The female breast lies against the anterior thoracic wall, extending from the clavicle and 2nd rib down to the 6th rib, and from the sternum across to the midaxillary line. Its surface area is generally rectangular rather than round. The breast overlies the pectoralis major and at its inferior margin, the serratus anterior.
To describe clinical findings, the breast is often divided into four quadrants based on horizontal and vertical lines crossing at the nipple. An axillary tail of breast tissue extends toward the anterior axillary fold. Alternatively, findings can be localized as the time on the face of a clock (e.g., 3 o’clock) and the distance in centimeters from the nipple.

The breast is hormonally sensitive tissue, responsive to the changes of monthly cycling and aging. **Glandular tissue**, namely secretory tubuloalveolar glands and ducts, forms 15 to 20 septated lobes radiating around the nipple. Within each lobe are many smaller lobules. These drain into milk-producing ducts and sinuses that open onto the surface of the areola, or nipple. **Fibrous connective tissue** provides structural support in the form of fibrous bands or suspensory ligaments connected to both the skin and the underlying fascia. **Adipose tissue**, or fat, surrounds the breast, predominantly in the superficial and peripheral areas. The proportions of these components vary with age, the general state of nutrition, pregnancy, exogenous hormone use, and other factors.
The surface of the areola has small, rounded elevations formed by sebaceous glands, sweat glands, and accessory areolar glands. A few hairs are often seen on the areola.

Both the nipple and the areola are well supplied with smooth muscle that contracts to express milk from the ductal system during breast-feeding. Rich sensory innervation, especially in the nipple, triggers “milk letdown” following neurohormonal stimulation from infant sucking. Tactile stimulation of the area, including the breast examination, makes the nipple smaller, firmer, and more erect, while the areola puckers and wrinkles. These normal smooth muscle reflexes should not be mistaken for signs of breast disease.

Occasionally, one or more extra or supernumerary nipples are located along the “milk line,” illustrated on the right. Only a small nipple and areola are usually present, often mistaken for a common mole. There may be underlying glandular tissue. An extra nipple has no pathologic significance.

The male breast consists chiefly of a small nipple and areola. These overlie a thin disc of undeveloped breast tissue that may not be distinguishable clinically from the surrounding tissues. A firm button of breast tissue 2 cm or more in diameter has been described in roughly one out of three adult men. The limits of normal have not yet been clearly established.

**Changes With Aging**

**Adulthood.** The normal adult breast may be soft, but it often feels granular, nodular, or lumpy. This uneven texture is normal and may be termed *physiologic nodularity.* It is often bilateral. It may be evident throughout the breast or only in parts of it. The nodularity may increase premenstrually—a time when breasts often enlarge and become tender or even painful. For breast changes during adolescence and pregnancy, see p. 409 and pp. 699–700.
Aging. The breasts of an aging woman tend to diminish in size as glandular tissue atrophies and is replaced by fat. Although the proportion of fat increases, its total amount may also decrease. The breasts often become flabby and more pendulous. The ducts surrounding the nipple may become more easily palpable as firm, stringy strands. Axillary hair diminishes.

Lymphatics

Lymphatics from most of the breast drain toward the axilla. Of the axillary lymph nodes, the central nodes are palpable most frequently. They lie along the chest wall, usually high in the axilla and midway between the anterior and posterior axillary folds. Into them drain channels from three other groups of lymph nodes, which are seldom palpable:

- **Pectoral nodes**—anterior, located along the lower border of the pectoralis major inside the anterior axillary fold. These nodes drain the anterior chest wall and much of the breast.
- **Subscapular nodes**—posterior, located along the lateral border of the scapula; palpated deep in the posterior axillary fold. They drain the posterior chest wall and a portion of the arm.
- **Lateral nodes**—located along the upper humerus. They drain most of the arm.

Lymph drains from the central axillary nodes to the infraclavicular and supraclavicular nodes.

Not all the lymphatics of the breast drain into the axilla. Malignant cells from a breast cancer may spread directly to the infraclavicular nodes or into deep channels within the chest.
THE HEALTH HISTORY

Common or Concerning Symptoms

- Breast lump or mass
- Breast pain or discomfort
- Nipple discharge

Questions about a woman’s breasts may be included in the history or deferred to the physical examination. Ask “Do you examine your breasts?” . . . “How often?” In menstruating women, inquire “When during your monthly cycle?” Ask if she has any lumps, pain, or discomfort in her breasts. Approximately 50% of women have palpable lumps or nodularity in their breasts. Pre-menstrual enlargement and tenderness are common.

Also ask about any discharge from the nipples and when it occurs. If it appears only after squeezing the nipple, it is considered physiologic. If the discharge is spontaneous and seen on the underwear or nightclothes without local stimulation, ask about its color, consistency, and quantity. Is it unilateral or bilateral?

HEALTH PROMOTION AND COUNSELING

Important Topics for Health Promotion and Counseling

- Risk factors for breast cancer
- Breast cancer screening
- Breast self-examination (BSE)

Women may experience a wide range of changes in breast tissue and sensation, from cyclic swelling and nodularity to a distinct lump or mass. The examination of the breast provides a meaningful opportunity for the clinician and the woman patient to explore concerns important to women’s health—what to do if a lump or mass is detected, risk factors for breast cancer, and screening measures such as breast self-examination, the clinical breast examination (CBE) by a skilled clinician, and mammography.

Breast masses show marked variation in etiology, from fibroadenomas and cysts seen in younger women, to abscess or mastitis, to primary breast cancer. All breast masses warrant careful evaluation. On initial assessment, the woman’s age and physical characteristics of the mass provide clues to its origin, but definitive diagnostic measures should be pursued.
Risk Factors for Breast Cancer. Breast cancer is the most common cause of cancer in women worldwide, accounting for 18% of all female malignancies. In the United States, a woman has more than a 12% lifetime risk of developing breast cancer and an approximately 22% risk of dying from the disease.* Although 70% of affected women have no known predisposing factors, definite risk factors are well-established. The clinician and the inquiring patient should understand and review factors such as age, family history, reproductive history, and previous history of benign breast disease, especially if a previous biopsy showed atypical hyperplasia or lobular carcinoma in situ.

To calculate an individual woman’s risk of breast cancer, you may wish to make use of the Breast Cancer Risk Assessment Tool of the National Cancer Institute (www.brca.nci.gov) or other available clinical models such as the Gail model (see Bibliography). Advise your patients that more than two thirds of new cases of breast cancer localized to the breast are attributed to earlier detection.

Age. Although one in eight women will eventually develop breast cancer, it is important to note that this is a cumulative lifetime risk that increases with age. More than three fourths of breast cancer cases occur in women 50 years or older; more than half in women older than age 65. For women between the ages of 35 and 55 without major risk factors, the chance of developing breast cancer is approximately 2.5%.

Family History. The relative risk (or risk relative to an individual without a given risk factor) of breast cancer associated with menstrual history, preg-

---


---

### Palpable Masses of the Breast

<table>
<thead>
<tr>
<th>Age</th>
<th>Common Lesion</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>15–25</td>
<td>Fibroadenoma</td>
<td>Usually fine, round, mobile, nontender</td>
</tr>
<tr>
<td>25–50</td>
<td>Cysts</td>
<td>Usually soft to firm, round, mobile; often tender</td>
</tr>
<tr>
<td></td>
<td>Fibrocystic changes</td>
<td>Nodular, ropelike</td>
</tr>
<tr>
<td></td>
<td>Cancer</td>
<td>Irregular, stellate, firm, not clearly delineated from surrounding tissue</td>
</tr>
<tr>
<td>Over 50</td>
<td>Cancer until proven otherwise</td>
<td>As above</td>
</tr>
<tr>
<td>Pregnancy/lactation</td>
<td>Lactating adenomas, cysts, mastitis, and cancer</td>
<td>As above</td>
</tr>
</tbody>
</table>

nancy, and breast conditions and diseases is summarized in the table above. Risk from familial breast cancer falls into two patterns: family history of breast cancer and genetic predisposition. First-degree relatives, namely a mother or sister with breast cancer, establish a “positive family history.” Within this group, menopausal status and extent of disease play a key role. Having first-degree relatives with breast cancer who are premenopausal with bilateral disease confers the highest risk. Even when a mother and a sister have bilateral breast cancer, however, the probability of breast cancer is only 25%.

Inherited disease in women carrying mutations in the breast cancer susceptibility genes BRCA1 and BRCA2 accounts for only 5% to 10% of breast cancers. However, these genes confer a 50% risk of the disease in women under 50, and an 80% risk by age 65. Red flags for possible inherited disease include multiple relatives (maternal or paternal) with breast cancer, a family history of combined breast cancer and ovarian cancer, and a family history of bilateral and/or early onset of breast cancer.

**Menstrual History and Pregnancy.** Early menarche, delayed menopause, and first live birth after age 35 or no pregnancy all raise the risk of breast cancer two- to three-fold.

**Breast Conditions and Diseases.** Benign breast disease with biopsy findings of atypical hyperplasia or lobular carcinoma in situ carry significantly increased relative risks—4.4 and 6.9 to 12.0, respectively.

<table>
<thead>
<tr>
<th>Summary of Breast Cancer Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td><strong>Family History</strong></td>
</tr>
<tr>
<td>First-degree relative with breast cancer</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Menstrual History</strong></td>
</tr>
<tr>
<td>Age at menarche &lt;12</td>
</tr>
<tr>
<td>Age at menopause &gt;55</td>
</tr>
<tr>
<td><strong>Pregnancy</strong></td>
</tr>
<tr>
<td>First live birth from ages 25–29</td>
</tr>
<tr>
<td>First live birth after age 30</td>
</tr>
<tr>
<td>First live birth after age 35</td>
</tr>
<tr>
<td>Nulliparous</td>
</tr>
<tr>
<td><strong>Breast Conditions and Diseases</strong></td>
</tr>
<tr>
<td>Nonproliferative disease</td>
</tr>
<tr>
<td>Proliferative disease</td>
</tr>
<tr>
<td>Proliferative with atypical hyperplasia</td>
</tr>
<tr>
<td>Lobular carcinoma in situ</td>
</tr>
</tbody>
</table>

Breast Cancer Screening. Although not yet confirmed as a method for increasing detection, it is wise to teach all women the breast self-examination to promote health awareness (see pp. 312–313). To enhance early detection, the American Cancer Society recommends monthly breast self-examination beginning at age 20, clinical breast examination (CBE) by a health care professional every 3 years for women between the ages of 20 and 39, and annually after age 40, and yearly mammography for women 40 and older.* For women at increased risk, many clinicians advise a screening mammogram at age 35 or 40, then every 2 to 3 years until age 50. Mammography is less accurate when breast tissue is more glandular and dense, especially before menopause, resulting in different recommendations about the benefits of mammography for women in the 40-to-50 age group.† For women aged 50 to 69, mammography and CBE are widely recommended every 1 to 2 years. After age 70, the benefits of mammography are less well studied, and testing should be considered on an individual basis.

Preview: Recording the Physical Examination—Breasts and Axillae

Note that initially you may use sentences to describe your findings; later you will use phrases. The style below contains phrases appropriate for most write-ups. Unfamiliar terms are explained in the next section, Techniques of Examination.

“Breasts symmetric and without masses. Nipples without discharge.”
(Axillary adenopathy usually included after Neck in section on Lymph Nodes, see p. 143.)

OR:

“Breasts pendulous with diffuse fibrocystic changes. Single firm 1 × 1 cm mass, mobile and nontender, with overlying peau d’orange appearance in right breast, upper outer quadrant at 11 o’clock.”

*Suggests possible breast cancer

The clinical breast examination is an important component of women’s health care: it enhances detection of breast cancers that mammography may miss and provides an opportunity to demonstrate techniques for self-examination to the patient. Clinical investigation has shown, however, that variations in examiner experience and technique affect the value of the clinical breast examination. Clinicians are advised to adopt a more standardized approach, especially for palpation, and to use a systemic and thorough search pattern, varying palpation pressure, and a circular motion with the fingerpads.* These techniques will be discussed in more detail in the following pages. Inspection is routinely recommended, but its value in breast cancer detection is less well studied.

As you begin the examination of the breasts, be aware that women and girls may feel apprehensive. Be reassuring and adopt a courteous and gentle approach. Before you begin, let the patient know that you are about to examine her breasts. This may be a good time to ask if she has noticed any lumps or other problems and if she performs a monthly breast self-examination. If she does not, teach her good technique and watch as she repeats the steps of examination after you, giving helpful correction as needed.

An adequate inspection requires full exposure of the chest, but later in the examination you may find it helpful to cover one breast while you are palpating the other. Because breasts tend to swell and become more nodular before menses as a result of increasing estrogen stimulation, the best time for examination is 5 to 7 days after the onset of menstruation. Nodules appearing during the premenstrual phase should be reevaluated at this later time.

**INSPECTION**

Inspect the breasts and nipples with the patient in the sitting position and disrobed to the waist. A thorough examination of the breast includes careful inspection for skin changes, symmetry, contours, and retraction in four views—arms at sides, arms over head, arms pressed against hips, and leaning forward. When examining an adolescent girl, assess her breast development according to Tanner’s sex maturity ratings described on page 700.

---


---

**Examples of Abnormalities**

Risk factors for breast cancer include previous breast cancer, an affected mother or sister, biopsy showing atypical hyperplasia, increasing age, early menarche, late menopause, late or no pregnancies, and previous radiation to the chest wall.
Arms at Sides. Note the clinical features listed below.

- The appearance of the skin, including
  - Color
  - Thickening of the skin and unusually prominent pores, which may accompany lymphatic obstruction

- The size and symmetry of the breasts. Some difference in the size of the breasts, including the areolae, is common and is usually normal, as shown in the photograph below.

- The contour of the breasts. Look for changes such as masses, dimpling, or flattening. Compare one side with the other.

ARMS AT SIDES

- The characteristics of the nipples, including size and shape, direction in which they point, any rashes or ulceration, or any discharge.

Occasionally, the shape of the nipple in inverted, or depressed below the areolar surface. It may be enveloped by folds of areolar skin, as illustrated. Long-standing inversion is usually a normal variant of no clinical consequence, except for possible difficulty when breast-feeding.

Examples of Abnormalities

- Redness from local infection or inflammatory carcinoma
- Thickening and prominent pores suggest a breast cancer.

Flattening of the normally convex breast suggests cancer. See Table 8-1, Visible Signs of Breast Cancer (p. 314).

Asymmetry of directions in which nipples point suggests an underlying cancer. Rash or ulceration in Paget’s disease of the breast (see p. 314).

Recent or fixed flattening or depression of the nipple suggests nipple retraction. A retracted nipple may also be broadened and thickened, suggesting an underlying cancer.
Arms Over Head; Hands Pressed Against Hips; Leaning Forward.

To bring out dimpling or retraction that may otherwise be invisible, ask the patient to raise her arms over her head, then press her hands against her hips to contract the pectoral muscles. Inspect the breast contours carefully in each position. If the breasts are large or pendulous, it may be useful to have the patient stand and lean forward, supported by the back of the chair or the examiner’s hands.

Dimpling or retraction of the breasts in these positions suggests an underlying cancer. When a cancer or its associated fibrous strands are attached to both the skin and the fascia overlying the pectoral muscles, pectoral contraction can draw the skin inward, causing dimpling.

Occasionally, these signs may be associated with benign lesions such as posttraumatic fat necrosis or mammary duct ectasia, but they must always be evaluated with great care.

This position may reveal an asymmetry of the breast or nipple not otherwise visible. Retraction of the nipple and areola suggests an underlying cancer. See Table 8-1, Visible Signs of Breast Cancer (p. 314).
PALPATION

The Breast. Palpation is best performed when the breast tissue is flattened. The patient should be supine. Plan to palpate a rectangular area extending from the clavicle to the inframammary fold or bra line, and from the midsternal line to the posterior axillary line and well into the axilla for the tail of the breast.

A thorough examination will take 3 minutes for each breast. Use the fingertips of the 2nd, 3rd, and 4th fingers, keeping the fingers slightly flexed. It is important to be systematic. Although a circular or wedge pattern can be used, the vertical strip pattern is currently the best validated technique for detecting breast masses. Palpate in small, concentric circles at each examining point, if possible applying light, medium, and deep pressure. You will need to press more firmly to reach the deeper tissues of a large breast. Your examination should cover the entire breast, including the periphery, tail, and axilla.

To examine the lateral portion of the breast, ask the patient to roll onto the opposite hip, placing her hand on her forehead but keeping the shoulders pressed against the bed or examining table. This flattens the lateral breast tissue. Begin palpation in the axilla, moving in a straight line down to the bra line, then move the fingers medially and palpate in a vertical strip up the chest to the clavicle. Continue in vertical overlapping strips until you reach the nipple, then reposition the patient to flatten the medial portion of the breast.

When pressing deeply on the breast, you may mistake a normal rib for a hard breast mass.

To examine the medial portion of the breast, ask the patient to lie with her shoulders flat against the bed or examining table, placing her hand at her neck and lifting up her elbow until it is even with her shoulder. Palpate in a straight line down from the nipple to the bra line, then back to the clavicle, continuing in vertical overlapping strips to the midsternum.

Examine the breast tissue carefully for:

- Consistency of the tissues. Normal consistency varies widely, depending in part on the relative proportions of firmer glandular tissue and soft fat. Physiologic nodularity may be present, increasing before menses. There may be a firm transverse ridge of compressed tissue along the lower mar-

Nodules in the tail of the breast are sometimes mistaken for enlarged axillary lymph nodes (and vice versa).

Tender cords suggest mammary duct ectasia, a benign but sometimes painful condition of dilated ducts with surrounding inflamma-
gin of the breast, especially in large breasts. This is the normal inframam-
mary ridge, not a tumor.

- **Tenderness**, as in premenstrual fullness

- **Nodules**. Palpate carefully for any lump or mass that is qualitatively differ-
ent from or larger than the rest of the breast tissue. This is sometimes called a
dominant mass and may reflect a pathologic change that requires evalua-
tion by mammogram, aspiration, or biopsy. Assess and describe the char-
acteristics of any nodule:

  - **Location**—by quadrant or clock, with centimeters from the nipple
  - **Size**—in centimeters
  - **Shape**—round or cystic, disclike, or irregular in contour
  - **Consistency**—soft, firm, or hard
  - **Delimitation**—well circumscribed or not
  - **Tenderness**
  - **Mobility**—in relation to the skin, pectoral fascia, and chest wall. Gently
    move the breast near the mass and watch for dimpling.

Next, try to move the mass itself while the patient relaxes her arm and then while she presses her hand against her hip.

A mobile mass that becomes fixed when the arm relaxes is attached to the ribs and intercostal muscles; if fixed when the hand is pressed against the hip, it is attached to the pectoral fascia.

See Table 8-2, Common Breast Masses (p. 315).

Hard, irregular, poorly circum-
scribed nodules, fixed to the skin or underlying tissues, strongly sug-
gest cancer.

Cysts, inflamed areas, some cancers may be tender
The Nipple. Palpate each nipple, noting its elasticity.

The Male Breast

Examination of the male breast may be brief but is sometimes important. Inspect the nipple and areola for nodules, swelling, or ulceration. Palpate the areola and breast tissue for nodules. If the breast appears enlarged, distinguish between the soft fatty enlargement of obesity and the firm disc of glandular enlargement, called gynecomastia.

The Axillae

Although the axillae may be examined with the patient lying down, a sitting position is preferable.

INSPECTION

Inspect the skin of each axilla, noting evidence of:

- Rash
- Infection
- Unusual pigmentation

PALPATION

To examine the left axilla, ask the patient to relax with the left arm down. Help by supporting the left wrist or hand with your left hand. Cup together the fingers of your right hand and reach as high as you can toward the apex of the axilla. Warn the patient that this may feel uncomfortable. Your fingers should lie directly behind the pectoral muscles, pointing toward the midclavicle. Now press your fingers in toward the chest wall and slide them downward, trying to feel the central nodes against the chest wall. Of the axillary nodes, these are the most often palpable. One or more soft, small (<1 cm), nontender nodes are frequently felt.

Thickening of the nipple and loss of elasticity suggest an underlying cancer.

Gynecomastia is attributed to an imbalance of estrogens and androgens, sometimes drug-related. A hard, irregular, eccentric, or ulcerating nodule is not gynecomastia and suggests breast cancer.

Deodorant and other rashes

Sweat gland infection (hidradenitis suppurativa)

Deeply pigmented, velvety axillary skin suggests acanthosis nigricans, one form of which is associated with internal malignancy.

Enlarged axillary nodes from infection of the hand or arm, recent immunizations or skin tests in the arm, or part of a generalized lymphadenopathy. Check the epitrochlear nodes and other groups of lymph nodes.

Nodes that are large (≥1 cm) and firm or hard, matted together, or fixed to the skin or to underlying tissues suggest malignant involvement.
Use your left hand to examine the right axilla.

If the central nodes feel large, hard, or tender, or if there is a suspicious lesion in the drainage areas for the axillary nodes, feel for the other groups of axillary lymph nodes:

- **Pectoral nodes**—grasp the anterior axillary fold between your thumb and fingers, and with your fingers palpate inside the border of the pectoral muscle.

- **Lateral nodes**—from high in the axilla, feel along the upper humerus.

- **Subscapular nodes**—step behind the patient and with your fingers feel inside the muscle of the posterior axillary fold.

Also, feel for infraclavicular nodes and reexamine the supraclavicular nodes.

### Special Techniques

**Assessment of Spontaneous Nipple Discharge.** If there is a history of spontaneous nipple discharge, try to determine its origin by compressing the areola with your index finger, placed in radial positions around the nipple. Watch for discharge appearing through one of the duct openings on the nipple’s surface. Note the color, consistency, and quantity of any discharge and the exact location where it appears.

Milky discharge unrelated to a prior pregnancy and lactation is called *nonpuerperal galactorrhea*. Leading causes are hormonal and pharmacologic.
Examination of The Mastectomy Patient. The woman with a mastectomy warrants special care on examination. Inspect the mastectomy scar and axilla carefully for any masses or unusual nodularity. Note any change in color or signs of inflammation. Lymphedema may be present in the axilla and upper arm from impaired lymph drainage after surgery. Palpate gently along the scar—these tissues may be unusually sensitive. Use a circular motion with two or three fingers. Pay special attention to the upper outer quadrant and axilla. Note any enlargement of the lymph nodes or signs of inflammation or infection.

It is especially important to carefully palpate the breast tissue and incision lines of women with breast augmentation or reconstruction.

Instructions for The Breast Self-Examination. The office or hospital visit is an important time to teach the patient how to perform the breast self-examination (BSE). A high proportion of breast masses are detected by women examining their own breasts. Although BSE has not been shown to reduce breast cancer mortality, monthly BSE is inexpensive and may promote stronger health awareness and more active self-care. For early detection of breast cancer, the BSE is most useful when coupled with regular breast examination by an experienced clinician and mammography. The BSE is best timed just after menses, when hormonal stimulation of breast tissue is low.

A nonmilky unilateral discharge suggests local breast disease. The causative lesion is usually benign, but may be malignant, especially in elderly women. A benign intraductal papilloma is shown above in its usual subareolar location. Note the drop of blood exuding from a duct opening.

Masses, nodularity, change in color or inflammation, especially in the incision line, suggest recurrence of breast cancer.
**PATIENT INSTRUCTIONS FOR THE BREAST SELF-EXAMINATION (BSE)**

**Lying Supine**

1. Lie down with a pillow under your right shoulder. Place your right arm behind your head.
2. Use the finger pads of the three middle fingers on your left hand to feel for lumps in the right breast. The finger pads are the top third of each finger.
3. Press firmly enough to know how your breast feels. A firm ridge in the lower curve of each breast is normal. If you’re not sure how hard to press, talk with your health care provider, or try to copy the way the doctor or nurse does it.

**Standing**

1. Repeat the examination of both breasts while standing, with one arm behind your head. The upright position makes it easier to check the upper outer part of the breasts (toward your armpit). This is where about half of breast cancers are found. You may want to do the upright part of the BSE while you are in the shower. Your soapy hands will make it easy to check how your breasts feel as they glide over the wet skin.
2. For added safety, you might want to check your breasts by standing in front of a mirror right after your BSE each month. See if there are any changes in the way your breasts look, such as dimpling of the skin, changes in the nipple, redness, or swelling.
3. If you find any changes, see your doctor right away.

4. Press firmly on the breast in an up-and-down or “strip” pattern. You can also use a circular or wedge pattern, but be sure to use the same pattern every time. Check the entire breast area, and remember how your breast feels from month to month.
5. Repeat the examination on your left breast, using the finger pads of the right hand.
6. If you find any changes, see your doctor right away.

<table>
<thead>
<tr>
<th>Retraction Signs</th>
<th>Edema of the Skin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mechanism</strong></td>
<td>Edema of the skin is produced by lymphatic blockade. It appears as thickened skin with enlarged pores—the so-called <em>peau d'orange</em> (orange peel) sign. It is often seen first in the lower portion of the breast or areola.</td>
</tr>
<tr>
<td>As breast cancer advances, it causes fibrosis (scar tissue). Shortening of this fibrotic tissue produces retraction signs, including dimpling, changes in contour, and retraction or deviation of the nipple. Other causes of retraction include fat necrosis and mammary duct ectasia.</td>
<td></td>
</tr>
</tbody>
</table>

**Skin Dimpling**

Look for this sign with the patient’s arm at rest, during special positioning, and on moving or compressing the breast, as illustrated here.

**Abnormal Contours**

Look for any variation in the normal convexity of each breast, and compare one side with the other. Special positioning may again be useful. Shown here is marked flattening of the lower outer quadrant of the left breast.

**Nipple Retraction and Deviation**

A retracted nipple is flattened or pulled inward, as illustrated here. It may also be broadened, and feels thickened. When involvement is radially asymmetric, the nipple may deviate, i.e., point in a different direction from its normal counterpart, typically toward the underlying cancer.

**Paget’s Disease of the Nipple**

This is an uncommon form of breast cancer that usually starts as a scaly, eczema-like lesion. The skin may also weep, crust, or erode. A breast mass may be present. Suspect Paget’s disease in any persisting dermatitis of the nipple and areola.
The three most common kinds of breast masses are fibroadenoma (a benign tumor), cysts, and breast cancer. The clinical characteristics of these masses are listed below. However, any breast mass should be carefully evaluated and usually warrants further investigation by ultrasound, aspiration, mammography, or biopsy. The masses depicted below are rather large, for purposes of illustration. Ideally, breast cancer should be identified early, when the mass is small. Fibrocystic changes, not illustrated, are also commonly palpable as nodular, ropelike densities in women ages 25–50. They may be tender or painful. They are considered benign and are not considered a risk factor for breast cancer.

### TABLE 8-2 ■ Common Breast Masses

<table>
<thead>
<tr>
<th>Fibroadenoma</th>
<th>Cysts</th>
<th>Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Usual Age</strong></td>
<td>15–25, usually puberty and young adulthood, but up to age 55</td>
<td>30–50, regress after menopause except with estrogen therapy</td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td>Usually single, may be multiple</td>
<td>Single or multiple</td>
</tr>
<tr>
<td><strong>Shape</strong></td>
<td>Round, disclike, or lobular</td>
<td>Round</td>
</tr>
<tr>
<td><strong>Consistency</strong></td>
<td>May be soft, usually firm</td>
<td>Soft to firm, usually elastic</td>
</tr>
<tr>
<td><strong>Delimitation</strong></td>
<td>Well delineated</td>
<td>Well delineated</td>
</tr>
<tr>
<td><strong>Mobility</strong></td>
<td>Very mobile</td>
<td>Mobile</td>
</tr>
<tr>
<td><strong>Tenderness</strong></td>
<td>Usually nontender</td>
<td>Often tender</td>
</tr>
<tr>
<td><strong>Retraction Signs</strong></td>
<td>Absent</td>
<td>Absent</td>
</tr>
</tbody>
</table>