Breast Cancer

What Every Woman Should Know

susan G. komen®

Breast cancer is overwhelming. Are you newly diagnosed? Has a friend or loved one shared the news that they have breast cancer? Or are you just looking for information?

Read this booklet to learn about common breast changes, risk factors, screening and diagnostic tests, different types of treatment and support for breast cancer survivors. It's the first step in finding out what every woman should know.

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Breast Facts

Breast tissue is found just below the collarbone and extends from the underarm to the breastbone and down to below the bra line. Breasts are made up of **lobules [LOB-yuls], ducts,** connective tissue, **lymph nodes** and fat.

Many breast changes will occur during your lifetime. The first changes occur during puberty as breast tissue develops and your breasts grow larger. Other changes occur during pregnancy. During and after pregnancy, milk is produced in the lobules and is carried through the ducts to the nipple openings. Your breasts increase in size during this time.

As you get older and enter menopause, your ovaries produce less **hormones** and the number of lobules in the breast decreases. As a result you lose some breast tissue and the size and shape of your breasts change. Also at this time the breast tissue is replaced with fat.

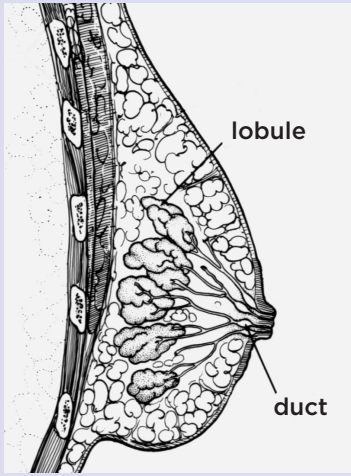
Ducts: passageways for carrying milk from the lobules to the nipple

Hormones: chemicals produced by glands in the body

Lobules: sacs in the breast that produce milk

Lymph nodes: glands, found throughout the body, that filter lymph fluid

Menopause: when monthly periods stop and estrogen levels decrease



Common Breast Changes

Your breasts will go through changes from puberty through menopause. These changes might include lumps, pain or nipple discharge.

The good news is that most of these changes are normal and benign (not cancer). For instance, do your breasts feel swollen and tender before your monthly period? If so, you might be having cyclical breast changes — a breast change that affects about half of all women.

During this time, the rise in hormones can cause your breast tissue to feel tender and heavy. Lumps may form due to hormone changes. These are also normal changes. Both lumps and swelling often go away by the end of your monthly period. Tell your health care provider about any breast changes that do not go away.

Common benign breast conditions

Cysts are fluid-filled sacs in the breast tissue. They occur most often in women in their thirties and older. Cysts are almost always harmless.

Fat necrosis [ne-KRO-sis] refers to firm lumps formed by damaged fatty tissue. They can form as a result of a bruise, an injury or breast surgery.

Fibroadenomas [FI-bro-ad-eh-NO-mas] are smooth or hard lumps that move easily within the breast tissue. Fibroadenomas are the most common tumors found in women in their late teens and early twenties. These tumors are not cancer, but may grow bigger with pregnancy or breastfeeding.

Fibrocystic [FI-bro-SIS-tic] breast change is lumpiness plus tenderness or pain at certain times of the month. The lumpiness may be more obvious as you approach middle age.

Nipple discharge is fluid coming from the nipple. Let your health care provider know the color and texture of the discharge. Nipple discharge may be of concern if it appears without squeezing the nipple, if it comes from only one nipple or contains blood. Your health care provider may take a sample of the discharge to be tested.

Non-cyclical breast pain is often noted in one area of the breast. It is not related to your hormones or monthly periods and does not change through the month. If you have this type of pain, see your health care provider.

Non-breast origin pain usually starts in the chest or ribs. If you have this kind of pain, it may not be a breast problem at all. It may be another medical issue that should be checked by your health care provider.

Tell your health care provider about any breast changes you notice.

Treating Benign Breast Conditions

Benign breast conditions can be stressful. Talk to your health care provider about how these breast conditions can be treated. Painful cysts that don't go away may be drained. Surgery may be suggested to remove fibroadenomas or fat necrosis.

There are also things you can do that may relieve breast pain. Wearing a supportive bra may decrease the discomfort that can occur with fibrocystic breast changes. Some women also find that reducing caffeine intake decreases breast discomfort.

What is Breast Cancer?

Breast cancer is not just one disease, but a group of diseases. It occurs when cells in the breast divide and grow without their normal control. These malignant (cancerous) tumors can spread from the breasts to other parts of the body through the lymph system or blood stream (metastasis).

What Can I Do?

No one knows what causes breast cancer. No one knows how to prevent it. What we do know is that if breast cancer is found early, the chances for survival are highest.

Here's what you can do:

1. Know your risk

- ❏ Talk to both sides of your family to learn about your family health history
- ❏ Talk to your health care provider about your personal risk of breast cancer

2. Get screened

- ❏ Talk with your doctor about which screening tests are right for you if you are at a higher risk. Ask whether you should start getting mammograms, or other screening tests like breast MRI, before age 40
- ❏ Have a mammogram every year starting at age 40 if you are at average risk
- ❏ Have a clinical breast exam at least every 3 years starting at age 20, and every year starting at age 40
- ❏ Sign up for your screening reminder at komen.org/reminder

As we learn more about individual risk, we may be able to determine who will benefit most from any given screening test. Today, there are specific screening guidelines for people at higher risk, and generally one guideline for those who are at average risk. As we learn more, guidelines for those within the "average risk" group may come about. Women should discuss their screening options with their health care providers.

3. Know what is normal for you

- ❏ See your health care provider if you notice any of these breast changes:
  - Lump, hard knot or thickening inside the breast or underarm area
  - Swelling, warmth, redness or darkening of the breast
  - Change in the size or shape of the breast
  - Dimpling or puckering of the skin
  - Itchy, scaly sore or rash on the nipple
  - Pulling in of your nipple or other parts of the breast
  - Nipple discharge that starts suddenly
  - New pain in one spot that doesn't go away

4. Make healthy lifestyle choices

- ❏ Maintain a healthy weight
- ❏ Add exercise into your routine
- ❏ Limit alcohol intake
- ❏ Limit menopausal hormone use
- ❏ Breastfeed, if you can

1. Know Your Risk

Are you at risk of breast cancer?

Simply being a woman and getting older put you at risk. Also, there are many other risk factors. Risk factors do not cause breast cancer, but they increase the chances that breast cancer may develop. Having many risk factors for breast cancer does not mean that you will get breast cancer. It means that your chances of getting the disease are higher than those who have fewer risk factors. Also, many women with breast cancer do not have any known risk factors aside from being female.

There are some risk factors that you can control and others you cannot. Remember, even if you do not have any of these risk factors you can still get breast cancer.

Factors that may increase your risk of breast cancer

- Being female
- Getting older
- Having an inherited mutation in the BRCA1 or BRCA2 breast cancer genes
- Having a breast biopsy showing lobular carcinoma in situ (LCIS) or hyperplasia
- A family history of breast, ovarian or prostate cancer
- Having high breast density on a mammogram
- Having a personal history of breast or ovarian cancer
- Never having children
- Having first child after age 35
- Having high bone density
- Being exposed to large amounts of radiation, such as frequent X-rays in youth
- Currently or recently using menopausal hormones (estrogen or estrogen plus progestin)
- Being overweight after menopause or gaining weight as an adult
- Starting menopause after age 55
- Having your first period before age 12
- Having more than one drink of alcohol per day
- Currently or recently using birth control pills

Know your risk by learning about your family health history. Talk to your health care provider about your personal risk of breast cancer and when and how often you should be screened.

Options for women at higher risk

Talk to your doctor about which screening tests are right for you if you are at a higher risk. You might need to:

- Have more frequent clinical breast exams (CBEs) or mammograms, starting at a younger age
- Have other breast screening tests such as a breast magnetic resonance imaging (MRI) in addition to mammography
- Discuss genetic testing for an inherited gene mutation with your health care provider
- Take a drug, such as tamoxifen [tah-MOX-ah-fin] or raloxifene [ra-LOX-ih-feen] to help reduce the chance of getting breast cancer
- Have a prophylactic or preventive mastectomy (removal of one or both breasts) or oophorectomy (removal of the ovaries) to reduce the chance of getting breast cancer
- Take part in a risk-lowering clinical trial (research study of drugs to prevent breast cancer)

2. Get Screened

Mammogram

A mammogram is an X-ray picture of the breast. Mammography is the best screening tool for breast cancer used today. It can find cancers at an early stage, when they are small (too small to be felt) and the chances of survival are highest.

During a mammogram, your breasts are pressed between two plastic plates. These plates flatten the breast tissue so that a good picture is taken. Two views of each breast are taken, one with the X-ray beam aimed from top to bottom and the other from side to side. The X-ray uses very little radiation. Be sure to tell the technologist about any lumps or changes you have noticed. Your X-rays can be compared from year to year to see if there have been any changes. The test takes a few minutes, and you should have your results within two weeks. If you do not receive the results within two weeks, call your doctor or the mammography center.

Starting at age 40, women should get a mammogram every year. If you are under age 40 and have a family history of breast cancer or other concerns about your breasts, talk to your health care provider about when to start getting mammograms or other tests and how often to have them. Most insurance programs cover mammograms, including Medicare. There are many free or low-cost programs. Call our breast care helpline at 1-877 GO KOMEN (1-877-465-6636) for more information.

Mammograms are very accurate, but they are not perfect. Some breast cancers are not found by mammography but can be felt during a clinical breast exam. So, it's important to have both — a clinical breast exam and a mammogram.

Clinical Breast Exam (CBE)

A breast exam by your health care provider should be a part of your regular medical checkup. If not, ask for it. A CBE includes a visual exam and carefully feeling the entire breast and underarm areas for lumps or other changes. Have a CBE at least every three years starting at age 20, and every year starting at age 40. Ideally you should have your CBE close to the time of your annual mammogram. Ask questions about your personal risk and any breast changes you may have noticed.

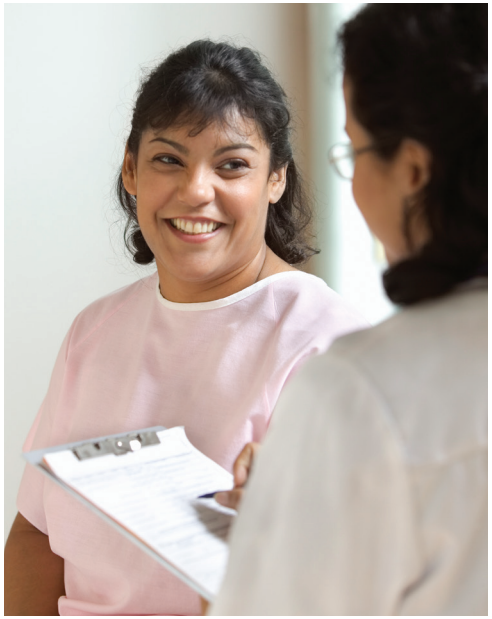
As we learn more about more about individual risk, we may be able to determine who will benefit most from any given screening test.

Talk to your health care provider about when you should start getting mammograms.

3. Know What's Normal for You

Breasts are composed of lobules, ducts, connective tissue, lymph nodes and fat. That's why breasts feel lumpy to the touch.

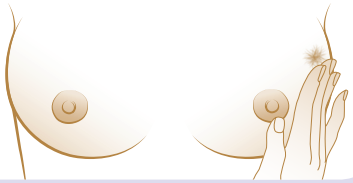
The signs of breast cancer are not the same for all women. It is important to know how your breasts normally look and feel. If you notice any breast change such as a new lump or dimpling, nipple discharge or pain — don't ignore it. It may be a benign breast condition or it could be a symptom of breast cancer.



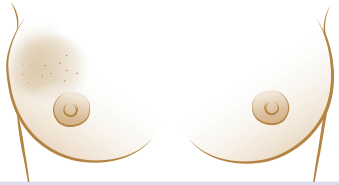
If you notice any change in your breast, see your health care provider. For a visual list of warning signs you should report to your provider, please see the next page.

Breast changes that should be reported include:

- Lump, hard knot or thickening inside the breast or underarm area



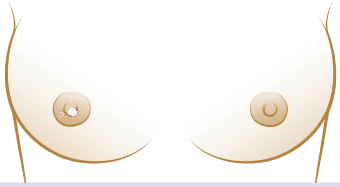
- Swelling, warmth, redness or darkening of the breast



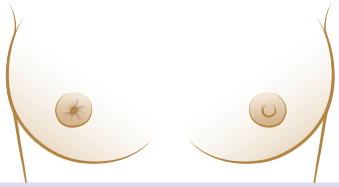
- Change in the size or shape of the breast

- Dimpling or puckering of the skin

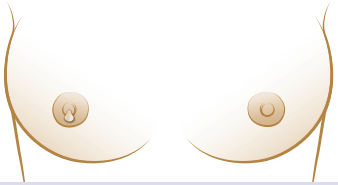
- Itchy, scaly sore or rash on the nipple



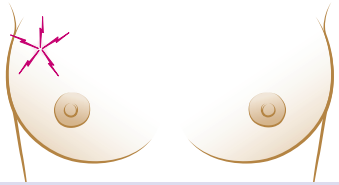
- Pulling in of your nipple or other parts of the breast



- Nipple discharge that starts suddenly



- New pain in one spot that does not go away



4. Make Healthy Lifestyle Choices

Make healthy lifestyle choices that may lower your risk of breast cancer.

Maintain a healthy weight

- Gaining weight after menopause increases a woman's risk for breast cancer.
- Weight gain of 20 or more pounds after the age of 18 may increase your risk.

Add exercise into your routine

- Physical activity burns energy (calories) and helps control weight.
- Do whatever physical activity you enjoy most and gets you moving, like walking or biking for 30 minutes a day.

Limit alcohol intake

- Alcohol intake increases the risk of breast cancer.
- In general, the more alcohol you drink, the higher your risk of developing breast cancer.
- If you drink alcohol, have less than one drink a day.
- No one should drink a lot of alcohol, but for those who drink some, getting enough folic acid may help reduce the extra breast cancer risk linked to drinking alcohol. Not all studies show that folic acid reduces this extra risk. However, folic acid is part of a healthy diet.

Limit menopausal hormone use

- For each year that combined estrogen plus progestin hormones are taken, the risk of breast cancer goes up.
- Once the drug is no longer taken, this risk returns to that of a woman who has never used hormones in about five to ten years.
- Menopausal hormones also increase the risk of ovarian cancer and heart disease.
- Talk to your doctor about the risks and benefits.

Breastfeed, if you can

- Breastfeeding protects against breast cancer, especially in premenopausal women.
- Breastfeeding has other benefits for the mother, including lowering the risk of type 2 diabetes, ovarian cancer and postpartum depression.

Diagnostic Tests

What is the difference between screening and diagnostic tests? A screening test is done when there are no symptoms. A diagnostic test is done after a screening mammogram has shown an abnormal area or when a lump is felt or you have other breast symptoms.

Have you noticed any changes in your breasts? If you have, then see your health care provider. He or she will do a CBE and may arrange for you to have a diagnostic test. This may include a **diagnostic mammogram**, breast **ultrasound**, breast **MRI** and/or **biopsy**.

Diagnostic Mammogram

A diagnostic mammogram includes more pictures of the breast to check an area of concern. Each X-ray picture is compared to your previous pictures to see if there are changes. If the mammogram shows that more testing is needed, a breast ultrasound, breast MRI or biopsy may be recommended.

Breast Ultrasound

A breast ultrasound is another way of looking inside the breast by using sound waves. This test is painless and safe. Breast ultrasound is used to find out the size, shape, texture and density of a breast lump. A breast ultrasound can tell the difference between liquid-filled cysts and solid masses in the breast. Liquid-filled cysts are benign. Solid lumps may be benign or malignant. If it shows that the lump is solid, your doctor may discuss biopsy options with you.

Breast Magnetic Resonance Imaging (MRI)

Breast MRI uses magnetic fields to create an image of the breast. It can sometimes find cancers in dense breasts that are not seen on mammograms. Breast MRI can also be used to see if a silicone breast implant has leaked or ruptured. It is often used with mammography for screening women at a higher risk of breast cancer. However, breast MRI can be costly and often results in finding something that looks abnormal, but turns out to be benign (false positive).

Diagnosing Breast Cancer

Biopsy

If you develop a breast lump, other change or have an abnormal finding on a mammogram, you may need to have a biopsy. A biopsy is a test that removes a sample of cells or tissue from the area of concern. The breast cells or tissue are looked at under a microscope for signs of cancer. A biopsy is usually not painful because a local ansethetic (medicine that blocks pain in the area) is used. During a biopsy, the doctor removes breast tissue using a needle (needle biopsy) or a scalpel (surgical biopsy). Your provider will determine which type of biopsy is the best way to rule out or confirm breast cancer. Most often, a needle biopsy is done first (then, if needed, a surgical biopsy is done).

A biopsy is the only way to tell if a suspicious area is cancer. If you are nervous about a biopsy, you are not alone. Most women feel anxious. Try to remind yourself that most lumps are benign. Also, bring a friend or family member with you for support.

Here are some questions to ask your doctor:

- What type of biopsy will I have?
- Will the entire lump be removed or just part of it?
- If you are recommending a needle/core biopsy, why? How accurate is this type of biopsy?
- Who will do the biopsy?
- How long will the biopsy take? Will I be awake? Will I feel anything?
- Will I be able to go home the same day I have the biopsy?
- Should I avoid any medicines before the biopsy and for how long? When can I start taking my usual medicines?
- Will you put a clip or marker in my breast? Will the biopsy leave a scar?
- What are the possible side effects of the biopsy? How long will they last? What problems should I report to you (i.e. tenderness, pain, numbness along the scar)?
- Will my activities be limited? Can I lift things? Care for my children?
- How soon will I know the biopsy results?
- If I have cancer, who will talk with me about my treatment options?

Types of tumors

There are two types of tumors: **non-invasive** and **invasive**.

Non-invasive breast cancer is an abnormal growth of cells still within the area in which it started. These cancer cells have not invaded into nearby breast tissue. Ductal carcinoma in situ (DCIS) is a non-invasive breast cancer and referred to as stage 0. In situ [in SY-too] means “in place.” Although DCIS and lobular carcinoma in situ (LCIS) sound alike, LCIS is not breast cancer. LCIS may be a risk factor for breast cancer.

Invasive breast cancer is an abnormal growth of cells that has spread into nearby breast tissue. This provides a chance for cancer to spread to the lymph nodes and, in advanced stages, to other organs of the body. Other less common types of invasive breast cancer are inflammatory, medullary, mucinous, Paget disease of the breast, papillary and tubular carcinoma. Invasive breast cancer is not the same as metastasis.

Metastasis occurs when cancer cells break away from the breast tumor, spread to other organs of the body and keep growing. The most common sites for metastatic breast cancer are the lungs, liver, bones and the brain.

Staging of breast cancer

In addition to the type of tumor, doctors also look at other growth characteristics such as the size and spread of the tumor. This is done to determine the stage of the breast cancer. Stage depends on:

- the size of the **Tumor** in the breast,
- the number and location of lymph **Nodes** with cancer, and
- whether the cancer is found in other organs, **Metastasis**

This is called TNM staging, which is used to rate the stage of a tumor. The stage informs the prognosis (chance for recovery) and treatment options. The stages are 0, I, II, III and IV. The higher the stage the more serious the cancer. Stage 0 (zero) refers to non-invasive cancer. Stages I-IV are invasive cancer. Stage IV is metastatic and is sometimes called advanced breast cancer. Treatment options are based on the stage of breast cancer and on other tests done on the tumor cells.

Treatment options

There are two main types of breast cancer treatment: local and systemic.

Local

Local treatments are used to remove cancer from a limited (local) area such as the breast, chest wall and lymph nodes in the underarm to make sure it does not come back in that area. Surgery and radiation therapy are local treatments because they treat a small area of the body.

Surgery is the most common form of treatment. The goal of breast cancer surgery is to remove the tumor from the breast. In most cases, surgery is used with chemotherapy, radiation therapy, hormone therapy or targeted therapy. There are two types of surgery: lumpectomy (breast conserving surgery) and mastectomy.

Lumpectomy involves the surgical removal of the cancerous tumor in the breast and some of the nearby normal tissue. Usually, lymph nodes or a sample of nodes are also removed. Radiation is almost always given after a lumpectomy to get rid of any cells that may remain. This lowers the chances of cancer returning to the breast (recurrence).

Mastectomy involves surgical removal of the entire breast. Lymph nodes or a sample of nodes are also removed. Radiation therapy may not be needed. Studies have shown that lumpectomy and mastectomy are equal in overall survival.

Radiation Therapy uses high-energy X-rays to destroy any cancer cells that may remain in the breast after surgery. This reduces the chance of recurrence.

Systemic

The goal of systemic treatment is to kill any cancer cells that may have spread from the breast to any other parts of the body. It includes treatments such as chemotherapy, hormone therapy and targeted therapy.

Chemotherapy refers to anti-cancer drugs that are given to treat cancer. These drugs are used to kill or slow the growth of cancer cells that may be anywhere in the body. They are given to lower the risk of the cancer spreading in the future. It may be given before or after surgery.

Hormone Therapy uses drugs to slow or stop the growth of hormone receptor-positive tumors by preventing the cancer cells from getting the hormones they need to grow.

Targeted Therapy targets the inner workings of cancer cells. Targeted therapies go straight to the genes and proteins in cancer cells to stop their growth or spread. When certain cancer cells are blocked or stop working, the cancer cells cannot grow. As a result, cancer cells are affected by the treatment more than healthy cells.

Being Informed

If you have breast cancer, you can play an active role in your treatment by being informed. Find out your treatment options by asking questions, doing research on your own and getting a second opinion. Make a list of things that you would like to know about your cancer and the treatment options. You might begin by asking your doctor some of these questions:

- What are my treatment options? What do you recommend for me and why?
- How many treatments will I have?
- What are the side effects I might have?
- What can I do to relieve the side effects?
- How long do I have to make a treatment decision?

For other questions to ask your doctor, visit www.komen.org to download free Questions to Ask the Doctor inserts on various topics.

Supporting One Another

From the moment a person is diagnosed with breast cancer, Susan G. Komen® considers him or her a survivor. Survivors need a strong support network. Co-survivors are family, friends, health care providers and colleagues who are there to lend support from diagnosis through treatment and beyond. There are as many ways of being an effective co-survivor as there are people. Many different co-survivors may enter the person's life over time, lending support in big or small ways.

If you don't have cancer yourself, reach out to those you know who have the disease. Give them a call to see how they are doing. Let them know that they can depend on you. Even the smallest gesture can make an impact.

If you have breast cancer you might need someone to cook for you, run errands or be an extra pair of ears at the doctor's office. Or, you might need someone to listen to you or give you a hug. Whatever you need, don't be afraid to ask for help. Your friends and family want to help you. You may also want to join a support group to meet other women with breast cancer. Your health care provider can give you more information about support groups.

Spreading the Word

Join us and help spread the word about breast cancer. You don't have to speak to a large group of people or start a national campaign. You can start with your own family and friends. For instance, share your booklet with them. Then remind each other to be in charge of your own breast health by knowing your risk, getting screened, knowing what's normal for you and making healthy lifestyle choices. You can even help raise money for breast cancer. Remember that we're all in this together.

Resources

Organizations

Susan G. Komen® is the largest grassroots network of breast cancer survivors and activists fighting to save lives, empower people, ensure quality care for all and energize science to find the cures.

1-877 GO KOMEN (1-877-465-6636)

www.komen.org

The **American Cancer Society** is dedicated to preventing cancer, saving lives and reducing suffering through research, education, advocacy and service.

1-800-ACS-2345

www.cancer.org

The **National Cancer Institute's Cancer Information Service** provides cancer information and resources to patients, the public and health care providers.

1-800-4-CANCER

www.cancer.gov

Glossary

Areola: darkly shaded circle of skin around the nipple

Aromatase Inhibitors: a class of hormone therapy drugs used in postmenopausal women to block the body's production of estrogen

Axillary Lymph Node: lymph node found under the arm

Benign: not cancer

Biopsy: removal of tissue that is tested for cancer cells

Breast Magnetic Resonance Imaging (MRI): magnetic fields to create an image of the breast

Cancer: diseases involving abnormal cell growth that can invade nearby tissues and spread throughout the body

Chemotherapy: anti-cancer drugs used to kill or disable cancer cells

Clinical Breast Examination (CBE): screening performed by a health care provider to check the look and feel of the breasts and underarm for any changes or abnormalities (such as lumps)

Cyclical Breast Pain: tenderness that varies throughout the menstrual cycle, is influenced by hormones and is related to menstrual periods

Cyst: benign fluid-filled sac

Diagnostic Testing: follow-up tests to check whether or not an abnormal finding is breast cancer

Ducts: passageways for carrying milk from the lobules to the nipple

Estrogen: a female reproductive hormone

Fat Necrosis: benign, firm, irregular mass formed in response to trauma resulting in damaged fatty tissue

Fibroadenoma: benign fibrous tumor

Fibrocystic Breast Changes: a noncancerous breast condition that may cause painful cysts or lumpy breasts

Hormones: chemicals produced by glands in the body

Hormone Therapy: treatment that works by keeping cancer cells from getting the hormones they need to grow

Hyperplasia: overgrowth of breast cells

In Situ: abnormal cell growth that stays in the place of origin

Invasive: the spread of cancer from the location where it started into nearby tissue and possibly the lymph nodes

Lobules: ball-shaped sacs in the breast that produce milk

Lymph Nodes: glands, found throughout the body, that filter the lymph fluid

Mammogram: X-ray of the breast

Menopause: when menstrual cycles stop for good

Metastasis: the spread of cancer to other organs of the body

Nipple Discharge: secretions or fluid coming from the nipple

Progesterone: a female hormone

Radiation Therapy: treatment using high-energy X-rays to destroy cancer cells

Screening: a test used to detect cancer in a person who does not have symptoms

Staging: a numbering system (0, I, II, III, IV) is used to show how advanced a tumor may be

Targeted Therapy: targets the genes and proteins inside cancer cells to stop their growth or spread

Tamoxifen: a drug used to block the effects of estrogen on breast cancer cells to prevent their growth

Notes

The list of resources is only a suggested resource and is not a complete listing of breast cancer materials or information. The information contained herein is not meant to be used for self-diagnosis or to replace the services of a medical professional. Komen does not endorse, recommend or make any warranties or representations regarding the accuracy, completeness, timeliness, quality or non-infringement of any of the materials, products or information provided by the organizations referenced herein.

For more information about breast cancer, visit **www.komen.org** or call Susan G. Komen's breast care helpline at **1-877 GO KOMEN (1-877-465-6636)** Monday through Friday, 9 AM to 10 PM ET.