that a fetal head in the posterior position does not fit easily under the pelvic arch.

**Mechanisms and Maneuvers of Normal Childbirth**

Move the fetal model while a participant holds the pelvic model.

**Engagement**

Hold the fetal model by the shoulders and let the head enter the pelvic model inlet in a left occiput transverse position. Put the other hand just below the level of the ischial spines and lower the head to “zero station.”

**Descent**

Move the fetal model further into the pelvis. Tip the pelvis forward to show that the head is well into the pelvis. Then turn the shoulder to align it with the side-to-side pelvic inlet axis. Slightly rotate the head to the occiput anterior position (facing the mother’s back).

**Flexion**

Using one hand, hold the fetal model at the hips. Place the other hand under the pelvic model so that the palm can represent the pelvic floor muscles. Allow the fetal head to touch this hand to show how the fetus will flex its chin to its chest.

**Internal Rotation**

Turn the fetal head to complete its rotation to face the mother’s back.

**Extension**

Reach into the pelvic inlet and put one hand under the trunk of the fetal model. Grasp the fetal head at the mouth or chin with the thumb and index finger. Apply pressure
with the thumb to the chin to push it upward. This movement occurs during childbirth because the structure of the pelvic floor muscles combine with the mother pushing.

As the fetal head extends upward, place the other hand over the head to represent the vaginal opening. Discuss episiotomies at this time, if appropriate. While pushing the head forward, open the other hand over the crown of the head (crowning). At this time, how to suction mucus or check for a cord around the newborn’s neck can be demonstrated.

*External Restitution (Rotation)*

Demonstrate how the shoulders, which are still in the birth canal, rotate to align vertically with the pelvic and vaginal outlets. Rotate the head to the side to realign it with the shoulders so that the head is facing the same direction that it was when it entered the pelvis.

*Expulsion*

Remove the hand from the body of the fetal model and use both hands to “catch” the newborn. Support the head and pull gently downward to free the upper shoulder under the pubic bone. Pull upward to free the lower shoulder and let the whole newborn slide out of the pelvis.

A full demonstration of vaginal breech childbirth can also be performed using the fetal and pelvic models.

*Cord Difficulties*

By attaching the umbilical cord to the fetal model, it is possible to demonstrate how to unwrap the umbilical cord from around the newborn’s neck. Hold the placenta and sac under one arm and wrap the umbilical cord around the newborn’s neck. Then, deliver the newborn through the pelvic model. As the head reaches the pelvic outlet, show how to check for the cord and slip it over the head, if necessary. By allowing the cord to drop below the fetal head as it is delivered through the pelvic model, prolapsed cord can also be demonstrated.

*Care and Maintenance of the Models*

The following instructions apply to the pelvic model, fetal model and placental/cord/amnion model.

- When handling the models, use the same gentle techniques as you would in working with a patient.
- The vinyl pelvic model and the head of the fetal model are made of vinyl. To clean them, wipe them with a mild detergent solution and rinse with clean water.
- The fetal model, cloth pelvic model and placenta/cord/amnion models may be washed with a mild, liquid soap. Allow them to air dry. Before washing the fetal model, remove the vinyl head by gently pushing first on one side of the head and then the other side. After washing the body, squeeze all the excess water out of the neck area. Air dry completely and then replace the vinyl head by compressing the cloth head as you insert it into the vinyl head.
- **DO NOT** write on the models with any type of marker or pen, as these marks may not wash off.
- **DO NOT** use alcohol, acetone or Betadine® or any other antiseptic solution that contains iodine on the models. They will damage or stain the skin.
Newborn Resuscitation Model

This model is designed to assist in teaching the processes and skills needed to resuscitate a newborn using mouth-to-mouth resuscitation or a bag and a mask.

Contents of the Newborn Resuscitation Model

The model includes the following:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>1</td>
</tr>
<tr>
<td>Lungs (plastic bags)</td>
<td>3</td>
</tr>
</tbody>
</table>

Instructions for Use

When the model is used for practicing mouth-to-mouth resuscitation, the plastic bag should be changed for each user. Replacement plastic bags are available in packages of 100.

Airway Installation

Fold the left side of the face shield end of the plastic bag toward the center of the bag (see figure below). Do the same for the right side. Insert the plastic bag through the mouth of the newborn. Tilt the head back and lay the plastic bag flat against the chest. Snap the chest overlay into place. Form the face shield to cover the newborn’s face from nose to chin.

Airway Removal

First, unsnap the chest overlay from the shoulders and peel down. Then, pull the plastic bag through the face.
BEING AN EFFECTIVE CLINICAL TRAINER

Health professionals conducting clinical training courses are continually changing roles. They are trainers or instructors when presenting illustrated lectures and giving classroom demonstrations. They act as facilitators when conducting small group discussions and using role plays, case studies and clinical simulations. Once they have demonstrated a clinical procedure, they then shift to the role of the coach as the participants begin practicing.

CHARACTERISTICS OF AN EFFECTIVE TRAINER AND COACH

Coaching is a training technique in which the clinical trainer:

- **Describes** the skills and client interactions that the participant is expected to learn
- **Demonstrates** (models) the skill in a clear and effective manner using learning aids such as slide sets, videotapes and anatomic models
- Provides detailed, specific **feedback** to participants as they practice the skills and client interactions using the anatomic model and actual instruments in a simulated clinical setting and as they provide services to clients

An effective clinical trainer:

- Is **proficient** in the skills to be taught
- **Encourages** participants in learning new skills
- Promotes open (two-way) communication
- Provides immediate feedback:
  - Informs participants whether they are meeting the objectives
  - Does not allow a skill or activity to be performed incorrectly
  - Gives positive feedback as often as possible
  - Avoids negative feedback and instead offers specific suggestions for improvement
- Is able to receive feedback:
  - **Asks for it.** Find clinical trainers who will be direct with you. Ask them to be specific and descriptive.
  - **Directs it.** If you need information to answer a question or pursue a learning goal, ask for it.
  - **Accepts it.** Do not defend or justify your behavior. Listen to what people have to say and thank them. Use what is helpful; quietly discard the rest.
- Recognizes that training can be stressful and knows how to **regulate participant as well as trainer stress:**
  - Uses appropriate humor
  - Observes participants and watches for signs of stress
  - Provides for regular breaks
  - Provides for changes in the training routine
  - Focuses on participant success as opposed to failure

The characteristics of an effective coach are the same as those of an effective clinical trainer. Additional characteristics especially important for the coach include:
• Being patient and supportive
• Providing praise and positive reinforcement
• Correcting participant errors while maintaining participant self-esteem
• Listening and observing

SKILL TRANSFER AND ASSESSMENT: THE COACHING PROCESS

The process of learning a clinical skill within the coaching process has three basic phases: demonstration, practice and evaluation. These three phases can be broken down further into the following steps:

• First, during interactive classroom presentations, explaining the skill or activity to be learned
• Next, using a videotape or slide set, showing the skill or activity to be learned
• Following this, demonstrating the skill or activity using an anatomic model (if appropriate), role play (e.g., counseling demonstration) or clinical simulation (optional)
• Then, allowing the participants to practice the demonstrated skill or activity using an anatomic model or in a simulated environment (e.g., role play, clinical simulation) as the trainer functions as a coach
• After this, reviewing the practice session and giving constructive feedback
• After adequate practice, assessing each participant's performance of the skill or activity on models or in a simulated situation, using the competency-based checklist
• After competence is gained with models or practice in a simulated situation, having participants begin to practice the skill or activity with clients under a clinical trainer's guidance
• Finally, evaluating the participant's ability to perform the skill according to the standardized procedure as outlined in the competency-based checklist

During initial skill acquisition, the trainer demonstrates the skill as the participant observes. As the participant practices the skill, the trainer functions as a coach and observes and assesses performance. When demonstrating skill competency, the participant is now the person performing the skill as the trainer evaluates performance.
CREATING A POSITIVE LEARNING ENVIRONMENT

A successful training course does not come about by accident, but rather through careful planning. This planning takes thought, time, preparation and often some study on the part of the clinical trainer. The trainer is responsible for ensuring that the course is carried out essentially as it was designed. The trainer must make sure that the clinical practice sessions, which are an integral part of a clinical skills course, as well as the classroom sessions, are conducted appropriately. In addition to taking responsibility for the organization of the course in general, the trainer must also be able to give presentations and demonstrations and lead other course activities, all of which require prior planning. Well-planned and executed classroom and clinical sessions will help to create a positive learning environment.

PREPARING FOR THE COURSE

To prepare for the course, the following steps are recommended:

- **Review the course syllabus**, including the course description, goals, learning methods, training materials, methods of evaluation, course duration and suggested course composition.

- Review the course schedule.

- **Study the course outline**. The course outline provides detailed suggestions regarding the teaching of each objective and the facilitation of each activity. Based on suggestions in the course outline and the trainer’s own ideas, the trainer will gather the necessary equipment, supplies and materials. The trainer should also ensure that sufficient time has been allotted for all sessions and activities.

- **Read and study the reference manual** to ensure complete familiarity with the content to be presented during the course.

- **Review the pre- and midcourse questionnaires** and make copies of the questionnaires, matrix and answer sheets if needed.

- **Check all audiovisual equipment** (e.g., overhead projector, video player, flipchart stand).

- **Check all anatomic models** (e.g., are they clean and in good condition? are all parts in place?).

- **Practice all clinical procedures** using the anatomic model(s) and the learning guides and checklists found in the participant’s handbook.

- **Obtain information about the participants who will be attending the course**. It is important for the clinical trainer to know basic information about participants such as:

  - **The experience and educational background** of the participants. The clinical trainer should attempt to gather as much information about participants as possible before training (e.g., by reviewing their Confidential Clinical Experience Questionnaire). If this is not possible, the trainer should inquire about their backgrounds and expectations during the first day of the course.

  - The **types of clinical activities** the participants will perform in their daily work after training. Knowing the exact nature of the work that participants will perform after training is critical for the clinical trainer. The trainer must use appropriate, job-specific examples throughout the course so that participants can draw connections between what is being taught and what they will need to do. This is an excellent way to reinforce the importance of what is being learned.
• Prepare the classroom and make sure that:
  • Tables are arranged in a U-shape or other formation that will allow as many of the participants as possible to see one another and the trainer (this may be difficult in a lecture hall where chairs are attached to the floor).
  • A table is in the front of the room where the trainers can place their course materials.
  • Space is available for audiovisual equipment (e.g., flipchart, screen, overhead projector, video player, monitor); the trainer should make sure that participants will be able to see the projection screen and other audiovisuals.
  • Space is available for participants to work in small groups (i.e., either arrange chairs in small circles or work around the tables), unless separate breakout rooms (see below) are available.
  • Space is available to set up simulated clinics (e.g., for activities with anatomic models or counseling practice).
  • Breakout rooms for small group work (e.g., case studies, role plays, clinical simulations, problem-solving activities) are available if necessary, and are set up with tables, chairs and any materials that the participants will need.
  • The room is properly heated or cooled and ventilated.
  • The lighting is adequate, and the room can be darkened enough to show audiovisuals and still permit participants to take notes or follow along in their learning materials.
  • There will be adequate electric power throughout the course, and contingency plans have been made in case the power fails.
  • Furniture such as tables, chairs and desks is available. The chairs are comfortable and tablecloths are available.
  • There is a writing board with chalk or marking pens, as well as an information board available for posting notes and messages for participants.
  • There is audiovisual equipment in working order, with spare parts such as bulbs readily available. The video monitor is large enough so that all participants can see it well. There are sufficient electrical connections, and extension cords, electrical adaptors and power strips (multi-plugs) are available, if necessary.
  • There are toilet facilities that are adequately maintained.
  • Telephones are accessible and in working order, and emergency messages can be taken.

UNDERSTANDING HOW PEOPLE LEARN

Establishing a positive learning climate depends on understanding how adults learn. The clinical trainer must have a clear understanding of what the participants need and expect, and the participants must have a clear understanding of why they are there. Adults who attend courses to acquire new knowledge, attitudes and skills share the characteristics described below:

• Require learning to be relevant. The clinical trainer should offer participants learning experiences that relate directly to their current or future job responsibilities. At the beginning of the course, the objectives should be stated clearly and linked to job performance. The clinical trainer should take time to explain how each learning experience relates to the successful accomplishment of the course objectives.

• Are highly motivated if they believe learning is relevant. People bring high levels of motivation and interest to learning. Motivation can be increased and
channeled by the clinical trainer who provides clear learning goals and objectives. To make the best use of a high level of participant interest, the clinical trainer should explore ways to incorporate the needs of each participant into the learning sessions. This means that the trainer needs to know quite a bit about the participants, either from studying background information about them or by allowing participants to talk early in the course about their experience and learning needs.

- Need **participation and active involvement** in the learning process.

- Few individuals prefer just to sit back and listen. The effective clinical trainer will design learning experiences that **actively involve the participants in the training process**. Examples of how the clinical trainer may involve participants include:
  - Allowing participants to provide input regarding schedules, activities and other events
  - Questioning and feedback
  - Brainstorming and discussions
  - Hands-on work
  - Group and individual projects
  - Classroom activities

- Desire a **variety** of learning experiences.

- Participants attending courses **desire variety**. The clinical trainer should use a variety of learning methods including:
  - Audiovisual aids
  - Illustrated lectures
  - Demonstrations
  - Brainstorming
  - Small group activities
  - Group discussions
  - Role plays, case studies and clinical simulations

- Desire **positive feedback**. Participants need to know **how they are doing**, particularly in light of the objectives and expectations of the course. Is their progress in learning clinical skills meeting the trainer’s expectations? Is their level of clinical performance meeting the standards established for the procedure? **Positive feedback provides this information.** Learning experiences should be designed to move from the known to the unknown, or from simple activities to more complex ones. This progression provides positive experiences and feedback for the participant. To maintain positive feedback, the clinical trainer can:
  - Give verbal praise either in front of other participants or in private
  - Use positive responses during questioning
  - Recognize appropriate skills while coaching in a clinical setting
  - Let the participants know how they are progressing toward achieving learning objectives

- Have **personal concerns**. The clinical trainer must recognize that many participants fear failure and embarrassment in front of their colleagues. Participants often have concerns about their ability to:
• Fit in with the other participants
• Get along with the trainer
• Understand the content of the training
• Perform the skills being taught

• Need an atmosphere of safety. The clinical trainer should open the course with an introductory activity that will help participants feel at ease. It should communicate an atmosphere of safety so that participants do not judge one another or themselves. For example, a good introductory activity is one that acquaints participants with one another and helps them to associate the names of the other participants with their faces. Such an activity can be followed by learning experiences that support and encourage the participants.

• Need to be recognized as individuals with unique backgrounds, experiences and learning needs. People want to be treated as individuals, each of whom has a unique background, experience and learning needs. A person’s past experience is a good foundation upon which the clinical trainer can base new learning. To help ensure that participants feel like individuals, the clinical trainer should:
  • Use participant names as often as possible
  • Involve all participants as often as possible
  • Treat participants with respect
  • Allow participants to share information with others during classroom and clinical instruction

• Must maintain their self-esteem. Participants need to maintain high self-esteem to deal with the demands of a clinical training course. Often the clinical methods used in training are different from clinical practices used in the participants’ clinics. It is essential that the clinical trainer show respect for the participants, no matter what practices and beliefs they hold to be correct, and continually support and challenge them. This requires the trainer to:
  • Reinforce those practices and beliefs embodied in the course content
  • Provide corrective feedback when needed, in a way that the participants can accept and use with confidence and satisfaction
  • Provide training that adds to, rather than subtracts from, their sense of competence and self-esteem
  • Recognize participants’ own career accomplishments

• Have high expectations for themselves and their trainer. People attending courses tend to set high expectations both for the trainers and for themselves. Getting to know their clinical trainers is a real and important need. Clinical trainers should be prepared to talk modestly, and within limits, about themselves, their abilities and their backgrounds.

• Have personal needs that must be taken into consideration. All participants have personal needs during training. Taking timely breaks and providing the best possible ventilation, proper lighting and an environment as free from distraction as possible can help to reduce tension and contribute to a positive learning atmosphere.
USING EFFECTIVE PRESENTATION SKILLS

It is also important to use effective presentation skills. Establishing and maintaining a positive learning climate during training depends on how the clinical trainer delivers information because the **trainer sets the tone** for the course. In any course, **how** something is said may be just as important as **what** is said. Some common techniques for effective presentations are listed below:

- **Follow a plan and use trainer’s notes**, which include the session objectives, introduction, body, activity, audiovisual reminders, summary and evaluation.

- **Communicate in a way that is easy to understand**. Many participants will be unfamiliar with the terms, jargon and acronyms of a new subject. The clinical trainer should use familiar words and expressions, explain new language and attempt to relate to the participants during the presentation.

- **Maintain eye contact with participants**. Use eye contact to “read” faces. This is an excellent technique for establishing rapport and getting feedback on how well participants understand the content.

- **Project your voice** so that those in the back of the room can hear clearly. Vary volume, voice pitch, tone and inflection to maintain participants’ attention. Avoid using a monotone voice, which is guaranteed to put participants to sleep!

- **Avoid the use of slang or repetitive words, phrases or gestures** that may become distracting with extended use.

- **Display enthusiasm about the topic and its importance**. Smile, move with energy and interact with participants. The trainer’s enthusiasm and excitement are contagious and directly affect the morale of the participants.

- **Move around the room**. Moving around the room helps ensure that the trainer is close to each participant at some time during the session. Participants are encouraged to interact when the clinical trainer moves toward them and maintains eye contact.

- **Use appropriate audiovisual aids** during the presentation to reinforce key content or help simplify complex concepts.

- **Be sure to ask both simple and more challenging questions**.

- **Provide positive feedback** to participants during the presentation.

- **Use participants’ names as often as possible**. This will foster a positive learning climate and help keep the participants focused on the presenter.

- **Display a positive use of humor** related to the topic (e.g., humorous stories, cartoons on transparency or flipchart, cartoons for which participants are asked to create captions).

- **Provide smooth transitions between topics**. Within a given presentation, a number of separate yet related topics may be discussed. When shifts between topics are abrupt, participants may become confused and lose sight of how the different topics fit together in the bigger picture. Before moving on to the next topic, the clinical trainer can ensure that the transition from one topic to the next is smooth by:
  - providing a brief summary,
  - asking a series of questions,
  - relating content to practice, or
  - using an application exercise (case study, role play, etc.).

- **Be an effective role model**. The clinical trainer should be a positive role model in appearance (appropriate dress) and attitude (enthusiasm for the course), and by beginning and ending the session at the scheduled times.
CONDUCTING LEARNING ACTIVITIES

Every presentation (training session) should begin with an introduction to capture participant interest and prepare the participant for learning. After the introduction, the clinical trainer may deliver content using an illustrated lecture, demonstration, small group activity or other learning activity. Throughout the presentation, questioning techniques can be used to encourage interaction and maintain participant interest. Finally, the clinical trainer should conclude the presentation with a summary of the key points or steps.

DEVELOPING INTERACTIVE PRESENTATIONS

Introducing Presentations

The first few minutes of any presentation are critical. Participants may be thinking about other matters, wondering what the session will be like, or have little interest in the topic. The introduction should:

• Capture the interest of the entire group and prepare participants for the information to follow
• Make participants aware of the trainer’s expectations
• Help foster a positive learning climate
• The clinical trainer can select from a number of techniques to provide variety and ensure that participants are not bored. Many introductory techniques are available, including:

  • Reviewing the session objectives. Introducing the topic by a simple restatement of the objectives keeps the participant aware of what is expected of her/him.
  • Asking a series of questions about the topic. The effective clinical trainer will recognize when participants have prior knowledge concerning the course content and encourage their contributions. The trainer can ask a few key questions, allow participants to respond, discuss answers and comments, and then move into the body of the presentation.
  • Relating the topic to previously covered content. When a number of sessions are required to cover one subject, relate each session to previously covered content. This ensures that participants understand the continuity of the sessions and how each relates to the overall topic. Where possible, link topics so that the concluding review or summary of one presentation can introduce the next topic.
  • Sharing a personal experience. There are times when the clinical trainer can share a personal experience to create interest, emphasize a point or make a topic more job-related. Participants enjoy hearing these stories as long as they relate to the topic and are used only when appropriate.
  • Relating the topic to real-life experiences. Many training topics can be related to situations most participants have experienced. This technique not only catches the participants’ attention, but also facilitates learning because people learn best by “anchoring” new information to known material. The experience may be from the everyday world or relate to a specific process or piece of equipment.
  • Using a case study, clinical simulation or other problem-solving activity. Problem-solving activities focus attention on a specific situation related to the training topic. Working in small groups generally increases interest in the topic.
  • Using a videotape or other audiovisual aid. Use of appropriate audiovisuals can be stimulating and generate interest in a topic.
  • Giving a classroom demonstration. Most clinical training courses involve
equipment, instruments and techniques that lend themselves to demonstrations, which generally increase participant interest.

- **Using a game, role play or simulation.** Games, role plays and simulations generate tremendous interest through direct participant involvement and therefore are useful for introducing topics.

- **Relating the topic to future work experiences.** Participants’ interest in a topic will increase when they see a relationship between training and their work. The clinical trainer can capitalize on this by relating objectives, content and activities of the course to real work situations.

### Using Questioning Techniques

Questions can be used at anytime to:

- Introduce a topic
- Increase the effectiveness of the illustrated lecture
- Promote brainstorming
- Supplement the discussion process

Use a variety of questioning techniques to maintain interest and avoid a repetitive style.

- **Ask a question of the entire group.** The advantage of this technique is that those who wish to volunteer may do so; however, some participants may dominate while others may not participate.

- **Target the question to a specific participant by using her/his name prior to asking the question.** The participant is aware that a question is coming, can concentrate on the question, and respond accordingly. The disadvantage is that once a specific participant is targeted, other participants may not concentrate on the question.

- **State the question, pause and then direct the question to a specific participant.** All participants must listen to the question in the event that they are asked to respond. The primary disadvantage is that the participant receiving the question may be caught off guard and have to ask the trainer to repeat the question.

The key in asking questions is to avoid a pattern. The skilled clinical trainer uses all three of the above techniques to provide variety and maintain the participants’ attention. Other techniques follow:

- **Use participants’ names** during questioning. This is a powerful motivator and also helps ensure that all participants are involved.

- **Repeat a participant’s correct response.** This provides positive reinforcement to the participant and ensures that the rest of the group heard the response.

- **Provide positive reinforcement for correct responses** to keep the participant involved in the topic. Positive reinforcement may take the form of praise, displaying a participant’s work, using a participant as an assistant or using positive facial expressions, nods or other nonverbal actions.

- **When a participant’s response is partially correct,** the clinical trainer should reward the correct portion and then improve the incorrect portion or redirect a related question to that participant or to another participant.

- **When a participant’s response is incorrect,** the clinical trainer should make a noncritical response and restate the question to lead the participant to the correct response.
- **When a participant makes no attempt to respond**, the clinical trainer may wish to follow the above procedure or redirect the question to another participant. Come back to the first participant after receiving the desired response and involve her/him in the discussion.

- **When participants ask questions**, the clinical trainer must determine an appropriate response by drawing upon personal experience and weighing the individual's needs against those of the group. If the question addresses a topic that is relevant but has not been previously discussed, the clinical trainer can either:
  - answer the question and move on, or
  - respond with another question, thereby beginning a discussion about the topic.

### Summarizing Presentations

A **summary** is used to reinforce the content of a presentation and provide a review of its main points. The summary should:

- Be brief
- Draw together the main points
- Involve the participants

Many summary techniques are available to the clinical trainer:

- **Asking the participants for questions** gives participants an opportunity to clarify their understanding of the instructional content. This may result in a lively discussion focusing on those areas that seem to be the most troublesome.

- **Asking the participants questions** that focus on major points of the presentation

- **Administering a practice exercise or test** gives participants an opportunity to demonstrate their understanding of the material. After the exercise or test, use the questions as the basis for a discussion by asking for correct answers and explaining why each answer is correct.

- **Using a game to review main points** provides some variety, when time permits. One popular game is to divide participants into two teams, give each team time to develop review questions, and then allow each team to ask questions of the other. The clinical trainer serves as moderator by judging the acceptability of questions, clarifying answers and keeping a record of team scores. This game can be highly motivational and serve as an excellent summary at the same time.

### FACILITATING GROUP DISCUSSIONS

The **group discussion** is a learning method in which most of the ideas, thoughts, questions and answers are developed by the participants. The clinical trainer typically serves as the **facilitator** and guides the participants as the discussion develops.

Group discussion is useful:

- At the conclusion of a presentation
- After viewing a videotape
- Following a clinical demonstration or skills practice session
- After reviewing a case study or clinical simulation
- After a role play
- Any other time when participants have prior knowledge or experience related to
the topic

Attempting to conduct a group discussion when participants have limited knowledge or experience with the topic often will result in little or no interaction and thus an ineffective discussion. When participants are familiar with the topic, the ensuing discussion is likely to **arouse participant interest, stimulate thinking and encourage active participation**. This interaction affords the facilitator an opportunity to:

- Provide positive feedback
- Stress key points
- Develop critical thinking skills
- Create a positive learning climate

The facilitator must consider a number of factors when selecting group discussion as the learning strategy:

- Discussions involving **more than 15 to 20 participants** may be difficult to lead and may not give each participant an opportunity to participate.
- Discussion requires **more time** than an illustrated lecture because of extensive interaction among the participants.
- **A poorly directed discussion may move off target** and never reach the objectives established by the facilitator.
- If control is not maintained, a few participants may dominate the discussion while others lose interest.

In addition to a **group discussion** that focuses on the session objectives, there are two other types of discussions that may be used in a training situation:

- **General discussion** that addresses participant questions about a learning event (e.g., why one type of episiotomy is preferred over another)
- **Panel discussion** in which a moderator conducts a question and answer session between panel members and participants

Follow these key points to ensure successful group discussion:

- **Arrange seating to encourage interaction** (e.g., tables and chairs set up in a U-shape or a square or circle so that participants face each other).
- **State the topic** as part of the introduction.
- **Shift the conversation** from the facilitator to the participants.
- **Act as a referee** and intercede only when necessary. Example: “It is obvious that Ismail and Friba are taking two sides in this discussion. Mirwais, let me see if I can clarify your position. You seem to feel that....”
- **Summarize the key points** of the discussion periodically. Example: “Let’s stop here for a minute and summarize the main points of our discussion.”
- Ensure that the discussion stays on the topic.
- **Use the contributions of each participant** and provide positive reinforcement. Example: “That is an excellent point, Homaira. Thank you for sharing that with the group.”
- **Minimize arguments** among participants.
- Encourage all participants to get involved.
- Ensure that no one participant dominates the discussion.
• Conclude the discussion with a summary of the main ideas. The facilitator must relate the summary to the objective presented during the introduction.

FACILITATING A BRAINSTORMING SESSION

Brainstorming is a learning strategy that stimulates thought and creativity and is often used in conjunction with group discussions. The primary purpose of brainstorming is to generate a list of ideas, thoughts or alternative solutions that focus on a specific topic or problem. This list may be used as the introduction to a topic or form the basis of a group discussion. Brainstorming requires that participants have some background related to the topic.

The following guidelines will facilitate the use of brainstorming:

• Establish ground rules.

Example: “During this brainstorming session we will be following two basic rules. All ideas will be accepted and Ismail will write them on the flipchart. Also, at no time will we discuss or criticize any idea. Later, after we have our list of suggestions, we will go back and discuss each one. Are there any questions? If not. . . .”

• Announce the topic or problem.

Example: “During the next few minutes we will be brainstorming and will follow our usual rules. Our topic today is ‘Indications for episiotomy.’ I would like each of you to think of at least one indication. Friba will write these on the board so that we can discuss them later. Who would like to be first? Yes, Ajmal. . . .”

• Maintain a written record of the ideas and suggestions on a flipchart or writing board. This will prevent repetition and keep participants focused on the topic. In addition, this written record is useful when it is time to discuss each item.

• Involve the participants and provide positive feedback in order to encourage more input.

• Review written ideas and suggestions periodically to stimulate additional ideas.

• Conclude brainstorming by reviewing all of the suggestions and clarifying those that are acceptable.

FACILITATING SMALL GROUP ACTIVITIES

There are many times during training that the participants will be divided into several small groups, which usually consist of four to six participants. Examples of small group activities include:

• Reacting to a case study, which may be presented in writing, orally by the clinical trainer or introduced through videotape or slides

• Preparing a role play within the small group and presenting it to the entire group as a whole

• Dealing with a clinical situation/scenario, such as in a clinical simulation, that has been presented by the clinical trainer or another participant

• Practicing a skill that has been demonstrated by the clinical trainer using anatomic models

Small group activities offer many advantages including:
• Providing participants an opportunity to **learn from each other**
• **Involving** all participants
• Creating a sense of **teamwork** among members as they get to know each other
• Providing for a variety of viewpoints

When small group activities are being conducted, it is important that participants are not in the same group every time. Different ways the clinical trainer can create small groups include:

- **Assigning** participants to groups
- Asking participants to **count off** “1, 2, 3,” etc. and having all the “1s” meet together, all the “2s” meet together, etc.
- Asking participants to **form their own groups**
- Asking participants to **draw a group number** (or group name)

The room(s) used for small group activities should be large enough to allow different arrangements of tables, chairs and teaching aids (models, equipment) so that individual groups can work without disturbing one another. The clinical trainer should be able to move easily about the room to visit each group. If available, consider using smaller rooms near the primary training room where small groups can go to work on their problem-solving activity, case studies, clinical simulations or role plays. Note that it will be difficult to conduct more than one clinical simulation at the same time in the same room/area.

Activities assigned to small groups should be **challenging, interesting, and relevant**; should require **only a short time to complete**; and should be **appropriate for the background of the participants**. Each small group may be working on the same activity or each group may be taking on a different problem, case study, clinical simulation or role play. Regardless of the type of activity, there is usually a time limit. When this is the case, inform groups when there are 5 minutes left and when their time is up.

Instructions to the groups may be presented:
- In a handout
- On a flipchart
- On a transparency
- Verbally by the clinical trainer

Instructions for small group activities typically include:
- Directions
- Time limit
- A situation or problem to discuss, resolve or role play
- Participant roles (if a role play)
- Questions for a group discussion

Once the groups have completed their activity, the clinical training facilitator will **bring them together** as a large group for a discussion of the activity. This discussion might involve:
- **Reports** from each group
- **Responses** to questions
• Role plays developed in each group and presented by participants in the small groups
• Recommendations from each group
• Discussion of the experience (if a clinical simulation)

It is important that the clinical trainer provide an effective summary discussion following small group activities. This provides closure and ensures that participants understand the point of the activity.

CONDUCTING AN EFFECTIVE CLINICAL DEMONSTRATION

When introducing a new clinical skill, a variety of methods can be used to demonstrate the procedure. For example:

• Show slides or a videotape in which the steps and their sequence are demonstrated in accordance with the accepted performance standards.
• Use anatomic models such as the childbirth simulator to demonstrate the procedure and skills.
• Perform role plays in which a participant or surrogate client simulates a client and responds much as a real client would.
• Demonstrate the procedure with clients in the clinical setting (clinic or hospital).

Whatever methods are used to demonstrate the procedure, the clinical trainer should set up the activities using the “whole-part-whole” approach.

• Demonstrate the whole procedure from beginning to end to give the participant a visual image of the entire procedure or activity.
• Isolate or break down the procedure into activities (e.g., pre-operative counseling, getting the client ready, pre-operative tasks, performing the procedure, etc.) and allow practice of the individual activities of the procedure.
• Demonstrate the whole procedure again and then allow participants to practice the procedure from beginning to end.

When planning and giving a demonstration of a clinical procedure, either using anatomic models or with clients, if appropriate, the clinical trainer should use the following guidelines:

• Before beginning, state the objectives of the demonstration and point out what the participants should do (e.g., interrupt with questions, observe carefully, etc.).
• Make sure that everyone can see the steps involved.
• Never demonstrate the skill or activity incorrectly.
• Demonstrate the procedure in as realistic a manner as possible, using instruments and materials in a simulated clinical setting.
• Include all steps of the procedure in the proper sequence according to the approved performance standards. This includes demonstrating “nonclinical” steps such as pre- and postoperative counseling and communication with the client during surgery, use of recommended infection prevention practices, etc.
• During the demonstration, explain to participants what is being done, especially any difficult or hard-to-observe steps.
• Ask questions of participants to keep them involved.

Example: “What should I do next?” “What would happen if…?”
• Encourage questions and suggestions.
• Take enough time so that each step can be observed and understood. Remember that the objective of the demonstration is learning the skills, not for the clinical trainer to show her/his dexterity and speed.
• Use equipment and instruments properly and make sure participants clearly see how they are handled.

In addition, participants should use a clinical skills learning guide developed specifically for the clinical procedure to observe the clinical trainer’s performance during the initial demonstration. Doing this:
• Familiarizes the participant with the use of competency-based learning guides
• Reinforces the standard way of performing the procedure
• Communicates to participants that the clinical trainer, although very experienced, is not absolutely perfect and can accept constructive feedback on her/his performance

As the role model the participants will follow, the clinical trainer must practice what s/he demonstrates (i.e., the approved standard method as detailed in the learning guide). Therefore, it is essential that the clinical trainer use the standard method. During the demonstration, the clinical trainer also should provide supportive behavior and cordial, effective communication with the client and staff to reinforce the desired outcome.
USING CHECKLISTS

The checklists for essential obstetric care procedures are used by the clinical trainer to evaluate each participant’s performance in doing the procedures with women. These checklists are derived from the information provided in the reference manual(s) as well as that in the learning guides. Unlike the learning guides, which are quite detailed, the checklists focus on the key steps in the entire process.

Criteria for satisfactory performance by the participant are based on the knowledge, attitudes and skills set forth in the reference manual(s) and learning guides.

| Satisfactory: Performs the step or task according to the standard procedure or guidelines |
| Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines |
| Not Observed: Step or task not performed by participant during evaluation by trainer |

Evaluation of the counseling skills of each participant may be done with women. It may, however, also be accomplished through observation during role plays with volunteers or women in real situations at any time during the course.

Evaluation of clinical skills usually will be done during the last days of the course (depending on class size and client caseload). In a participant’s first few cases, it is not mandatory (or even possible) for the trainer to observe the participant perform a procedure from beginning to end. What is important is that each participant demonstrates the steps or tasks at least once for feedback and coaching prior to the final evaluation. (If a step or task is not done correctly, the participant should repeat the entire skill or activity sequence, not just the incorrect step.) In addition, it is recommended that the clinical trainer not stop the participant at the incorrect step unless the safety of the woman is at stake. If it is not, the clinical trainer should allow her/him to finish the skill/activity before providing coaching and feedback on her/his overall performance.

In determining whether the participant is qualified, the clinical trainer(s) will observe and rate the participant’s performance on each step of a skill or activity. The participant must be rated “Satisfactory” for each skill/activity group covered in the checklist in order to be evaluated as qualified.

Finally, during the course, it is the clinical trainer’s responsibility to observe each participant’s overall performance in performing essential obstetric care procedures. Only by doing this can the clinical trainer assess the way the participant uses what s/he has learned (e.g., her/his attitude toward women). This provides a key opportunity to observe the impact of the participant’s attitude on women—a critical component of quality service delivery.

Qualification

The number of procedures each participant needs to observe, assist with and perform will vary depending on her/his previous training and experience as well as how the current training is being conducted (e.g., are models being used for initial skill acquisition). The number of clinical cases needed must be assessed on an individual basis; there is no “magic number” of cases that automatically makes a person qualified to perform essential obstetric care procedures.

When anatomic models are used for initial skill acquisition, nearly all participants will be judged to be competent after only two to four cases. Proficiency, however, invariably requires additional practice. Therefore, when training participants who will become new healthcare providers (i.e., participants without prior training or experience), each participant may need to perform essential obstetric care
procedures on at least 5 to 10 women in order to “feel confident” about her/his skills. Thus, in the final analysis, the judgment of a skilled clinical trainer is the most important factor in determining competence (i.e., whether the participant is qualified).

The goal of this training is to enable every participant to achieve competency (i.e., be qualified to perform essential obstetric care procedures). Therefore, if additional practice in, for example, manual vacuum aspiration is needed, sufficient extra cases should be allocated during the course to ensure that the participant is qualified. Finally, once qualified, each participant should have the opportunity to apply her/his new knowledge and skills as soon as possible. Failure to do so quickly leads to loss of provider confidence and ultimately loss of competence.
MANAGING CLINICAL PRACTICE

Getting the most out of clinical practice requires that the trainer be well acquainted with the clinical practice sites. Being familiar with the healthcare facility before training begins allows the trainer to develop a relationship with the staff, overcome any inadequacies in the situation, and prepare for the best possible learning experience for participants. Even the best planning, however, is not always enough to ensure a successful clinical practice experience. In the classroom, the trainer is able to control the schedule and activities to a large extent; whereas in the clinic, the trainer must always be alert to unplanned learning opportunities that may arise at any time, and be ready to modify the schedule accordingly.

PERFORMING CLINICAL PROCEDURES WITH CLIENTS

The final stage of clinical skill development involves practicing procedures with clients. Anatomic models, no matter how realistic, cannot substitute entirely for the reality of performing the procedure with a living, breathing, feeling and reacting human being. The disadvantages of using real clients during clinical skills training are obvious. Clients may be subjected to increased discomfort or even increased risk of complications when procedures are performed by unskilled clinicians. Therefore, when possible and appropriate, participants should be allowed to work with clients only after they have demonstrated skill competency and some degree of skill proficiency on an anatomic model or in a simulated situation.

The rights of clients should be considered at all times during a clinical training course. The following practices will help ensure that clients’ rights are routinely protected during clinical training.

- The right to bodily privacy must be respected whenever a client is undergoing a physical examination or procedure.
- The confidentiality of any client information obtained during counseling, history taking, physical examinations or procedures must be strictly observed. Clients should be reassured of this confidentiality. Confidentiality can be difficult to maintain when specific cases are used in learning exercises such as case studies and clinical meetings. Such discussions always should take place in a private area where other staff and clients cannot overhear and should be conducted without reference to the client by name.
- When receiving counseling, undergoing a physical examination or receiving maternal and neonatal health services, the client should be informed about the role of each person involved (e.g., clinical trainers, individuals undergoing training, support staff, researchers).
- The client’s permission should be obtained before having a clinician-in-training observe, assist with or perform any procedures. Understanding the right to refuse care from a clinician-in-training is important for every client. Furthermore, care should not be rescheduled or denied if the client does not permit a clinician-in-training to be present or provide services. In such cases, the clinical trainer or other staff member should perform the procedure.
- The clinical trainer should be present during any client contact in a training situation and the client should be made aware of the trainer’s role. Furthermore, the clinical trainer should be ready to intervene if the client’s safety is in jeopardy or if the client is experiencing severe discomfort.
- The trainer must be careful how coaching and feedback are given during practice with clients. Corrective feedback in the presence of a client should be limited to errors that could harm or cause discomfort to the client. Excessive negative feedback can create anxiety for both the client and the clinician-in-training.
• Clients should be chosen carefully to ensure that they are appropriate for clinical training purposes. For example, participants should not practice with "difficult" clients until they are proficient in performing the procedure.

CREATING OPPORTUNITIES FOR LEARNING

Planning for Learning

The clinical trainer should develop a plan for each day spent in the healthcare facility. The plan will provide a daily focus that is consistent with the learning objectives and help to ensure that all required skills will be adequately addressed. When preparing the plan, the trainer should consider the following points.

- Clinical practice should progress from basic to more complex skills. This not only helps ensure the safety and quality of care provided by participants, but also allows them to gain self-confidence as they demonstrate competency in the basic skills.

- There may be more participants than can be accommodated comfortably in one area of the healthcare facility at the same time. Generally, three or four participants are the most that a specific area of a facility can absorb without affecting service delivery. If there are more, the trainer should plan a rotation system that allows each participant to have equal time and opportunity in each clinical area.

- Some clinical experiences, such as obstetrical emergencies (e.g., eclampsia, postpartum hemorrhage, obstructed labor), cannot be planned or predicted. The trainer must be alert to identify appropriate clinical situations and distribute them equally among the participants. Before each day’s practice, the trainer should ask the staff to notify him/her of any clients that may be of particular interest, so that participants can be assigned to work with them.

- In addition to daily practice of specific clinical skills, the trainer’s plan should include other areas of focus such as infection prevention, facility logistics or client flow. Although these topics may not be directly assessed with a checklist or other competency-based assessment tool, they play an important role in the provision of high quality maternal and neonatal health services. To make sure that participants give adequate attention to these topics, the trainer should design and develop activities that address each one, such as:
  - Observing the infection prevention practices used in the facility. Which recommended practices are being used, and which are not? Are they being used consistently and correctly? Why or why not?
  - Reviewing facility records for the past several months to identify the types of obstetrical clients seen. Additional information could be obtained, such as the most common complaints and, in individual cases, course of labor (partograph review), progression of a specific condition, treatment provided, response to treatment, etc.
  - Taking an inventory of the supplies, equipment and drugs available in the service provision area to ensure rapid access when needed.
  - Inevitably there will be times when there are few or no clients in the facility. The trainer should have ready additional activities, such as those described above, for the participants. Case studies and role plays also are very useful at such times. Even without clients, learning must continue. Taking extended breaks or leaving the clinical site early is not an acceptable option.
In the Healthcare Facility

As has been mentioned, planning alone is not sufficient to guarantee a successful clinical practice. There are several key strategies that a clinical trainer can use in the healthcare facility to increase the likelihood of success.

- The trainer must **actively monitor** the skills each participant is able to practice, and with what frequency, so that each participant has adequate opportunities to develop competency. A participant who demonstrates competency in performing a cesarean section operation or in administering spinal anesthesia should not be assigned additional patients requiring this operation or procedure until other participants have had an opportunity to develop such competency.

- It is essential that the trainer **be flexible and constantly alert** to learning opportunities as they arise. This requires knowing about the healthcare facility—how it is set up and functions, the client population, etc.—as well as having a good working relationship with the staff. The trainer will need to rely on the staff’s cooperation in notifying her/him of unique or unusual clients and allowing participants to provide services to these clients. This relationship is most easily established beforehand, during site preparation and other visits made by the trainer.

- The **participants also should be encouraged to watch** for such learning opportunities. The trainer may then decide which, and how many, of the participants will be assigned to a particular client. The trainer and participants should remember that clinical experiences need to be shared equally. Therefore, the participant who identifies a case may not be assigned to it if this participant has had a similar case before. It is not appropriate to subject the client to a procedure multiple times simply so that all participants can practice a skill.

- To take advantage of opportunities as they occur may require that the trainer **modify the plan for that day and subsequent days**, but with as little disruption as possible to the provision of services. Participants should be notified of any changes as soon as possible so that they can be well prepared for each clinical day.

- Rarely will all participants have the opportunity to work with all types of clients. The clinical trainer will need to **supplement, with case studies and role plays, the work done with clients**. The trainer should rapidly identify important but rare events or conditions, such as severe pre-eclampsia, and prepare activities in advance. Actual cases seen in the healthcare facility may also serve as the basis for such activities. These can then be used during clinical sessions to expand the participants’ range of experiences.

**CONDUCTING PRE- AND POST-CLINICAL PRACTICE MEETINGS**

Although every healthcare facility will not have a meeting room, the clinical trainer must make every effort to find a space that:

- Allows **free discussion**, small group work and practice on models

- Is **away from the client care area** if possible, so as to not interfere with efficient client care or other staff duties

**Pre-Clinical Practice Meetings**

The trainer and participants should meet at the beginning of each clinical practice session. The meeting should be brief. Items to be covered include:

- The learning objectives for that day

- Any scheduling changes that may be needed
• Participants’ roles and responsibilities for that day, including the work assignments and rotation schedule if applicable
• Special assignments to be completed that day
• The topic for the post-clinical practice meeting, so that the participants can take special note of anything happening during the day that would contribute to the discussion
• Questions related to that day’s activities or from previous days if they can be answered concisely; if not, they should be deferred until the post-clinical practice meeting

Post-Clinical Practice Meetings

The clinical trainer should end each clinical day with a meeting to review the day’s events and build on them as learning experiences. A minimum of 1 hour is recommended. These meetings are used to:
• Review the day’s learning objectives and assess progress toward their completion
• Present cases seen that day, particularly those that were interesting, unusual or difficult
• Respond to clinical questions concerning situations and clients in the healthcare facility or information in the reference manual
• Plan for the next clinical session, making changes in the schedule as necessary
• Conduct additional practice with models if needed
• Review and discuss case studies, role plays or assignments that have been prepared in advance by the participants. These activities should complement the sessions conducted during the classroom portion of the course, especially when classroom time is limited and clinical experience is necessary to gain a better understanding of the issues to be discussed. Topics for case studies, role plays and assignments include:
  • Quality of care
  • Clinical services provided
  • Preventive care measures
  • Medical barriers to providing high quality services
  • Recommended follow up

THE TRAINER AS SUPERVISOR

In the role of supervisor, the trainer must monitor participant activities in the healthcare facility so that:
• Each participant receives appropriate and adequate opportunities for skill practice,
• Participants do not disrupt the efficient provision of services within the facility or interfere with staff and their duties, and
• The care provided by each participant does not harm clients or place them in an unsafe situation.

The trainer must always be with participants when they are working with clients, especially when they are performing clinical procedures. Trainers may have more than one or two participants to supervise. Because the trainer cannot be with all of them at the same time, other methods of supervision must be used.
• Participants must understand what they can do independently and what requires trainer supervision, so that they can keep busy when the trainer is involved with another participant. Participants should be made responsible for ensuring that they are supervised when necessary. The trainer, however, still holds the ultimate responsibility.

• Additional activities that require no direct supervision will give participants the opportunity to be actively engaged in learning when they are not with clients.

• Clinical staff also can act as supervisors if the trainer is confident of their clinical skills and ability to provide appropriate feedback. The possibility of having clinical staff supervise participants is another reason why the trainer should get to know the staff before the training begins. During clinical site preparation, the trainer can observe the skills of the staff members, and verify that they are competent, if not proficient, service providers. The trainer may also have the opportunity to assess their coaching skills. There may even be time to work with staff members to improve their skills so that they can serve as role models and support participant learning.

• The more participants there are in the facility, the more the trainer relies upon the staff also to act as trainers. Nevertheless, the ultimate responsibility for each participant, including that of final assessment of skill competency, is the trainer’s. For this reason, if multiple clinical sites are used during a course, a trainer must be assigned to each site.

• Because clinical staff usually are not involved in the classroom portion of a course, they do not have an opportunity to get to know the participants and their abilities before they arrive at the facility. Therefore, it is a good idea to share such information with the clinical staff whenever they will have to take over a large part of the participant supervision. Clinical staff should also be encouraged to do an initial assessment of participants’ skills before allowing them to work with clients so that they can feel confident that the participants are well prepared.

• Clinical staff should also be aware of the feedback the trainer would like to receive from them about participants.
  • Will it be oral, written or both? If written feedback is needed, the trainer should design an instrument or form to guide the clinical staff. The trainer should furnish a sufficient number of copies of the form and instruct the staff in its use. The trainer should develop a form that staff members can complete quickly and easily.
  • How frequently will feedback be provided? Daily? Weekly? Only at the end of training?
  • Should both positive and corrective feedback be provided?
  • Are there appropriate administrative channels through which the feedback should be transmitted? In some clinics, for example, staff members provide their feedback to the individual in charge of the healthcare facility who then prepares a report for the trainer.
  • When designing the feedback system, the trainer should keep in mind the time required to prepare and provide feedback. This will be extra work for the clinical staff, who already have a very busy schedule. It is best to keep the system as simple and easy to use as possible.
THE TRAINER AS COACH

One of the most difficult tasks for the trainer, and one with which even experienced trainers struggle, is to be a good coach and provide feedback in the clinical setting. No matter how comfortable a trainer may be in giving feedback in the classroom or while working with models, the situation changes in the facility. The clients, staff and other participants are nearby and the emergency services need to keep running smoothly and efficiently. The trainer often feels pressured to keep things moving because other clients need to be seen and the trainer needs to be available to all the participants. Spending “too much time” with any one client or participant has an impact on everyone.

Feedback Sessions

The feedback sessions before and after practice are often skipped in an effort to save time. These sessions, however, are very important for the continued development of the participant’s psycho-motor or decision-making skills. Without adequate feedback and coaching, the participant may miss an important learning opportunity and take longer to achieve competency. Keep in mind that by this time the participant has already demonstrated competency on a model and may not need extensive feedback. To minimize disruption of services, the pre- and post-practice feedback sessions can take place in just a few minutes in a location away from the client care areas.

The structure of the feedback session is essentially the same regardless of whether the session takes place before or after practice, and whether it is for a participant’s performance with models or with clients.

- The participant should first identify personal strengths and the areas where improvement is needed.
- Next, the trainer should provide specific, descriptive feedback that includes suggestions of not only what, but also how, to improve.
- Finally, the participant and the trainer should agree on what will be the focus of the practice session, including how they will interact while they are with the client. For example, they may agree that if the trainer places a hand on the participant’s shoulder, it is a signal to stop and wait for further instructions.

The feedback session before practice should be given before entering the room to work with the client. The feedback session after practice can be delayed until the client’s care has been completed or the client is in stable condition so that continuous care is no longer needed. The trainer should try not to delay feedback any longer than necessary. Feedback is always more effective when given as soon after care as possible. This will also allow the participant to use the feedback with the next client for whom services are provided, if appropriate.

Feedback during a Procedure

Be sure the client knows that the participant, although already a service provider, is also a learner. Reassure the client that the participant has had extensive practice and mastered the skill on models. The client should expect to hear the trainer talk to the participant and understand that it does not mean that something is wrong. Finally, the client should clearly understand that the trainer is a proficient service provider and is there to ensure that the procedure is completed safely and without delay.

Positive Feedback

Positive feedback is often easy to give and can be provided in the presence of the client. Trainers often think that hearing feedback, even positive feedback, will disturb
the client. Many clients, however, find it comforting to hear the service provider being given positive feedback.

- Keep the feedback restrained and low-key; overly exuberant praise can be as worrisome to the client as hearing negative comments. Too much praise may cause the client to wonder, “What is being hidden?” “Why is it so surprising that this person is doing a good job?”
- Positive feedback can be conveyed by facial expression and tone of voice rather than words, and still be highly effective.

At the same time, the absence of feedback of any kind can be disturbing to the participant. By this phase of skill development the participant is expected to do a good job even with the first client, and is accustomed to hearing positive comments. Therefore, in order to maintain the participant’s confidence, it is still important to give positive feedback.

**Corrective Feedback**

Corrective feedback is difficult to give under any circumstances, but particularly when a client is present. It is important to keep such feedback low-key and restrained. There are a number of techniques that will make it easier.

- Often a look or hand gesture (e.g., a touch on the shoulder) can be as effective as words and less worrisome to the client.
- Simple suggestions to facilitate the procedure can be made in a quiet, direct manner. Do not go into lengthy explanations of why you are making the suggestion or offering an observation—save that for the post-practice feedback session.
- To help a participant avoid making a mistake, the trainer can calmly ask a simple, straightforward question about the procedure itself. If a step in a procedure is about to be missed, for example, asking the participant to name the next step before doing anything further could help avoid an error. This is not the time to ask hypothetical questions about potential side effects and complications, as this may distract the participant and alarm the client.
- Sometimes, even though they have had extensive practice on models, participants make mistakes that can potentially harm the client. In these instances, the trainer must be prepared to step in and take over the procedure at a moment’s notice. This should be done calmly and with complete control to avoid unnecessarily alarming the client.
## BASIC ESSENTIAL OBSTETRIC CARE (EOC) COURSE OUTLINE

<table>
<thead>
<tr>
<th>OBJECTIVES/ACTIVITIES</th>
<th>TRAINING/LEARNING METHODS</th>
<th>RESOURCE MATERIALS</th>
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<tbody>
<tr>
<td><strong>DAY 1 MORNING</strong></td>
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<tr>
<td>Activity: Welcome the participants</td>
<td>Welcome by representatives from the organization(s) sponsoring the training course.</td>
<td>Course Equipment: Overhead projector, screen, flipchart with markers, videotape player and monitor, anatomic models, instruments and supplies (see Course Syllabus for details)</td>
</tr>
<tr>
<td>Activity: Facilitate introductions of the participants</td>
<td>Have participants divide into pairs, interview and then introduce each other by name, position and any unique characteristics. The trainers should also be involved in this activity.</td>
<td></td>
</tr>
<tr>
<td>Activity: Provide an overview of the course</td>
<td>Review the course syllabus and schedule. Discuss the goals of the course and the participant learning objectives.</td>
<td>EOC Participant’s Handbook: Syllabus and Schedule</td>
</tr>
<tr>
<td>Activity: Identify participant expectations</td>
<td>Ask participants to share their expectations of the course and write their responses on a flipchart. Attach the flipchart page to the wall for reference throughout the course.</td>
<td></td>
</tr>
<tr>
<td>Activity: Assess participants’ precourse knowledge</td>
<td>Ask participants to turn to the Precursose Knowledge Assessment Questionnaire in their handbook and answer each of the questions.</td>
<td>EOC Participant’s Handbook: Precourse Knowledge Assessment Questionnaire</td>
</tr>
<tr>
<td>Activity: Review clinical experience</td>
<td>Ask participants to give the trainers the Confidential Clinical Experience Questionnaire they filled out before coming to the course. Trainers will use this information to monitor progress in training.</td>
<td>EOC Participant Introductory Packet and Participant’s Handbook: Confidential Clinical Experience Questionnaire</td>
</tr>
<tr>
<td>Activity: Review personal learning plan</td>
<td>Ask participants to review their personal learning plan. Explain to participants that they will use this information to monitor their progress in training.</td>
<td>EOC Participant Introductory Packet and Participant’s Handbook: Personal Learning Plan</td>
</tr>
<tr>
<td>Activity: Introduce participants to the topic of Safe Motherhood</td>
<td><strong>Illustrated Lecture and Discussion:</strong> Use the presentation graphic to explain and discuss the factors that affect maternal mortality, and how skilled attendance at every birth can reduce maternal mortality. Pause at appropriate intervals to emphasize particular points and encourage discussion.</td>
<td>Presentation Graphic: Every Pregnancy Is at Risk: Reducing Maternal Mortality</td>
</tr>
<tr>
<td><strong>DAY 1 AFTERNOON</strong></td>
<td></td>
<td></td>
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<tr>
<td>Activity: Continue discussion of the topic of safe motherhood and the factors that affect maternal mortality</td>
<td><strong>Presentation and Discussion:</strong> Show the videotape to illustrate the factors that affect maternal mortality.</td>
<td>Videotape: Why Did Mrs. X Die?</td>
</tr>
<tr>
<td>Activity: Discuss factors affecting safe motherhood and maternal mortality in Afghanistan</td>
<td><strong>Exercise:</strong> Use the discussion questions in the exercise to discuss the video, the concepts of safe motherhood, and the factors affect maternal mortality in Afghanistan. Pause at appropriate intervals to emphasize particular points and encourage discussion.</td>
<td>EOC Trainer’s Notebook: Exercise X: Why Did Mrs. X Die?</td>
</tr>
<tr>
<td>OBJECTIVES/ACTIVITIES</td>
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| **Activity**: Identify individual and group learning needs | Review the answers to the precourse knowledge assessment questionnaire. Using the Individual and Group Assessment Matrix, ask participants to help chart the number of correct answers for each of the questions. Examine the data in the matrix to determine the collective strengths and weaknesses of the group, and plan with the participants how to best use the course time to achieve the desired learning objectives. | EOC Participant’s Handbook: Individual and Group Assessment Matrix  
EOC Trainer’s Notebook: Precourse Knowledge Assessment Answer Key |
| Objective: Describe infection prevention principles and practices | **Illustrated Lecture and Discussion**: Use the presentation graphic to explain and discuss infection prevention principles and practices and their application, with particular emphasis on EOC. Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants to compare the principles and practices presented with those currently used at their workplaces. | EOC Trainer’s Notebook: Illustrated Lectures  
Presentation Graphic: Infection Prevention  
Infection Prevention Manual: Chapters 3, 7, 8, 10, Appendix E |
| Activity: Review of the day’s activities | Involve participants in review and discussion of the topics and activities covered during the day. Ask a participant to volunteer to write the agenda for the next day on a flipchart, in preparation for the opening session. The schedule in the EOC Participant’s Handbook should be used to do this. Ask one or more of the other participants to plan an opening activity or warmup for the next day. |  |
| **DAY 2 MORNING** |  |
| Activity: Agenda and opening activity | Review the agenda with participants, as outlined on the flipchart. Have the participant(s) who volunteered for the opening activity or warmup conduct it. |  |
| Activity: Discuss infection prevention principles and practices | **Presentation and Discussion**: Show the videotape to illustrate the principles and practices of infection prevention. | Videotape: Infection Prevention |
| Activity: Apply infection prevention practices for care during pregnancy and childbirth | **Demonstration**: The demonstration should be carried out in the classroom using the appropriate equipment. Drawing a tap on a piece of flipchart paper can simulate running water. Demonstrate each of the following practices, provide an explanation of the steps involved and encourage participants to ask questions at any point during the demonstration:  
• Hand washing  
• Decontamination  
• Sharps handling  
• Waste disposal  
• Instrument handling and preparation | Flipchart paper and marker  
Soap/antiseptic hand cleanser  
Nail brush  
Gloves  
Plastic apron  
Instruments  
Nebules and syringes  
Plastic receptacles  
Chlorine solution |
| **DAY 2 AFTERNOON** |  |
| Objective: Describe best practices for identifying and managing vaginal bleeding in early and later pregnancy and labor | **Illustrated Lecture and Discussion**: Use the presentation graphic to review and discuss bleeding in early and later pregnancy and labor. Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants to cite the possible causes of bleeding in early and later pregnancy and labor, and describe the way in which they manage each of these. If there are differences between the recommended “best practices” for management and current practices at their workplaces, discuss the reasons for this. Is there a need to change current practices? If so, how? | EOC Trainer’s Notebook: Illustrated Lectures  
Presentation Graphic: Vaginal Bleeding in Early Pregnancy: Vaginal Bleeding in Later Pregnancy and Labor  
MCPC Manual: Section 2, S-7 to S-23 |
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</table>
| **Activity:** Case studies on vaginal bleeding in early pregnancy | **Case Studies:** Use the two case studies on vaginal bleeding in early pregnancy (incomplete abortion and ectopic pregnancy). Divide participants into groups of three or four. The groups can be given different case studies or they can all work on the same one. Allow approximately 20 minutes for the groups to work on each case study, then allow 5–10 minutes for one participant from each group to report back to the class as a whole. Use the case study answer keys to guide discussion. | **EOC Trainer’s Notebook:** Case Studies  
**Tips for Trainers:** Teaching Clinical Decision-Making  
**Case Studies:** Vaginal Bleeding in Early Pregnancy (Incomplete Abortion) and Vaginal Bleeding in Early Pregnancy (Ectopic Pregnancy) and Answer Keys  
**MCPC Manual:** Section 2, S-7 to S-16 |
| **OPTIONAL Activity:** Case studies on vaginal bleeding in later pregnancy | **Case Studies:** If time permits, use the two case studies on vaginal bleeding in later pregnancy (abruptio placentae and placenta previa). Divide participants into groups of three or four. The groups can be given different case studies or they can all work on the same one. Allow approximately 20 minutes for the groups to work on each case study, then allow 5–10 minutes for one participant from each group to report back to the class as a whole. Use the case study answer keys to guide discussion. | **EOC Trainer’s Notebook:** Case Studies  
**Tips for Trainers:** Teaching Clinical Decision-Making  
**Case Studies:** Vaginal Bleeding in Later Pregnancy (Abruptio Placentae) and Vaginal Bleeding in Later Pregnancy (Placenta Previa) and Answer Keys  
**MCPC Manual:** Section 2, S-17 to S-23 |
| **Activity:** Describe manual vacuum Aspiration (MVA) | **Presentation and Discussion:** Use the Postabortion Care Video Photoset to demonstrate the MVA procedure. | **Videotape:** Use of MVA and Recommended Practices for Processing MVA Instruments (Postabortion Care Video Photoset)  
**EOC Trainer’s Notebook:** Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions  
**Skills Demonstration and Practice:** Learning Guides and Checklists for Postabortion Care  
**MCPC Manual:** Section 3, P-65 to P-68 |
| **Activity:** Review of the day’s activities | **Involve participants in review and discussion of the topics and activities covered during the day. Ask a participant to volunteer to write the agenda for the next day on a flipchart, in preparation for the opening session. The schedule in the EOC Participant’s Handbook should be used to do this. Ask one or more of the other participants to plan an opening activity or warmup for the next day.** | |

**DAY 3 MORNING**

| **Activity:** Agenda and opening activity | **Review the agenda with participants, as outlined on the flipchart. Have the participant(s) who volunteered for the opening activity or warmup conduct it.** | |
| **Objective:** Describe the elements of postabortion care services | **Illustrated Lecture and Discussion:** Use the presentation graphic to review and discuss:  
- Postabortion family planning counseling and services  
- Links between postabortion emergency services and other reproductive health services  
Pause at appropriate intervals to emphasize particular points and encourage discussion. | **EOC Trainer’s Notebook:** Illustrated Lectures  
**Presentation Graphic:** Postabortion Care  
**MCPC Manual:** Section 3, P-65 to P-68 |
| **Activity:** Practice manual vacuum aspiration | **Skill Demonstration and Practice:** The skill is to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant model, learning guides and checklists, as described in Skills Practice Session: Postabortion Care (Manual Vacuum Aspiration [MVA]) and Postabortion Family Planning Counseling. Before beginning the skill demonstration, explain to participants how learning guides and checklists will be used for this and the other skills included in the course. | **EOC Trainer’s Notebook:** Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions  
**Skill Demonstration and Practice:** Learning Guides and Checklists for Postabortion Care  
**MCPC Manual:** Section 3, P-65 to P-68 |
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<tr>
<td><strong>OPTIONAL Activity</strong>: Clinical simulation on management of vaginal bleeding in early pregnancy</td>
<td>If time permits, guide participants through the clinical simulation on management of vaginal bleeding in early pregnancy, following the guidelines provided in the Trainer’s Notebook.</td>
<td>EOC Trainer’s Handbook: Clinical Simulations Clinical Simulation: Management of Vaginal Bleeding in Early Pregnancy MCPC Manual: Section 2, S-7 to S-16</td>
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**DAY 3 AFTERNOON**

| Objective: Describe the process and implementation of rapid initial assessment of the woman who presents with a complication during pregnancy | Illustrated Lecture and Discussion: Use the presentation graphic to:  
- Review and discuss the process of rapid assessment  
- Review and discuss the recognition and management of shock  
- Explain the principles of adult resuscitation  
Pause at appropriate intervals to emphasize particular points and encourage discussion, and provide a brief summary at the end of each of the above topics. | EOC Trainer’s Notebook: Illustrated Lectures Presentation Graphic: Rapid Initial Assessment and Management of Shock MCPC Manual: Section 1, C-1 to C-4, C-23 to C-29; Section 2, S-1 to S-5 |
| Objective: Describe the recognition of shock, and the principles of adult resuscitation and management of shock | Skill Demonstration and Practice: The skill is to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant model, learning guide and checklist, as described in Skills Practice Session: Adult Resuscitation and Management of Shock. | EOC Trainer’s Notebook: Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions Skill Demonstration and Practice: Learning Guide and Checklist for Adult Resuscitation and Management of Shock |
| Activity: Practice adult resuscitation and management of shock | Involve participants in review and discussion of the topics and activities covered during the day. Ask a participant to volunteer to write the agenda for the next day on a flipchart, in preparation for the opening session. The schedule in the EOC Participant’s Handbook should be used to do this. Ask one or more of the other participants to plan an opening activity or warmup for the next day. | |
| Activity: Review of the day’s activities | If time permits, guide participants through the clinical simulation on management of shock, following the guidelines provided in the Trainer’s Notebook. | EOC Trainer’s Notebook: Clinical Simulations Clinical Simulation: Management of Shock MCPC Manual: Section 2, S-1 to S-5 |

**DAY 4 MORNING**

| Activity: Agenda and opening activity | Review the agenda with participants, as outlined on the flipchart. Have the participant(s) who volunteered for the opening activity or warmup conduct it. | EOC Trainer’s Notebook: Illustrated Lectures Presentation Graphic: Managing Labor Using the Partograph MCPC Manual: Section 1, C-65 to C-70; Section 2, S-57 to S-67 BMNC Manual: pages 2-37 to 2-79 |
| Objective: Describe use of the partograph | Illustrated Lecture and Discussion: Use the presentation graphic to review and discuss:  
- The components of the partograph  
- How to plot progress in labor  
- How to identify normal labor  
- How to identify unsatisfactory progress in labor (prolonged active phase and obstructed labor)  
Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants if they have been using the partograph. How has its use affected care during labor? Have they experienced problems using it? How have the problems been resolved? |
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<tr>
<td><strong>Activity:</strong> Practice using the partograph</td>
<td><strong>Exercise:</strong> Follow the directions in the Exercise, Using the Partograph. Trainers should keep in mind that some participants may be able to use the partograph more proficiently than others. Progress should therefore be monitored closely to make sure that participants are able to complete the various steps involved in the exercise. Participants who experience difficulties should be provided additional help during the exercise.</td>
<td>Exercise: Using the Partograph and Answer Key Partograph forms Poster-size laminated partograph and dry-erase markers</td>
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<td><strong>Activity:</strong> Practice assessment of the woman in labor</td>
<td><strong>Skill Demonstration and Practice:</strong> The skill is to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant models, learning guide and checklist, as described in Skills Practice Session: Assessment of the Woman in Labor.</td>
<td>EOC Trainer’s Notebook: Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions Skill Demonstration and Practice: Learning Guide and Checklist for Assessment of the Woman in Labor MCPC Manual: Section 1, C-57 to C-76</td>
</tr>
<tr>
<td><strong>Objective:</strong> Describe best practices for care during labor and childbirth</td>
<td><strong>Illustrated Lecture and Discussion:</strong> Use the presentation graphic on normal labor and childbirth to review and discuss best practices for care during labor, with particular emphasis on supportive care. Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants about the supportive care provided by them for women in labor. Is there a need for change? If so, why and how?</td>
<td>EOC Trainer’s Notebook: Illustrated Lectures Presentation Graphic: Normal Labor and Childbirth Part 1 MCPC Manual: Section 1, C-57 to C-59</td>
</tr>
<tr>
<td><strong>Objective:</strong> Describe best practices for care during second stage of labor, active management of the third stage and immediate postpartum care</td>
<td><strong>Illustrated Lecture and Discussion:</strong> Use the presentation graphic to review and discuss: • Assessing descent, dilatation, and position during labor • Managing second stage • Active management of third stage • Immediate postpartum care Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants about management of third stage. Do they use active management? If not, why?</td>
<td>EOC Trainer’s Notebook: Illustrated Lectures Presentation Graphic: Normal Labor and Childbirth Part 2 MCPC Manual: Section 1, C-60 to C-65</td>
</tr>
<tr>
<td><strong>Activity:</strong> Review of the day’s activities</td>
<td><strong>Activity:</strong> Review of the day’s activities</td>
<td>Involving participants in review and discussion of the topics and activities covered during the day. Ask a participant to volunteer to write the agenda for the next day on a flipchart, in preparation for the opening session. The schedule in the EOC Participant’s Handbook should be used to do this. Ask one or more of the other participants to plan an opening activity or warmup for the next day.</td>
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<td><strong>DAY 4 AFTERNOON</strong></td>
<td><strong>DAY 5 MORNING</strong></td>
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<td><strong>Activity:</strong> Agenda and opening activity</td>
<td><strong>Activity:</strong> Agenda and opening activity</td>
<td>Review the agenda with participants, as outlined on the flipchart. Have the participant(s) who volunteered for the opening activity or warmup conduct it.</td>
</tr>
<tr>
<td><strong>Activity:</strong> Practice clean and safe childbirth</td>
<td><strong>Skill Demonstration and Practice:</strong> The skill is to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant models, learning guide and checklist, as described in Skills Practice Session: Conducting a Childbirth.</td>
<td>EOC Trainer’s Notebook: Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions Skill Demonstration and Practice: Learning Guide and Checklist for Conducting a Childbirth MCPC Manual: Section 1, C-57 to C-76 BMNC Manual: pages 2-83 to 2-107</td>
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<tr>
<td><strong>Objective:</strong> Describe the essential elements of and best practices for postpartum care</td>
<td><strong>Illustrated Lecture and Discussion:</strong> Use the presentation graphic to review and discuss the essential elements of and best practices for postpartum care. Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants if there are differences between the management described and current practices at their worksites. Is there a need to change current practices? If so, how?</td>
<td>EOC Trainer’s Notebook: Illustrated Lectures Presentation Graphic: Postpartum Care</td>
</tr>
<tr>
<td><strong>OPTIONAL Activity:</strong> Case studies on malposition and shoulder dystocia</td>
<td><strong>Case Studies:</strong> If time permits, use the two case studies on malposition (occiput posterior) and shoulder dystocia. Divide participants into groups of three or four. The groups can be given different case studies or they can all work on the same one. Allow approximately 20 minutes for the groups to work on the case study, then allow 5–10 minutes for one participant from each group to report back to the class as a whole. Use the case study answer key to guide discussion.</td>
<td>EOC Trainer’s Notebook: Case Studies Tips for Trainers: Teaching Clinical Decision-Making Case Studies: Malposition (Occiput Posterior) and Shoulder Dystocia and Answer Key MCPC Manual: Section 2, S-75 to S-76, S-83 to S-85</td>
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<tr>
<td><strong>Activity:</strong> Practice episiotomy and repair</td>
<td><strong>Skill Demonstration and Practice:</strong> The skill is to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant learning aid, learning guide and checklist, as described in Skills Practice Session: Episiotomy and Repair.</td>
<td>EOC Trainer’s Notebook: Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions Skill Demonstration and Practice: Learning Guide and Checklist for Episiotomy and Repair MCPC Manual: Section 3, P-71 to P-75</td>
</tr>
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<td><strong>Activity:</strong> Review of the day’s activities</td>
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<tr>
<td><strong>DAY 6 MORNING</strong></td>
<td><strong>Activity:</strong> Agenda and opening activity</td>
<td><strong>Objective:</strong> Describe the diagnosis and management of breech presentation</td>
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<td><strong>Objective:</strong> Describe the diagnosis and management of breech presentation</td>
<td><strong>Illustrated Lecture and Discussion:</strong> Use the videotape on breech delivery to present and discuss the diagnosis and management of breech presentation. Ask participants to share their experiences with respect to breech delivery. How did they manage? What was the outcome for mother and newborn?</td>
<td>EOC Trainer’s Notebook: Illustrated Lectures Videotape: Malpresentation and Vaginal Breech Delivery MCPC Manual: Section 2, S-74, S-79 to S-80</td>
</tr>
<tr>
<td><strong>Activity:</strong> Practice breech delivery</td>
<td><strong>Skill Demonstration and Practice:</strong> The skill is to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant model, learning guide and checklist, as described in Skills Practice Session: Breech Delivery.</td>
<td>EOC Trainer’s Notebook: Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions Skill Demonstration and Practice: Learning Guide and Checklist for Breech Delivery MCPC Manual: Section 3, P-37 to P-42</td>
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<tr>
<td><strong>Objective:</strong> Describe the procedure of vacuum extraction</td>
<td><strong>Illustrated Lecture and Discussion:</strong> Use the videotape on vacuum extraction to present and discuss the procedure. Describe the conditions for vacuum extraction and the equipment used for the procedure. Ask participants to share their experiences with respect to vacuum extraction. Have they used the procedure or observed someone else using it? What was the outcome for mother and newborn?</td>
<td>EOC Trainer’s Notebook: Illustrated Lectures &lt;br&gt; Videotape: Vacuum Delivery: Reducing Risk &lt;br&gt; MCPC Manual: Section 3, P-27 to P-31</td>
</tr>
<tr>
<td><strong>Activity:</strong> Practice vacuum extraction delivery</td>
<td><strong>Skill Demonstration and Practice:</strong> The skill is to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant model, learning guide and checklist, as described in Skills Practice Session: Vacuum Extraction.</td>
<td>EOC Trainer’s Notebook: Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions &lt;br&gt; Skill Demonstration and Practice: Learning Guide and Checklist for Vacuum Extraction &lt;br&gt; MCPC Manual: Section 3, P-27 to P-31</td>
</tr>
<tr>
<td><strong>Day 6 Afternoon</strong></td>
<td><strong>Objective:</strong> Describe best practices for identifying and managing pregnancy-induced hypertension</td>
<td><strong>Illustrated Lecture and Discussion:</strong> Use the presentation graphic to review and discuss: &lt;br&gt; - Best practices for identifying and managing hypertension, pre-eclampsia, and eclampsia &lt;br&gt; - Strategies for controlling hypertension &lt;br&gt; - Strategies for preventing and treating convulsions, with particular emphasis on the use of magnesium sulphate &lt;br&gt; Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants if there are differences between the management described and current practices. Is there a need to change current practices? If so, how?</td>
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<td><strong>Activity:</strong> Case studies on pregnancy-induced hypertension</td>
<td><strong>Case Studies:</strong> Use the two case studies on pregnancy-induced hypertension (mild pre-eclampsia and severe pre-eclampsia). Divide participants into groups of three or four. The groups can be given different case studies or they can all work on the same one. Allow approximately 20 minutes for the groups to work on the case study, then allow 5–10 minutes for one participant from each group to report back to the class as a whole. Use the case study answer key to guide discussion.</td>
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<td><strong>Activity:</strong> Practice management of severe pre-eclampsia/eclampsia</td>
<td><strong>Skill Demonstration and Practice:</strong> The skill is to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant model, learning guide and checklist, as described in Skills Practice Session: Management of Severe Pre-Eclampsia/Eclampsia.</td>
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<td><strong>Activity:</strong> Review of the day’s activities</td>
<td>Involve participants in review and discussion of the topics and activities covered during the day. Ask a participant to volunteer to write the agenda for the next day on a flipchart, in preparation for the opening session. The schedule in the EOC Participant’s Handbook should be used to do this. Ask one or more of the other participants to plan an opening activity or warmup for the next day.</td>
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<td><strong>DAY 7 MORNING</strong></td>
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<tr>
<td><strong>Activity:</strong> Agenda and opening activity</td>
<td>Review the agenda with participants, as outlined on the flipchart. Have the participant(s) who volunteered for the opening activity or warmup conduct it.</td>
<td>EOC Trainer’s Notebook: Illustrated Lectures Presentation Graphic: Vaginal Bleeding After Childbirth MCPC Manual: Section 2, S-25 to S-34</td>
</tr>
<tr>
<td><strong>Objective:</strong> Describe best practices for managing vaginal bleeding after childbirth</td>
<td>Illustrated Lecture and Discussion: Use the presentation graphic to review and discuss best practices for managing vaginal bleeding after childbirth. Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants to cite the possible causes of vaginal bleeding after childbirth and describe the way in which they manage each of these. If there are differences between the recommended “best practices” for management and current practices at their worksites, discuss the reasons for this. Is there a need to change current practices? If so, how?</td>
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<td><strong>Activity:</strong> Case studies on vaginal bleeding after childbirth</td>
<td>Case Studies: Use the case studies on vaginal bleeding after childbirth (genital trauma and atonic uterus). Divide participants into groups of three or four. The groups can be given different case studies or they can all work on the same one. Allow approximately 20 minutes for the groups to work on the case study, then allow 5–10 minutes for one participant from each group to report back to the class as a whole. Use the case study answer keys to guide discussion.</td>
<td>EOC Trainer’s Notebook: Case Studies Tips for Trainers: Teaching Clinical Decision-Making Case Studies: Vaginal Bleeding After Childbirth (Genital Trauma) and Vaginal Bleeding After Childbirth (Atonic Uterus) and Answer Keys MCPC Manual: Section 2, S-25 to S-34</td>
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<tr>
<td><strong>OPTIONAL Activity:</strong> Case study on vaginal bleeding after childbirth</td>
<td>Case Study: If time permits, use the case study on vaginal bleeding after childbirth (delayed postpartum hemorrhage). Divide participants into groups of three or four. Allow approximately 20 minutes for the groups to work on the case study, then allow 5–10 minutes for one participant from each group to report back to the class as a whole. Use the case study answer keys to guide discussion.</td>
<td>EOC Trainer’s Notebook: Case Studies Tips for Trainers: Teaching Clinical Decision-Making Case Study: Vaginal Bleeding After Childbirth (Delayed PPH) and Answer Key MCPC Manual: Section 2, S-25 to S-34</td>
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<tr>
<td><strong>Activity:</strong> Practice bimanual compression of the uterus, abdominal aortic compression and manual removal of placenta</td>
<td>Skill Demonstration and Practice: The skills are to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant models, learning guides and checklists, as described in Skills Practice Session: Bimanual Compression of the Uterus, Skills Practice Session: Compression of the Abdominal Aorta and Skills Practice Session: Manual Removal of Placenta.</td>
<td>EOC Trainer’s Handbook: Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions Skills Demonstration and Practice: Learning Guide and Checklist for Bimanual Compression of the Uterus; Learning Guide and Checklist for Compression of the Abdominal Aorta; Learning Guide and Checklist for Manual Removal of Placenta MCPC Manual: Section 2, S-25 to S-34; Section 3, P-77 to P-79</td>
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<tr>
<td><strong>OPTIONAL Activity:</strong> Clinical simulation on management of vaginal bleeding after childbirth</td>
<td>If time permits, guide participants through the clinical simulation on management of vaginal bleeding after childbirth, following the guidelines provided in the Trainer’s Notebook.</td>
<td>EOC Trainer’s Handbook: Clinical Simulations Clinical Simulation: Management of Vaginal Bleeding after Childbirth MCPC Manual: Section 2, S-141 to S-146</td>
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| **Objective**: Describe best practices for managing fever during pregnancy and after childbirth | **Illustrated Lecture and Discussion**: Use the presentation graphic to review and discuss the best practices for managing fever during pregnancy and after childbirth, strategies to prevent infection, and prophylactic and therapeutic use of antibiotics. Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants to cite the possible causes of fever after childbirth, and the obstetric, medical and health service factors affecting postpartum sepsis. What do they do to prevent postpartum sepsis? If there are differences between the recommended "best practices" for management and current practices at their workplaces, discuss the reasons for this. Is there a need to change current practices? If so, how? | **EOC Trainer’s Notebook**: Illustrated Lectures  
**Presentation Graphic**: Fever During Pregnancy and After Childbirth  
**MCPC Manual**: Section 2, S-107 to S-114 |
| **Activity**: Case study on fever after childbirth | **Case Study**: Use the case study on fever after childbirth (metritis). Divide participants into groups of three or four. Allow approximately 20 minutes for the groups to work on the case study, then allow 5–10 minutes for one participant from each group to report back to the class as a whole. Use the case study answer key to guide discussion. | **EOC Trainer’s Notebook**: Case Studies  
**Tips for Trainers**: Teaching Clinical Decision-Making  
**Case Study**: Fever After Childbirth (Metritis) and Answer Key  
**MCPC Manual**: Section 2, S-107 to S-114 |
| **OPTIONAL Activity**: Case studies on fever after childbirth | **Case Studies**: Use the case studies on fever after childbirth (perineal wound abscess and mastitis). Divide participants into groups of three or four. The groups can be given different case studies or they can all work on the same one. Allow approximately 20 minutes for the groups to work on the case study, then allow 5–10 minutes for one participant from each group to report back to the class as a whole. Use the case study answer keys to guide discussion. | **EOC Trainer’s Notebook**: Case Studies  
**Tips for Trainers**: Teaching Clinical Decision-Making  
**Case Studies**: Fever After Childbirth (Perineal Wound Abscess) and Fever After Childbirth (Mastitis) and Answer Keys  
**MCPC Manual**: Section 2, S-107 to S-114 |
<p>| <strong>Activity</strong>: Skills evaluation with models | Trainers should evaluate the participants’ skills using the relevant models and checklists. | |
| <strong>Activity</strong>: Review of the day’s activities | Involve participants in review and discussion of the topics and activities covered during the day. Ask a participant to volunteer to write the agenda for the next day on a flipchart, in preparation for the opening session. The schedule in the EOC Participant’s Handbook should be used to do this. Ask one or more of the other participants to plan an opening activity or warmup for the next day. | |</p>
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<td><strong>Activity:</strong> Agenda and opening activity</td>
<td>Review the agenda with participants, as outlined on the flipchart. Have the participant(s) who volunteered for the opening activity or warmup conduct it.</td>
<td>EOC Trainer’s Notebook: Illustrated Lectures</td>
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<tr>
<td><strong>Objective:</strong> Define the essential element of early newborn care and describe best practices for promoting newborn health</td>
<td>Illustrated Lecture and Discussion: Use the presentation graphic to review and discuss prevention of infection, thermal protection, newborn resuscitation, breastfeeding and best practices for promoting newborn health. Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants to share their experiences with respect to newborn resuscitation. If there are differences between the recommended “best practices” for newborn resuscitation and current practices at their worksites, discuss the reasons for this. Is there a need to change current practices? If so, how?</td>
<td>MCPC Manual: Section 1, C-75 to C-80; Section 2, S-141 to S-150</td>
</tr>
<tr>
<td><strong>Activity:</strong> Practice newborn resuscitation</td>
<td>Skill Demonstration and Practice: The skill is to be demonstrated by trainers and practiced by participants in a simulated setting using the relevant model, learning guide and checklist, as described in Skills Practice Session: Newborn Resuscitation.</td>
<td>BMNC Manual: pages 2-109 to 2-135</td>
</tr>
<tr>
<td><strong>OPTIONAL Activity:</strong> Clinical simulation on management of an asphyxiated newborn</td>
<td>If time permits, guide participants through the clinical simulation on management of an asphyxiated newborn, following the guidelines provided in the Trainer’s Notebook.</td>
<td>EOC Trainer’s Notebook: Humanistic Training Techniques; Learning Guides and Checklists; Skills Practice Sessions</td>
</tr>
<tr>
<td><strong>Activity:</strong> Skills evaluation with models</td>
<td>Trainers should evaluate the participants’ skills using the relevant models and checklists.</td>
<td>MCPC Manual: Section 2, S-141 to S-146</td>
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<td><strong>DAY 8 AFTERNOON</strong></td>
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<td><strong>Activity:</strong> Skills practice with models</td>
<td>Trainers should provide guidance for participants to use the relevant models and learning guides to practice the skills.</td>
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<td><strong>Activity:</strong> Review of the day’s activities</td>
<td>Involve participants in review and discussion of the topics and activities covered during the day. Ask a participant to volunteer to write the agenda for the next day on a flipchart, in preparation for the opening session. The schedule in the EOC Participant’s Handbook should be used to do this. Ask one or more of the other participants to plan an opening activity or warmup for the next day.</td>
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<td><strong>DAY 9 MORNING</strong></td>
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<td><strong>Activity:</strong> Agenda and opening activity</td>
<td>Review the agenda with participants, as outlined on the flipchart. Have the participant(s) who volunteered for the opening activity or warmup conduct it.</td>
<td>EOC Trainer’s Notebook: Midcourse Knowledge Assessment Questionnaire and Answer Key</td>
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<td><strong>Activity:</strong> Assess participants’ midcourse knowledge</td>
<td>Make copies of the Midcourse Knowledge Assessment Questionnaire and distribute to participants. Review the instructions for completing the questionnaire with participants. Have participants complete the questionnaire. Trainers should score the Midcourse Knowledge Assessment Questionnaires during the break and review the results with the entire group (time is allocated for this later in the session).</td>
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<td>Objective: Explain the general principles for and methods of obstetric analgesia and anesthesia</td>
<td>Illustrated Lecture and Discussion: Use the presentation graphic to review and discuss the general principles for and methods of obstetric analgesia and anesthesia applicable to EOC. Pause at appropriate intervals to emphasize particular points and encourage discussion. For example, ask participants to share their experiences with respect to the provision of pain relief for women during labor and following obstetric surgery.</td>
<td>EOC Trainer’s Notebook: Illustrated Lectures Presentation Graphic: Analgesia and Anesthesia in EOC MCPC Manual: Section 1, C-37 to C-46</td>
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<td>Activity: Provide instructions for clinical practice</td>
<td>Trainers should explain to participants how the forthcoming three weeks of clinical practice are structured and what is expected of them as individual practitioners and as team members. Each team consists of one doctor and one midwife from the same facility. Trainers should be identified for each of the teams so that participants are clear about who will provide guidance during clinical practice.</td>
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<tr>
<td>Activity: Review Clinical Experience Log Book</td>
<td>Trainers should review the Clinical Experience Log Book with participants and ensure that they understand how it will be used during the guided clinical practice.</td>
<td>Clinical Experience Log Book</td>
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<td>Activity: Review the results of the Midcourse Knowledge Assessment Questionnaire</td>
<td>The results of the Midcourse Knowledge Assessment Questionnaire should be reviewed with the class as a whole, emphasizing collective strengths and weaknesses. Trainers must allocate time to meet with participants who scored less than 85% and discuss missed items and/or incorrect responses. Participants should then spend time studying the relevant topics and complete the Midcourse Knowledge Assessment Questionnaire again to achieve a score of at least 85%.</td>
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**DAY 9 AFTERNOON**

<p>| Activity: Skills evaluation with models | Trainers should evaluate the participants’ skills using the relevant models and checklists. | |
| Activity: Tour of clinical facilities | All of the participants should visit both of the hospital facilities that will be used for clinical practice. Each trainer should take responsibility for one team of participants and guide them through the various wards and departments in which they are to practice. Hospital staff members should be introduced to participants and invited to provide information about their respective work areas. | |
| Activity: Review of the day’s activities | Involve participants in review and discussion of the topics and activities covered during the day. Ask a participant to volunteer to write the agenda for next day on a flipchart, in preparation for the opening session. The schedule in the EOC Participant’s Handbook should be used to do this. Ask one or more of the other participants to plan an opening activity or warm-up for next day. | |</p>
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<td><strong>Activity:</strong> Describe lessons learned during clinical practice</td>
<td>Discussion: Use the following points to encourage participants to discuss the lessons learned during clinical practice: • Factors that facilitated clinical practice • Factors that made clinical practice difficult • Individual and team strengths with respect to clinical practice • Individual and team weaknesses with respect to clinical practice • Aspects of individual and team practice that need to improve • The most important thing learned by each participant during clinical practice</td>
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<td>Lecture and Discussion: Use the presentation graphic to explain and discuss implementation of the Obstetric Register</td>
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<tr>
<td>Activity: Identify further individual learning needs</td>
<td><strong>Discussion:</strong> Trainers meet with participants individually to discuss and identify further learning needs.</td>
<td></td>
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<tr>
<td>-----------------------------------------------------</td>
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</tr>
<tr>
<td>Activity: Introduce group work for the development of action plans</td>
<td>Explain the purpose and content of the action plans that are to be developed by participants, working in teams. Each team is to begin discussing actions for change and indicators to measure success, in preparation for the development of their action plans during group work the next morning. Provide each team with copies of action plan worksheets and ensure that they understand how to complete them.</td>
<td>EOC Participant’s Handbook: Action Plan Worksheets</td>
</tr>
<tr>
<td>Activity: Review of the day’s activities</td>
<td>Involve participants in review and discussion of the topics and activities covered during the day. Ask a participant to volunteer to write the agenda for next day on a flipchart, in preparation for the opening session. The schedule in the EOC Participant’s Handbook should be used to do this. Ask one or more of the other participants to plan an opening activity or warmup for next day.</td>
<td></td>
</tr>
<tr>
<td><strong>DAY 18</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity: Agenda and opening activity</td>
<td>Review the agenda with participants, as outlined on the flipchart. Have the participant(s) who volunteered for the opening activity or warmup conduct it.</td>
<td></td>
</tr>
<tr>
<td>Activity: Clinical check-outs</td>
<td>Conduct clinical check-outs with clients for any remaining participants</td>
<td>Learning guides and checklists for the skills learned during the first 8 days of the training program EOC Trainer’s Notebook: Case Studies Tips for Trainers: Teaching Clinical Decision-Making</td>
</tr>
<tr>
<td>Activity: Review personal learning plans and develop action plans</td>
<td><strong>Group Work:</strong> Each team of participants is to prepare an action plan based on the guidelines provided during the introduction to group work.</td>
<td>EOC Participant’s Handbook: Action Plan Worksheets</td>
</tr>
<tr>
<td>Activity: Present action plans</td>
<td>Each team of participants is to present their action plan.</td>
<td></td>
</tr>
</tbody>
</table>
| Activity: Identify next steps | Trainers should discuss with participants the following aspects of the log book and on-the-job training:  
  - Responsibilities of participants as individuals and team members  
  - Use of Clinical Experience Log Book | Clinical Experience Log Book |
| Activity: Course summary | Provide a brief review of the topics and skills covered during the course. Emphasize that this is the conclusion of the first part of the course. |  |
| Activity: Closing ceremony |  |  |

Adapted from: Model EmOC Course Outline (5 weeks of 17-week course), EmOC Learning Resource Package, JHPIEGO/MNH Program, June 2003.
PRECOUSE KNOWLEDGE QUESTIONNAIRE ANSWER KEY

MANAGEMENT OF SHOCK; RAPID INITIAL ASSESSMENT
1. Rapid initial assessment should be carried out on all women of childbearing age who present with a problem. TRUE
2. A woman who suffers shock as a result of an obstetric emergency may have a fast, weak pulse. TRUE
3. A woman who has an unruptured ectopic pregnancy usually presents with collapse and weakness. FALSE

BLEEDING DURING PREGNANCY AND LABOR
4. Management of inevitable abortion when the pregnancy is greater than 16 weeks usually involves administration of ergometrine or misoprostol. FALSE
5. Manual vacuum aspiration (MVA) is an effective method for treatment of incomplete abortion if the uterine size is not greater than 8 weeks. FALSE
6. Assessment of a woman who presents with vaginal bleeding after 22 weeks of pregnancy should be limited to abdominal examination. FALSE
7. If bleeding is heavy in the case of abruptio placentae and the cervix is fully dilated, delivery should be assisted by vacuum extraction. TRUE

BLEEDING AFTER CHILDBIRTH
8. Postpartum hemorrhage is defined as sudden bleeding after childbirth. FALSE
9. Continuous slow bleeding or sudden bleeding after childbirth requires early and aggressive intervention. TRUE
10. Absent fetal movements and fetal heart sounds, together with intra-abdominal and/or vaginal bleeding and severe abdominal pain, suggest ruptured uterus. TRUE

MANAGEMENT OF THIRD STAGE OF LABOR
11. Active management of the third stage of labor should be practiced only on women who have a history of postpartum hemorrhage. FALSE
12. If a retained placenta is undelivered after 30 minutes of oxytocin administration and controlled cord traction and the uterus is contracted, controlled cord traction and fundal pressure should be attempted. FALSE
13. If the cervix is dilated in the case of delayed (secondary) postpartum hemorrhage, dilatation and curettage should be performed to evacuate the uterus. FALSE

HEADACHES, BLURRED VISION, CONVULSIONS, LOSS OF CONSCIOUSNESS OR ELEVATED BLOOD PRESSURE
14. Hypertension in pregnancy can be associated with protein in the urine. TRUE
15. The presenting signs and symptoms of eclampsia include convulsions, diastolic blood pressure of 90 mm Hg or more after 20 weeks gestation and proteinuria of 2+ or more. TRUE
16. A pregnant woman who is convulsing should be protected from injury by moving objects away from her. TRUE
17. The management of mild pre-eclampsia should include sedatives and tranquilizers. FALSE
18. The drug of choice for preventing and treating convulsions in severe pre-eclampsia and eclampsia is diazepam. FALSE

PARTOGRAPH
19. Cervical dilation plotted to the right of the alert line on the partograph indicates unsatisfactory progress of labor. TRUE
NORMAL LABOR AND CHILDBIRTH

20. Findings diagnostic of cephalopelvic disproportion are secondary arrest of descent of the head in the presence of good contractions. **TRUE**

21. If the active phase of labor is prolonged, delivery should be by cesarean section. **FALSE**

22. It is recommended to first perform artificial rupture of membranes (if the membranes are intact) for induction of labor, except in patients with HIV. **TRUE**

23. Conditions for vacuum extraction are fetal head at least at 0 station or not more than 2/5 above the symphysis pubis and a fully dilated cervix. **TRUE**

24. Abdominal palpation to assess descent of the fetal head is equivalent to assessing descent using the station on vaginal examination. **TRUE**

25. A head that is felt in the flank on abdominal examination indicates a shoulder presentation or transverse lie. **TRUE**

26. When the fetal head is well flexed with occiput anterior or occiput transverse (in early labor), normal childbirth should be anticipated. **TRUE**

27. If labor is prolonged in the case of a breech presentation, a cesarean section should be performed. **TRUE**

FEVER DURING AND AFTER CHILDBIRTH

28. Breast pain and tenderness 3 to 5 days after childbirth is usually due to breast engorgement. **TRUE**

29. Lower abdominal pain and uterine tenderness, together with foul-smelling lochia, are characteristic of metritis. **TRUE**

NEWBORN RESUSCITATION

30. When using a bag and mask to resuscitate a newborn, the newborn’s neck must be slightly extended to open the airway. **TRUE**
EXERCISE 1: WHY DID MRS. X DIE?

ANSWER KEY

INSTRUCTIONS

Allow the participants to watch the video, Why Did Mrs. X Die? Following completion of the video, divide the participants into two to three groups. Give the participants the instructions for group work (below), and allow the groups approximately 30 minutes to discuss the video and answer the questions, and 30 minutes for discussion with the entire class.

DISCUSSION QUESTIONS

1. What caused the death of Mrs. X?
   - Mrs. X’s death was a result of antepartum hemorrhage due to placenta previa.

2. What factors contributed to the death of Mrs. X?
   - The factors that contributed to Mrs. X’s death include:
     - Inadequate blood transfusion
     - Delay in controlling hemorrhage
     - Delay in receiving treatment
     - Inability of the woman or her family to recognize a dangerous complication of pregnancy
     - Chronic iron deficiency anemia
     - Malnutrition
     - Parasitic infection
     - Advanced age (39 years)
     - High parity
     - Unwanted pregnancy
     - Poverty
     - Lack of education and information
     - Illiteracy
     - Social injustice

3. Have you recently had a Mrs. X in your community? Which of these factors contributed to her death?

4. What actions could you take within your own hospital and community to address these factors and to promote Safe Motherhood?
CASE STUDY 1: VAGINAL BLEEDING IN EARLY PREGNANCY
ANSWER KEY

Case Study

Mrs. A. is a 20-year-old para 1 who presents with the complaint of vaginal bleeding that began yesterday as light bleeding, but has increased today. She reports passing a single clot. She also reports lower abdominal pain, as well as tiredness and “feeling sick” since yesterday. Mrs. A. reports 3 months of amenorrhea.

Assessment (history, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Mrs. A., and why?

   ● Mrs. A. should be greeted respectfully and with kindness.

   ● She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.

   ● A rapid assessment should be done to check for the following signs of shock: Pulse >110; systolic blood pressure less than 90; temperature >38ºC; pallor; sweatiness or cold, clammy skin; rapid breathing; confusion. Shock would require emergency treatment/resuscitation.

   ● Additional history to be obtained:
     - Passing of any products of conception
     - Frequency, regularity and length of her menstrual periods prior to the current period of amenorrhea
     - Current contraceptive use
     - Other symptoms of pregnancy

2. What particular aspects of Mrs. A.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

   ● An abdominal examination should be done to check for tenderness and, if possible, to determine the size, consistency and position of the uterus.

   ● A pelvic examination should be done to check for tenderness and to determine whether the cervix is closed, whether there is any tissue protruding from the cervix, the amount of bleeding, and to confirm the size of the uterus.

3. What causes of bleeding do you need to rule out?

   ● Abortion (threatened, inevitable, incomplete, complete)

   ● Ectopic pregnancy

   ● Molar pregnancy
Diagnosis (identification of problems/needs)

You have completed your assessment of Mrs. A., and your main findings include the following:

History:

Mrs. A. admits that she “may have seen” some tissue expelled this morning. She also reports regular menses with periods lasting approximately 5 days, and some nausea for the past 2½ months. She denies other signs of pregnancy.
She had spontaneous vaginal delivery of a full-term infant 2 years ago.
She is using no contraception.

Physical Examination:

Mrs. A. is conscious and alert with no signs of pallor.

Temperature is 37°C, pulse is 100 beats per minute, blood pressure is 110/70 and respirations are 20 breaths per minute.

Abdominal exam shows no tenderness or masses. The uterus is not palpable. Vaginal exam shows heavy bleeding with clots; tissue is visualized in the cervix; the cervix is 2 cm dilated; there is no cervical motion nor adnexal tenderness. Uterus is 8 weeks size.

4. Based on these findings, what is Mrs. A.’s diagnosis (problem/need), and why?

- Mrs. A.’s symptoms and signs (e.g., heavy bleeding, cramping/lower abdominal pain, dilated cervix, products of conception seen in the cervical os, uterus slightly smaller than expected) are consistent with incomplete abortion.

Care Provision (planning and intervention)

5. Based on your diagnosis (problem/need identification), what is your plan of care for Mrs. A., and why?

- Arrangements should be made for immediate evacuation of the uterus using manual vacuum aspiration.
- Continue to monitor vital signs during the procedure and for at least 2 hours after the procedure.
- Provide emotional support and reassurance to Mrs. A., explain what to expect, listen to her carefully and respond to any fears or concerns she may have.

Evaluation

Three hours after the procedure, Mrs. A. has recovered well from the procedure. Her temperature is 37°C, pulse is 90 beats per minute, blood pressure is 112/74 and respirations are 18 per minute. Vaginal bleeding has decreased to spotting only. She is now ready to be discharged.

6. Based on these findings, what is your continuing plan of care for Mrs. A., and why?

- Mrs. A. should be reassured about the chance of a subsequent successful pregnancy and encouraged to delay the next pregnancy until she has completely recovered.
- Mrs. A. should be counseled about suitable family planning methods.
- Mrs. A. should be advised to return for immediate attention if she has:
  - Prolonged cramping (more than a few days)
  - Prolonged bleeding (more than 2 weeks)
  - Heavy bleeding (more than normal menstrual bleeding)
- Severe or increased pain
- Fever, chills or malaise
- Fainting

- Identify any other reproductive health services (e.g., VCT for HIV, tetanus prophylaxis or tetanus booster, treatment of sexually transmitted infections, cervical cancer screening) that Mrs. A. may need.

References

*Managing Complications in Pregnancy and Childbirth*: pages C-1 to C-2; S-7 to S-8; S-11 to S-13; P-68
CASE STUDY 2: VAGINAL BLEEDING IN EARLY PREGNANCY
ANSWER KEY

CASE STUDY
Mrs. B. is 20 years old. She came to the health center 2 days ago with irregular vaginal bleeding and abdominal and pelvic pain. Symptoms of early pregnancy were detected and confirmed with a pregnancy test. Mrs. B. was advised to avoid strenuous activity and sexual intercourse and return immediately if her symptoms persisted. Mrs. B. returns to the health center today and reports that irregular vaginal bleeding has continued and she now has acute abdominal pain that started 2 hours ago.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)
1. What will you include in your initial assessment of Mrs. B., and why?
   ● Mrs. B. should be greeted respectfully and with kindness.
   ● She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
   ● A rapid assessment should be done to check for the following signs to determine if she is in shock and in need of emergency treatment/resuscitation: rapid, weak pulse; systolic blood pressure less than 90 mm Hg; pallor; sweating or cold, clammy skin; rapid breathing; confusion. She should also be assessed to determine whether vaginal bleeding has increased or products of conception have been passed.
2. What particular aspects of Mrs. B.’s physical examination will help you make a diagnosis, and why?
   ● An abdominal examination should be done to check for distension and rebound tenderness, which may indicate ectopic pregnancy; and to determine whether the uterus is softer or larger than normal for dates, which may indicate molar pregnancy.
   ● A gentle bimanual examination should be performed to check for cervical motion tenderness and tender adnexal mass, which may indicate ectopic pregnancy; and to check for products of conception in the cervical os, which may indicate incomplete abortion.
3. What screening procedures will you include (if available) in your assessment of Mrs. B., and why?
   ● An ultrasound scan may help to distinguish a threatened abortion or twisted ovarian cyst from an ectopic pregnancy.

DIAGNOSIS (Identification of Problems/Needs)
You have completed your assessment of Mrs. B. and your main findings include the following:
- Mrs. B.’s pulse rate is 130 beats/minute and weak, her blood pressure is 85/60 mm Hg, her respiration rate is 20 breaths/minute and her temperature is 36.8° C.
- Her skin is pale and sweaty.
- Mrs. B. has acute abdominal and pelvic pain, her abdomen is tense and she has rebound tenderness. She has light vaginal bleeding and the cervix is closed.

4. Based on these findings, what is Mrs. B.’s diagnosis, and why?
   ● Mrs. B.’s symptoms and signs (e.g., signs of shock, acute abdominal and pelvic pain, rebound tenderness, light vaginal bleeding, closed cervix) are consistent with ruptured ectopic pregnancy.
CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. B., and why?

- Mrs. B. should be treated for shock immediately:
  - Position her on her side.
  - Ensure that her airway is open.
  - Give her oxygen at 6–8 L/minute by mask or cannula.
  - Keep her warm.
  - Elevate her legs.
  - Monitor her pulse, blood pressure, respiration and temperature.
  - Start an IV using a large bore needle for rapid infusion of fluids (1 L of normal saline or Ringer’s lactate in 15–20 minutes).
  - Monitor her intake and output (an indwelling catheter should be inserted to monitor urinary output).

- Blood should be drawn for hemoglobin and cross-matching, and blood for transfusion should be made available as soon as possible.

- Arrangements should be made for immediate transfer to the district hospital for an emergency laparotomy. Surgery should not be delayed while waiting for blood to be made available for transfusion.

- Provide emotional support and reassurance to Mrs. B. and her family (or support person), explaining the situation and what to expect, and answering questions and concerns.

EVALUATION

- Mrs. B. has recovered well from surgery.
- She is now ready to be discharged; however, her hemoglobin is 9 g/dL.
- She has indicated that she would like to become pregnant again, but not for at least a year.

6. Based on these findings, what is your continuing plan of care for Mrs. B., and why?

- Mrs. B.’s anemia should be treated with ferrous sulfate or ferrous fumarate 60 mg by mouth plus folic acid 400 µg by mouth once daily for 6 months.

- Counseling and advice should be provided on prognosis for fertility and the increased risk of a future ectopic pregnancy.

- Family planning counseling should be provided and her family planning method of choice provided to Mrs. B. before discharge.

- A followup visit should be arranged for Mrs. B. in 4 weeks, and she should be encouraged to return before then if she has any questions or concerns.

REFERENCES

*Managing Complications in Pregnancy and Childbirth: C-1 to C-2; S-1; S-8; S-13 to S-15; S-26*
EXERCISE 2: USING THE PARTOGRAPH ANSWER KEY

CASE 1

Name: Mrs. A
Gravida: 3
Para: 2-0
Hospital number: 7886

Date of admission: 12.9.2003
Time of admission: 5:00 A.M.
Ruptured membranes: 04:00 hours

Basic EOC Course

Exercise 2 Key: Using the Partograph
Step 1—see partograph

Step 2—see partograph
- Steps: Inform Mrs. A. and her family of the findings and what to expect; encourage her to ask questions; provide her comfort measures, hydration, and nutrition
- Advice: Assume position of choice; drink plenty of fluids and eat as desired
- Expect at 13.00: Progress to at least 9 cm dilation

Step 3—see partograph
- Steps: Prepare for birth
- Advice: Push only when urge to push
- Expect: Spontaneous vaginal birth

Step 4
- 1st stage of active labor: 5 hours (4 hrs plotted [09.00 to 13.00] plus estimated 1 hour for dilation from 4–5 cm)
- 2nd stage of active labor: 20 minutes
CASE 2

Name: Mrs. B  Gravida: 1  Para: 0-0  Hospital number: 1443

Date of admission: 12.9.2003  Time of admission: 10:00 A.M.  Ruptured membranes: 14:00 hours

Key:
- Fetal heart rate
- Amniotic fluid
- Moulding
- Cervix (cm) [Plot X]
- Descent of head [Plot O]
- Contractions per 10 mins
- Oxytocin U/L [Plot 0]
- Drugs given and IV fluids
- Pulse
- BP
- Temp °C
- Protein
- Acetone
- Volume

Live male infant
Wt. 2,654 g
• Step 1—see partograph
  • Diagnosis: Active labor
  • Action: Inform Mrs. B. and her family about findings and what to expect; give continual opportunity to ask questions; encourage Mrs. B. to walk around and to drink and eat as desired

• Step 2—see partograph
  • Diagnosis: Prolonged active phase; less than 3 contractions per 10 minutes, each lasting less than 40 seconds; good fetal and maternal condition
  • Action: The facilitator should take the opportunity to open a discussion about using oxytocin for augmenting labor based on the clinical setting. For instance, is the woman being cared for at a health post that is 4 hours away from a district hospital where an oxytocin drip can be started? Or if she is being cared for in a district hospital, can other measures be used (such as hydration, ambulation) before oxytocin is started?

• Step 3
  • Diagnosis: Prolonged active phase; less than 3 contractions per 10 minutes, each lasting less than 40 seconds; good maternal and fetal condition
  • Action: Augment labor with oxytocin and artificial rupture of membranes; inform Mrs. B. and her family of the findings and what to expect; reassure; answer questions; encourage drinks; encourage Mrs. B. to assume position of choice

• Step 4
  • Steps: Continue to augment labor (maintain oxytocin infusion rate at 50 dpm), provide comfort (psychological and physical); encourage drinks and nutrition

• Step 5—see partograph

• Step 6—see partograph

• Step 7
  • 1st stage of labor: 9 hours
  • 2nd stage of labor: 1 hour 10 minutes
  • Why augment: Less than 3 contractions in 10 minutes, each lasting less than 40 seconds (lack of progress)
CASE 3

Name: Mrs. C  
Gravida: 4  
Para: 3+0  
Hospital number: 6639

Date of admission: 12.9.2003  
Time of admission: 10:00 A.M.  
Ruptured membranes: 09:00 hours

Cesarean section at 17:30  
Live female infant  
Wt. 4.850 g

Basic EOC Course  
Exercise 2 Key: Using the Partograph  
15
Step 1—see partograph
Step 2—see partograph
Step 3—see partograph
Step 4—see partograph
- Final diagnosis: Obstructed labor with fetal head 3/5 palpable above the symphysis pubis
- Cesarean section because Mrs. C. is already in secondary arrest of dilatation and descent despite at least 3 contractions in 10 minutes, each lasting more than 40 seconds
- 15.00 action: Continue emotional and physical support, including hydration (because Mrs. C. and her family may become discouraged with lack of progress and emotionally and physically exhausted); continue attentive monitoring of maternal and fetal condition; have crossed alert line; blood-stained amniotic fluid
- Decision to perform caesarean section: Correct because fetal condition deteriorating, failure to progress despite at least 3 contractions in 10 minutes, each lasting more than 40 seconds, acetone in urine, rising maternal pulse
- Problems expected in newborn: asphyxia, meconium aspiration

Q: What is the final diagnosis?
Q: What action was indicated at 14.00, and why?
Q: What action was indicated at 15.00, and why?
Q: At 17.00, a decision was taken to do a cesarean section, and this was rapidly done. Was this a correct action?
Q: What problems may be expected in the newborn?
CASE STUDY 3: PREGNANCY-INDUCED HYPERTENSION
ANSWER KEY

CASE STUDY

Mrs. C. is 16 years old. She is 30 weeks pregnant and has attended the antenatal clinic three times. All findings were within normal limits until her last antenatal visit 1 week ago. At that visit it was found that her blood pressure was 130/90 mm Hg. Her urine was negative for protein. The fetal heart sounds were normal, the fetus was active and uterine size was consistent with dates. She has come to the clinic today, as requested, for followup.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your initial assessment of Mrs. C., and why?
   - Mrs. C. should be greeted respectfully and with kindness.
   - She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
   - Mrs. C. should be asked how she is feeling and whether she has had headache, blurred vision or upper abdominal pain since her last clinic visit.
   - She should be asked whether fetal activity has changed since her last visit.
   - Her blood pressure should be checked and her urine tested for protein (the presence of proteinuria, together with a diastolic blood pressure greater than 90 mm Hg, is indicative of pre-eclampsia).

2. What particular aspects of Mrs. C.’s physical examination will help you make a diagnosis, and why?
   - Blood pressure should be measured.
   - An abdominal examination should be done to check fetal growth and to listen for fetal heart sounds (in cases of pre-eclampsia/eclampsia reduced placental function may lead to low birth weight; there is an increased risk of hypoxia in both the antenatal and intranatal periods, and an increased risk of abruptio placentae).

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. C., and why?
   - As mentioned above, urine should be checked for protein.

DIAGNOSIS (Identification of Problems/Needs)

You have completed your assessment of Mrs. C. and your main findings include the following:

- Mrs. C.’s blood pressure is 130/90 mm Hg, and she has proteinuria 1+.
- She has no symptoms suggesting severe pre-eclampsia (headache, visual disturbance, upper abdominal pain, convulsions or loss of consciousness).
- The fetus is active and fetal heart sounds are normal. Uterine size is consistent with dates.

4. Based on these findings, what is Mrs. C.’s diagnosis, and why?
   - Mrs. C.’s signs and symptoms (e.g., diastolic blood pressure 90–110 mm Hg after 20 weeks gestation and proteinuria up to 2+) are consistent with mild pre-eclampsia.
CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. C., and why?

- Mrs. C. should be provided reassurance and counseled about the danger signs related to severe pre-eclampsia and eclampsia (severe headache, blurred vision, upper abdominal pain, and convulsions or loss of consciousness) and the need to seek help immediately if any of these occur. She should be advised of the possible consequences of pregnancy-induced hypertension.

- She should be encouraged to take additional periods of rest and to eat a normal diet (salt restriction should be discouraged as this does not prevent pregnancy-induced hypertension).

- Mrs. C. should be asked to return to the clinic twice weekly to have her blood pressure, urine and fetal condition monitored.

- Mrs. C.’s management should not include the use of anticonvulsives, antihypertensives, sedatives or tranquilizers (these should not be given unless the blood pressure or urinary protein level increases).

- Basic antenatal care (early detection and treatment of problems, prophylactic interventions, birth plan development/revision, plan for newborn feeding) should be provided, as needed.

- She should be advised to plan for childbirth in the hospital.

EVALUATION

- Mrs. C. attends antenatal clinic on a twice-weekly basis, as requested.
- Her blood pressure remains the same, she continues to have proteinuria 1+, and the fetal growth is normal.
- Four weeks later, however, her blood pressure is 130/110 mm Hg and she has proteinuria 2+.
- Mrs. C. has not suffered headache, blurred vision, upper abdominal pain, convulsions or loss of consciousness and says that she feels well.
- However, she finds it very tiring to have to travel to the clinic by bus twice weekly for followup and wants to come only once a week.

6. Based on these findings, what is your continuing plan of care for Mrs. C., and why?

- Mrs. C. needs to be monitored on a twice-weekly basis, especially since her diastolic blood pressure and proteinuria have increased. Since this will be difficult on an outpatient basis because travel to the clinic twice weekly is making Mrs. C. very tired, she should be admitted to the district hospital.

- The need for close followup should be explained to Mrs. C. In relation to this, she should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.

- Her care in hospital should be as follows:
  - Normal diet
  - Blood pressure monitored twice daily
  - Urine tested for protein daily
  - Fetal condition monitored twice daily
  - No anticonvulsants, antihypertensives, sedatives or tranquilizers

- If Mrs. C.’s blood pressure returns to normal or her condition is stable, she could be discharged, providing arrangements can be made for twice-weekly followup (e.g., it may be possible for her to attend antenatal clinic once a week and be monitored at home once a week by a community midwife).
• If her condition remains unchanged, she should remain in the hospital and be monitored as described above.

• Basic antenatal care should continue to be provided, as needed.

• If Mrs. C. develops signs of fetal growth restriction, early childbirth should be considered.

• If fetal and maternal condition are stable, she should be allowed to go into spontaneous labor and may deliver vaginally without the need for vacuum extraction or forceps.

REFERENCES

Managing Complications in Pregnancy and Childbirth: pages S-35 to S-43
CASE STUDY 4: PREGNANCY-INDUCED HYPERTENSION
ANSWER KEY

CASE STUDY

Mrs. D. is 23 years old. She is 37 weeks pregnant and has attended the antenatal clinic four times. No abnormal findings were detected during antenatal visits, the last of which was 1 week ago. Mrs. D. has been counseled about danger signs in pregnancy and what to do about them. Her mother has brought her to the health center because she developed a severe headache and blurred vision this morning.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your initial assessment of Mrs. D., and why?
   - Mrs. D. and her mother should be greeted respectfully and with kindness.
   - They should be told what is going to be done and listened to carefully. In addition, their questions should be answered in a calm and reassuring manner.
   - A rapid assessment should be done to check level of consciousness and blood pressure. Temperature and respiration rate should also be checked. Mrs. D. should be asked how she is feeling, when headache and blurred vision began, whether she has had upper abdominal pain and whether there has been a decrease in urinary output during the past 24 hours.
   - Mrs. D.’s urine should be tested for protein.

2. What particular aspects of Mrs. D.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?
   - Mrs. D. should be checked for elevated blood pressure and protein in her urine (the presence of proteinuria, together with a diastolic blood pressure greater than 90 mm Hg, is indicative of pre-eclampsia).
   - An abdominal examination should be done to check fetal condition and to listen for fetal heart sounds (in cases of pre-eclampsia/eclampsia reduced placental function may lead to low birth weight; there is an increased risk of hypoxia in both the antenatal and intranatal periods, and an increased risk of abruptio placentae).
   - Note that a diagnosis should be made rapidly, within a few minutes.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. D., and why?
   - As mentioned above, urine should be checked for protein.

DIAGNOSIS (Identification of Problems/Needs)

You have completed your assessment of Mrs. D. and your main findings include the following:

- Mrs. D.’s blood pressure is 160/110 mm Hg, and she has proteinuria 3+.
- She has a severe headache that started 3 hours ago.
- Her vision became blurred 2 hours after the onset of headache.
- She has no upper abdominal pain and has not suffered convulsions or loss of consciousness.
- Her reflexes are normal.
- The fetus is active and fetal heart sounds are normal.
- Uterine size is consistent with dates.
4. Based on these findings, what is Mrs. D.’s diagnosis, and why?

- Mrs. D.’s symptoms and signs (e.g., diastolic blood pressure 110 mm Hg or more after 20 weeks gestation and proteinuria up to 3+) are consistent with severe pre-eclampsia.

CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. D., and why?

- An antihypertensive drug should be given to lower the diastolic blood pressure and keep it between 90 mm Hg and 100 mm Hg to prevent cerebral hemorrhage. Hydralazine is the drug of choice; however, if this is not available, labetolol can be used.

- Anticonvulsive therapy should be started. Magnesium sulfate is the drug of choice for preventing and treating convulsions in severe pre-eclampsia and eclampsia; however, if it is not available, diazepam may be used.

- Equipment to respond to a convulsion (airway, suction, mask and bag, oxygen) should be available at her bedside.

- Mrs. D. should not be left alone if she has a convulsion.

- An IV of normal saline or Ringer’s lactate should be started to administer IV drugs.

- An indwelling catheter should be inserted to monitor urine output and proteinuria (magnesium sulfate should be withheld if the urine output falls below 30 mL/hour over 4 hours).

- A strict record of intake and output should be kept to ensure that there is no fluid overload.

- Vital signs (blood pressure and respiration rate, in particular), reflexes and fetal heart rate should be monitored hourly (magnesium sulfate should be withheld if the respiration rate falls below 16 breaths/minute or if patellar reflexes are absent).

- Auscultate the lung bases hourly for rales indicating pulmonary edema.

- The steps taken to manage the complication should be explained to Mrs. D. and her mother. In addition, they should be encouraged to express their concerns, listened to carefully, and provided emotional support and reassurance.

EVALUATION

- Two hours following the initiation of treatment, Mrs. D.’s diastolic blood pressure is 100 mm Hg.
- She has not had a convulsion, but still has a headache.
- She does not have coagulopathy.
- During the past 2 hours, however, Mrs. D.’s urinary output has dropped to 20 mL/hour.
- The fetal heart rate has ranged between 120 and 140 beats/minute.
6. Based on these findings, what is your continuing plan of care for Mrs. D., and why?

- Do not repeat the dose of magnesium sulfate until the urine output is greater than 30 mL/hour.
- Plans should be made to deliver Mrs. D.:
  - If the cervix is favorable (soft, thin, partly dilated), membranes should be ruptured and labor should be induced using oxytocin or prostaglandins.
  - If vaginal delivery is not anticipated within 24 hours, if there are fetal heart abnormalities (less than 100 or more than 180 beats/minute), or if the cervix is unfavorable, Mrs. D. should be delivered by cesarean section.
- The steps taken for continuing management of the complication should be explained to Mrs. D. and her mother. In addition, they should be encouraged to express their concerns, listened to carefully, and provided continuing emotional support and reassurance.
- After childbirth:
  - Anticonvulsiv therapy should be continued for 24 hours.
  - Antihypertensive drugs should be continued if Mrs. D.’s diastolic blood pressure is 110 mm Hg or more, and her urinary output should continue to be monitored.

REFERENCES

*Managing Complications in Pregnancy and Childbirth*: pages C-21; S-43 to S-48
CASE STUDY 5: VAGINAL BLEEDING AFTER CHILDBIRTH

CASE STUDY

Mrs. E. is a 30-year-old para four. She gave birth at the health center to a full-term healthy baby weighing 4.2 kg. She was given ergometrine 0.2 mg after delivery of the baby. The placenta was delivered 5 minutes later, without complication. Half an hour after delivery, however, Mrs. E. reports that she has heavy vaginal bleeding.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your initial assessment of Mrs. E., and why?
   - Mrs. E. should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
   - At the same time, a rapid assessment should be done to check for signs of shock (rapid, weak pulse, systolic blood pressure less than 90 mm Hg, pallor and sweatiness, rapid breathing, confusion).
   - The placenta should be checked thoroughly for completeness.

2. What particular aspects of Mrs. E.’s physical examination will help you make a diagnosis immediately or identify her problems/needs, and why?
   - Mrs. E.’s uterus should be checked immediately to see whether it is contracted. If the uterus is contracted and firm, the most likely cause of bleeding is genital trauma. If the uterus is not contracted and the placenta is complete, the most likely cause of bleeding is an atonic uterus. The most important causes of bleeding can be suspected by palpating the uterus.
   - Her perineum, vagina and cervix should be examined carefully for tears.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. E., and why?
   - None at this stage.

DIAGNOSIS (Identification of Problems/Needs)

You have completed your assessment of Mrs. E. and your main findings include the following:
- Mrs. E.’s pulse rate is 88 beats/minute, her blood pressure is 110/80 mm Hg, her respiration rate is 18 breaths/minute and her temperature is 37º C.
- Her uterus is firm and well contracted. The placenta is complete.
- She has no perineal trauma.
- Examination of the vagina and cervix is difficult because she continues to have heavy vaginal bleeding; therefore, tears of the cervix and vagina have not yet been ruled out.

4. Based on these findings, what is Mrs. E.’s diagnosis, and why?
   - Mrs. E.’s symptoms and signs (e.g., immediate postpartum hemorrhage, placenta complete, uterus well contracted) are consistent with genital trauma.

CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. E., and why?
   - An IV should be started using a large bore needle to replace fluid loss, using Ringer’s lactate or normal saline.
A careful speculum examination of the vagina and cervix should be conducted, without delay, as tears of either the cervix and/or the vagina are the most likely cause of Mrs. E.’s bleeding.

Any tears should be repaired immediately.

Mrs. E.’s vital signs and fluid intake and output should be monitored.

Her uterus should also be checked to make sure that it remains firm and well-contracted.

Blood should be drawn for hemoglobin and cross-matching, and blood for transfusion should be made available as soon as possible, in the event that it is needed.

The steps taken to manage the complication should be explained to Mrs. E. She should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.

**EVALUATION**

- One hour after childbirth, Mrs. E. has a cervical tear repaired.

6. Based on these findings, what is your continuing plan of care for Mrs. E., and why?

- Mrs. E.’s vital signs and blood loss should continue to be monitored, every 15 minutes for 1 hour, then every 30 minutes for 1 hour, then every 4 hours for 24 hours. Her uterus should be checked to make sure that it remains firm and well contracted. In addition, she should be encouraged to breastfeed her newborn.

- Twenty-four hours after the bleeding has stopped, a hemoglobin and hematocrit should be done to check for anemia.

- If Mrs. E.’s hemoglobin is below 7 g/dL, or her hematocrit is below 20% (indicating severe anemia), she should be given ferrous sulfate or ferrous fumarate 120 mg by mouth plus folic acid 400 µg by mouth once daily for 3 months. After 3 months, she should continue with ferrous sulfate or ferrous fumarate 60 mg by mouth plus folic acid 400 µg by mouth once daily for 6 months. A blood transfusion is not needed if her vital signs are stable and no further bleeding occurs.

- If Mrs. E.’s hemoglobin is between 7–11 g/dL, she should be given ferrous sulfate or ferrous fumarate 60 mg by mouth plus folic acid 400 µg by mouth once daily for 6 months.

- The steps taken for continuing management of the complication should be explained to Mrs. E. She should be encouraged to express her concerns, listened to carefully, and provided continuing emotional support and reassurance.

- Mrs. E. should remain at the health center for an additional 24 hours, and before discharge counseling should be provided about danger signs in the postpartum period (bleeding, fever, headache, blurred vision) and about compliance with iron/folic acid treatment and the inclusion in her diet of locally available foods rich in iron. In addition, counseling about breastfeeding and newborn care should be provided.

**REFERENCES**

*Managing Complications in Pregnancy and Childbirth*: pages S-25 to S-31
CASE STUDY 6: VAGINAL BLEEDING AFTER CHILDBIRTH

ANSWER KEY

CASE STUDY

Mrs. F. is 20 years old. She gave birth to a full-term baby 2 hours ago at home. Her birth attendant was her grandmother, who has brought Mrs. F. to the health center because she has been bleeding heavily since the birth. The duration of labor was 12 hours, the birth was normal and the placenta was delivered 20 minutes after the birth of the baby.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your initial assessment of Mrs. F., and why?
   - Mrs. F. and her grandmother should be greeted respectfully and with kindness.
   - They should be told what is going to be done and listened to carefully. In addition, their questions should be answered in a calm and reassuring manner.
   - A rapid assessment should be done to check for the following signs to determine if Mrs. F. is in shock and in need of emergency treatment/resuscitation: rapid, weak pulse; systolic blood pressure less than 90 mm Hg; pallor; sweatiness or cold, clammy skin; rapid breathing; confusion. She should also be assessed to determine whether the uterus contracted well after the delivery of the placenta and whether the placenta and membranes were complete.

2. What particular aspects of Mrs. F.’s physical examination will help you make a diagnosis immediately or identify her problems/needs, and why?
   - Mrs. F.’s uterus should be checked immediately to see whether it is contracted. If the uterus is contracted and firm, the most likely cause of bleeding is genital trauma. If the uterus is not contracted and the placenta is complete, the most likely cause of bleeding is an atonic uterus. The most important causes of bleeding can be suspected by palpating the uterus. If the uterus is not contracted, uterine massage should be started immediately.
   - Mrs. F.’s perineum, vagina and cervix should be carefully examined later for tears.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. F., and why?
   - None at this point.

DIAGNOSIS (Identification of Problems/Needs)

You have completed your rapid assessment of Mrs. F., and your main findings include the following:
- Mrs. F.’s pulse rate is 108 beats/minute, her blood pressure is 80/60 mm Hg, her respiration rate is 24 breaths/minute and her temperature is 313.8º C.
- She is pale and sweating.
- Her uterus is soft and does not contract with fundal massage. She has heavy, bright red vaginal bleeding.
- Her grandmother says that she thinks the placenta and membranes were complete.
4. Based on these findings, what is Mrs. F.’s diagnosis, and why?

- Mrs. F.’s symptoms and signs (e.g., immediate postpartum hemorrhage, uterus soft and not contracted, shock) are consistent with atonic uterus.

CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. F., and why?

- Call for help/assistance, as many things have to be done simultaneously. Mrs. F. should **not** be left unattended.
- Uterine massage should continue.
- Oxytocin 10 units should be given IM to help the uterus contract, and uterine massage should continue.
- Mrs. F. should be treated for shock immediately:
  - Position her on her side.
  - Ensure that her airway is open.
  - Give her oxygen at 6–8 L/minute by mask or cannula.
  - Keep her warm.
  - Elevate her legs.
  - Monitor her pulse, blood pressure, respiration and temperature.
  - Start an IV using a large bore needle for rapid infusion of fluids (1 L of normal saline or Ringer’s lactate in 15–20 minutes).
  - Monitor her intake and output (an indwelling catheter should be inserted to monitor urinary output).
- If the uterus does not contract, manual exploration should be performed to check for and remove retained placental fragments.
- Blood should be drawn for hemogoblin and cross-matching, and blood for transfusion should be made available as soon as possible. A bedside clotting test should be done to determine whether coagulopathy is present (coagulopathy is both a cause and result of massive obstetric hemorrhage).
- The steps taken to manage the complication should be explained to Mrs. F., she should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.

EVALUATION

- Some placental tissue has been removed from Mrs. F.’s uterus.
- Fifteen minutes after the initiation of treatment, however, she continues to have heavy vaginal bleeding.
- Her bedside clotting test is 5 minutes. Her pulse is 110 beats/minute and her blood pressure 80/60 mm Hg.
6. Based on these findings, what is your continuing plan of care for Mrs. F., and why?

- Blood should be made available for transfusion immediately.
- In the meantime, rapid fluid replacement should continue with Ringer's lactate or normal saline.
- A second IV line should be used to infuse oxytocin 20 units in 1 L of fluid at 60 drops/minute. Alternatively, 15-methyl prostaglandin could be given IM.
- Bimanual compression of the uterus or abdominal aortic compression should be performed to control the bleeding; compression should be maintained until bleeding is controlled.
- If the bleeding continues in spite of compression, arrangements should be made immediately to transfer Mrs. F. to a facility where utero-ovarian artery ligation could be performed. If life-threatening bleeding continues after ligation, subtotal hysterectomy should be performed.
- The steps taken for continuing management of the complication should be explained to Mrs. F., she should be encouraged to express her concerns, listened to carefully, and provided continuing emotional support and reassurance.
- Communication about Mrs. F.'s condition should be maintained between the referring facility and the referral hospital, particularly about her healthcare needs following discharge from hospital.

REFERENCES

Managing Complications in Pregnancy and Childbirth: pages S-25 to S-31
CASE STUDY 7: FEVER AFTER CHILDBIRTH

CASE STUDY

Mrs. G. is a 35-year-old para three. She gave birth at home 48 hours ago. Her pregnancy was term and her birth was attended by a trained birth attendant (TBA). Labor lasted 2 days and the TBA inserted herbs into Mrs. G.’s vagina to help speed up the birth. The baby breathed spontaneously and appears healthy. Mrs. G.’s mother-in-law has brought her to the health center today because she has had fever and chills for the past 24 hours.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your initial assessment of Mrs. G., and why?

   • Mrs. G. and her mother-in-law should be greeted respectfully and with kindness.
   • They should be told what is going to be done and listened to carefully. In addition, their questions should be answered in a calm and reassuring manner.
   • A rapid assessment should be done to determine the degree of illness: Mrs. G.’s temperature, pulse, respiration rate and blood pressure should be taken and she should be asked whether she has felt weak and lethargic or whether she has had frequent, painful urination, abdominal pain or foul-smelling vaginal discharge. Determine whether she is from a malarial area.
   • The following information should also be obtained about the birth: when the membranes ruptured, problems delivering the placenta, whether it was complete and whether there was excessive bleeding following the birth.
   • Because herbs were inserted into Mrs. G.’s vagina during labor, tetanus vaccination status should be checked.

2. What particular aspects of Mrs. G.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

   • Mrs. G.’s abdomen should be checked for tenderness and her vulva should be checked for purulent discharge (lower abdominal pain, tender uterus, and purulent, foul-smelling lochia are symptoms and signs of metritis). Her legs should be checked for calf muscle tenderness, which may indicate deep vein thrombosis.
   • Mrs. G.’s perineum, vagina and cervix should be examined carefully for tears, particularly since labor was prolonged and because foreign substances were inserted into the vagina.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. G., and why?

   • None at this point.

DIAGNOSIS (Identification of Problems/Needs)

You have completed your assessment of Mrs. G. and your main findings include the following:

- Mrs. G.’s temperature is 39.8° C, her pulse rate is 136 beats/minute, her blood pressure is 100/70 mm Hg and her respiration rate is 24 breaths/minute.
- She is pale and lethargic and slightly confused.
- She has lower abdominal pain, her uterus is soft and tender, and she has foul-smelling vaginal discharge.
- It is not known whether the placenta was complete.
- Mrs. G. is fully immunized against tetanus.
4. Based on these findings, what is Mrs. G.’s diagnosis, and why?

- Mrs. G.’s symptoms and signs (e.g., fever, together with signs of shock [rapid pulse, confusion], and lower abdominal pain, uterine tenderness, and foul-smelling vaginal discharge) are consistent with metritis.

CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. G., and why?

- Mrs. G. should be treated for shock immediately:
  - Position her on her side.
  - Ensure that her airway is open.
  - Give her oxygen at 6–8 L/minute by mask or cannula.
  - Keep her warm.
  - Elevate her legs.
  - Monitor her pulse, blood pressure, respiration and temperature.
  - Start an IV using a large bore needle for rapid infusion of fluids (1 L of normal saline or Ringer’s lactate in 15–20 minutes).
  - Monitor her intake and output (an indwelling catheter should be inserted to monitor urinary output).
  - Blood should be drawn for hemoglobin and cross-matching and blood for transfusion should be made available, if necessary.
  - The following combination of antibiotics should be given: ampicillin 2 g IV every 6 hours; plus gentamicin 5 mg/kg of body weight IV every 24 hours; plus metronidazole 500 mg IV every 8 hours.
  - If retained placental fragments are suspected, a digital exploration of the uterus should be performed to remove clots and large pieces of tissue. If necessary, ovum forceps or a large curette should be used.
  - Uterine involution and lochia should be monitored for improvement.
  - Because Mrs. G.’s childbirth was unhygienic, a booster of tetanus toxoid 0.5 mL IM should be given.
  - The steps taken to manage the complication should be explained to Mrs. G., she should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.

EVALUATION

Thirty-six hours after initiation of treatment, you find the following:
- Mrs. G.’s temperature is 38º C, her pulse rate is 96 beats/minute, her blood pressure is 110/70 mm Hg and her respiration rate is 20 breaths/minute.
- She is less pale and no longer confused.
6. Based on these findings, what is your continuing plan of care for Mrs. G., and why?

- IV antibiotics should be continued until Mrs. G. has been fever-free for 48 hours. Oral antibiotics should not be necessary after stopping the IV antibiotics.
- Her vital signs, intake and output, and uterine involution should continue to be monitored.
- IV fluids should be continued to maintain hydration until Mrs. G. is well enough to take adequate fluid and nourishment by mouth.
- The steps taken for continuing management of the complication should be explained to Mrs. G. and her mother-in-law, they should be encouraged to express their concerns, listened to carefully, and provided continuing emotional support and reassurance.

- Arrangements should be made to talk with the TBA who attended the birth and provide community education about clean birth practices.

REFERENCES

*Managing Complications in Pregnancy and Childbirth:* pages S-1 to S-2; S-107 to S-110; S-51
OPTIONAL CASE STUDY 1: VAGINAL BLEEDING IN LATER PREGNANCY

CASE STUDY

Mrs. A. is a healthy 20-year-old primigravida. Her pregnancy has been uncomplicated. At 38 weeks gestation, Mrs. A. walks into the emergency department at the health center, accompanied by her husband. She reports that she has painless, bright red vaginal bleeding that started 2 hours ago. Mrs. A. has visited the antenatal clinic three times during her pregnancy. At her last antenatal clinic visit, which was 2 weeks ago, there were no abnormal findings.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your initial assessment of Mrs. A., and why?
   - Mrs. A. and her husband should be greeted respectfully and with kindness.
   - They should be told what is going to be done and listened to carefully. In addition, their questions should be answered in a calm and reassuring manner.
   - A rapid assessment should be done to check for the following signs to determine if she is in shock and in need of emergency treatment/resuscitation: rapid, weak pulse; systolic blood pressure less than 90 mm Hg; pallor; sweatiness or cold, clammy skin; rapid breathing; confusion. She should also be assessed to determine the amount of blood lost since vaginal bleeding started.
   - A vaginal examination **should not** be carried out as part of the initial assessment; however, a careful speculum examination should be done to rule out incidental causes of bleeding (e.g., cervicitis, trauma, cervical polyps).

2. What particular aspects of Mrs. A.'s physical examination will help you make a diagnosis and identify her problems/needs, and why?
   - An abdominal examination should be done to establish the lie and presentation of the fetus (abnormal lie and malpresentation can be associated with placenta previa, as can a high fetal head in a primigravida with placenta previa). The consistency of the uterus should be checked and the presence of pain determined to differentiate between symptoms and signs for abruptio placentae. (Abruptio placentae is usually accompanied by a tense, tender uterus.)
   - Fetal condition should be assessed by listening to the fetal heart sounds (the fetal condition should be normal if Mrs. A. has placenta previa, whereas for an abruption, there may be fetal distress or absent fetal heart sounds).

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. A., and why?
   - An ultrasound scan should be performed, if possible, to localize the placenta.

DIAGNOSIS (Identification of Problems/Needs)

You have completed your assessment of Mrs. A. and your main findings include the following:
- Mrs. A.’s pulse rate is 88 beats/minute, her blood pressure is 110/80 mm Hg, her respiration rate is 16 breaths/minute and her temperature is 37º C.
- Vaginal bleeding is found to be light to moderate and bright red, and Mrs. A. reports soaking 12 pads before coming to the health center.
- Uterine consistency is normal and there is no abdominal pain. The lie is longitudinal, the presentation is vertex, and the head is well above the pelvic brim. The fetus is active and the fetal heart rate is 120 beats/minute.
- It has not been possible to do an ultrasound scan.
4. Based on these findings, what is Mrs. A.'s diagnosis, and why?

- Mrs. A.'s symptoms and signs (e.g., painless vaginal bleeding, high fetal head in a primigravida, normal fetal condition) are consistent with placenta previa.

CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. A., and why?

- An intravenous infusion should be started, using normal saline or Ringer’s lactate, to replace blood loss.
- Blood should be drawn for hemoglobin and cross-matching and blood for transfusion should be made available, if required.
- Mrs. A. should be kept in the health center and closely monitored.
- An ultrasound scan should be done as soon as possible to localize the placenta.
- Give ferrous sulfate or ferrous fumarate 60 mg daily.
- The steps taken to manage the complication should be explained to Mrs. A. and her husband. In addition, they should be encouraged to express their concerns, listened to carefully, and given emotional support and reassurance.

EVALUATION

- Mrs. A. has had light vaginal bleeding for 2 days since admission to the health center.
- Her condition has been stable, the fetus has remained active, and the fetal heart rate has ranged from 120 to 140 beats/minute.
- On the morning of the third day in the health center, the bleeding increases from light to moderate and is bright red.
- It has still not been possible to do an ultrasound scan.

6. Based on these findings, what is your continuing plan of care for Mrs. A., and why?

- Since an ultrasound scan has not been possible, and since Mrs. A. is more than 38 weeks pregnant, arrangements should be made immediately to do a vaginal examination, using a high-level disinfected vaginal speculum to view the cervix. The vaginal examination should be done in the operating room, in preparation for a cesarean section, should it be necessary.
- The nature of the procedure and the risks involved should be explained to Mrs. A. and her husband, and continuing emotional support and reassurance should be provided.
- Before the vaginal examination is carried out, an intravenous line must be established and cross-matched blood should be available.
- Placenta previa should be confirmed, if on vaginal examination:
  - the cervix is dilated and placental tissue is visible
  - the cervix is not dilated but spongy tissue is felt at the vaginal fornices
- If placenta previa is confirmed, there is low implantation of the placenta and bleeding is light, vaginal delivery could be considered; otherwise, delivery should be undertaken by cesarean section.
- Vigilant observation of Mrs. A.'s condition (vital signs, uterine involution, lochia) should be provided after childbirth, since there is a high risk of postpartum hemorrhage in women with placenta previa.
After childbirth, counseling and support should be provided for breastfeeding and care of the newborn, nutrition, rest and hygiene for Mrs. A., and the early recognition of danger signs and what to do about them, for both Mrs. A. and her newborn.

A followup appointment for postpartum care should be arranged before Mrs. A. leaves the health center.

Mrs. A. should be discharged with iron tablets and instructions for daily use.

REFERENCES

Managing Complications in Pregnancy and Childbirth: pages S-6; S-21 to S-23
CASE STUDY

Mrs. B., who is 32 weeks pregnant, gravida three, has two healthy children. She has attended antenatal clinic regularly and all findings were within normal limits until her clinic visit 10 days ago. At that visit her blood pressure was noted to be 120/96 mm Hg; there were no other signs or symptoms of pregnancy-induced hypertension. Mrs. B. was counseled about danger signs and what to do if they occur and asked to return to the clinic in 2 weeks. She presents at the health center 2 days before her next clinic visit, accompanied by her mother-in-law, with vaginal bleeding, abdominal pain and a bad headache.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your initial assessment of Mrs. B., and why?
   - Mrs. B. and her mother-in-law should be greeted respectfully and with kindness.
   - They should be told what is going to be done and listened to carefully. In addition, their questions should be answered in a calm and reassuring manner.
   - A rapid assessment should be done to check for the following signs to determine if she is in shock and in need of emergency treatment/resuscitation: rapid, weak pulse; systolic blood pressure less than 90 mm Hg; pallor; sweating or cold, clammy skin; rapid breathing; confusion. She should also be assessed to determine when vaginal bleeding started, the amount of blood lost, and whether the blood is bright and contains clots.
   - It will also be important to determine:
     - when abdominal pain started (e.g., at the same time as vaginal bleeding) and the nature of the pain
     - whether fetal movement has been felt since the onset of bleeding and pain
     - when headache started and whether there has been/is any visual disturbance (abruptio placentae can be associated with pregnancy-induced hypertension)

2. What particular aspects of Mrs. B.’s physical examination will help you make a diagnosis and identify her problems/needs, and why?
   - An abdominal examination should be done to establish the location and nature of pain, to feel the consistency of the uterus and check for guarding, and to detect fetal movement (a tense/tender uterus and decreased fetal movements are signs of abruptio placentae). Palpation should be kept to a minimum, however, to avoid exacerbating the symptoms.
   - An attempt should be made to detect fetal heart sounds, which may be absent with an abruption.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. B., and why?
   - No laboratory tests are required to make a diagnosis. However, an ultrasound scan may be performed if possible to locate placenta if placenta previa is suspected.
DIAGNOSIS (Identification of Problems/Needs)

You have completed your assessment of Mrs. B. and your main findings include the following:
- Mrs. B.’s pulse rate is 120 beats/minute and weak, blood pressure is 110/60 mm Hg, respiration rate is 20 breaths/minute and her temperature is 37º C.
- Her skin is pale and sweaty.
- Mrs. B. has constant abdominal pain, her uterus is tender on palpation, and the fetal heartbeat could not be heard.
- She has heavy vaginal bleeding containing some old clotted blood.
- Coagulopathy was not detected.

4. Based on these findings, what is Mrs. B.’s diagnosis, and why?
   - Mrs. B.’s signs and symptoms (e.g., signs of shock, constant abdominal pain, uterine tenderness, vaginal bleeding, and absent fetal heart sounds) are consistent with abruptio placentae.

5. What laboratory tests would be appropriate at this time?
   - A bedside clotting test should be performed to detect or rule out coagulopathy (coagulopathy can be triggered by abruptio placentae).

CARE PROVISION (Planning and Intervention)

6. Based on your diagnosis, what is your plan of care for Mrs. B., and why?
   - Mrs. B. should be treated for shock immediately:
     - Position her on her side.
     - Ensure that her airway is open.
     - Give her oxygen at 6–8 L/minute by mask or cannula.
     - Keep her warm.
     - Elevate her legs.
     - Monitor her pulse, blood pressure, respiration and temperature.
     - Start an IV using a large bore needle for rapid infusion of fluids (1 L of normal saline or Ringer’s lactate in 15–20 minutes).
     - Monitor her intake and output (an indwelling catheter should be inserted to monitor urinary output).
   - Blood should be drawn for hemoglobin and cross-matching and blood for transfusion should be made available as soon as possible.
   - Arrangements should be made for childbirth as soon as possible.
   - The steps taken to manage the complication should be explained to Mrs. B. and her mother-in-law. Provide emotional support and reassurance, and answer any questions and concerns.

EVALUATION

- Half an hour after admission, Mrs. B.’s condition has been stabilized, although she continues to bleed vaginally.
- Her cervix is found to be 3 cm dilated.
- Fetal heart sounds cannot be detected.
- Her blood clotting test is normal.
7. Based on these findings, what is your continuing plan of care for Mrs. B., and why?

- Since vaginal delivery is not imminent, arrangements should be made to deliver Mrs. B. by emergency cesarean section.
- Blood loss should be replaced with blood transfusion, although the availability of blood for transfusion should not delay surgery.
- The nature of the procedure and the risks involved should be explained to Mrs. B. and her mother-in-law and continuing emotional support and reassurance should be provided. In particular, they should be prepared for the inevitability of a stillbirth.
- Vigilant observation of Mrs. B.’s condition (vital signs, uterine involution, lochia) should be provided after childbirth, since there is a high risk of postpartum hemorrhage in women with abruptio placentae.
- In addition, Mrs. B. should be encouraged to see and hold her baby to facilitate grieving, and she and her family should be allowed to prepare the baby for its funeral, if they wish.
- Before discharge from health center, possible preventive measures for the future should be discussed with Mrs. B. and her partner or, if she wishes, another family member.

REFERENCES

Managing Complications in Pregnancy and Childbirth: pages C-1; C-10 to C-11; S-1 to S-2; S-18 to S-20
Purpose: The purpose of this activity is to provide a simulated experience for participants to practice problem-solving and decision-making skills in the management of vaginal bleeding in early pregnancy, with emphasis on thinking quickly and reacting (intervening) rapidly.

Instructions: The activity should be carried out in the most realistic setting possible, such as the labor and delivery area of a hospital, clinic or maternity center, where equipment and supplies are available for emergency interventions.

- One participant should play the role of patient and a second participant the role of skilled provider. Other participants may be called on to assist the provider.

- The trainer will give the participant playing the role of provider information about the patient’s condition and ask pertinent questions, as indicated in the left-hand column of the chart below.

- The participant will be expected to think quickly and react (intervene) rapidly when the trainer provides information and asks questions. Key reactions/responses expected from the participant are provided in the right-hand column of the chart below.

- Procedures such as starting an IV and bimanual examination should be role-played, using the appropriate equipment.

- Initially, the trainer and participant will discuss what is happening during the simulation in order to develop problem-solving and decision-making skills. The italicized questions in the simulation are for this purpose. Further discussion may take place after the simulation is completed.

- As the participant’s skills become stronger, the focus of the simulation should shift to providing appropriate care for the life-threatening emergency situation in a quick, efficient and effective manner. All discussion and questioning should take place after the simulation is over.

Resources: childbirth simulator and placenta/cord/amnion model, sphygmomanometer, stethoscope, equipment for starting an IV infusion, syringes and vials, bucket for waste disposal, high-level disinfected or sterile surgical gloves, antiseptic solution
| Scenario 1 | Key Reactions/Responses
|-----------|-------------------------|
| Mrs. A. is 20 years old. This is her first pregnancy. Her family brings her into the health center. Mrs. A. is able to walk with the support of her sister and husband. She reports that she is 14 or 15 weeks pregnant and that she has had some cramping and spotting for several days. She has had heavy bleeding and cramping, however, for the past 6–8 hours. She has not attended an antenatal clinic nor is she being treated for any illnesses. | States that first concern is to determine whether or not Mrs. A. is in shock
- Makes a rapid evaluation of Mrs. A.’s general condition, including vital signs (temperature, pulse, blood pressure and respiration rate), level of consciousness, color and skin temperature
- Explains to Mrs. A. (and her family) what is going to be done, listens to her and responds attentively to her questions and concerns
| What is your first concern? |
| What will you do first? |

1. States that first concern is to determine whether or not Mrs. A. is in shock

2. On examination, you find that Mrs. A.’s pulse is 100 beats/minute, blood pressure 100/60 mm Hg and respiration rate 24 breaths/minute. She is conscious. Her skin is not cold or clammy. You notice bright red blood soaking through her dress.

| What is Mrs. A. in shock? | States that Mrs. A. is not in shock
- Starts an IV infusion of normal saline or Ringer’s lactate
- Asks Mrs. A. if anything happened to her or if anyone did anything to her which may have caused the bleeding
- Asks how long it takes to soak a pad
- Asks if Mrs. A. has passed any tissue
- Asks if she has fainted

| What will you do next? |
| What questions will you ask? |

3. Mrs. A. was well until she started bleeding. You can tell from her responses that she wanted this pregnancy. You see no signs of physical violence. She soaks a pad every 4–5 minutes. She has not fainted but she “feels dizzy.” She has passed some clots and thinks she may have passed tissue.

| What will you do next and why? | Palpates Mrs. A.’s abdomen for uterine size, tenderness and consistency; checks for tender adnexal mass to rule out ectopic pregnancy; checks for large, boggy uterus to rule out molar pregnancy
- Does a bimanual examination to rule out inevitable or incomplete abortion
- Takes Mrs. A.’s temperature to rule out sepsis

| What will you do next? |
| What questions will you ask? |

4. On examination, you find that the uterus is firm, slightly tender and palpable just at the level of the symphysis pubis; there are no adnexal masses. Bimanual examination reveals that the cervix is approx 1–2 cm dilated, uterine size is less than 12 weeks, and no tissue is palpable at the cervix. There is no cervical motion tenderness.

| What is your working diagnosis? | States that Mrs. A. has an incomplete abortion
- Explains findings to Mrs. A. (and her family)
- Prepares Mrs. A. for manual vacuum aspiration (MVA)

Discussion Question 1: Why did you rule out ectopic pregnancy? Expected Responses: Bleeding is heavier than for ectopic, no adnexal masses were palpable abdominally or vaginally, no cervical motion tenderness, cervix is dilated, no history of fainting
<table>
<thead>
<tr>
<th>SCENARIO 1 (continuation)</th>
<th>KEY REACTIONS/RESPONSES (continuation)</th>
</tr>
</thead>
</table>
| 5. The treatment room is occupied at the moment because another patient with incomplete abortion is undergoing an MVA. The room will be available in 30 minutes.  
  ● What will you do now? |  
  ● Explains the situation to Mrs. A. (and her family) and provides reassurance  
  ● Keeps the IV running  
  ● Gives ergometrine 0.2 mg IM or misoprostol 400 μg orally  
  ● Continues to monitor blood loss, pulse and blood pressure |
| 6. Fifteen minutes have passed since ergometrine was given, but Mrs. A. is still soaking one pad every 5 minutes. Her pulse is 104 beats/minute and her blood pressure is 98/60 mm Hg.  
  ● What will you do now? |  
  ● Repeats the ergometrine 0.2 mg IM  
  ● Continues IV infusion  
  ● Continues to monitor blood loss, pulse and blood pressure  
  ● Takes blood for typing and cross-matching so that it is available if needed |
| 7. Bleeding slowed after the second dose of ergometrine. MVA was performed 30 minutes later and complete evacuation of the products of conception has been assured.  
  ● What will you do now? |  
  ● Monitors Mrs. A.’s vital signs and blood loss  
  ● Ensures that Mrs. A. is clean, warm and comfortable  
  ● Encourages her to eat and drink as she wishes |
| 8. After 6 hours, Mrs. A.’s vital signs are stable and there is almost no blood loss. She insists on going home.  
  ● What will you do before she goes home? |  
  ● Talks to Mrs. A. about whether or not she wants to get pregnant and when; provides family planning counseling and a family planning method, if necessary  
  ● Provides reassurance about the chances for a subsequent successful pregnancy  
  ● Advises Mrs. A. to seek medical attention immediately if she develops prolonged cramping, prolonged bleeding, bleeding more than normal menstrual bleeding, severe or increased pain, fever, chills or malaise, foul-smelling discharge, fainting  
  ● Talks to her and her husband about safe sex  
  ● Asks about her tetanus immunization status and provides immunization if needed |
CLINICAL SIMULATION 2: MANAGEMENT OF SHOCK
(HYPOVOLEMIC OR SEPTIC SHOCK)

Purpose: The purpose of this activity is to provide a simulated experience for learners to practice problem-solving and decision-making skills in the management of hypovolemic or septic shock, with emphasis on thinking quickly and reacting (intervening) rapidly.

Instructions: The activity should be carried out in the most realistic setting possible, such as the labor and delivery area of a health center, clinic or maternity center, where equipment and supplies are available for emergency interventions.

- One learner should play the role of patient and a second learner the role of skilled provider. Other learners may be called on to assist the provider.
- The teacher will give the learner playing the role of provider information about the patient’s condition and ask pertinent questions, as indicated in the left-hand column of the chart next page.
- The learner will be expected to think quickly and react (intervene) rapidly when the teacher provides information and asks questions. Key reactions/responses expected from the learner are provided in the right-hand column of the chart on the next page.
- Procedures such as starting an IV and giving oxygen should be role played, using the appropriate equipment.
- Initially, the teacher and learner will discuss what is happening during the simulation in order to develop problem-solving and decision-making skills. The italicized questions in the simulation are for this purpose. Further discussion may take place after the simulation is completed.
- As the learner’s skills become stronger, the focus of the simulation should shift to providing appropriate care for the life-threatening emergency situation in a quick, efficient and effective manner. All discussion and questioning should take place after the simulation is over.

Resources: sphygmomanometer, stethoscope, equipment for starting an IV infusion, syringes and vials, oxygen cylinder, mask and tubing, bladder catheterization equipment, new examination or high-level disinfected surgical gloves.
1. Mrs. A. is a 36-year-old multigravida who has five children. Her husband, who tells you that she gave birth at home with the help of a family member, has carried her into the health center. The family member told him that the placenta delivered easily and completely immediately after birth, but Mrs. A. has been bleeding “too much” since then. The family tried numerous things to help Mrs. A. before bringing her to the health center, but she continues to bleed “too much.”

   • What do you do?

   - Shout for help to urgently mobilize all available personnel
   - Evaluate Mrs. A. immediately for shock, including vital signs (temperature, pulse, blood pressure and respiration rate), level of consciousness, color and skin temperature
   - Tell Mrs. A. (and her husband) what is going to be done, listen to her and respond attentively to their questions and concerns.
   - Turns Mrs. A. on her side, if unconscious or semi-conscious, and keeps the airway open

2. On examination, you find that Mrs. A.’s blood pressure is 84/50 mm Hg, pulse 120 beats/minute, respiration rate 34 breaths/minute, temperature 37ºC. Her skin is cold and clammy.

   • What do you think is wrong with Mrs. A.?
   • What will you do now?

   - State that Mrs. A. is in shock
   - Ask one of the staff that responded to your shout for help to start an IV infusion, using a large-bore cannula and normal saline or Ringer’s lactate at a rate of 1 L in 15–20 minutes
   - While starting the IV, collect blood for appropriate tests (hemoglobin, blood typing and cross matching, and bedside clotting test for coagulopathy)
   - Start oxygen at 6–8 L/minute
   - Catheterize bladder
   - Look for the cause of shock (hypovolemic or septic) by palpating the uterus for firmness and tenderness, assessing the amount of blood loss
   - Cover Mrs. A. to keep her warm
   - Elevate legs

Discussion Question 1: How do you know when a woman is in shock?

Expected Responses: Pulse greater than 110 beats/minute; systolic blood pressure less than 90 mm Hg; cold, clammy skin; pallor; respiration rate greater than 30 breaths/minute; anxious and confused or unconscious

Discussion Question 2: If a peripheral vein cannot be cannulated, what should be done?

Expected Response: A venous cut-down should be performed.

3. On further examination, you find that Mrs. A.’s uterus is soft and not contracted, but not tender. Her clothing from the waist down is blood-soaked.

   • What are Mrs. A.’s main problems?
   • What are the causes of her shock and bleeding?
   • What will you do next?

   - State that Mrs. A. reportedly lost “too much” blood after childbirth and considerable blood loss is evident on her clothes
   - State that Mrs. A.’s uterus is soft and not contracted, but not tender; she has no fever
   - Determine that Mrs. A.’s shock is due to postpartum hemorrhage, atonic uterus
   - Massage Mrs. A.’s uterus to stimulate a contraction
   - Start a second IV infusion and gives 20 units oxytocin in 1 L of fluid at 60 drops/minute

4. After 15 minutes, the uterus is firm, bleeding has stopped, but Mrs. A.’s blood pressure is still 88/60 mm Hg, pulse 116 beats/minute, respiration rate 32 breaths/minute.

   • What will you do now?

   - Give another liter of fluid to ensure 2 L are infused within an hour of starting treatment
   - Continue to give oxygen at 6–8 L/minute
   - Continue to check that uterus remains contracted
   - Continue to monitor blood pressure and pulse

5. After another 15 minutes, the uterus is still firm, there is no further bleeding, Mrs. A.’s blood pressure is 100/60 mm Hg, pulse 90 beats/minute, respiration rate 24 breaths/minute.

   • What will you do now?

   - Adjusts rate of IV infusion to 1 L in 6 hours
   - Continue to check to ensure that uterus remains contracted
   - Continue to monitor blood pressure and pulse
   - Check that urine output is 30 mL/hour or more

6. Mrs. A.’s conditions has stabilized. Twenty-four hours later, her hemoglobin is 6.5 g/dL.

   • What will you do now?

   - Begin ferrous fumarate 120 mg by mouth PLUS folic acid 400 µg by mouth daily, and advise Mrs. A. that she will need to take this for 3 months
### SCENARIO 2
(Information provided and questions asked by the teacher)

<table>
<thead>
<tr>
<th>1. Mrs. B. is 26 years old and gave birth at home to her second child, with the help of her neighbor. The family reports that Mrs. B. has had a fever since yesterday, was very restless during the night and is very drowsy this morning. She was carried into the health center by her husband and neighbor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What do you do?</td>
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<tr>
<td>1. Shout for help</td>
</tr>
<tr>
<td>1. Evaluate Mrs. B. immediately for shock, including vital signs (temperature, blood pressure, pulse and respiration rate), level of consciousness, color and skin temperature</td>
</tr>
<tr>
<td>1. Tell Mrs. B. (and her husband and neighbor) what is going to be done, listen to them and respond attentively to their questions and concerns</td>
</tr>
<tr>
<td>1. Turn Mrs. B. on her side, if unconscious or semi-conscious, and keep the airway open</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>2. On examination, you find that Mrs. B.’s blood pressure is 80/50 mm Hg, pulse 136 beats/minute; respiration rate 34 breaths/minute; temperature 39.4º C. She is confused and drowsy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. What do you think is wrong with Mrs. B.?</td>
</tr>
<tr>
<td>2. What will you do now?</td>
</tr>
<tr>
<td>2. State that Mrs. B. is in shock</td>
</tr>
<tr>
<td>2. Ask one of the staff that responded to your shout for help to start an IV infusion, using a large-bore cannula and normal saline or Ringer’s lactate at a rate of 1 L in 15–20 minutes</td>
</tr>
<tr>
<td>2. Collect blood for appropriate tests (hemoglobin, blood typing and cross match, and tests for coagulopathy), while starting the IV</td>
</tr>
<tr>
<td>2. Start oxygen at 6–8 L/minute</td>
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<tr>
<td>2. Catheterizes bladder</td>
</tr>
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<td>2. Look for the cause of the shock (hypovolemic or septic) by palpating the uterus for firmness and tenderness</td>
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<tr>
<td>2. Cover Mrs. B. to keep her warm</td>
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<tr>
<td>2. Elevate legs</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>3. On further examination, you find that Mrs. B.’s uterus is tender and that she has foul-smelling lochia. Upon questioning, the neighbor admits that herbs were inserted into Mrs. B.’s vagina during labor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. What are Mrs. B.’s main problems?</td>
</tr>
<tr>
<td>3. What are the causes of her shock and why?</td>
</tr>
<tr>
<td>3. What will you do next?</td>
</tr>
<tr>
<td>3. State that Mrs. B. has a fever, a tender uterus and foul-smelling lochia</td>
</tr>
<tr>
<td>3. Determine that Mrs. B.’s shock is due to infection resulting from unclean labor and childbirth practices</td>
</tr>
<tr>
<td>3. Gives penicillin G 2 million units OR ampicillin 2 g IV (and repeats every 6 hours) PLUS gentamicin 5 mg/kg body weight IV (and repeats every 24 hours) PLUS metronidazole 500 mg IV (and repeats every 8 hours)</td>
</tr>
</tbody>
</table>

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<tr>
<th>4. After 6 hours, Mrs. B.’s blood pressure is 100/60 mm Hg, pulse 100 beats/minute, respiration rate 24 breaths/minute, temperature 38º C. She is easily roused and is oriented.</th>
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</thead>
<tbody>
<tr>
<td>4. What will you do now?</td>
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<tr>
<td>4. Adjust rate of IV infusion to 1 L in 6 hours</td>
</tr>
<tr>
<td>4. Continue to monitor blood pressure, pulse and temperature</td>
</tr>
<tr>
<td>4. Check that urine output is 30 mL/hour or more</td>
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<tr>
<td>4. Continue to administer antibiotics</td>
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</tbody>
</table>
OPTIONAL CASE STUDY 3: MALPOSITION

CASE STUDY

Mrs. C. is a 26-year-old gravida three, para two. She was brought to the health center in active labor at 2:00 pm; membranes ruptured 30 minutes before her arrival; the fetal head was palpable at 3/5 above the symphysis pubis; the cervix was 5 cm dilated; contractions were two in 10 minutes, each lasting 20–40 seconds. Amniotic fluid is clear. There were no abnormal findings on admission.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your ongoing assessment (monitoring progress in labor) of Mrs. C., and why?

   - Mrs. C.’s progress in labor should be monitored using a partograph. Ongoing observations should include: maternal pulse, fetal heart rate, and contractions half hourly, blood pressure and temperature every 4 hours, urine for protein and acetone every 2–4 hours, vaginal examination every 4 hours (cervical dilation, descent of presenting part, amniotic fluid and molding), preceded by abdominal examination (descent of presenting part).
   
   - Mrs. C.’s emotional response to labor should also be assessed to determine her level of anxiety and tolerance of pain.
   
   - She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.

DIAGNOSIS (Identification of Problems/Needs)

Ongoing assessment of Mrs. C.’s progress in labor reveals the following:

- On abdominal examination at 6:00 pm, the lower part of the abdomen is flattened and fetal limbs are palpable anteriorly.
- Contractions are three in 10 minutes, each lasting 20–40 seconds.
- Mrs. C. complains of continuous and severe backache, worsening with contractions.
- On vaginal examination, the posterior fontanelle is felt towards the sacrum.
- The cervix is 8 cm dilated. Amniotic fluid is clear.

2. Based on these findings, what is Mrs. C.’s diagnosis, and why?

   - Mrs. C.’s symptoms and signs (e.g., the occiput lies in the posterior rather than the anterior part of the pelvis) are consistent with occiput posterior position.
CARE PROVISION (Planning and Intervention)

3. Based on your diagnosis, what is your plan of care for Mrs. C., and why?
   
   ● Continue to monitor Mrs. C. every 30 minutes using the partograph. In particular, it will be important to watch for signs of obstruction (secondary arrest of cervical dilation and descent of presenting part with large caput, third degree molding, cervix poorly applied to the presenting part, edematous cervix, ballooning of lower uterine segment, formation of retraction band, maternal and fetal distress).
   
   ● An IV infusion of dextrose or normal saline should be started and oxytocin 2.5 units in 500 mL of dextrose or normal saline should be infused at 10 drops/minute.
   
   ● The rate of infusion should be increased by 10 drops/minute every 30 minutes (up to a maximum of 60 drops/minute) until there are three contractions in 10 minutes, each lasting more than 40 seconds. This rate should be maintained until the birth is completed.
   
   ● Mrs. C. should not be left alone during augmentation of labor. She should be made as comfortable as possible, and a supportive, encouraging atmosphere, respectful of her wishes, should be provided. In particular, massage and other comfort measures such as changes in position and posture may help to relieve discomfort.
   
   ● All procedures should be explained to Mrs. C., and all findings should be discussed with her.

EVALUATION

- At 8:00 pm Mrs. C. is having three contractions in 10 minutes, each lasting more than 40 seconds.
- Her partograph recordings show that her vital signs are normal, the fetal heart rate is within normal range, the cervix is fully dilated, the anterior fontanelle can be felt just behind the symphysis pubis, and the head is at +1 station.

4. Based on these findings, what is your continuing plan of care for Mrs. C., and why?
   
   ● Mrs. C. should be encouraged to adopt her position of choice for childbirth when she reaches late (expulsive) second stage.
   
   ● When the head is visible, she should be encouraged to follow her own tendency to push; the intensity of her contractions should regulate her efforts to push. She should be given praise, encouragement and reassurance regarding her progress.
   
   ● If the expulsive phase is prolonged, vacuum extraction or forceps should be used to deliver the baby.
   
   ● Active management of the third stage should be carried out to reduce postpartum blood loss.
   
   ● Immediate postpartum care should be provided for Mrs. C., including continuing emotional support and reassurance.
   
   ● If her newborn requires special care, this should be provided. Otherwise, routine newborn care should be provided, including leaving the newborn in skin-to-skin contact with Mrs. C. and encouraging her to breastfeed, as soon as she feels able to, when the newborn shows interest.

REFERENCES

*Managing Complications in Pregnancy and Childbirth*: pages S-69 to S-72; S-75 to S-76
OPTIONAL CASE STUDY 4: SHOULDER DYSTOCIA
ANSWER KEY

CASE STUDY

Mrs. D. is a 35-year-old gravida seven, para six. She was brought to the health center in active labor at 10:00 pm. Labor has progressed well, as indicated on her partograph. It is now 4:00 am and the fetal head has just delivered and remains tightly applied to the vulva.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your immediate assessment of Mrs. D., and why?

- Rapidly determine whether the chin retracts and depresses the perineum. Apply traction to the baby's head to deliver the shoulder (if shoulder dystocia is present, the shoulder will be caught behind the symphysis pubis and cannot be delivered by traction on the baby's head).

- While managing this problem, quickly tell Mrs. D. what is happening and what is going to be done (shoulder dystocia is a frightening experience for the woman and for the provider, so it is important to remain calm and explain as much as possible to the woman as you proceed with care).

DIAGNOSIS (Identification of Problems/Needs)

Immediate assessment of the situation reveals the following:
- The chin retracts and depresses the perineum.
- Traction on the head fails to deliver the shoulder, which is caught behind the symphysis pubis.

2. Based on these findings, what is Mrs. D.'s diagnosis, and why?

- The findings are consistent with shoulder dystocia.

CARE PROVISION (Planning and Intervention)

3. Based on your diagnosis, what is your plan of care for Mrs. D., and why?

- An adequate episiotomy should be made immediately to reduce soft tissue obstruction and to allow space for manipulation.

- With Mrs. D. lying on her back, help her to flex both knees. Two assistants should be asked to push her flexed knees firmly up onto her chest (this should help to rotate the angle of the symphysis pubis superiorly).

- Firm, continuous downward traction should be applied to the fetal head to move the shoulder that is anterior under the symphysis pubis. At the same time, an assistant should be asked to apply suprapubic pressure downward to assist delivery of the shoulders.

- Continuing encouragement and reassurance should be provided for Mrs. D.
EVALUATION

- Five minutes have lapsed since the head delivered. No further progress has been made.

4. Based on these findings, what is your continuing plan of care for Mrs. D., and why?

- Mrs. D. should remain in the same position (i.e., on her back with her knees well flexed).
- A gloved hand should be inserted into the vagina and pressure should be applied to the shoulder that is anterior in the direction of the baby’s sternum (this should rotate the shoulder and decrease the shoulder diameter). If necessary, pressure can also be applied to the shoulder that is posterior in the direction of the sternum.
- If the shoulder is still not delivered, insert a hand into the vagina and grasp the humerus of the arm that is posterior. The arm should be well flexed at the elbow and should be swept across the chest (this should provide room for the shoulder that is anterior to move under the symphysis pubis).
- Throughout these maneuvers, Mrs. D. should be provided continuing encouragement and reassurance.
- Active management of the third stage should follow (blood loss may be excessive due to injury associated with the childbirth).
- Immediate postpartum care should be provided for Mrs. D., including continuing emotional support and reassurance.
- If her newborn requires special care, this should be provided (newborn asphyxia may occur following shoulder dystocia, and brachial plexus injury may result in an Erb’s palsy). Otherwise, routine newborn care should be provided, including leaving the newborn in skin-to-skin contact with Mrs. D. and encouraging her to breastfeed her newborn as soon as she feels able to, when the newborn shows interest.

REFERENCES

*Managing Complications in Pregnancy and Childbirth*: pages S-83 to S-85
OPTIONAL CASE STUDY 5: VAGINAL BLEEDING AFTER CHILDBIRTH

ANSWER KEY

CASE STUDY

Mrs. E. is 20 years old. She gave birth at the health center 6 days ago to a healthy baby, with no apparent complications. She has come back to the health center today complaining that she feels weak, light-headed and generally unwell. She says that she has vaginal bleeding equal to a heavy period.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your initial assessment of Mrs. E., and why?

- Mrs. E. should be greeted respectfully and with kindness.
- She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
- A rapid assessment should be done to determine the degree of illness: her temperature, pulse, respiration rate and blood pressure should be taken check for signs of shock, and she should be asked about changes in the color, amount and odor of lochia since birth.
- Mrs. E.’s record should be checked for information about amount of blood loss immediately after childbirth, completeness of the placenta, and genital trauma.

2. What particular aspects of Mrs. E.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?

- Mrs. E.’s uterus should be checked immediately to see whether it is contracted (a uterus that is not contracted would suggest atonic uterus, whereas if the uterus is well contracted, genital trauma may be the cause of bleeding).
- Her perineum, vagina and cervix should be examined carefully to detect tears.
- The amount, color and odor of Mrs. E.’s lochia should be checked.
- Conjunctival and palmar pallor should be checked for signs of anemia.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. E., and why?

- A hemoglobin test should be done, as Mrs. E. has vaginal bleeding that is heavier than it should be, as well as signs that suggest anemia (weak and light-headed).

DIAGNOSIS (Identification of Problems/Needs)

You have completed your assessment of Mrs. E. and your main findings include the following:
- Mrs. E.’s pulse rate is 90 beats/minute, her blood pressure is 120/80 mm Hg, her respiration rate is 20 breaths/minute and her temperature is 37°C.
- Her uterus is soft and almost to the level of her umbilicus.
- She has no signs of cervical, vaginal or perineal trauma.
- However, vaginal bleeding has become progressively heavier and Mrs. E.’s lochia now has a slightly offensive odor.
- She also has mild conjunctival and palmar pallor, and her hemoglobin is 9 g/dL.
- Mrs. E.’s record does not indicate blood loss after childbirth or whether the placenta was complete.
4. Based on these findings, what is Mrs. E.'s diagnosis, and why?
   - Mrs. E.'s signs and symptoms (e.g., a uterus that is not well contracted, vaginal bleeding that is heavier than it should be at 6 days postpartum and anemia) are consistent with delayed postpartum hemorrhage.

CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. E., and why?
   - Mrs. E.'s uterus should be massaged, after she has emptied her bladder, to cause it to contract and expel retained blood clots.
   - Oxytocin 10 units IM should be given.
   - If Mrs. E.'s cervix is dilated, manual exploration of the uterus should be carried out to remove large clots and placental fragments.
   - If the cervix is not dilated, Mrs. E.'s uterus should be evacuated using manual vacuum aspiration.
   - If bleeding continues, clotting status should be assessed using a bedside clotting test and, if necessary, coagulopathy should be treated.
   - Mrs. E.'s vital signs should be monitored, and her uterus should be checked to make sure that it remains firm and well contracted.
   - Anemia should be treated with ferrous sulfate or ferrous fumarate 60 mg by mouth plus folic acid 400 µg by mouth once daily for 6 months.
   - The steps taken to manage the complication should be explained to Mrs. E., she should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.

EVALUATION

- Two hours later Mrs. E. is resting after having had placental remnants removed from her uterus.
- Her uterus is now well contracted and she has light vaginal bleeding.
- Her pulse is 82 beats/minute, her blood pressure is 120/80 mm Hg, her respiration rate is 20 breaths/minute and her temperature 37.2º C.

6. Based on these findings, what is your continuing plan of care for Mrs. E., and why?
   - Mrs. E. should remain at the health center for 24 hours to have her vital signs and vaginal bleeding monitored. Her uterus should be checked to make sure that it remains firm and well contracted. In addition, she should be encouraged to breastfeed her newborn.
   - Before leaving the health center, counseling should be provided about danger signs in the postpartum period (bleeding, abdominal pain, fever, headache, and blurred vision), compliance with iron/folic acid treatment and the inclusion in her diet of locally available foods rich in iron, and breastfeeding and newborn care. In addition, Mrs. E. should be provided emotional support and reassurance.
   - Arrangements should be made for her to have postpartum followup care in 1 week.

REFERENCES

*Managing Complications in Pregnancy and Childbirth*: pages S-25 to S-34
Purpose: The purpose of this activity is to provide a simulated experience for learners to practice problem-solving and decision-making skills in the management of vaginal bleeding after childbirth, with emphasis on thinking quickly and reacting (intervening) rapidly.

Instructions: The activity should be carried out in the most realistic setting possible, such as the labor and delivery area of a health center, clinic or maternity center, where equipment and supplies are available for emergency interventions.

- One learner should play the role of patient and a second learner the role of skilled provider. Other learners may be called on to assist the provider.
- The teacher will give the learner playing the role of provider information about the patient's condition and ask pertinent questions, as indicated in the left-hand column of the chart on the next page.
- The learner will be expected to think quickly and react (intervene) rapidly when the teacher provides information and asks questions. Key reactions/responses expected from the learner are provided in the right-hand column of the chart on the next page.
- Procedures such as starting an IV and bimanual examination should be role played, using the appropriate equipment.
- Initially, the teacher and learner will discuss what is happening during the simulation in order to develop problem-solving and decision-making skills. The italicized questions in the simulation are for this purpose. Further discussion may take place after the simulation is completed.
- As the learner’s skills become stronger, the focus of the simulation should shift to providing appropriate care for the life-threatening emergency situation in a quick, efficient and effective manner. All discussion and questioning should take place after the simulation is over.

Resources: sphygmomanometer, stethoscope, equipment for starting an IV infusion, oxygen cylinder, mask and tubing, syringes and vials, new exam or high-level disinfected or sterile surgical gloves.
**SCENARIO 1**
(Information provided and questions asked by the teacher)

### 1.
Mrs. A. is 24 years old and has just given birth to a healthy baby girl after 7 hours of labor. Active management of the third stage was performed, and the placenta and membranes were complete. The midwife who attended the birth left the health center at the end of her shift. Approximately 30 minutes later, a nurse rushes to tell you that Mrs. A. is bleeding profusely.

- **What will you do?**
  - Shout for help to urgently mobilize all available personnel.
  - Make a rapid evaluation of Mrs. A.'s general condition, including vital signs (temperature, pulse, blood pressure and respiration rate), level of consciousness, color and temperature of skin
  - Explain to Mrs. A. what is going to be done, listen to her and respond attentively to her questions and concerns

**KEY REACTIONS/RESPONSES**
(Expected from learners)

- Shout for help to urgently mobilize all available personnel.
- Make a rapid evaluation of Mrs. A.'s general condition, including vital signs (temperature, pulse, blood pressure and respiration rate), level of consciousness, color and temperature of skin
- Explain to Mrs. A. what is going to be done, listen to her and respond attentively to her questions and concerns

### 2.
On examination, you find the Mrs. A.’s blood pressure is 86/60 mm Hg and pulse 120 beats/minute and weak. Her skin is not cold and clammy.

- **What is Mrs. A.’s problem?**
  - State that Mrs. A. is in shock from postpartum bleeding
- **What will you do now?**
  - Palpate the uterus for firmness
  - Ask one of the staff that responded to your shout for help to start an IV infusion, using a large-bore cannula and normal saline or Ringer’s lactate at a rate of 1 L in 15–20 minutes with 10 units oxytocin
  - While starting the IV, collect blood for appropriate tests (hemoglobin, blood typing and cross matching, and bedside clotting test for coagulopathy)

**Discussion Question 1**: How do you know when a woman is in shock?

**Expected Responses**: Pulse greater than 110 beats/minute; systolic blood pressure less than 90 mm Hg; cold, clammy skin; pallor; respiration rate greater than 30 breaths/minute; anxious and confused or unconscious

### 3.
You find that Mrs. A.’s uterus is soft and not contracted. On further examination of the placenta, you find that it is complete.

- **What will you do now?**
  - Massage the uterus to expel blood and blood clots and stimulate a contraction
  - Start oxygen at 6–8 L/minute
  - Catheterize bladder
  - Cover Mrs. A. to keep her warm
  - Elevate legs
  - Continue to monitor (or has assistant monitor) blood pressure, pulse and blood loss

**Discussion Question 2**: What would you have done if examination of the placenta had shown a missing piece (placenta incomplete)?

**Expected Responses**:
- Explain the problem to Mrs. A. and provide reassurance.
- Give pethidine and diazepam IV slowly or use ketamine.
- Give a single dose of prophylactic antibiotics (ampicillin 2 g IV plus metronidazole 500 mg IV OR cefazolin 1 g IV plus metronidazole 500 mg IV).
- Use sterile or high-level disinfected gloves to feel inside the uterus for placental fragments and remove with hand, ovum forceps or large curette.

### 6.
Forty-five minutes have passed since treatment for Mrs. A. was started. Her blood pressure is now 96/60 mm Hg, pulse 100 beats/minute and respiration rate 24 breaths/minute. She is resting quietly.

- **What will you do now?**
  - Adjust rate of IV infusion to 1 L in 6 hours
  - Continue to check for vaginal blood loss
  - Continue to monitor blood pressure and pulse
  - Check that urine output is 30 mL/hour or more
  - Continue with routine postpartum care, including breastfeeding of newborn

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**Basic EOC Course**

**Clinical Simulation 3: Management of Vaginal Bleeding after Childbirth**

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OPTIONAL CASE STUDY 6: FEVER AFTER CHILDBIRTH
ANSWER KEY

CASE STUDY

Mrs. F. is 22 years old. She gave birth to a full-term baby 3 days ago at the hospital. The baby weighed 4 kg and Mrs. F. suffered a perineal laceration that required suturing. She was counseled about danger signs before leaving the hospital, including the need to seek care early if any danger signs occur. Mrs. F. has come to the health center today complaining that her perineal wound has become increasingly tender during the past 12 hours. She also says that she feels hot and unwell.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your initial assessment of Mrs. F., and why?
   - Mrs. F. should be greeted respectfully and with kindness.
   - She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
   - A rapid assessment should be done to determine the degree of illness: Mrs. F.’s temperature, pulse, respiration rate and blood pressure should be taken and she should also be asked if she has had other symptoms, such as: abdominal pain and/or tenderness or foul-smelling lochia.

2. What particular aspects of Mrs. F.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?
   - Mrs. F.’s perineal wound should be examined for pain and tenderness, discharge, abscess formation and cellulitis (wound tenderness, bloody or serous discharge, and slight erythema beyond the edge of the incision may be present with a wound abscess, wound seroma or wound hematoma; whereas, pain and tenderness, erythema or edema beyond the edge of the incision, purulent discharge, and a reddened area around the wound are signs of wound cellulitis). If purulent discharge is seen, determine whether it is coming from the wound or from above the wound (vagina, uterus).
   - An abdominal examination should also be done and lochia checked to detect other signs characteristic of postpartum fever (abdominal pain and tenderness, and purulent foul-smelling lochia).

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. F., and why?
   - None at this stage.

DIAGNOSIS (Identification of Problems/Needs)

You have completed your assessment of Mrs. F. and your main findings include the following:
- Mrs. F.’s temperature is 38° C, her pulse rate is 88 beats/minute, her blood pressure is 120/80 mm Hg and her respiration rate is 20 breaths/minute.
- Her perineal wound is tender, with pus draining from the center.
- The wound is not edematous but there is slight erythema present extending beyond the edge of the incision.
- She has no abdominal pain or tenderness.
- Her lochia is red, normal in amount, and does not have an offensive odor.

4. Based on these findings, what is Mrs. F.’s diagnosis, and why?
   - Mrs. F.’s symptoms and signs (e.g., wound tenderness, pus discharge, erythema, fever) are consistent with wound abscess.
CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. F., and why?

- Because there is pus draining from the wound, it should be opened and drained. The infected skin and subcutaneous sutures should be removed and the wound debrided and a damp dressing placed in it. Antibiotics are not required because there is no wound cellulitis.

- The steps taken to manage the complication should be explained to Mrs. F., she should be encouraged to express her concerns, listened to carefully, and provided emotional support and reassurance.

- Mrs. F. should be counseled about the need for good hygiene, to change her perineal pad/cloth at least three times a day, and to wear clean clothes.

- She should also be encouraged to rest at home and to drink as much fluid as possible.

- Mrs. F. should be asked to return the next day for followup and to have the perineal dressing changed.

EVALUATION

a. Mrs. F. returns to the health center the next day.
b. Her temperature is 37.6º C.
c. Her perineal wound is slightly less tender and there is less discharge.

6. Based on these findings, what is your continuing plan of care for Mrs. F., and why?

- The wound should be dressed again with a damp dressing.

- The steps taken for continuing management of the complication should be explained to Mrs. F., she should be encouraged to express her concerns, listened to carefully, and provided continuing emotional support and reassurance.

- Mrs. F. should be followed up on a daily basis until the wound has healed satisfactorily.

REFERENCES

*Managing Complications in Pregnancy and Childbirth*: pages S-107 to S-108; S-113 to S-114
OPTIONAL CASE STUDY 7: FEVER AFTER CHILDBIRTH
ANSWER KEY

CASE STUDY

Mrs. G. is 17 years old. She gave birth to her first baby 3 weeks ago at the hospital. Her birth was uncomplicated and the baby was healthy and of normal birth weight. You last saw Mrs. G. 2 days after the birth, when she and her newborn were found to be doing well. She has come to the health center today because she has breast pain and tenderness and feels unwell.

ASSESSMENT (History, Physical Examination, Screening Procedures/Laboratory Tests)

1. What will you include in your assessment of Mrs. G., and why?
   - Mrs. G. should be greeted respectfully and with kindness.
   - She should be told what is going to be done and listened to carefully. In addition, her questions should be answered in a calm and reassuring manner.
   - A rapid assessment should be done to determine the degree of illness; Mrs. G.’s temperature, pulse, respiration rate and blood pressure should be checked. In addition, she should be asked how breastfeeding is going, whether she has had any problems, how many times in a 24-hour period the newborn is feeding, whether she has fed the newborn anything other than breast milk, and whether she has cracked or sore nipples.

2. What particular aspects of Mrs. G.’s physical examination will help you make a diagnosis or identify her problems/needs, and why?
   - Mrs. G.’s breasts should be checked for pain and tenderness, swelling and inflammation, and cracked nipples.

3. What screening procedures/laboratory tests will you include (if available) in your assessment of Mrs. G., and why?
   - None at this stage.

DIAGNOSIS (Identification of Problems/Needs)

You have completed your assessment of Mrs. G. and your main findings include the following:
   - Her temperature is 38º C, her pulse rate is 120 beats/minute, her blood pressure is 120/80 mm Hg and her respiration rate is 20 breaths/minute.
   - She has pain and tenderness in her left breast, and there is a wedge-shaped area of redness in one segment of the breast.
   - Mrs. G. reports that for the first week or so after birth, her newborn seemed to have difficulty taking the nipple into his mouth, but more recently she thinks that he has been doing better.
   - He feeds about six times in a 24-hour period and is given water betweenfeedings.
   - Mrs. G. had breastfed the newborn less than an hour before you examined her.

4. Based on these findings, what is Mrs. G.’s diagnosis, and why?
   - Mrs. G.’s symptoms and signs (e.g., fever, breast pain and tenderness, and a reddened, wedge-shaped area on one breast) are consistent with mastitis.
CARE PROVISION (Planning and Intervention)

5. Based on your diagnosis, what is your plan of care for Mrs. G., and why?

- Mrs. G. should be treated with one of the following antibiotics: cloxacillin 500 mg by mouth four times/day for 10 days; or erythromycin 250 mg by mouth three times/day for 10 days.
- Her breastfeeding technique should be observed for correct positioning (i.e., newborn's head and body straight, well supported, and held close to mother's body, newborn facing breast with nose opposite nipple) and attachment (i.e., more areola visible above than below the mouth, mouth open wide, lower lip turned outward, chin touching breast).
- Mrs. G. should be provided reassurance and encouragement to continue breastfeeding, at least eight times in a 24-hour period. She should also be encouraged to stop giving her newborn water and counseled about exclusive breastfeeding.
- A breast binder or brassiere should be worn to support her breasts and cold compresses should be applied between feedings to reduce swelling and pain.
- Paracetamol 500 mg by mouth should be given, as needed.
- Mrs. G. should be asked to return for followup in 3 days.

EVALUATION

- Three days later Mrs. G. reports that she is feeling better and has stopped taking her medication.
- Her temperature is 37.6°C, her pulse is 90 beats/minute, her blood pressure is 120/80 mm Hg and her respiration rate is 20 breaths/minute.
- There is less pain and swelling in her breast.
- She reports that she has stopped giving her newborn water and he has been feeding more than six times in 24 hours.
- She also reports that the newborn seems to be attaching better to the breast.

6. Based on these findings, what is your continuing plan of care for Mrs. G., and why?

- Mrs. G. should be counseled about the importance of completing the full 10-day course of antibiotics (3 days of antibiotic therapy is insufficient to resolve infection).
- Breastfeeding technique should be observed again to check positioning and attachment, and further reassurance and encouragement should be provided to Mrs. G. to continue breastfeeding at least eight times in 24 hours.
- Mrs. G. should be followed up every 2–3 days to ensure that she complies with antibiotic therapy, that her symptoms and signs resolve, and to provide continuing reassurance and encouragement for breastfeeding.

REFERENCES

*Managing Complications in Pregnancy and Childbirth*: pages S-107 to S-108; S-112
Purpose: The purpose of this activity is to provide a simulated experience for participants to practice problem-solving and decision-making skills in the management of an asphyxiated newborn, with emphasis on thinking quickly and reacting (intervening) rapidly.

Instructions: The activity should be carried out in the most realistic setting possible, such as the labor and delivery area of a hospital, clinic or maternity center, where equipment and supplies are available for emergency interventions.

- One participant should play the role of skilled provider. Other participants may be called on to assist the provider.
- The trainer will give the participant playing the role of provider information about the patient’s condition and ask pertinent questions, as indicated in the left-hand column of the chart below.
- The participant will be expected to think quickly and react (intervene) rapidly when the trainer provides information and asks questions. Key reactions/responses expected from the participant are provided in the right-hand column of the chart below.
- Procedures such as newborn resuscitation should be performed with a model and other appropriate equipment.
- Initially, the trainer and participant will discuss what is happening during the simulation in order to develop problem-solving and decision-making skills. The italicized questions in the simulation are for this purpose. Further discussion may take place after the simulation is completed.
- As the participant’s skills become stronger, the focus of the simulation should shift to providing appropriate care for the life-threatening emergency situation in a quick, efficient and effective manner. All discussion and questioning should take place after the simulation is over.

Resources: newborn resuscitation model, newborn self-inflating bag and mask, suction equipment, blanket, towels
### SCENARIO 1
(Information provided and questions asked by the trainer)

#### 1. Mrs. A. has given birth to a 2,800 g baby boy after a prolonged second stage of labor. This was her second pregnancy. Her first baby is alive. At birth, the newborn is blue and limp and does not breathe.

- **What do you do?**
  - Dries the newborn rapidly, wraps him in a dry cloth/towel and moves him to a warm, flat surface
  - Places the newborn on his back with his head slightly extended to open the airway
  - Keeps the newborn wrapped or covered, except for the face and upper chest
  - Suctions the mouth and then the nose
  - Reassesses the newborn and if still not breathing starts ventilating
  - Places the mask on the newborn’s face, covering the chin, mouth and nose
  - Forms a seal between the mask and the face
  - Squeezes the bag and checks seal by ventilating twice and observing if the chest rises
  - Simultaneously tells the mother what is happening and provides reassurance
  - If the newborn’s chest is rising, ventilates at 40 breaths/minute for 20 minutes or until the newborn starts to breathe

- **What precautions about suctioning do you observe, and why?**
  - Does not suction deeply, because this may cause the newborn to stop breathing or may cause his heart to stop

#### 2. You have started ventilating, but the newborn’s chest does not rise.

- **What will you do now?**
  - Rechecks and corrects, if necessary, the position of the newborn
  - Repositions the mask on the newborn’s face to improve the seal between mask and face
  - Squeezes the bag harder to increase ventilation pressure

#### 3. After repositioning the mask, the newborn’s chest rises when ventilated.

- **What will you do now?**
  - Ventilates for 1 minute and then stops to quickly assess if the newborn is breathing

#### 4. After 1 minute of ventilating, the newborn is still not breathing. You remember that Mrs. A. received 100 mg pethidine 40 minutes prior to the birth.

- **What will you do now?**
  - Continues ventilating until spontaneous breathing begins
  - States that after vital signs have been established, will give naloxone 0.1 mg/kg body weight IV to the newborn

### Discussion Question 1: From which newborns would you withhold naloxone?

**Expected Response:** Newborns whose mother is suspected of having recently abused narcotic drugs

#### 5. After 2 more minutes of ventilating, the newborn starts to cry.

- **What will you do now?**
  - Stops ventilating and observes for 5 minutes after crying stops
  - Determines that breathing is normal (30–60 breaths/minute) and that there is no indrawing of the chest and no grunting for 1 minute

### Discussion Question 2: What would you do if the newborn is breathing but has severe indrawing of the chest?

**Expected Response:** Give oxygen by nasal catheter or prongs, if possible, and arrange transfer to a facility with special care for sick newborns.

#### 6. The newborn is now breathing normally.

- **What ongoing care does the newborn need?**
  - Prevents heat loss by placing in skin-to-skin contact with mother or putting under radiant heater
  - Examines the newborn and counts the number of breaths/minute
  - Measures the newborn’s axillary temperature
  - Encourages the mother to breastfeed and provides reassurance (a newborn that requires resuscitation is at higher risk of developing hypoglycemia)
  - Monitors closely for 24 hours
MIDCOURSE KNOWLEDGE ASSESSMENT QUESTIONNAIRE

Instructions: Write the letter of the single best answer to each question in the blank next to the corresponding number on the attached answer sheet.

INFECTION PREVENTION PRACTICES

1. Infection can be transmitted from clients to health care workers through
   a) contaminated needles or other sharps instruments that pierce the health worker’s skin
   b) splashes in the health care worker’s eye of contaminated blood or body fluids
   c) broken skin that is exposed to contaminated blood and body fluids
   d) all of the above

2. Hands should be washed
   a) before examining a client/patient
   b) before putting on gloves for pelvic examination
   c) after removing gloves
   d) all of the above

VAGINAL BLEEDING IN PREGNANCY AND LABOR

3. The immediate management of ectopic pregnancy involves
   a) cross-matching blood and arranging for immediate laparotomy
   b) making sure that blood is available for transfusion before surgery is performed
   c) observing the woman for signs of improvement
   d) all of the above

4. When performing an MVA, the vacuum will be lost if
   a) the syringe is full
   b) the cannula is withdrawn too far
   c) the uterus is perforated
   d) all of the above

5. The MVA procedure is complete when
   a) the wall of the uterus feels smooth
   b) the vacuum in the syringe decreases
   c) red or pink foam and no more tissue is visible in the cannula
   d) the uterus relaxes

RAPID INITIAL ASSESSMENT AND MANAGEMENT OF SHOCK

6. Rapid initial assessment should be carried out
   a) only on women who present with abdominal pain and vaginal bleeding
   b) only on women who present with abdominal pain
   c) only on women who present with vaginal bleeding
   d) on all women of childbearing age who present with a problem

7. A woman who suffers shock as a result of an obstetric emergency may have
   a) a fast, weak pulse
   b) low blood pressure
   c) rapid breathing
   d) all of the above
8. When taking blood samples or establishing an intravenous line
   a) it is not necessary to wear gloves
   b) new examination gloves should be worn
   c) sterile surgical gloves should be worn
   d) none of the above

**CHILDBIRTH CARE**

9. The partograph is a record of
   a) labor for women who experience problems
   b) the observations made during labor, the main element of which is the plotting of cervical dilatation
   c) maternal well-being
   d) fetal well-being

10. Plotting on the partograph should begin
   a) in the active phase of the first stage of labor
   b) in the latent phase
   c) when the cervix reaches full dilatation
   d) when the woman is admitted to the labor ward

11. Before applying controlled cord traction during active management of the third stage of labor
   a) oxytocin is administered intramuscularly and the attendant waits for the uterus to contract
   b) the mother is asked to push
   c) pressure is applied to the fundus
   d) all of the above

12. Active management of the third stage of labor is believed to
   a) reduce blood loss
   b) shorten the third stage of labor
   c) minimize the time at which the woman is at risk of hemorrhage
   d) all of the above

**UNSATISFACTORY PROGRESS OF LABOR**

13. Cervical dilation plotted to the right of the alert line on the partograph indicates
   a) satisfactory progress of labor
   b) unsatisfactory progress of labor
   c) the end of the latent phase
   d) the end of the active phase

14. Unsatisfactory progress of labor should be suspected if
   a) the latent phase is longer than 8 hours
   b) cervical dilation is plotted to the right of the alert line on the partograph
   c) the woman has been experiencing labor pains for 12 hours or more without giving birth
   d) all of the above
15. Findings diagnostic of cephalopelvic disproportion are

a) cervical dilation plotted to the right of the alert line on the partograph  
b) uterine contractions in the latent phase with an unengaged fetal head  
c) secondary arrest of descent of the head in the presence of good contractions  
d) grade 3 molding of the fetal head

16. Conditions for vacuum extraction are

a) a term fetus, vertex presentation  
b) a fully dilated cervix  
c) fetal head at least at 0 station or not more than 2/5 above the symphysis pubis  
d) all of the above

17. The vacuum cup should be placed

a) above the flexion point, 1 cm anterior to the posterior fontanelle  
b) below the flexion point, 1 cm anterior to the posterior fontanelle  
c) over the flexion point, 1 cm anterior to the posterior fontanelle  
d) over the flexion point, 2 cm anterior to the posterior fontanelle

MALPOSITIONS AND MALPRESENTATIONS

18. In occiput posterior position

a) vacuum extraction should not be performed  
b) vaginal birth cannot occur  
c) the expulsive phase may be prolonged  
d) the woman should not give birth in a squatting position

19. In a breech presentation, the fetal heart

a) can usually be heard at a location higher than expected for a vertex presentation  
b) can usually be heard at a location lower than expected for a vertex presentation  
c) can usually be heard in the same location as for a vertex presentation  
d) is not able to be heard

20. The presence of meconium is common with breech labor and is

a) always a sign of fetal distress  
b) not a sign of fetal distress if the fetal heart rate is normal  
c) an indication for cesarean section  
d) an indication for breech extraction

HEADACHE, BLURRED VISION, CONVULSIONS OR LOSS OF CONSCIOUSNESS, ELEVATED BLOOD PRESSURE

21. Diastolic blood pressure 90 mm Hg or more before 20 weeks of gestation is symptomatic of

a) mild pre-eclampsia  
b) chronic hypertension  
c) superimposed mild pre-eclampsia  
d) pregnancy-induced hypertension
22. Elevated blood pressure and proteinuria in pregnancy define
   a) pre-eclampsia
   b) chronic hypertension
   c) pyelonephritis
   d) none of the above

23. In a patient with hypertension and proteinuria, severe headache is a symptom of
   a) mild pre-eclampsia
   b) moderate pre-eclampsia
   c) severe pre-eclampsia
   d) impending eclampsia

24. Pulmonary edema in a woman who has pre-eclampsia should be considered a sign of
   a) tuberculosis
   b) heart failure
   c) severe pre-eclampsia
   d) pneumonia

25. The loading dose of magnesium sulfate is given via
   a) IV over 5 minutes, followed by deep IM injection into each buttock
   b) IV over 5 minutes, followed by deep IM injection into one buttock
   c) simultaneous IV and IM injections
   d) IV bolus, followed by deep IM injection into each buttock

26. An antihypertensive drug should be given for hypertension in severe pre-eclampsia or eclampsia
    if diastolic blood pressure is
   a) between 100 and 110 mm Hg
   b) 110 mm Hg or more
   c) 115 mm Hg or more
   d) 120 mm Hg or more

VAGINAL BLEEDING AFTER CHILDBIRTH

27. Immediate postpartum hemorrhage can be due to
   a) atonic uterus
   b) trauma to the genital tract
   c) retained placenta
   d) all of the above

28. Tears of the cervix, vagina or perineum should be suspected when there is immediate postpartum hemorrhage and
   a) a complete placenta and a contracted uterus
   b) an incomplete placenta and a contracted uterus
   c) a complete placenta and an atonic uterus
   d) an incomplete placenta and an atonic uterus
29. Prostaglandins should not be given
   a) intravaginally
   b) by IM injection
   c) by IV
   d) by mouth

30. If a retained placenta is undelivered after 30 minutes of oxytocin administration and controlled
cord traction and the uterus is contracted
   a) more aggressive controlled cord traction should be attempted
   b) controlled cord traction and fundal pressure should be attempted
   c) manual removal should be attempted
   d) ergometrine should be given

31. If manual removal of the placenta is performed
   a) give ergometrine prior to the procedure
   b) give antibiotics 24 hours after the procedure
   c) place one hand in the uterus and use the other hand to apply traction on the cord
   d) place one hand in the uterus and one hand on the abdomen to provide counter traction on the
      uterine fundus

32. When performing abdominal aortic compression to control postpartum hemorrhage, the point of
compression is
   a) just below and slightly to the right of the umbilicus
   b) just below and slightly to the left of the umbilicus
   c) just above and slightly to the right of the umbilicus
   d) just above and slightly to the left of the umbilicus

33. If there is continued heavy bleeding after manual removal of the placenta
   a) ergometrine 0.2 mg should be given by mouth
   b) ergometrine 0.2 mg IM should be given IM
   c) oxytocin 10 units should be given as an IV bolus
   d) prostaglandin 2.5 mg IM should be given IM

34. For repair of vaginal and perineal tears, local anesthetic should be infiltrated
   a) beneath the vaginal mucosa
   b) beneath the skin of the perineum
   c) deeply into the perineal muscle
   d) all of the above

FEVER

35. Puerperal sepsis is infection of the genital tract
   a) at any time before the 42nd day following birth
   b) at any time after the 42nd day following birth
   c) at any time between the onset of rupture of membranes or labor and the 42nd day following
      birth
   d) none of the above
36. A reddened, wedge-shaped area on the breast is a typical sign of
   a) breast abscess
   b) mastitis
   c) breast engorgement
   d) none of the above

37. General management of the woman who develops a fever after childbirth includes
   a) bed rest
   b) adequate hydration by mouth or IV
   c) use of a fan or sponging with tepid water
   d) all of the above

38. The treatment of metritis should include
   a) IV ampicillin or IV gentamicin or IV metronidazole
   b) IV ampicillin, plus IV gentamicin and IV metronidazole
   c) a combination of oral antibiotics
   d) a broad spectrum oral antibiotic

NEWBORN RESUSCITATION

39. When using a bag and mask to resuscitate a baby who was breathing
   a) oxygen should always be used
   b) oxygen should be used if available
   c) the rate of ventilation should be approximately 40 breaths per minute if using oxygen
   d) the rate of ventilation should be approximately 60 breaths per minute if oxygen is not available

40. Immediate resuscitation using a bag and mask should be implemented if the baby’s respiratory rate is
   a) between 30 and 60 breaths per minute
   b) less than 40 or greater than 30 breaths per minute
   c) between 20 and 30 breaths per minute
   d) less than 20 breaths per minute
PARTICIPANT’S NAME: ____________________________________

INFECTION PREVENTION PRACTICES
1. ____  
2. ____  

VAGINAL BLEEDING IN PREGNANCY AND LABOR
3. ____  
4. ____  
5. ____  

RAPID INITIAL ASSESSMENT AND MANAGEMENT OF SHOCK
6. ____  
7. ____  
8. ____  

CHILDBIRTH CARE
9. ____  
10. ___  
11. ___  
12. ___  

UNSATISFACTORY PROGRESS OF LABOR
13. ___  
14. ___  
15. ___  
16. ___  
17. ___  

MALPOSITIONS AND MALPRESENTATIONS
18. ___  
19. ___  
20. ___  

Basic EOC Course          Midcourse Knowledge Assessment Questionnaire Answer Sheet
HEADACHE, BLURRED VISION, CONVULSIONS OR LOSS OF CONSCIOUSNESS, ELEVATED BLOOD PRESSURE

21. ___
22. ___
23. ___
24. ___
25. ___
26. ___

VAGINAL BLEEDING AFTER CHILDBIRTH

27. ___
28. ___
29. ___
30. ___
31. ___
32. ___
33. ___
34. ___

FEVER

35. ___
36. ___
37. ___
38. ___

NEWBORN RESUSCITATION

39. ___
40. ___
MIDCOURSE KNOWLEDGE ASSESSMENT QUESTIONNAIRE
ANSWER KEY

INFECTION PREVENTION PRACTICES

1. Infection can be transmitted from clients to health care workers through
   a) contaminated needles or other sharps instruments that pierce the health worker’s skin
   b) splashes in the health care worker’s eye of contaminated blood or body fluids
   c) broken skin that is exposed to contaminated blood and body fluids
   d) ALL OF THE ABOVE

2. Hands should be washed
   a) before examining a client/patient
   b) before putting on gloves for pelvic examination
   c) after removing gloves
   d) ALL OF THE ABOVE

VAGINAL BLEEDING IN EARLY PREGNANCY

3. The immediate management of ectopic pregnancy involves
   a) CROSS-MATCHING BLOOD AND ARRANGING FOR IMMEDIATE LAPAROTOMY
   b) making sure that blood is available for transfusion before surgery is performed
   c) observing the woman for signs of improvement
   d) all of the above

4. When performing an MVA, the vacuum will be lost if
   a) the syringe is full
   b) THE CANNULA IS WITHDRAWN TOO FAR
   c) the uterus is perforated
   d) all of the above

5. The MVA procedure is complete when
   a) the wall of the uterus feels smooth
   b) the vacuum in the syringe decreases
   c) RED OR PINK FOAM AND NO MORE TISSUE IS VISIBLE IN THE CANNULA
   d) the uterus relaxes

RAPID INITIAL ASSESSMENT AND MANAGEMENT OF SHOCK

6. Rapid initial assessment should be carried out
   a) only on women who present with abdominal pain and vaginal bleeding
   b) only on women who present with abdominal pain
   c) only on women who present with vaginal bleeding
   d) ON ALL WOMEN OF CHILDBEARING AGE WHO PRESENT WITH A PROBLEM

7. A woman who suffers shock as a result of an obstetric emergency may have
   a) a fast, weak pulse
   b) low blood pressure
   c) rapid breathing
   d) ALL OF THE ABOVE
8. When taking blood samples or establishing an intravenous line
   a) it is not necessary to wear gloves
   b) **NEW EXAMINATION GLOVES SHOULD BE WORN**
   c) sterile surgical gloves should be worn
   d) none of the above

**CHILDBIRTH CARE**

9. The partograph is a record of
   a) labor for women who experience problems
   b) **THE OBSERVATIONS MADE DURING LABOR, THE MAIN ELEMENT OF WHICH IS THE PLOTTING OF CERVICAL DILATATION**
   c) maternal well-being
   d) fetal well-being

10. Plotting on the partograph should begin
    a) **IN THE ACTIVE PHASE OF THE FIRST STAGE OF LABOUR**
    b) in the latent phase
    c) when the cervix reaches full dilatation
    d) when the woman is admitted to the labor ward

11. Before applying controlled cord traction during active management of the third stage of labor
    a) **OXYTOCIN IS ADMINISTERED INTRAMUSCULARLY AND THE ATTENDANT WAITS FOR THE UTERUS TO CONTRACT**
    b) the mother is asked to push
    c) pressure is applied to the fundus
    d) all of the above

12. Active management of the third stage of labor is believed to
    a) reduce blood loss
    b) shorten the third stage of labor
    c) minimize the time at which the woman is at risk of hemorrhage
    d) **ALL OF THE ABOVE**

**UNSATISFACTORY PROGRESS OF LABOR**

13. Cervical dilation plotted to the right of the alert line on the partograph indicates
    a) satisfactory progress of labor
    b) **UNSATISFACTORY PROGRESS OF LABOR**
    c) the end of the latent phase
    d) the end of the active phase

14. Unsatisfactory progress of labor should be suspected if
    a) the latent phase is longer than 8 hours
    b) cervical dilation is plotted to the right of the alert line on the partograph
    c) the woman has been experiencing labor pains for 12 hours or more without giving birth
    d) **ALL OF THE ABOVE**
15. Findings diagnostic of cephalopelvic disproportion are
   a) cervical dilation plotted to the right of the alert line on the partograph
   b) uterine contractions in the latent phase with an unengaged fetal head
   c) SECONDARY ARREST OF DESCENT OF THE HEAD IN THE PRESENCE OF GOOD
      CONTRACTIONS
   d) grade 3 molding of the fetal head

16. Conditions for vacuum extraction are
   a) a term fetus, vertex presentation
   b) a fully dilated cervix
   c) fetal head at least at 0 station or not more than 2/5 above the symphysis pubis
   d) ALL OF THE ABOVE

17. The vacuum cup should be placed
   a) above the flexion point, 1 cm anterior to the posterior fontanelle
   b) below the flexion point, 1 cm anterior to the posterior fontanelle
   c) OVER THE FLEXION POINT, 1 CM ANTERIOR TO THE POSTERIOR FONTANELLE
   d) over the flexion point, 2 cm anterior to the posterior fontanelle

MALPOSITIONS AND MALPRESENTATIONS

18. In occiput posterior position
   a) vacuum extraction should not be performed
   b) vaginal birth cannot occur
   c) THE EXPULSIVE PHASE MAY BE PROLONGED
   d) the woman should not give birth in a squatting position

19. In a breech presentation, the fetal heart
   a) CAN USUALLY BE HEARD AT A LOCATION HIGHER THAN EXPECTED FOR A VERTEX
      PRESENTATION
   b) can usually be heard at a location lower than expected for a vertex presentation
   c) can usually be heard in the same location as for a vertex presentation
   d) is not able to be heard

20. The presence of meconium is common with breech labor and is
   a) always a sign of fetal distress
   b) NOT A SIGN OF FETAL DISTRESS IF THE FETAL HEART RATE IS NORMAL
   c) an indication for cesarean section
   d) an indication for breech extraction

HEADACHE, BLURRED VISION, CONVULSIONS OR LOSS OF CONSCIOUSNESS, ELEVATED
BLOOD PRESSURE

21. Diastolic blood pressure 90 mm Hg or more before 20 weeks of gestation is symptomatic of
   a) mild pre-eclampsia
   b) CHRONIC HYPERTENSION
   c) superimposed mild pre-eclampsia
   d) pregnancy-induced hypertension
22. Elevated blood pressure and proteinuria in pregnancy define

   a) **PRE-ECLAMPSIA**
   b) chronic hypertension
   c) pyelonephritis
   d) none of the above

23. In a patient with hypertension and proteinuria, severe headache is a symptom of

   a) mild pre-eclampsia
   b) moderate pre-eclampsia
   c) **SEVERE PRE-ECLAMPSIA**
   d) impending eclampsia

24. Pulmonary edema in a woman who has pre-eclampsia should be considered a sign of

   a) tuberculosis
   b) heart failure
   c) **SEVERE PRE-ECLAMPSIA**
   d) pneumonia

25. The loading dose of magnesium sulfate is given via

   a) **IV OVER 5 MINUTES, FOLLOWED BY DEEP IM INJECTION INTO EACH BUTTOCK**
   b) IV over 5 minutes, followed by deep IM injection into one buttock
   c) simultaneous IV and IM injections
   d) IV bolus, followed by deep IM injection into each buttock

26. An antihypertensive drug should be given for hypertension in severe pre-eclampsia or eclampsia if diastolic blood pressure is

   a) between 100 and 110 mm Hg
   b) **110 MM HG OR MORE**
   c) 115 mm Hg or more
   d) 120 mm Hg or more

27. Immediate postpartum hemorrhage can be due to

   a) atonic uterus
   b) trauma to the genital tract
   c) retained placenta
   d) **ALL OF THE ABOVE**

28. Tears of the cervix, vagina or perineum should be suspected when there is immediate postpartum hemorrhage and

   a) **A COMPLETE PLACENTA AND A CONTRACTED UTERUS**
   b) an incomplete placenta and a contracted uterus
   c) a complete placenta and an atonic uterus
   d) an incomplete placenta and an atonic uterus
29. Prostaglandins should not be given
   a) intravaginally
   b) by IM injection
   c) by IV
   d) by mouth

30. If a retained placenta is undelivered after 30 minutes of oxytocin administration and controlled
cord traction and the uterus is contracted
   a) more aggressive controlled cord traction should be attempted
   b) controlled cord traction and fundal pressure should be attempted
   c) MANUAL REMOVAL SHOULD BE ATTEMPTED
   d) ergometrine should be given

31. If manual removal of the placenta is performed
   a) give ergometrine prior to the procedure
   b) give antibiotics 24 hours after the procedure
   c) place one hand in the uterus and use the other hand to apply traction on the cord
   d) PLACE ONE HAND IN THE UTERUS AND ONE HAND ON THE ABDOMEN TO PROVIDE
      COUNTER TRACTION ON THE UTERINE FUNDUS

32. When performing abdominal aortic compression to control postpartum hemorrhage, the point of
compression is
   a) just below and slightly to the right of the umbilicus
   b) just below and slightly to the left of the umbilicus
   c) just above and slightly to the right of the umbilicus
   d) JUST ABOVE AND SLIGHTLY TO THE LEFT OF THE UMBILICUS

33. If there is continued heavy bleeding after manual removal of the placenta
   a) ergometrine 0.2 mg should be given by mouth
   b) ERGOMETRINE 0.2 MG SHOULD BE GIVEN IM
   c) oxytocin 10 units should be given as an IV bolus
   d) prostaglandin 2.5 mg should be given IM

34. For repair of vaginal and perineal tears, local anesthetic should be infiltrated
   a) beneath the vaginal mucosa
   b) beneath the skin of the perineum
   c) deeply into the perineal muscle
   d) ALL OF THE ABOVE

FEVER

35. Puerperal sepsis is infection of the genital tract
   a) at any time before the 42\textsuperscript{nd} day following birth
   b) at any time after the 42\textsuperscript{nd} day following birth
   c) AT ANY TIME BETWEEN THE ONSET OF RUPTURE OF MEMBRANES OR LABOR AND
      THE 42\textsuperscript{ND} DAY FOLLOWING BIRTH
   d) none of the above
36. A reddened, wedge-shaped area on the breast is a typical sign of

   a) breast abscess
   b) **MASTITIS**
   c) breast engorgement
   d) none of the above

37. General management of the woman who develops a fever after childbirth includes

   a) bed rest
   b) adequate hydration by mouth or IV
   c) use of a fan or sponging with tepid water
   d) **ALL OF THE ABOVE**

38. The treatment of metritis should include

   a) IV ampicillin or IV gentamicin or IV metronidazole
   b) **IV AMPICILLIN, PLUS IV GENTAMICIN AND IV METRONIDAZOLE**
   c) a combination of oral antibiotics
   d) a broad spectrum oral antibiotic

**NEWBORN RESUSCITATION**

39. When using a bag and mask to resuscitate a baby who was breathing

   a) oxygen should always be used
   b) **OXYGEN SHOULD BE USED IF AVAILABLE**
   c) the rate of ventilation should be approximately 40 breaths per minute if using oxygen
   d) the rate of ventilation should be approximately 60 breaths per minute if oxygen is not available

40. Immediate resuscitation using a bag and mask should be implemented if the baby's respiratory rate is

   a) between 30 and 60 breaths per minute
   b) less than 40 or greater than 30 breaths per minute
   c) between 20 and 30 breaths per minute
   d) **LESS THAN 20 BREATHS PER MINUTE**