

Guidelines for Performing Breast and Pelvic Examinations

Edited by Lois Schaefer, Ann Blouse, Noel McIntosh

JHPIEGO, an affiliate of Johns Hopkins University, is a nonprofit corporation dedicated to improving the health of women and families throughout the world.

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Preface

These guidelines were developed to help clinicians (physicians, nurses, midwives and other healthcare providers) strengthen their clinical and teaching skills in performing breast and pelvic examinations.

Specific objectives of the guidelines are to:

- Illustrate the anatomy of the female reproductive system (breasts and genital organs) and stages of secondary sexual development
- Describe the essential steps in performing breast and pelvic examinations
- Provide tips on how to make these examinations more comfortable for the woman

Learning to perform the skills needed for breast and pelvic examinations takes place in three stages. In the first stage, *skill acquisition*, the participant sees others perform the skill and acquires a mental picture of the required steps. Once the mental image is acquired, the participant attempts to perform the skill, usually with supervision. Next, the participant practices until *skill competency* is achieved and s/he feels confident performing the skill. The final stage, *skill proficiency*, only occurs with repeated practice over time.

Terms Used to Describe Clinical Skill Performance

Skill Acquisition. Knows the steps and their sequence (if necessary) to perform the required skill or activity but *needs assistance*

Skill Competency. Knows the steps and their sequence (if necessary) and *can perform* the required skill or activity

Skill Proficiency. Knows the steps and their sequence (if necessary) and *efficiently performs* the required skill or activity

To make learning easier, the use of well-designed breast or pelvic models for initial practice is recommended whenever possible. Using models enables participants to quickly acquire the skills required to competently perform each examination. In addition, learning with models spares the client unnecessary discomfort because the participant can practice each step in a relaxed environment. When beginning to learn to perform the examination, it takes longer to perform (5 to 10 minutes), but with practice it should take only a few minutes. Teaching women how to do regular breast self-examination is usually easy.

Although it is important to have good clinical skills, it is equally important to learn to be attentive to the woman's feelings. Having a breast or pelvic examination is often a source of anxiety for a woman, especially if this is her first examination or if she has had an embarrassing or uncomfortable experience in the past. In addition, some women may have social, cultural or religious concerns about having these examinations. Being able to talk to the client and listen to her concerns, questions and problems is essential to becoming a caring and competent healthcare provider.

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Performing Breast and Pelvic Examinations

An important part of improving every woman's health is having regular breast and pelvic examinations. They can help identify problems before a woman has any symptoms and provide an opportunity for early treatment or prevention (e.g., breast or cervical cancer). These examinations also give the healthcare provider the opportunity to talk with the woman about her health and allow appropriate counseling if her lifestyle puts her health at risk. For example, if during an examination the provider finds that a woman has multiple sex partners, she should be counseled about the risk of this behavior and advised to use a condom during sexual intercourse. In addition, having regular breast and pelvic examinations helps the woman to learn about her body. Finally, healthcare providers often need to perform pelvic examinations before they give some family planning methods (e.g., IUD) in order to be sure the method is appropriate for the woman.

Purpose

- To look at the breasts and check for differences in shape or size or other abnormalities
- To check the lower abdomen and groin for abnormalities
- To look at the external genitalia and check the Bartholin's and Skene's glands for discharge
- To look at the vagina and cervix for infection, tears or other abnormalities (e.g., polyps, cancer)
- To check the pelvic organs (uterus, fallopian tubes and ovaries) for infection and abnormalities

In addition, determining the stage of secondary sexual development by looking at the breasts and pubic hair growth pattern also may be helpful in diagnosing *precocious puberty* (sexual development starting before age 8) or *delayed puberty* (lack of development by age 16). These stages are described in *Appendix A*.

Before Starting

To make these guidelines easy to use, the text follows the order in which the examinations are performed, and the essential, need-to-know information for each examination is organized under the headings:

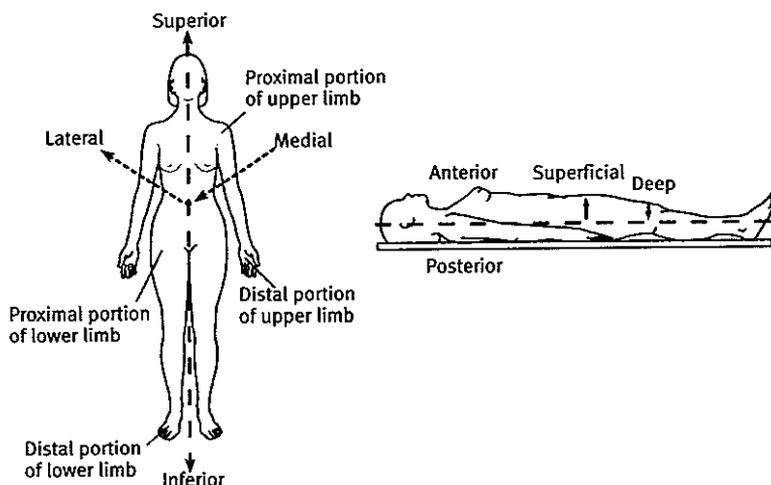
- Preparation
- Procedure

Throughout the guidelines, the following symbols are used to:

	Alert the provider to useful information or suggestions for making the examination easier to perform.
	Indicate a suggestion that may help the woman feel more comfortable during these examinations.

In addition, the following *directional terms* are used throughout the guidelines. They are described in relation to the center or trunk of the body (*Figure 1*).

Figure 1. Anatomical Position



<i>Anterior</i>	Toward the front
<i>Posterior</i>	Toward the back
<i>Superior</i>	Toward the head
<i>Inferior</i>	Toward the feet
<i>Lateral</i>	Away from the midline of the body
<i>Medial</i>	Toward the midline of the body
<i>Distal</i>	Away from the center of the body
<i>Proximal</i>	Toward the center of the body

Two other terms frequently used are:

<i>Superficial</i>	Near the surface of the body
<i>Deep</i>	Below or away from the surface of the body

For additional reference, a *Glossary of Medical Terms* is included.

Tips When Performing Breast and Pelvic Examinations

- *Be sensitive* to the woman by giving her opportunities to express any concerns before and during the examination.
- Always *respect the woman's sense of privacy* (e.g., draw the curtains around the examining table, close the door or cover the window in the examination room).
- Speak in a calm, relaxed voice at all times and encourage the woman to ask questions at any time.
- If the woman is anxious, *assure* her that you will do your best to make the examination comfortable.
- *Discuss what you are going to do at each step*, show her what you are going to do (e.g., let her see the speculum and explain its use), discuss what you find throughout the examination and be sure she clearly understands your findings and what they mean for her.
- Throughout the examination, *approach the woman slowly* and avoid any sudden or unexpected movements.
- *Do not rush through the examination*. Perform each step gently and ask her if she is having any discomfort during any part of the examination. Be aware of her facial expressions and body movements as indications that she is uncomfortable.
- Always take into consideration any cultural factors when deciding what clothing the woman should remove. Have a cloth sheet or drape to cover the woman's breast or pelvic area if needed.

Getting Ready¹

- These examinations should be performed in a clean, well-lit, private examination or procedure room that has a source of clean water.
- If a pelvic examination will be performed, before asking the woman to undress, check to be sure she has:
 - emptied her bladder, and
 - thoroughly washed and rinsed her abdominal and genital area with soap and water if her hygiene is poor.

¹ A female assistant should be available to chaperone the woman when a male clinician is the examiner.

- Ask the woman to remove only enough clothing to complete each examination. For example:
 - For the breast examination, she should remove her upper garments.
 - For the pelvic examination, she should remove any lower undergarments.

Because she will need to expose her abdomen during the pelvic examination, she may have to remove or loosen her outer garments as well.

- Help her onto the table and make sure she is comfortable. If necessary, ask her to take a few deep breaths to help her relax.
- Wash your hands thoroughly with soap and water and dry them with a clean, dry cloth or allow them to air dry before beginning the examination. (For additional information about how healthcare providers can protect themselves and their clients from infections, see *Appendix B*.)

Talking with Women

Reproductive health services that focus on the woman are more likely to increase client satisfaction. Focusing on the woman means that during the clinic visit, the healthcare provider and staff:

- are sensitive and responsive to the woman's needs;
- are considerate of and listen to the woman's problems or concerns; and
- respect the woman's rights, especially her right to privacy.

Talking with the woman during these visits is important because it gives the woman the opportunity to be actively involved in decisions about her reproductive health. For example, talking with the woman helps her:

- make and carry out her choices about her reproductive health and fertility goals,
- use family planning longer and more successfully, or
- feel more satisfied about the services she receives.

When a provider talks to a woman about her reproductive health needs, s/he should know and be able to use basic counseling techniques. These techniques help the provider establish an honest, caring and trusting relationship with the woman. If a woman trusts the provider, she will be more likely to come to the clinic for her future reproductive health needs.

- Every woman receiving reproductive health services has a *right to information* about her health.
- Every woman has the *right to discuss* her concerns in an environment (e.g., counseling or examination room) in which she feels confident.
- A woman has a *right to know* in advance the type of procedure that is going to be performed.
- When a woman is undergoing a procedure, it should be carried out in an environment in which her *right to privacy* is respected.
- A woman has a *right to feel as comfortable as possible* when receiving services.
- The woman has a *right to express* her views about the service she receives.

Adapted from: Huezo and Carignan 1997.

How to Talk with Women

Set the tone of the visit by talking in a low-key, nonpressured manner, and assure the woman that the conversation is confidential. Also, be sensitive to any cultural and religious considerations and respect her views. Additional tips for talking with a woman include:

- Listen to what the woman has to say and encourage her to express her concerns; try not to interrupt her.
- Let the woman know that she is being listened to and understood.
- Use supportive nonverbal communication, such as nodding and smiling.
- Answer her questions directly in a calm, reassuring manner.
- Give the woman written information (if available and appropriate) to remind her of instructions.
- Ask her to repeat back to you the key points to assure her understanding.
- Respect her sense of privacy by closing the door or drawing curtains around the examining table.

To further assist the provider in talking with women about these reproductive health examinations, there is a short section called *Most Commonly Asked Questions* at the end of the breast and pelvic examination sections.

Confidentiality

All information that the woman provides should be treated confidentially. This includes information about her medical history and conditions causing her to seek care, the services provided to her and any reproductive health and family planning decisions she makes. Confidentiality requires that the healthcare provider not discuss this information with the woman's partner, family, person accompanying her to the healthcare facility or staff members not directly involved in her treatment without her consent (except where required in a *life-threatening* medical emergency). On the other hand, if the woman *wants* to involve a spouse or partner in decision-making, her wishes should be followed.

Privacy

Creating an atmosphere of privacy is critical to protecting the woman's confidentiality, sense of security and dignity, and willingness to communicate honestly. Often, simple changes in the physical setting where clients are treated or counseled will offer the woman more privacy. The following are some suggestions for maintaining privacy:

- Use a separate area, such as an office, closed room or curtained space, to encourage open communication when giving information or counseling.
- Draw curtains around the examining area whenever the woman is undressed or, if curtains are not available, turn the examining table so that the woman's feet are not facing a doorway or public space. Also provide a curtained area for changing clothes.
- Use drapes (or sheets, or even clothing if drapes are not available) to cover the woman's legs and body during examinations.
- Limit the number of people in the client care area during a procedure or examination to those involved in providing care. Even if the woman gives permission for a clinical training demonstration, limit the number of persons who are in the room during the demonstration. In addition, staff and trainees in the client care area should refrain from casual conversation among themselves.

Breast Examination

Anatomy of the Breast

The mammary glands are specialized tissues located within the breasts that secrete milk following pregnancy. The breasts are located between the second and sixth ribs on the anterior chest wall. They are superficial and are positioned on top of the pectoralis muscles (*Figure 2*). A *nipple* is located in the center of each breast, and it is surrounded by a circular area of dark colored skin called the areola. Oil secreting (sebaceous) glands on the areola are seen as small bumps.

The breasts overlie the muscles of the chest wall and are made up of glandular and fibrous tissues and fat. The *glandular tissue* in each breast is made up of 15 to 20 lobes arranged around the nipple. Each lobe ends in a milk producing duct that opens onto the surface of the nipple (*Figure 3*). The *fibrous tissue* and *fat* support the glandular tissue and contain nerves, blood vessels and lymphatic vessels.

Figure 2. Female Breast

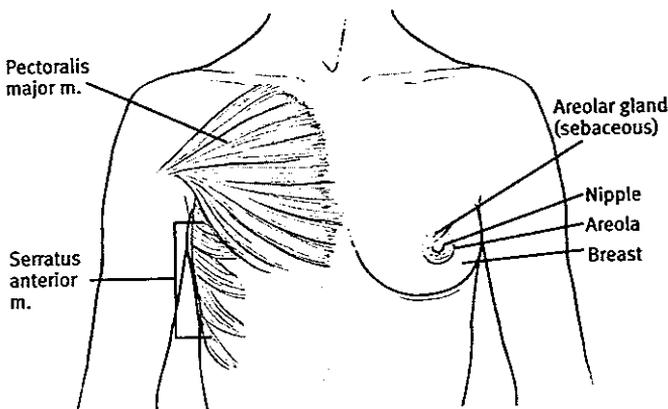
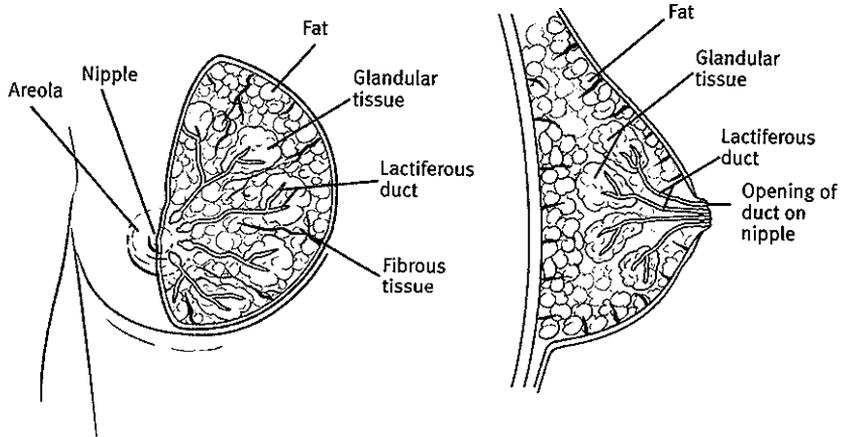


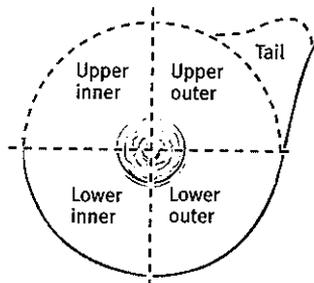
Figure 3. Anatomy of Female Breast



The consistency or elasticity of breast tissue varies according to age, pregnancy and other factors. In a young woman, the breasts are firm and elastic. In an older woman, the breasts will feel somewhat stringy or lumpy. Premenstrual fullness, nodularity and tenderness are common. During pregnancy, the breasts enlarge and become somewhat nodular.

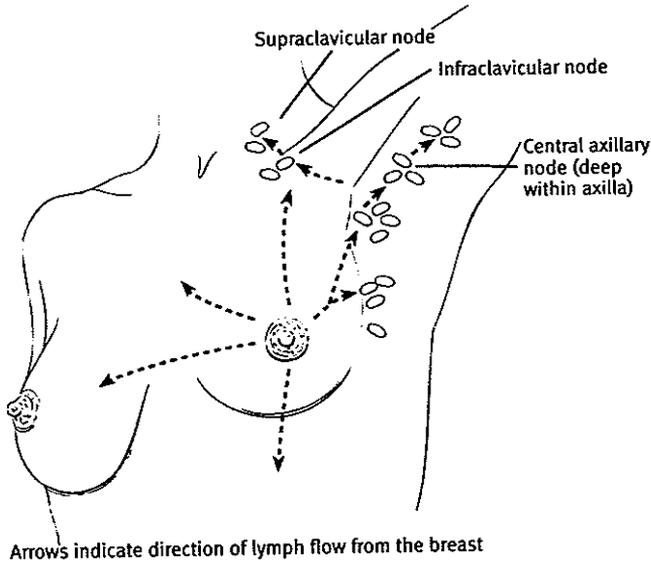
For purposes of examination, the breast can be divided into five segments: four quadrants and a tail (*Figure 4*).

Figure 4. Breast Quadrants (Left Breast)



The greatest amount of glandular tissue is found in the upper outer quadrant. In addition, a tail of breast tissue extends from this quadrant into the axilla. In the axillae, the mammary tissue is in direct contact with the lymph nodes. Because much, but not all, of the lymph from the breast drains toward the axilla, an understanding of the axillary lymph nodes is helpful in examining the breasts and determining if a tumor in the breast may be a cancer (*Figure 5*).

Figure 5. Lymphatics of the Breast



The central axillary nodes, located high in the axilla, are most often palpable with breast cancer. As shown in *Figure 5*, however, lymph also drains from the central axillary nodes to the infraclavicular and supraclavicular nodes which may then become palpable. Depending on the location of a breast lump, spread along the lymph nodes may occur in different directions, even to the opposite breast or abdomen as shown in this figure.

Performing a Breast Examination

It is important that the provider be sensitive to the woman's feelings and concerns *before, during* and *after* performing a breast examination. She may be embarrassed or not want to have the examination because she will need to show her breasts. The healthcare provider also may be uncomfortable at first. A calm and caring manner will help reassure the woman.

In this section, you will learn:

- How to examine both breasts and nipples for changes in shape or size, dimpling or puckering of the skin, and nipple discharge
- How to check both breasts and axilla for thickening, fluid filled cysts or masses (tumors)

Preparation

- Tell her you are going to examine her breasts.
- With the woman undressed from the waist up, have her sit on the examining table with her arms at her sides.



This is a good time to ask if she has noted any changes in her breasts and whether she does monthly breast self-examinations. Tell the woman that you will show her how to do a breast self-examination before she leaves.



If there are open sores or nipple discharge, put new examination or high-level disinfected surgical gloves on both hands.

Procedure

Inspection

- Look at the breasts for shape and size (*Figure 6*). Note any difference in shape, size, nipple or skin puckering or dimpling (*Figure 7*). Although some difference in size of the breasts is normal, irregularities or difference in size and shape may indicate masses. Swelling, increased warmth or tenderness in either breast may suggest infection, especially if the woman is breastfeeding.

Figure 6. Appearance of Breasts (Hands at Sides)

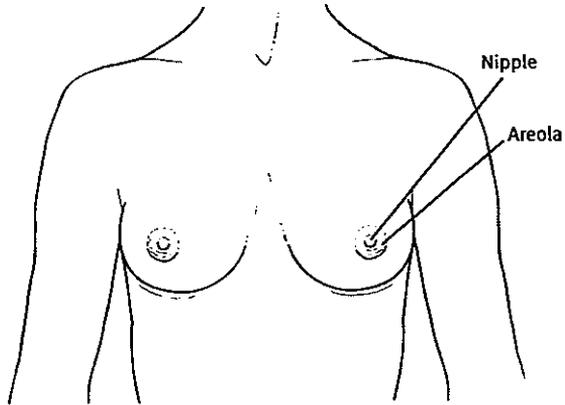
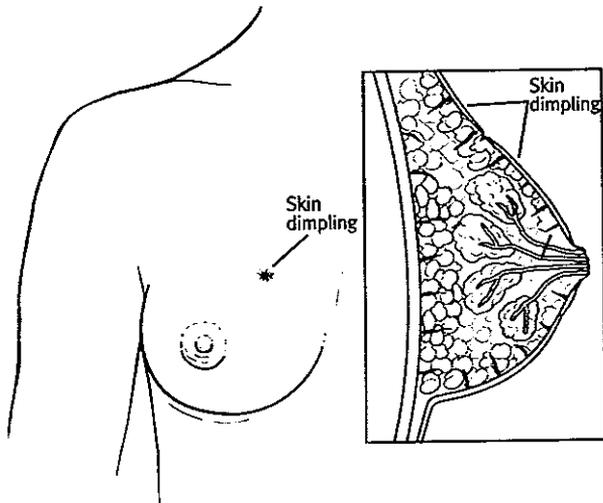


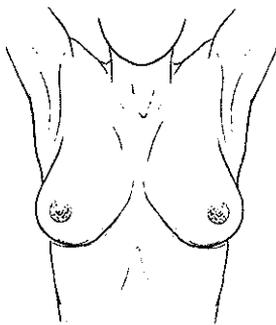
Figure 7. Breast Puckering or Dimpling



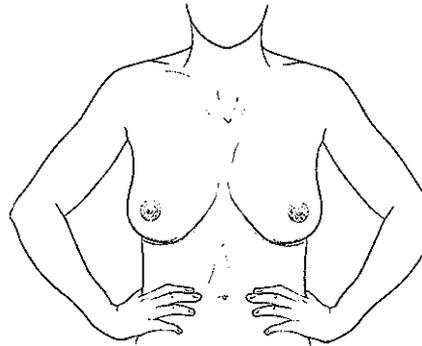
- Look at the nipples and note their size and shape and the direction in which they point (e.g., do her breasts hang evenly?). Also check for rashes or sores and any nipple discharge.

- Have the woman first raise her arms over her head (*Figure 8a*) and then press her hands on her hips to contract her chest wall (pectoral) muscles (*Figure 8b*). In each position, inspect the size, shape and symmetry, nipple or skin puckering or dimpling of the breast and note any abnormalities. (These positions will also show skin puckering or dimpling if either is present.) Then have the woman lean forward to see if her breasts hang evenly (*Figure 8c*).

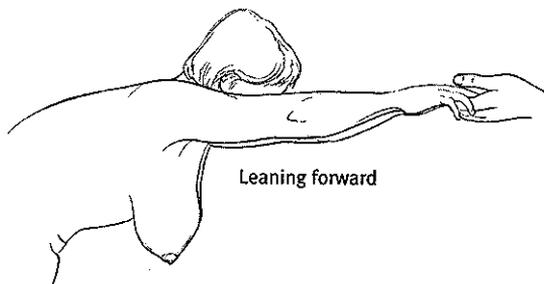
Figure 8 a, b, and c. Appearance of Breasts



Arms over head



Hands on hips



Leaning forward

Palpation

- Have the woman lie down on the examining table.

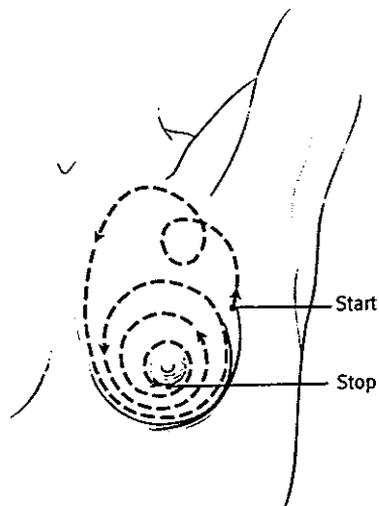
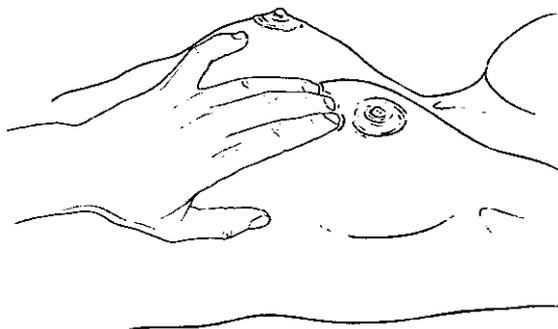
	<p>Placing a pillow under her shoulder on the side being examined will spread the breast tissue and may help in examining the breast.</p>
	<p>Place a cloth sheet or drape over the breast you are not examining.</p>

- Place the woman's left arm over her head. Look at the left breast to see if it looks similar to the right breast and whether there is puckering or dimpling.
- Using the pads of your three middle fingers (*Figure 9a*), palpate the breast using the spiral technique. Start at the top outermost edge of the breast (*Figure 9b*). Press the breast tissue firmly against the ribcage as you complete each spiral and gradually move your fingers toward the areola. Continue this until you have examined every part of the breast. Note any lumps or tenderness.



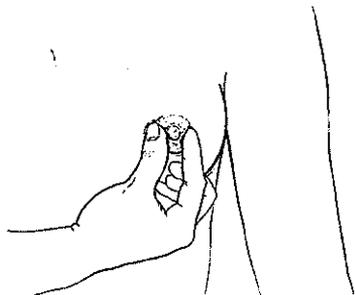
Wetting your fingertips with dilute soap solution or betadine may help you identify small lumps or axillary nodes.

Figure 9a and b. Spiral Technique of Breast Examination



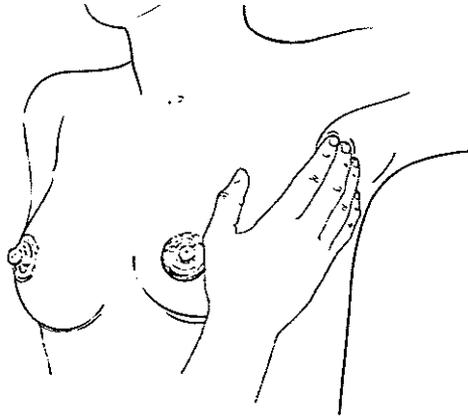
- Using the thumb and index finger, *gently* squeeze the nipple of the breast (*Figure 10*). Note any discharge: clear, cloudy or bloody. Any cloudy or bloody discharge expressed from the nipple should be noted in the woman's record. Although it is normal to have some cloudy discharge from either or both breasts up to a year after giving birth or stopping breastfeeding, rarely it may be due to cancer, infection or a benign tumor or cyst.

Figure 10. Checking for Nipple Discharge (Left Breast)



- *Repeat these steps for the right breast.*
- If there is any doubt about your findings (e.g., whether there is a lump) repeat the steps with the woman in a sitting position with her arms at her sides.
- To palpate the tail of the breast, have the woman sit up and raise her left arm to shoulder level. If needed, have her rest her hand on your shoulder. Press along the outside edge of the pectoral muscle while gradually moving your fingers up into the axilla to check for enlarged lymph nodes or tenderness (*Figure 11*). It is essential to include the tail of the breast in the palpation because this is where most cancer occurs.

Figure 11. Checking the Axilla (Left Breast)



- *Repeat this step for the right side.*
- After completing the examination, have the woman cover herself. Explain any abnormal findings and what, if anything, needs to be done. If the examination is entirely normal, tell her everything is normal and healthy and when she should return for a repeat examination (i.e., annually or if she finds any changes during breast self-examination).
- Show the woman how to perform a breast self-examination (see page 21).
- Record your findings.

Recording the Findings

After performing the breast examination, write the findings in the woman's record. An example of the findings from a normal examination is shown below.

Breasts

Appeared normal. No nipple discharge. No lumps or tenderness found during palpation. Axilla normal.

Terms Used to Describe the Findings

Specific terms used to describe the findings are listed below.

When recording the findings, use as many of these terms as possible so that the woman's record will have enough detail.

Shape

Is there any difference in the shape of the breasts?

Skin

What does the skin look like? Is it smooth, puckered or dimpled?

Nipple Discharge

Is there any abnormal fluid coming from the nipples? Discharge is described by its color, thickness, odor and amount.

Mass or Lump

A group of cells that adhere to each other. May be the result of an abscess, cyst, or benign or malignant tumor.

Size

How big (cm) is the mass? If the mass is round, what is the diameter?

Consistency

What does the mass or lump feel like? Is it firm, soft, fluid-filled or hardened?

Mobility

When palpated, is the mass movable or does it stay fixed? Mobility is usually defined in terms such as fixed (does not move on palpation), freely mobile (mobility on palpation) and limited mobility (some movement on palpation).

Breast Self-Examination (BSE)

Most breast lumps are found by women themselves. By examining her breasts every month, a woman will know how her breasts normally look and feel. If there is a change in her breasts, she will be able to see it and let her healthcare provider know. Teaching women how to examine their breasts every month and encouraging them to do so are important to maintaining good health (*Figure 12*).

Instructions for BSE

When to Examine Your Breasts

- It is best to examine your breasts *7-10 days after the first day* of the menstrual period. (This is the time when the breasts are less likely to be swollen and tender.) *You should examine your breasts every month, even after your menstrual period has stopped forever.* If you are no longer menstruating, you should pick the same day each month (e.g., the first day of the month) to examine your breasts.
- BSE can be done at anytime during the day. Examining your breasts as you bathe will allow your hands to move easily over your wet skin.

How to Examine Your Breasts

First, *look* at your breasts.

- Stand in front of a mirror with your arms at your sides and look for any changes in your breasts. Note any changes in their size, shape or skin color or if there is any puckering or dimpling.
- Look at both breasts again, first with your arms raised above your head and then with your hands pressed on your hips to contract your chest muscles. Bend forward to see if both breasts hang evenly.
- *Gently* squeeze each nipple with the thumb and index finger to look for any discharge.

Then, *feel* your breasts.



You may examine your breasts while standing up or lying down. If you examine your breasts while lying down, it will help to place a folded towel or pillow under the shoulder of the breast you are examining.

- Raise your left arm over your head. Use your right hand to press firmly on your left breast with the flat surface (fat pads) of your three middle fingers. Start at the top of the left breast and move your fingers around the entire breast in a large spiral or circular motion. Feel for any lumps or thickening. Continue to move around the breast in a spiral direction and inward toward the nipple until you reach the nipple.
- Be sure to check the areas between the breast and the underarm and the breast and the collarbone.
- Raise your right arm over your head and repeat the examination for the right breast.

What to Look for When Examining Your Breasts

- A change in the size or shape of the breast.
- A puckering or dimpling of the breast skin.
- A lump or thickening in or near the breast or underarm area. If the lump is smooth or rubbery and moves under the skin when you push it with your fingers, do not worry about it. But if it is hard, has an uneven shape and is painless – especially if the lump is in only one breast and does not move even when you push it – you should report it to your healthcare provider.

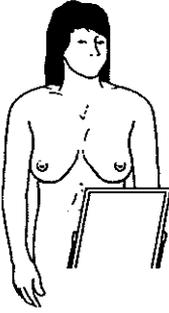
If your breasts are usually lumpy, you should note how many lumps you feel and their locations. Next month, you should note if there are any changes in the size or shape (smooth or irregular). Using the same technique every month will help you know if any changes occur.

- Any nipple discharge that looks like blood or pus, especially if you are not breastfeeding, should be reported to your healthcare provider.



There may be some discharge from one or both breasts for up to a year after having a baby or stopping breastfeeding.

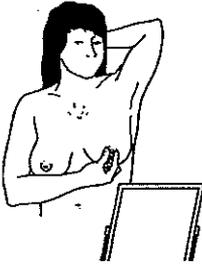
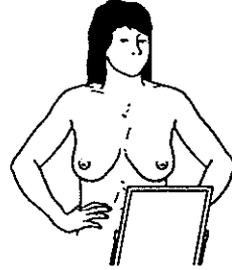
Figure 12. Breast Self-Examination



1. Look at the shape and size of your breasts in a mirror with your arms at your sides.



2. Look at your breasts with your arms over your head and your hands on your hips.



3. Gently squeeze each nipple and look for any discharge.



4. Raise your left arm over your head.



5. Use the flat surface of your fingers to press the breast. Be sure to touch every part of your breast. Use the same pattern every month.



6. Check the areas between the breast and underarm and breast and collarbone. Repeat these steps for the right breast.

Most Commonly Asked Questions about Breast Examinations

What is a breast examination?

A breast examination is looking at the size and shape of both breasts, feeling the breast tissue and checking to see if you have any fluid leaking from either nipple.

Why do I need a breast examination?

The breast examination ensures that your breasts are normal. It also helps your healthcare provider find any medical conditions (such as infections or tumors) that could become serious if not treated. Many healthcare providers recommend that you have breast examinations regularly when you become sexually active or by 18 years of age.

How common is breast cancer?

Breast cancer is a leading cause of cancer deaths in women throughout the world (age standardized rate for world population is 13/100,000¹). Factors that appear to increase the likelihood of developing breast cancer include:

- Age over 40
- Mother or sister with breast cancer
- Menarche prior to age 12
- No children or children only after age 30
- History of breast biopsies
- Overweight

What are the warning signs?

The changes that can be seen by looking at the breasts are:

- Unusual increase in the size of one breast
- One breast hangs unusually lower
- Puckering of the skin
- Dimpling or puckering of a nipple or areola
- Swelling in upper arm
- Change in the appearance of a nipple
- Milky or bloody discharge from a nipple

¹ Parkin DM, P Pisani and J Ferlay. 1999. Estimates of worldwide incidence of 25 major cancers in 1990. *International Journal of Cancer* 80: 827-841.

The changes that can be found by examining the breast are:

- Lump in the breast
- Enlargement of lymph nodes in axilla or neck

Will the examination hurt?

The breast examination will not hurt. Other than being uncomfortable because someone else is touching your breasts, there should be no pain or discomfort.

I feel scared to have one. Do other women feel this way?

It is normal to feel uncomfortable, embarrassed or scared during this examination. Many women complain that the most uncomfortable part of the examination is that it is embarrassing to show their breasts to a healthcare provider. It may help to remember that your healthcare provider is highly trained in performing these examinations. To make you feel more comfortable, you can have someone with you, such as your mother or close girlfriend, during the examination.

Do I have to take off my clothes?

You will be asked to remove your outer clothes, including your bra, from the waist up. You can undress in privacy and cover yourself with a cloth sheet or drape before your healthcare provider comes in for the examination.

Can I see what is happening during the examination?

Yes, it is important that you watch how your breasts are examined and listen carefully to what the healthcare provider says. You will also have the opportunity to learn how to perform breast self-examination.

How long will the examination take?

Usually the breast examination takes no more than 2-3 minutes. It takes an additional 5-10 minutes to teach you how to perform breast self-examination.

What is breast self-examination?

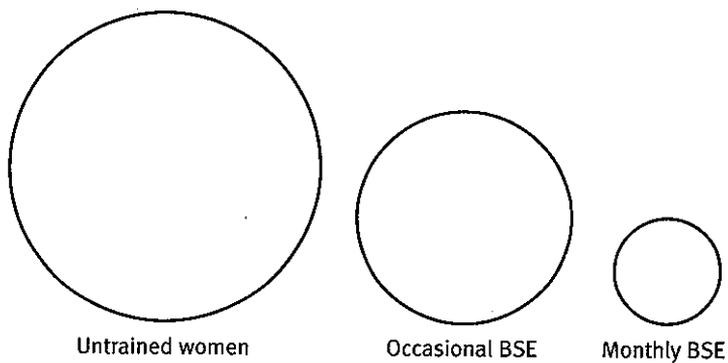
Breast self-examination is learning to look at and examine your own breasts each month. Doing this on a regular basis helps reassure you that you are healthy.

Why is doing monthly breast self-examinations important?

By doing monthly BSE, you also will have the best chance of finding a lump or other problem at the earliest stage (i.e., when it is small) and when treatment, if needed, will be the most effective and easiest to provide.

As shown below (*Figure 13*), women trained in BSE can detect smaller lumps than those who are not.

Figure 13. Average Size of Lumps Detected



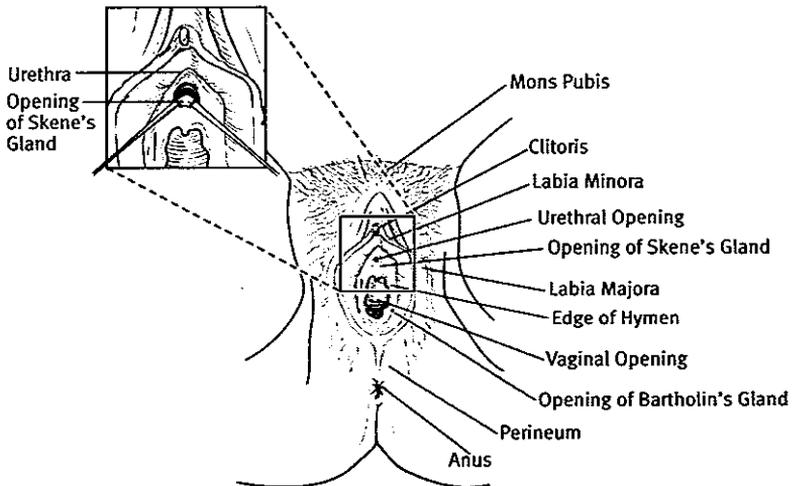
Source: Spence 1994.

Pelvic Examination

Anatomy of the Female Genitalia

The *external* female genitalia (Figure 14) are classified as *superficial* or *deep* structures.

Figure 14. External Female Genitalia



The following *superficial* structures can be seen on inspection:

Mons pubis

A cushion of fat covered by skin that rests on the symphysis pubis, the anterior joint between the pubic bones. The outer surface is covered by hair after puberty.

Clitoris

A small bud of erectile tissue located at the base of the mons pubis.

Labia majora

Two folds of fatty tissue covered by skin that begin at the mons pubis and join below the vaginal opening. The outer surface may be partially or fully covered with hair after puberty.

Perineum

The region located between the vaginal opening and the anus.

The following *deep* structures usually cannot be seen, particularly in nulliparous women, unless the labia majora are spread apart.

Labia minora

Two hairless, reddish folds of tissue enclosed within the labia majora. They join anteriorly at the clitoris and posteriorly at the perineum.

Urethral opening

Opening through which urine from the bladder passes, located just below the clitoris.

Vaginal opening (Introitus)

Opening located posterior to urethral opening. The vaginal opening can vary in size and shape depending on whether the woman has ever been sexually active.

Bartholin's glands openings

Ducts located on each side of the vaginal wall, near the vaginal opening.

Skene's glands openings

Ducts located laterally and just behind or near the opening of the urethra. Skene's glands are also called paraurethral glands.

The *internal* female genitalia are illustrated in *Figures 15* and *16*. The vagina and cervix may be seen using a vaginal speculum.

Figure 15. Lateral View of Internal Female Genitalia

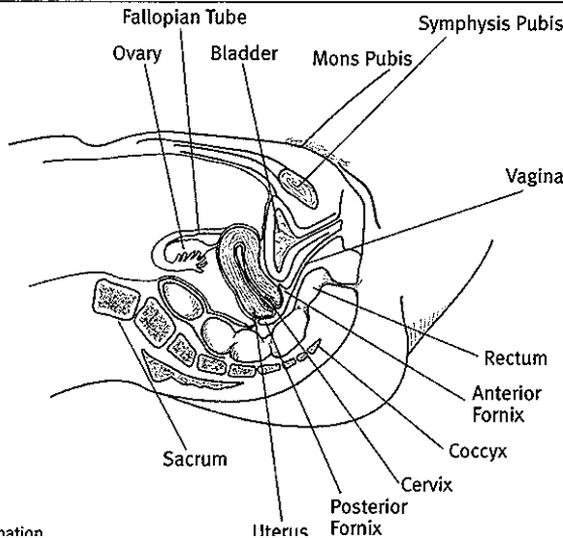
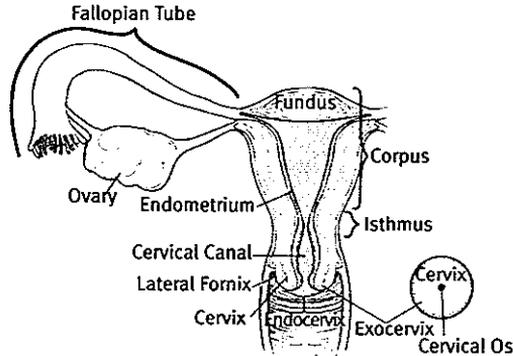


Figure 16. Front View of Internal Female Genitalia



Fallopian tubes

Two tubular structures that join the uterus laterally at the fundus. Each is about 10-14 cm in length. The proximal ends of the fallopian tubes open into the uterine cavity. The distal ends, which open into the pelvic cavity, are finger-like (fimbriated) and surround the ovaries.

Ovaries

Two irregular, oval-shaped structures located on each side of the uterus, just below the distal end of the fallopian tubes. Each ovary is approximately 3.5 cm long, 2 cm wide and 1.5 cm thick.

Uterus

Fibromuscular organ located between the bladder and the rectum which is attached to the top of the vagina. It consists of two major parts: the *corpus* and *cervix* (Figure 16).

- **Corpus.** The body of the uterus that extends from the top (fundus) to the isthmus. The uterine cavity is lined with glandular cells (endometrium). In the adult woman, the body of the nonpregnant uterus measures about 5-8 cm in length, 3-5 cm in width and is 2 cm thick. The fundus is the rounded, upper (top) portion of the body of the uterus starting from where the fallopian tubes attach to the uterus. The isthmus is the narrow portion of the uterus located between the corpus and the cervix.
- **Cervix.** The lower part of the uterus that pushes into the upper portion of the vagina. The face of the cervix (*exocervix*) is covered with pinkish, flat (squamous) cells. The *endocervix*, which consists of columnar (glandular) cells that appear reddish to the naked eye, lines the cervical canal and is visible at the cervical os.

Vagina

A distensible tube lined with pinkish, flat (squamous) cells that starts at the vaginal opening and ends where the cervix pushes into the vagina (at the anterior, posterior and lateral fornices). It is about 7-8 cm long.

Overview of Pelvic Examination

The steps in performing a pelvic examination include:

- examining the abdomen and groin;
- inspecting the external genitalia;
- performing the speculum and bimanual examinations; and
- performing the rectovaginal examination, if necessary.

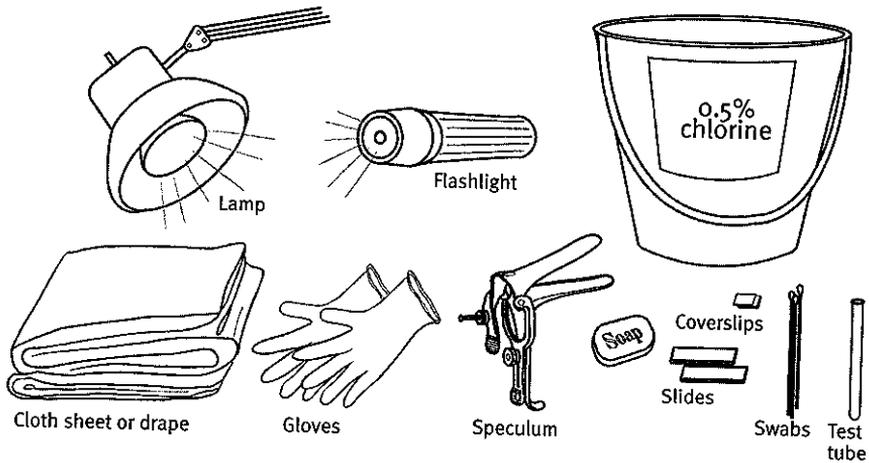
Table 1. Summary of Steps in Performing a Pelvic Examination

Getting Ready		
Task	Rationale	Comments
Explain why the examination is being done and briefly describe the steps in the examination.	This is a good opportunity to teach the woman about her own body.	
Assure the woman that you will do your best to make the examination comfortable.	This will help her relax.	Talk to the woman throughout the procedure.
Be sure that she has emptied her bladder.	This helps her relax, making the bimanual examination easier.	

Table 1. Summary of Steps in Performing a Pelvic Examination (continued)

Examination		
Task	Rationale	Comments
Examine lower abdomen and groin area.	Check for lower abdominal scars and other abnormalities. Check for bumps, swollen lymph nodes (buboes), tenderness or swelling in groin.	If the woman has open sores, wear new examination or high-level disinfected surgical gloves on hands. Change gloves after use.
Examine external genitalia.	Look at the labia, clitoris and perineal area. Check for sores, lice, tenderness, swelling, urethral discharge or discharge from Bartholin's and Skene's glands.	Wear new examination or high-level disinfected surgical gloves on both hands. If open sores or discharge are present or if you touch anal area, change gloves after use.
Perform speculum examination.	Check for vaginal or cervical discharge; collect specimens, if indicated. Check for cervicitis and other abnormalities of cervix. Check vagina and cervix for sexually transmitted disease lesions.	Speculum must be decontaminated, cleaned and high-level disinfected or sterilized after each use to prevent cross-contamination.
Perform bimanual examination.	Check for cervical motion tenderness. Determine size, position, consistency, mobility and tenderness of the uterus. Check for adnexal masses or tenderness.	
Perform rectovaginal examination (if necessary).	Only performed if findings on bimanual examination are confusing or if additional information is required.	If vaginal or cervical infection is suspected, change gloves to avoid putting infectious microorganisms from vagina into rectum.

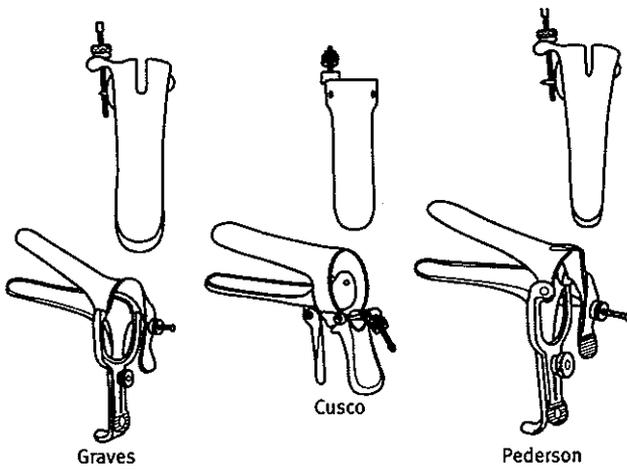
Figure 17. Instruments and Supplies for Pelvic Examination



Instruments and Supplies

- Examining table with cloth sheet or drape to cover the woman
- Good light source
- Soap and towel for washing and drying her abdominal and genital area (if necessary)
- Rubber sheet to place under the woman (optional)
- New examination gloves or high-level disinfected surgical gloves (sterile gloves are not necessary)
- High-level disinfected or sterile bivalve vaginal speculum (Graves, Cosco or Pederson) of appropriate size (*Figure 18*)
- Cotton swabs (for wiping discharge or mucus from the cervix or for specimen collection)
- If facilities are available for laboratory examination, glass slides, coverslips and test tube containing 1 ml warm saline (for pH, saline or KOH wet mount)
- Container with 0.5% chlorine solution for decontaminating the vaginal speculum and gloves (See *Appendix B* for instructions on how to prepare 0.5% chlorine solution.)
- Leakproof container with tight-fitting lid or a plastic bag for disposal of gloves and waste items (e.g., used swabs)

Figure 18. Types of Bivalve Vaginal Specula



Lower Abdominal and Groin Examination

In this section, you will learn:

- How to check for lower abdominal scars, tenderness or guarding, masses or other abnormalities
- How to check the groin for tenderness, swollen lymph nodes (buboos), open sores or other evidence of STDs

Preparation

- Be sure the woman has emptied her bladder.
- Check that she has thoroughly washed and rinsed her abdominal and genital area with soap and water if her hygiene is poor.
- Ask the woman to remove any lower undergarments.



If a cloth sheet or drape is not available, do not have the woman undress completely, but ask her to loosen her clothing and remove only her undergarments.

- If available, place a rubber sheet on the examining table where the woman's buttocks will rest.
- If you have not already washed your hands, wash them thoroughly with soap and water and dry them with a clean, dry cloth or allow them to air dry.
- Have the woman lie on her back on the examining table with her arms at her sides.



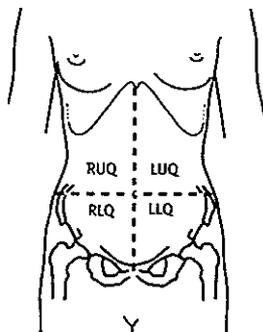
Placing a small pillow (if available) under her head and another under her knees may help relax her abdominal muscles. Do not place her hands above her head or folded across her chest. This will stretch and tighten the abdominal muscles, making palpation difficult.

- Expose the entire abdomen, from the base of the rib cage to the pelvic bone. The groin should be visible, but keep the external genitalia covered.



To help in recording your findings during the examination, the abdomen can be divided into four quadrants by imaginary lines that cross at the umbilicus: right upper (RUQ), left upper (LUQ), right lower (RLQ) and left lower quadrants (LLQ) (*Figure 19*).

Figure 19. Abdominal Quadrants



Approach the woman slowly and avoid any sudden or unexpected movements. Talk to her during the examination and explain what you are doing. This may help her relax. While you talk to her, rest your hand lightly on her abdomen – this may help you to begin the examination without startling her.



Be sure your fingernails are short and your hands are warm. Rubbing your hands together or running hot water over them may help to warm them.

Procedure

Inspection

Standing to one side of the woman, look at the abdomen.

- Note whether the abdomen is flat, rounded, distended or sunken.
- Note the location and contour or shape of the navel (umbilicus). Look for swellings or bulges that may suggest an umbilical hernia. To make the bulge more evident, ask the woman to strain slightly or cough.
- Look for bulges or visible masses of the abdomen that may indicate pregnancy, tumors, enlarged organs, or fluid or gas presence.

Check the skin for:

- Abnormal coloring such as a yellow tone, which may be a sign of jaundice, a blue tone (cyanosis) or areas of redness (inflammation). These may not be easy to see in dark-skinned women.
- Scars: Record their location and whether the scar is fixed or moves freely.
- Stretch marks (striae): Stretch marks, which are normal, may indicate weight gain or previous pregnancy. Recent stretch marks are pink or blue, but old stretch marks are white. Stretch marks may be difficult to see in dark-skinned women.
- Rashes and lesions.

Palpation

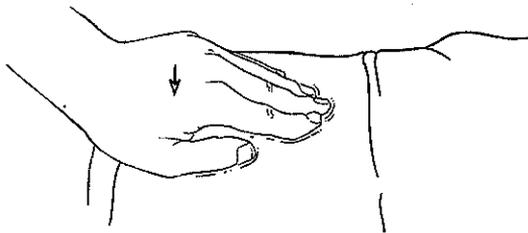
- Before palpating the abdomen, ask the woman if she has any abdominal pain or discomfort. If she does, ask her to point to these areas. Examine these areas last.



To perform light palpation, keep your hands flat and use the pads of your fingertips. With the fingers together, use a light gentle and pressing motion. Avoid short, quick jabs. Do not push down on the abdominal wall more than 1 cm (half an inch).

- Use light pressure to feel all areas of the abdomen (*Figure 20*). The abdomen should feel smooth and be soft.

Figure 20. Palpating the Abdomen



While you are palpating the abdomen, watch the woman's facial expressions and body movements as possible indications of tenderness.

- Continue to use the pads of your fingertips to palpate all areas of the abdomen.
- Use deeper palpation to determine the size, shape, consistency, tenderness, mobility and movement with respiration of any masses.
- Record any masses, areas of tenderness or increased muscular resistance, and record your findings with reference to the abdominal quadrant in which they are located.



Ask the woman to take a deep breath to help relax the abdominal wall. As she breathes out, you should be able to push the abdomen down more deeply.

- Identify any tender areas. *Guarding* or involuntary abdominal rigidity (muscular resistance) occurs when a tender area is palpated. If more severe tenderness is present, the woman may have guarding and *rebound* (or release) tenderness. In this instance she will feel sharp, stabbing pain when you remove your fingers after deep palpation.



To check for rebound tenderness, press in firmly and slowly and then quickly withdraw your fingers. Guarding and rebound tenderness suggest intra-abdominal abnormalities (e.g., pelvic inflammatory disease or ectopic pregnancy).



When deep palpation is difficult due to obesity, muscular resistance or other reasons, use two hands, one on top of the other. Press down with the upper hand while palpating with the bottom hand.

Checking the Groin

- If there are open sores, put new examination or high-level disinfected surgical gloves on both hands before examining the groin.
- Palpate both groin areas for bumps, swollen lymph nodes (buboes) or swelling.
- If gloves were used, immerse both gloved hands in 0.5% chlorine solution, then remove gloves by turning them inside out. If disposing of gloves, place in a leakproof container or plastic bag. If reusing gloves, submerge in 0.5% chlorine solution for 10 minutes for decontamination.
- Wash hands thoroughly and dry them with a clean, dry cloth or allow them to air dry.

External Genital Examination

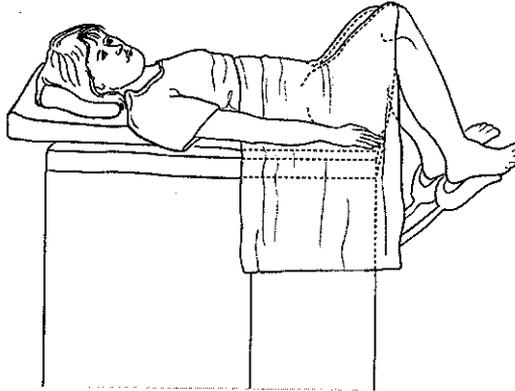
In this section, you will learn:

- How to examine the labia, clitoris and perineal area for lesions or scars, sores or warts (condyloma accuminata) and the pubic hair for pubic nits or lice
- How to check for tenderness, swelling or discharge from Bartholin's or Skene's (paraurethral) glands

Preparation

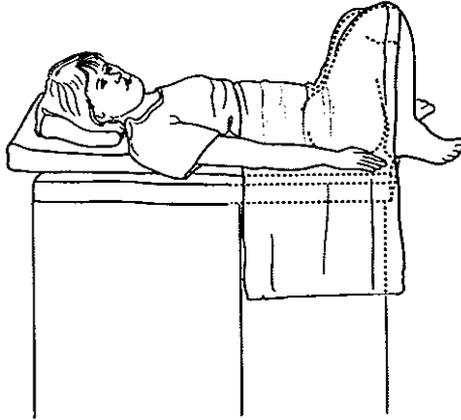
- If you are using a table with stirrups or footrests, help the woman place her heels in them. Ask her to move toward the end of the examining table until her buttocks extend slightly beyond the edge of the table. Then, ask her to let her knees fall open and to relax her buttocks (*Figure 21*).

Figure 21. Woman Positioned for Pelvic Examination on Table with Stirrups



- If there are no stirrups, help place her feet on the outside edge of the end of the table and place her buttocks close enough to her feet so that her knees bend upward and fall open comfortably (*Figure 22*).

Figure 22. Woman Positioned for Pelvic Examination on Table without Stirrups



- If she prefers, cover her knees with the drape. The drape can also be placed flat across her abdomen so that you can make eye contact with the woman and she can see what you are doing.

Procedure

- Wash your hands thoroughly with soap and water and dry them with a clean, dry cloth or allow them to air dry before beginning the examination.¹
- Turn on the light and direct it so that it shines on the genital area.
- Put new examination or high-level disinfected surgical gloves on both hands.
- Seat yourself comfortably so that you can look at the external genitalia easily.



Tell the woman what you are doing – “Now I am going to touch the inside of your leg and then move my hand over to your private parts.” Be sure to use words that she will understand.

- Touch the inside of her thigh gently before touching any of the genital area so that you do not startle her.

¹ If hands were washed following groin examination, then omit this step.

- Inspect the labia, clitoris and perineum.
 - The skin should be smooth and clean and the pubic hair free of nits and lice.
 - The labia majora are usually the same size and shape, but do not look the same in all women; they may be open or closed, dry or moist, thin and loose or full.
 - The labial tissue should feel soft and be of the same consistency all over. Labial swelling, redness or tenderness, especially if only on one side and posterior, may be due to a Bartholin's gland abscess.
 - Look for scratch marks, rashes, pimples or sores which may be due to infection.
 - Look for areas of skin that are of a different color than the rest, enlarged blood vessels, obvious stretching or signs of trauma or scarring.
 - Look for an episiotomy scar if the woman has had a baby.

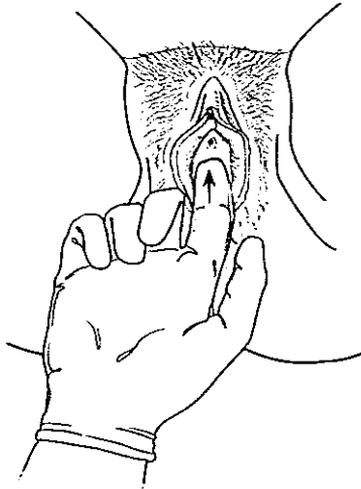


If a woman has been circumcised (parts or all of the labia and clitoris may have been removed), her external genitalia may not be readily identifiable. You may confirm this by asking if she has been circumcised.

- Separate the labia majora with two fingers and look at the labia minora, clitoris, urethral opening and vaginal opening. The vaginal opening can be a thin, vertical or oval slit if the hymen is intact or a large opening with irregular edges if she has been pregnant.
 - The labia minora should be the same size and shape and their inner surface moist.
 - Palpate the labia minora between the thumb and second finger. The tissue should feel soft and moist. It should be free of swelling, skin discolorations, discharge, lesions, fistulas and cracks or tears in the skin. The woman should not feel any tenderness when you touch her.
 - Look for redness (inflammation) discharge, tenderness, ulcers or blisters.
 - Feel for irregularities or lumps (nodules).
 - Look for polyps, fistulas and discharge containing pus (sign of irritation or inflammation).

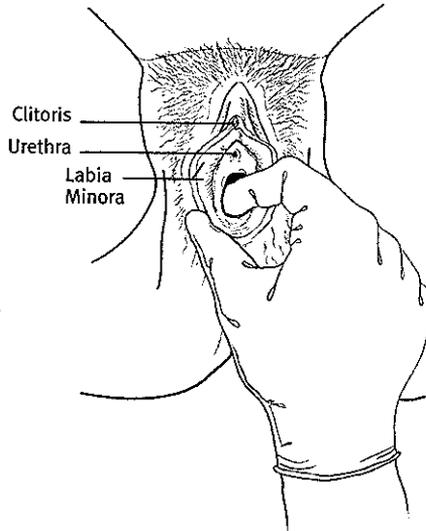
- Check for discharge and tenderness of the Skene's glands and urethra (*Figure 23*). With the palm facing upward, insert the index finger of your hand into the vagina as far as the second joint. Gently push upward against the urethra and milk the gland from the inside outward.
 - Do this on each side of the urethra and then directly under the urethra.
 - If a discharge is present, take a smear for Gram's stain and tests for gonorrhea and chlamydia (if laboratory facilities are available).

Figure 23. Checking the Skene's Glands



- Check the Bartholin's glands (*Figure 24*). Insert your index finger into the vagina at the lower edge of the opening and feel at the base of each of the labia majora (the areas at 7 to 8 o'clock and at 4 to 5 o'clock).
 - Using your finger and thumb, palpate each side for any swelling or tenderness. These symptoms may indicate an abscess of the gland. A nontender mass indicates a cyst, which can result from chronic inflammation of the gland, leading to duct blockage.
 - If a discharge is present, take a smear for Gram's stain and tests for gonorrhea and chlamydia (if laboratory facilities are available).

Figure 24. Checking the Bartholin's Glands



- Ask the woman to bear down while you hold the labia open and watch for any bulging of the anterior or posterior vaginal walls. (Bulging of the anterior vaginal wall indicates cystocele; bulging of the posterior wall is due to a rectocele. If the cervix pushes out through the vaginal opening, this is a uterine prolapse.)
- Look at the perineum.
 - The surface should be thick and smooth in a nulliparous woman; it will be thinner and rigid in a multiparous woman.
 - The anal skin is more darkly pigmented, and may look coarse. There should not be any scarring, lesions, inflammation, lumps, stretch marks, cracks or tears in the skin.



If there are open sores in this area, change gloves before doing the speculum and bimanual examinations. Doing this will avoid introducing fecal microorganisms, especially *E. coli*, into the vagina.



These gloves *cannot be reused*. Immerse both gloved hands in 0.5% chlorine solution, remove the gloves by turning them inside out and place in a leakproof container or plastic bag. Then, wash and dry your hands before putting on another pair of gloves.

Speculum Examination

In this section, you will learn:

- How to look for vaginal or cervical discharge, tears, ulcers or other abnormalities such as cervical lesions (cervicitis or cervical cancer)
- When to take specimens for diagnostic studies (if appropriate and available)
- How to check for any condition(s) that may require management (e.g., absence of IUD strings) or to evaluate results of treatment (e.g., antibiotics for cervicitis)

Preparation

- Once the woman is prepared for the external genitalia examination, no further preparation is necessary.
- If it was necessary to dispose of your gloves following the external genitalia examination, wash your hands with soap and water and dry with a clean, dry cloth or allow to air dry. Put a new pair of examination or high-level disinfected surgical gloves on both hands.



Talk to the woman during the examination and explain what you are doing.

Procedure

- Select the *smallest* bivalve speculum that will allow you to see the vagina and cervix adequately.



Using a large or even a medium speculum for a woman with a small vaginal opening can be very uncomfortable for her.

- Before inserting the speculum, show it to the woman and explain that you are going to insert part of it into her vagina.



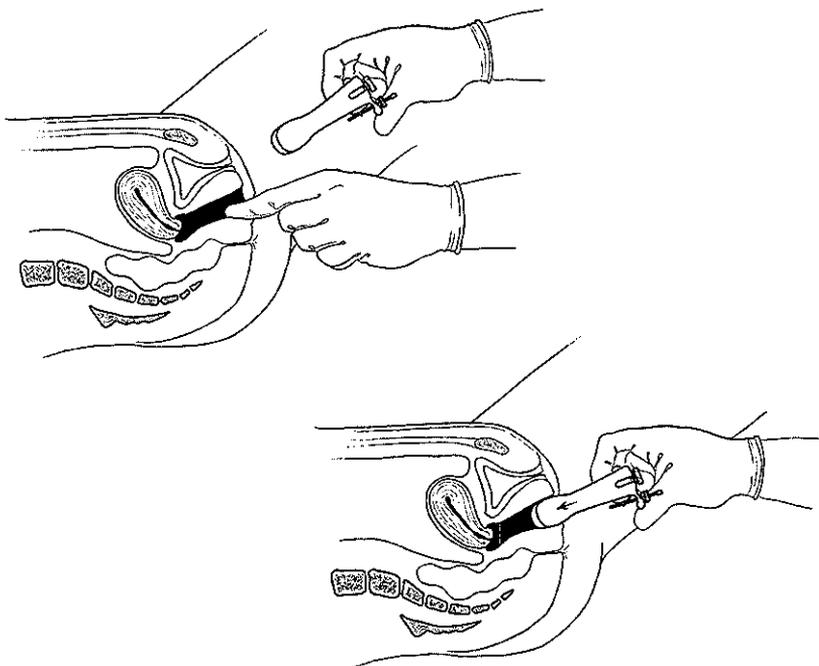
If the speculum is cold, warm it by using clean, warm water or holding it close to the light source or in your gloved hand if warm water is not available.

- When inserting the speculum, ask the woman to breathe in deeply and then breathe out slowly through her mouth. This will help her to relax and not contract her vaginal muscles.
- To insert the speculum:
 - Gently insert the index finger of one hand just inside the vaginal opening and push down firmly on the perineum towards the rectum. (This relaxes the vaginal muscles and makes it easier to insert the speculum.) If the vagina is dry, lubricate the blades of the speculum with water before insertion.
 - With your other hand, hold the closed speculum so that the closed blades are in a vertical plane and at a slightly oblique angle (*Figure 25a*).
 - As you gently insert the speculum into the vagina in a posterior direction, remove your index finger (*Figure 25b*). Doing this avoids pressure on the urethra, which is painful.



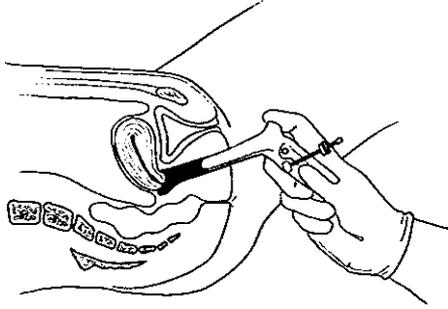
Be careful not to pull on the pubic hair or pinch the labia with the speculum.

Figure 25a and b. Inserting the Speculum



- As you advance the speculum, gently rotate the blades into a horizontal position with the handle down (*Figure 26*). Be sure the labia do not fold inward while advancing the speculum. Insert it fully or until resistance is felt.

Figure 26. Rotating the Speculum



- Gently open the blades (*Figure 27*) until the cervix comes into full view (*Figure 28*); then fix the blades in the open position by tightening the upper thumbscrew.



If you need to enlarge the opening of the speculum (Graves or Pederson) loosen the lower thumbscrew, gently push the handle up and when adjusted, tighten the lower thumbscrew.

Figure 27. Opening the Speculum Blades

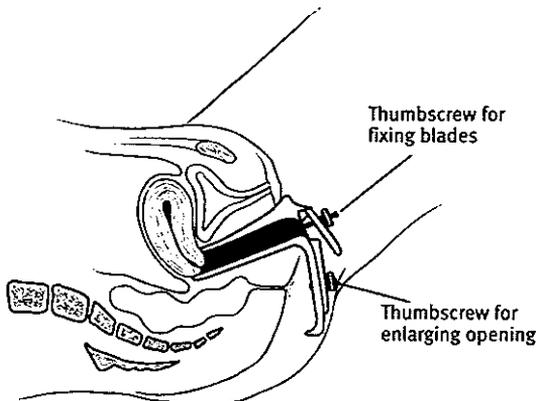
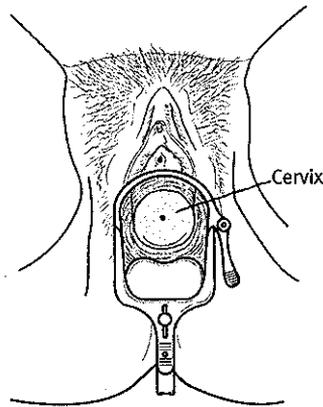


Figure 28. Speculum in Place with Blades Open

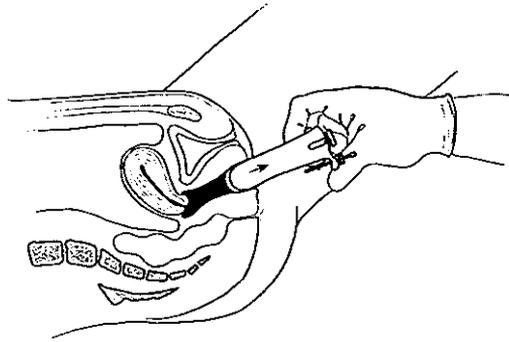


If you are having difficulty locating the cervix, withdraw the speculum slightly, move the speculum so that it points more posteriorly and gently advance the speculum again. Open the blades slowly to see if the cervix has come into view.

- Look at the vaginal walls:
 - The mucosa should be pink in color with a moist and smooth or folded (rugae) surface. Note any inflammation, ulcers or sores. Normal secretions are usually thin, clear or cloudy, and odorless.
 - Look for any abnormal vaginal discharge: watery, bubbly, foul or “fishy” smelling, “cheesy” white or gray. Take a sample of any vaginal discharge for pH, saline or KOH wet mounts and, if possible, for a Gram’s stain (if laboratory facilities are available).
- Look at the cervix and cervical opening (os):
 - The cervical os of a nulliparous woman is small and round or oval. The os of a parous woman is usually a horizontal slit, but may be irregular and open.
 - Note the color of the cervix. The surface should be smooth and pink, with the color evenly distributed. The area of the cervix where the color changes from pink to red is the transformation zone, which is usually just inside the external cervical os.
 - Note the position of the cervix (anterior or posterior); if there are polyps, nodules, cysts or any erosion or shiny red tissue around the os (ectropion); or if there is bleeding or discharge containing pus. Normal cervical secretions should be clear or cream-colored and odorless.

- The cervix should not bleed easily when gently touched with a cotton-tipped swab.
- If there is mucopus or if the cervix bleeds easily, a specimen should be obtained for Gram's stain and tests for gonorrhea and chlamydia (if laboratory facilities are available).
- After obtaining any specimens, unlock the speculum blades by keeping your thumb on the lever and loosening the thumbscrew(s). While keeping the blades partly separated, rotate the speculum 90°. Remove it slowly so that you can look at the anterior and posterior vaginal walls (*Figure 29*).

Figure 29. Removing the Speculum



As the speculum is withdrawn, the blades will tend to close. To prevent the blades from closing and pinching the vaginal mucosa or labia, keep your thumb on the lever of the speculum.



To avoid causing discomfort and putting pressure on the urethra, maintain a slight downward pressure on the speculum as you remove it.

- After gently removing the speculum, place it in a 0.5% chlorine solution for 10 minutes for decontamination.

Bimanual Examination

In this section, you will learn:

- How to determine the size, shape, position, consistency and mobility of the uterus
- How to check for pregnancy, uterine abnormalities (e.g., fibroids or double uterus) or uterine tenderness
- How to assess the adnexa (fallopian tubes, ovaries and broad ligaments) for enlargement or tenderness

Preparation

- Once the woman is in position for the speculum examination, no further preparation or positioning is necessary.



Help the woman relax by talking to her; this will enable you to palpate her internal structures quickly and accurately. Explain to her what you are going to do.

Procedure



For right-handed persons, the hand placed in the vagina usually is the right hand. In these instructions, it is referred to as the pelvic hand. The hand not in the vagina is referred to as the abdominal hand.



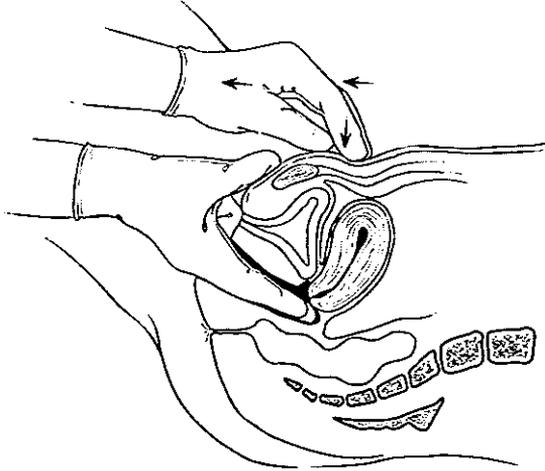
Ask the woman if she feels discomfort or pain at any time during the examination. In addition, observe her facial and body reactions for evidence of discomfort.

- Wet the index and middle fingers of the pelvic hand with clean water or a small amount of vaginal secretions.
- Separate the labia with two fingers of the abdominal hand and introduce the tips of the index and middle fingers of the pelvic hand slowly and gently into the vagina. While exerting slight downward pressure (away from the bladder), gradually insert your fingers fully while slowly turning your hand palm upward until you touch the cervix. At this point, your thumb should be pointing anteriorly with your ring and little fingers folded into your palm (*Figure 30*).



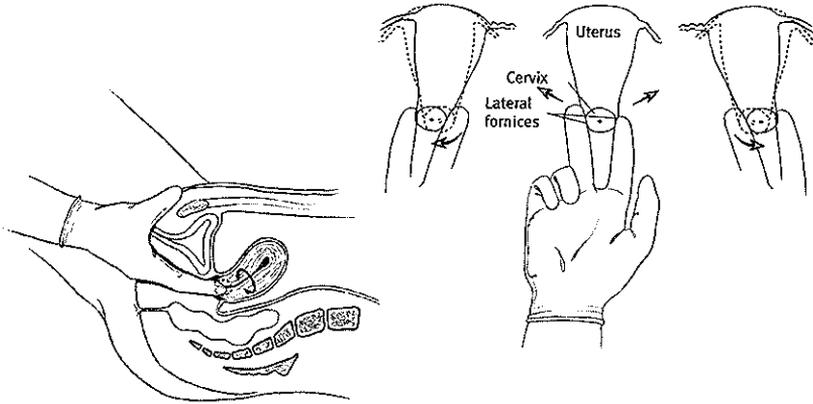
Avoid placing your thumb on the woman's clitoris because this is uncomfortable for her.

Figure 30. Inserting the Fingers into the Vagina



- Follow the anterior vaginal mucosa until you feel the cervix (*Figure 30*). Begin gently palpating the cervix.
 - A nonpregnant cervix will feel like the tip of your nose. During pregnancy the cervix is softer, larger and feels like your lip.
 - Feel the size, length and shape of the cervix. Note its position and consistency.
 - The position of the cervix often indicates the position of the corpus of the uterus. A cervix pointing up usually means the uterine body is directed posteriorly (retroverted), while a cervix pointing down usually means an anteriorly directed uterus (anteverted).
 - Move the cervix gently from side to side between your fingers. It should move 1-2 cm in each direction without causing the woman discomfort or pain (*Figure 31a and b*).

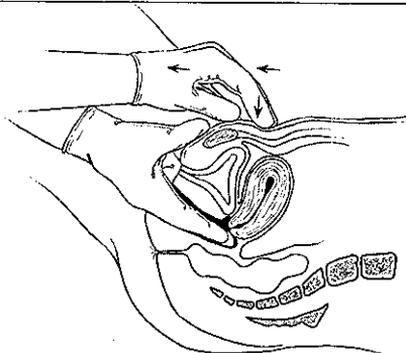
Figure 31a and b. Checking Cervical Movement



If the woman feels pain on cervical motion, it may indicate infection in the uterus or adnexa. Ask the woman to point to the location of the pain.

- To feel the body of the uterus, place the fingers of your pelvic hand in the space behind the cervix, with the palm up (Figure 32). Next, place your other hand flat on the abdomen, midway between the umbilicus and the pubic bone.
- Slowly slide your abdominal hand toward the symphysis pubis, pressing downward and forward (toward the uterus) with the flat part (pads) of your fingers. At the same time, push inward and upward with the fingers of the hand in the vagina, trying to trap the uterus between the fingers of your two hands. If the uterus is anteverted you will feel the fundus between the fingers of your two hands, about 2-4 cm above the level of the pubic bone.

Figure 32. Palpation of an Anteverted Uterus



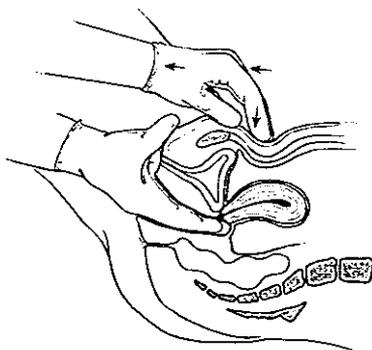


The woman may tighten the muscles of her abdomen and buttocks. Asking her to take a deep breath and blow out and relax the muscles of her buttocks will help you to feel the uterus more easily.

If you cannot feel the uterus, it may be either horizontally directed or, more likely, retroverted.

- To check this, you will need either to:
 - move the uterus upward: place the fingers of the pelvic hand under the cervix and gently lift up (anteriorly) (*Figure 33*), or
 - push down more deeply with the fingers of your abdominal hand.

Figure 33. Palpation of a Retroverted Uterus



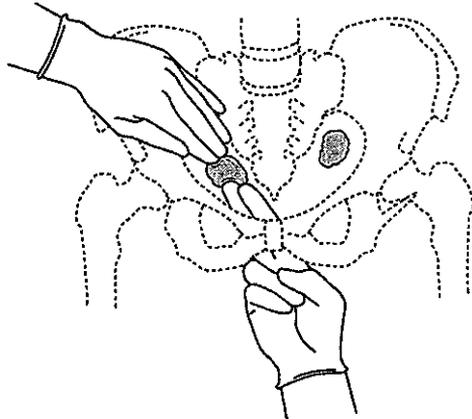
- If you still cannot find the uterus, move your fingers to each side of the cervix and press inward as far as you can without causing discomfort. Then press downward with your other hand as deeply as possible.



If these maneuvers do not help, it may be necessary to do a rectovaginal examination (see page 54).

- While palpating the uterus, check for the following:
 - *Size:* The nonpregnant uterus is about 5-8 cm long, 3-5 cm wide and 2 cm thick. If it is enlarged and soft, consider pregnancy.
 - *Shape:* The body of the uterus should be rounded and pear-shaped. If it is irregular, it may indicate the presence of fibroids; if heart-shaped it may indicate a uterine anomaly, such as a double uterus.
 - *Location:* The uterus should be located in the midline. If the top (fundus) is pushed either to the right or left, this suggests possible scar tissue (adhesions), adnexal (ovarian or fallopian tubal) masses or pregnancy (possibly ectopic).
 - *Consistency:* The body should feel smooth and firm. If it is uniformly soft, suspect pregnancy.
 - *Mobility:* The uterus should be easy to move anteriorly or posteriorly. If it is fixed (not mobile), suspect adhesions or other problems.
 - *Tenderness:* Normally, the uterus is not tender with movement or on palpation. If tenderness is present, suspect infection in the uterine cavity (endometritis).
- Locate the ovaries next. Remember that they usually are located behind and to either side of the uterus.
- To locate the right ovary, move the fingertips of the pelvic hand just under and to the side of the cervix deep in the lateral fornix. Move your abdominal hand to the same side and just lateral to the uterus (*Figure 34*). Press down (posteriorly) with this hand and reach up (anteriorly) with your vaginal fingers. Gently bring the fingers of both hands together and move them toward the symphysis pubis. You should feel the ovary slip between your fingers. Hold the ovary gently because pressure on a normal ovary can cause pain.

Figure 34. Locating the Ovary





It is often easier to feel the ovary on the same side of the body as the hand that is in the vagina (i.e., right hand in vagina and the right ovary as shown in *Figure 34*).



Finding ovaries is a skill that takes much practice to develop. Keep the woman's comfort in mind. If you are just learning, you may not be able to feel the ovaries of every woman. Not being able to feel the ovaries or other adnexal structures generally suggests that they are normal size (approximately 3 cm long, 2 cm wide and 1 cm thick), which is important to know.

- Repeat the procedure for the other ovary.
- Before removing the fingers of your pelvic hand, gently push posteriorly to check for tenderness or masses in the cul-de-sac (space behind the uterus and in front of the rectum).



A tender adnexal mass in a woman with late or missed menses, irregular bleeding, a positive pregnancy test (if available) or other signs or symptoms of pregnancy suggests an unruptured ectopic pregnancy. This must be evaluated *immediately*, preferably in a hospital with surgical facilities. If you are uncertain, ask another clinician to check your findings.

- If a rectovaginal examination is not necessary, go to *Completing the Examination* (page 56).

Rectovaginal Examination

In this section, you will learn:

- How to verify findings of bimanual examination (e.g., determine the position or size of the uterus or check for masses or tenderness posterior to the uterus)



This examination should be performed only if the findings of the bimanual examination are confusing (e.g., inability to palpate the uterus in an obese woman or there is tenderness posterior to the cervix) or if additional information is required.

Preparation

Because a rectovaginal examination is uncomfortable for most women, it should be completed as quickly and gently as possible.

- Explain to the woman what you intend to do and that the examination may make her feel like she has to move her bowels – but she will not.



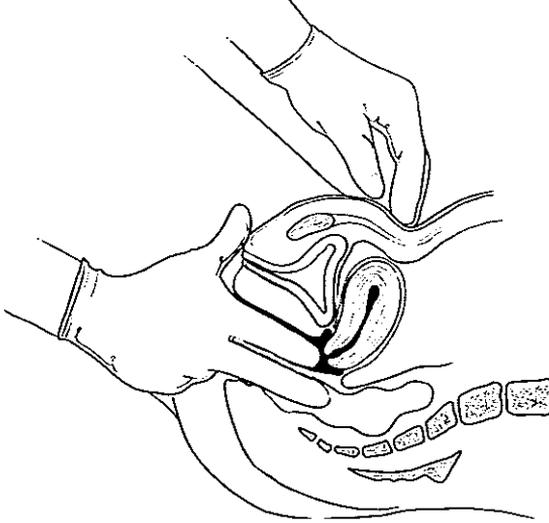
Ask the woman if she has moved her bowels today. If she has not, give her the option of doing so before the examination.

- If you suspect the woman has a vaginal infection, you may want to change the glove on your pelvic hand to avoid putting infectious microorganisms from the vagina into the rectum. If you need to change your gloves, before removing them, immerse both gloved hands in 0.5% chlorine solution, then remove them by turning them inside out. If disposing of them, place them in a leakproof container or plastic bag. If reusing the gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination.

Procedure

- Slowly insert the middle finger of your pelvic hand into the rectum and your index finger into the vagina (*Figure 35*). As you do this, ask the client to breathe out through her mouth; this helps relax her rectal muscles (anal sphincter) and helps you feel where to insert your finger. Lubrication of both fingers with water also helps to insert the fingers.

Figure 35. Performing a Rectovaginal Examination



- The tissue between your two fingers is called the rectovaginal septum and measures not more than 2-4 mm (one quarter of an inch) in thickness along its length.
- Press down firmly and deeply with the abdominal hand just above the pubic bone while the upper (vaginal) finger is pushing anteriorly on the cervix.
- Use the lower (rectal) finger to feel for the posterior surface of the uterus to determine if it is directed toward the rectum. The uterus should feel smooth. Slide the rectal finger upward until the fundus is felt.
- Check for tenderness or masses between the posterior surface of the uterus and the rectum. This could suggest endometriosis.
- When you have completed the rectovaginal examination, remove both fingers slowly.

Completing the Examination

- After completing the examination, immerse both gloved hands in 0.5% chlorine solution. Remove the gloves by turning inside out.
 - If disposing of gloves, place them in a leakproof container or plastic bag.
 - If reusing the gloves, submerge them in the 0.5% chlorine solution for 10 minutes for decontamination.



If a rectovaginal examination was performed, the gloves *cannot* be reused. Thus, after immersing both gloved hands in 0.5% chlorine solution, remove them and place in a leakproof container or plastic bag.

- Wash your hands thoroughly with soap and water and dry them with a clean, dry cloth or allow them to air dry.
- Ask the woman to move toward the head of the table and help her into a sitting position.
- When lubrication is used for the bimanual or rectovaginal examinations, or if the woman has her menstrual period or discharge, offer her a tissue or “napkin” to wipe off her external genitalia and rectum before she dresses. Show her where to dispose of the tissue.
- After she is dressed, if the examination was normal, tell the woman that everything is normal and healthy, and when she should return for a checkup. If there were abnormal findings, discuss these with her and tell her what, if anything, needs to be done.
- If a rubber sheet was used, wipe with 0.5% chlorine solution.
- Record your findings.

Recording the Findings

After performing the pelvic examination, write the findings in the woman's record. An example of the findings from a normal examination is shown below.

Abdomen and Groin Examination

Appeared normal. No scars, hernial defects or masses. No tenderness during palpation and no groin lesions.

External Genital Examination

Normal appearance. Bartholin's and Skene's glands normal. Good vaginal support.

Speculum Examination

Vagina

Clear with no lesions.

Cervix

Normal. (Note if any specimens were taken for Gram's stain or culture.)

Bimanual Examination

Uterus

Normal size, shape and consistency. Anteriorly directed, midline, freely mobile and nontender.

Ovaries

Palpably normal.

Adnexa

No masses or tenderness.

Rectovaginal Examination

Confirms bimanual examination.

Most Commonly Asked Questions about Pelvic Examinations

What is a pelvic examination?

A pelvic examination is looking at the labia, clitoris and pubic area and checking the inner female organs including the vagina, cervix, uterus and ovaries.

Why do I need a pelvic examination?

The pelvic examination ensures that your pelvic organs are healthy. It also helps your healthcare provider find any medical conditions, such as infections or abnormalities in the cervix or vagina, that could become serious if not treated. Many healthcare providers recommend that you have your first pelvic examination when you become sexually active or by 18 years of age.

Will the examination hurt?

The pelvic examination will not be painful. Many women describe their experience as a feeling of crowding or fullness in the vagina; however, there should be no pain. Sometimes a woman will feel discomfort, especially if she is not relaxed. Women who have not had a baby or who have an infection may feel some pain.

What will the examination feel like?

You will feel gloved fingers touching the outside of your genitals. During the bimanual examination, you will feel two fingers in the vagina and the other hand on the abdomen gently pressing the tissue between the two hands. At one point during the examination, the healthcare provider will insert an instrument called a speculum into the vagina. Healthcare providers sometimes will complete the examination by doing a rectovaginal examination by placing one finger in the rectum and one finger in the vagina. Doing this examination allows the healthcare provider to feel higher and deeper in the pelvis to ensure that everything is normal.

I feel scared to have one. Do other women feel this way?

It is normal to feel uncomfortable, embarrassed or scared during an examination. Many women complain that the most uncomfortable part of the examination is that they feel embarrassed to show their genitals to a healthcare provider. It may help to remember that your healthcare provider is highly trained in performing these examinations.

Do I have to take off all of my clothes?

You will be asked to remove your undergarments and other clothing as needed. You can undress in privacy and cover yourself with a cloth sheet or drape, if it is available, before your healthcare provider comes in for the examination.

What is the most common position for the pelvic examination?

The most common position is lying on your back with your feet resting in stirrups; however, various positions can be used for a pelvic examination. You will be asked to move your buttocks down to the end of the table and let your knees fall wide apart. The reason for this position and the stirrups is to give the healthcare provider enough access to the genital area.

Can I see what is happening during the examination?

Ask your healthcare provider if you can watch the examination by holding a mirror in your hand. Many healthcare providers are happy to show women their external and internal genital organs.

How long will the examination take?

Usually, the whole examination takes no more than 5 minutes. Although many women find the examination uncomfortable, it is important to your health now and in the future. After the first examination, most women find that it was not as uncomfortable as they might have imagined.

Can my healthcare provider tell if my cervix is healthy?

A Pap test or Pap smear is a screening test that helps healthcare providers find any abnormal changes in the cells of the cervix. A Pap test is done to find changes before they can become cancer. The Pap smear includes taking a sample of cells by wiping or scraping a small wooden stick (similar to a tongue depressor) over the cervix. During the Pap smear you will feel a swab being wiped across the cervix; this feels somewhat scratchy, but is not painful. If your Pap test is abnormal, do not be alarmed. Many women incorrectly believe an abnormal Pap test means they have cancer.

An alternative to a Pap smear is called visual inspection with dilute acetic acid. With this test, your healthcare provider looks at your cervix after it has been wiped with a small amount of vinegar solution. Putting this solution on the cervix does not hurt. It helps your healthcare provider immediately see if your cervix is healthy because abnormal cells appear white after being washed with vinegar.

Glossary of Medical Terms

This glossary provides brief definitions of the key medical and infection prevention terms used throughout these guidelines.

General Terms

Abscess

A collection of pus buried in tissues, organs or confined spaces.

Adhesion

A fibrous band holding together tissues or organs that are normally separated.

Adnexa

The ovaries and fallopian tubes, as well as the broad and round ligaments that support these structures.

Anteverted uterus

The body of the uterus is tipped toward the abdomen (anterior).

Bubo

A tender, inflamed or enlarged lymph node.

Cervical stenosis

A narrowing of the cervical canal that may impair fertility.

Cervicitis

Inflammation of the cervix.

Chlamydial infection

A sexually transmitted infection that can cause symptoms in women such as a yellowish cervical discharge containing pus cells (mucopus) and an easily bleeding (friable) cervix. If left untreated it can cause pelvic infection and infertility.

Cyst

A closed sac or capsule containing a liquid or watery substance.

Cystocele

Muscular weakening of the bladder that causes it to protrude into the vagina.

Ectopic pregnancy

A pregnancy in which the fertilized egg is implanted outside the uterus. This occurs most frequently in one of the fallopian tubes. As the egg grows and develops, the tube ruptures, causing internal bleeding. When this happens it is an emergency that requires immediate treatment, usually by surgery.

Ectropy/Ectropion

A change in the appearance of the cervix caused by increased presence of glandular tissue (columnar cells) on the outer surface of the cervix. (Columnar epithelium is reddish in color, bleeds easily when touched and is friable.) May result from exposure to sex hormones such as the estrogen and progestins in oral contraceptives.

Endometriosis

A condition in which tissue resembling the endometrium is found outside the uterus. Symptoms include pelvic pain, very painful menstrual periods, irregular menstrual periods and sometimes infertility.

Endometritis

Inflammation or infection of the endometrium.

Endometrium

Glandular (mucus-secreting) cells that line the surface of the uterine cavity and endocervical canal.

Episiotomy

An incision made at the opening of the vagina on the perineum during the second stage of labor to enlarge the vaginal opening and allow freer passage of the baby's head.

Erosion

Loss of part of the cervical tissue due to irritation by infection.

Fibroid

A new, uncontrolled growth of fibromuscular tissue (tumor) in the wall of the uterus. Fibroid tumors are usually not cancerous (benign).

Fistula

An abnormal, tube-like passage within body tissue; the tube can connect two body cavities or organs to each other or connect them to the surface of the body. For example, a rectovaginal fistula is an abnormal passage between the rectum and the vagina, allowing fecal material to escape into the vagina. A vesicovaginal fistula connects the bladder and the vagina, allowing urine to leak into the vagina.

Fluctuation

A wavelike, fluid motion that is felt when an enclosed structure containing free liquid is palpated.

Gonorrhea

A sexually transmitted cervical infection that causes symptoms in women such as a yellow or green vaginal discharge that contains mucopus, pain or a burning feeling during urination and an inflamed urethra. If untreated, it can cause pelvic infection and infertility.

Gram's stain

A method of staining bacteria to help in its identification.

Groin

The area of the body between the abdomen and thigh where they come together.

Hernia

A projection of an organ or part of an organ through the wall of the cavity that normally contains it (e.g., the abdominal cavity).

Microorganisms

Agents that cause infection including bacteria, viruses, fungi and parasites.

Mucopus

Mucus secretions containing pus (white blood cells); usually yellow or greenish in color.

Nodule

A small node that is solid and can be touched.

Pap smear

The standard approach to cervical cancer screening relies on cytology (the Papanicolaou or “Pap” smear). Cervical cells are scraped from the cervix, fixed on a slide and analyzed using a microscope to determine the presence or absence of cancerous or precancerous changes.

Parous

Having given birth to at least one child.

Polyp

A growth extending outward from a mucous membrane; usually a benign overgrowth of normal tissue.

Prolapse

Muscular weakening of the uterus that causes the cervix to protrude into the vaginal opening.

Rectocele

Muscular weakening of the rectum that causes it to protrude into the vagina.

Retroverted uterus

The body of the uterus is tipped toward the back (posterior).

Sexually transmitted diseases

Diseases that are transmitted through sexual intercourse.

Tumor

A new growth of tissue in which the multiplication of cells is uncontrolled and may be cancerous (malignant).

Transformation zone

Located on the surface of the cervix, the transformation zone is composed of glandular (columnar) epithelium until the onset of puberty, when the glandular epithelium is replaced by squamous epithelium, similar to the lining of the vagina. Cervical cancer generally originates at the edges of the transformation zone.

Figure 36. Instructions for Preparing 0.5% Chlorine Solutions

Formula for Making a Dilute Solution from a Concentrated Solution

$$\text{Total parts (TP) (H}_2\text{O)} = \frac{\% \text{ Concentrate}}{\% \text{ Dilute}} - 1$$

Example: Make a dilute solution (0.5%) from 5% concentrated solution.

$$\text{Calculate: (TP) (H}_2\text{O)} = \frac{5.0\%}{.5\%} - 1 = 10 - 1 = 9$$

Take 1 part concentrated solution and add to 9 parts boiled (filtered if necessary) water.

Formula for Making Chlorine-Releasing Solutions from Dry Powders

$$\text{Grams/Liter} = \frac{\% \text{ Dilute}}{\% \text{ Concentrate}} \times 1000$$

Example: Make a dilute chlorine-releasing solution (0.5%) from a concentrated powder (35%).

$$\text{Calculate: Grams/Liter} = \frac{.5\%}{35\%} \times 1000 = 14.2 \text{ g/L}$$

Add 14.2 grams of dry powder to 1 liter of water.

Infection Prevention Terms¹

Decontamination

The process that makes inanimate objects safer to be handled by staff before cleaning (i.e., reduces, but does not eliminate, the number of microorganisms on instruments and other items). Objects to be decontaminated include large surfaces (e.g., pelvic examination or operating tables), surgical instruments, gloves and other items contaminated with blood or body fluids.

Cleaning

The process that physically removes all visible blood, body fluids or any other foreign material such as dust or dirt from skin or inanimate objects. It consists of washing, rinsing and usually drying.

Disinfection

The process that eliminates most, but not all, disease-causing microorganisms from inanimate objects.

¹ Adapted from: Tietjen L, W Cronin and N McIntosh. 1992. *Infection Prevention for Family Planning Service Programs: A Problem-Solving Reference Manual*. Essential Medical Information Systems, Inc.: Durant, Oklahoma.

High-level disinfection

The process that eliminates all microorganisms except some bacterial endospores from inanimate objects; usually done by boiling, steaming or use of chemicals.

Sterilization

The process that eliminates all microorganisms (bacteria, viruses, fungi and parasites) including bacterial endospores from inanimate objects; usually done by using an autoclave, dry heat sterilizer or chemicals.

Appendices

Secondary Sexual Development in Young Women

It is helpful to know the stages of sexual development when examining females ages 8 to 16. For example, development of the breasts and genitalia (vulva and internal genitalia) begins during puberty, around ages 10-14. At about the same time, pubic hair appears and spreads over the genital area. Assessing the growth of the breasts and the extent and pattern of pubic hair growth can be useful in knowing whether or not a woman is developing normally.

The first sign of puberty is usually the appearance of breast buds. Sometimes, however, pubic hair appears first. Development of the breasts and genitalia does not happen at the same time in every person, but is usually complete by age 16. Because both breasts do not always develop at the same rate, there may be some difference in size even after full development.

The stages of secondary sexual development, as defined by Tanner, are described in *Figures 37 and 38*. These stages are based on studies of Caucasian English women and should be used with caution for women of other ethnic groups. For example, an American survey indicates that African-American women tend to be more advanced in their secondary sex characteristics than Caucasians of the same age. In addition, relatively fine, sparse pubic hair typically occurs in east Asian women. Because secondary sexual development is related to age, nutritional status as well as ethnic group, the stages described below are meant only as a guide.

¹ Adapted from: Bates B. 1983. *A Guide to Physical Examination*, 3rd ed. J.B. Lippincott Company: Philadelphia, Pennsylvania.

Figure 37. Stages of Breast Development

Stage 1: Nipple budding stage. Only a small raised nipple, with no growth of the underlying breast tissue.



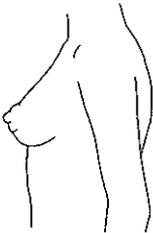
Stage 2: Breast bud stage. Breast and nipple become raised as a small mound; the darker skin surrounding the nipple (areola) becomes larger.



Stage 3: Breast and areola become more raised and enlarged, with no separation of their edges.

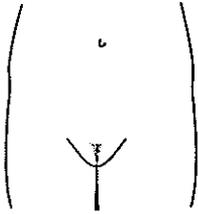


Stage 4: Areola and nipple are raised above the level of the underlying breast tissue.

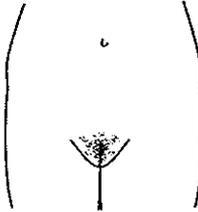


Stage 5: Mature stage; nipple now raised well above the level of the areola.

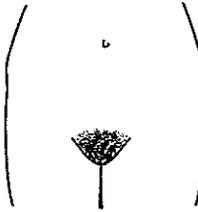
Figure 38. Stages of Pubic Hair Growth



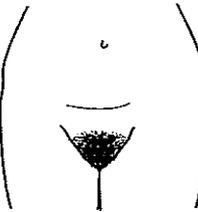
Stage 1: No growth of pubic hair except for fine body hair similar to that on abdomen.



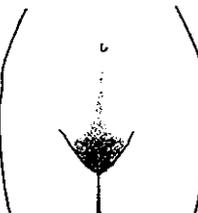
Stage 2: Sparse, long, slightly colored, soft hair, straight or only slightly curled, growing mostly along the labia.



Stage 3: Darker, coarser, curlier hair, spreading sparsely over the pubic symphysis.



Stage 4: Coarse and curly hair covering an area greater than in stage 3, but not as much as in an adult.



Stage 5: Hair like an adult, including some hair on the inside of the thighs and extending upward toward the navel.

Preventing Infections in Healthcare Workers¹

Background

Infectious diseases, such as puerperal sepsis, tuberculosis and cholera, continue to be some of the leading causes of death worldwide. Healthcare workers, as well as the clients and patients they serve, are at risk of getting these diseases. The spread of infections within healthcare facilities results in large part from the failure of healthcare workers to wash their hands *before* and *after* contact with each client or patient – a lesson learned more than 100 years ago. The current epidemic spread of bloodborne viral diseases, including hepatitis B, C, and D and HIV/AIDS, heightens the importance of healthcare worker safety. As a consequence, infection prevention strategies should focus on both:

- preventing the spread of infection to clients and patients, and
- protecting healthcare workers at all levels by providing a safer work environment.

Most infections can be spread before symptoms are present. Therefore, exposure to any blood or other body fluids from a client or patient, through needlesticks or other injuries or splashes into eyes and mouth (mucous membranes), has a risk of infection. Many healthcare workers are only vaguely aware of the risk they face while at work; some still believe that little can be done to protect them.

How Risky is Healthcare Work?

In a recent US survey, only truck drivers and laborers were reported to have higher on-the-job accident rates than healthcare workers. Although exposure to biologic agents and subsequent infection is not the only occupational hazard faced by healthcare workers, infections present the greatest risk, especially those caused by bloodborne organisms. Contact with blood and body fluids is the most common

¹ Adapted with permission from: Tietjen LG. 1997. Preventing infections in healthcare workers. *Outlook*. 15(4): 1-3.

occupational risk faced by healthcare workers. For example, in the US alone more than 800,000 needlestick injuries occur each year despite continuing education and vigorous efforts aimed at preventing them.

Although there is a growing awareness of the seriousness of AIDS and hepatitis B, C, and D as well as how these viruses are transmitted, many healthcare workers do not perceive themselves to be at risk. Even those who know that precautions such as handwashing and using gloves are important do not use them regularly. In part, this is due to the mistaken belief that these diseases are largely confined to certain “at-risk” groups – sex workers, IV drug users, or homosexuals – and to urban areas. While this may have been true several years ago, in 1998 WHO/UNAIDS estimated that worldwide there were more than 33.4 million people living with the AIDS virus and that this virus is increasingly affecting the heterosexual population as well as spreading to rural areas.

Other factors also contribute to the lack of compliance, including the perception that healthcare facilities are risky places to work and little can be done to make them safer and the mistaken belief that there is a conflict of interest between providing the best care and protecting oneself from getting an infection. In many settings, a lack of sufficient staff and inappropriate staff mix to meet patient needs magnify these problems.

How Can Healthcare Be Made Safer?

Most infectious agents are transmitted by contact with blood and body fluids and most infections can be spread before symptoms are present. Therefore, it is essential that healthcare workers treat *all* clients and patients as if they are infected. The following precautions should be used routinely by *all* healthcare workers:

- *Wash hands* before and after each client contact – the single most practical procedure for preventing the spread of infection.
- *Wear gloves* when touching anything wet – broken skin, mucous membranes, blood or other body fluids (secretions or excretions), soiled instruments, gloves and medical waste.
- *Use physical barriers* (protective goggles, face masks and plastic aprons) if splashes and spills of *any* body fluids (secretions or excretions) are anticipated, for example, during vaginal deliveries.
- *Use safe work practices*, such as safely passing sharp instruments; properly disposing of medical waste; and not recapping, breaking or bending needles or disassembling needles and syringes prior to disposal.

Because of the importance of each of these precautions, additional information on each one is summarized in the following sections.

Wash Hands

Routine *handwashing* for 10 to 15 seconds *before* and *after* contact with clients may be the single more important procedure in preventing infections. The vigorous rubbing together of all surfaces of lathered hands mechanically removes most microorganisms. Using soap and water when available or an easy-to-make antiseptic (alcohol/glycerin), waterless handrub is effective. Healthcare workers in the US have been found to wash their hands only 40 percent of the time, even in intensive care units where patients are most vulnerable and resistant organisms most common. To encourage handwashing, program managers should make every effort to provide soap, a continual supply of clean water, either from a tap or bucket, and single-use towels. And, where handwashing is not convenient, making an antiseptic handwash available can significantly improve compliance.

Alcohol Handscrub Solution

An inexpensive, nonirritating alcohol solution for handscrub can be made by adding either glycerine* or Sorbitol® to alcohol (2 ml in 100 ml 60-90% ethyl or isopropyl alcohol) (Pierce 1990). Use 3 to 5 ml for each application and continue rubbing the solution over the hands until they are dry (usually about 2-5 minutes) using a total of 6 to 10 ml per scrub.

* Glycerine is often sold in cosmetic departments as a hand softener.

Wear Gloves

Gloves should be worn by all healthcare workers prior to contact with blood and other body fluids from any client or patient. This also includes the staff who clean up after a procedure and wash instruments. The type of gloves to use depends on the task. For example, thin, fitted latex gloves are required for surgery; inexpensive, disposable exam gloves for performing pelvic examinations; and thick utility gloves for washing instruments, cleaning up spills and disposing of medical waste. Gloves should be changed after each client or patient contact to prevent cross-contamination. For example, after performing a breast or pelvic examination, staff should remove their gloves and wash their hands before writing up notes or doing anything else.

If *surgical gloves* are being reused, operating room staff should “double glove” for procedures where blood or body fluid contamination is routine (for example, vaginal deliveries or Cesarean sections) because invisible tears can occur with use and reprocessing.

Use Physical Barriers

Physical barriers protect the skin and mucous membranes of the healthcare worker from splashes or contact with blood and other body fluids. Although gloves should be worn for all procedures, other protective barriers may not be needed for simple procedures in which minimal contact is expected. If splashes or spills are expected, goggles or face masks should be used to protect the eyes, nose and mouth.

Protective clothing helps to protect the healthcare workers' clothing and may prevent fluids from soaking through to the skin. Plastic aprons are most effective for this because they do not allow any fluids to pass through. Plastics and treated fabrics are more effective barriers than paper or cloth, but they are not widely available in many countries.

Use Safe Work Practices

Safe work practices help protect staff from exposures to clients and inanimate objects such as instruments and waste. Because injuries from sharps are the most dangerous (i.e., most likely to transmit HIV/AIDS), particular attention should be paid to how sharps are handled.

For example, specific approaches to *prevent needlestick injuries* include:

- Placing puncture-proof disposal containers for needles and other sharp instruments near patient beds or examining tables.
- Training all staff to immediately dispose of needles and syringes in sharps containers *without* recapping. (Attempting to recap accounts for one third of all needlesticks.)
- Training staff in the one-hand recapping technique if recapping must be done.

Maintenance of a Safe Environment

Maintaining a safe, infection free environment is an ongoing process that requires frequent reminders to healthcare staff and close supervision.

With diligent application of the recommended practices described in this section, most infections and transmission of diseases, such as hepatitis B and HIV/AIDS, can be avoided. These practices, however, must be conscientiously applied before, during and after each procedure. Laxity at any point in the routine can have disastrous results for the safety level of healthcare workers and their clients and patients.

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