

BREAST CANCER: WHAT YOU NEED TO KNOW

WHAT IS BREAST CANCER?

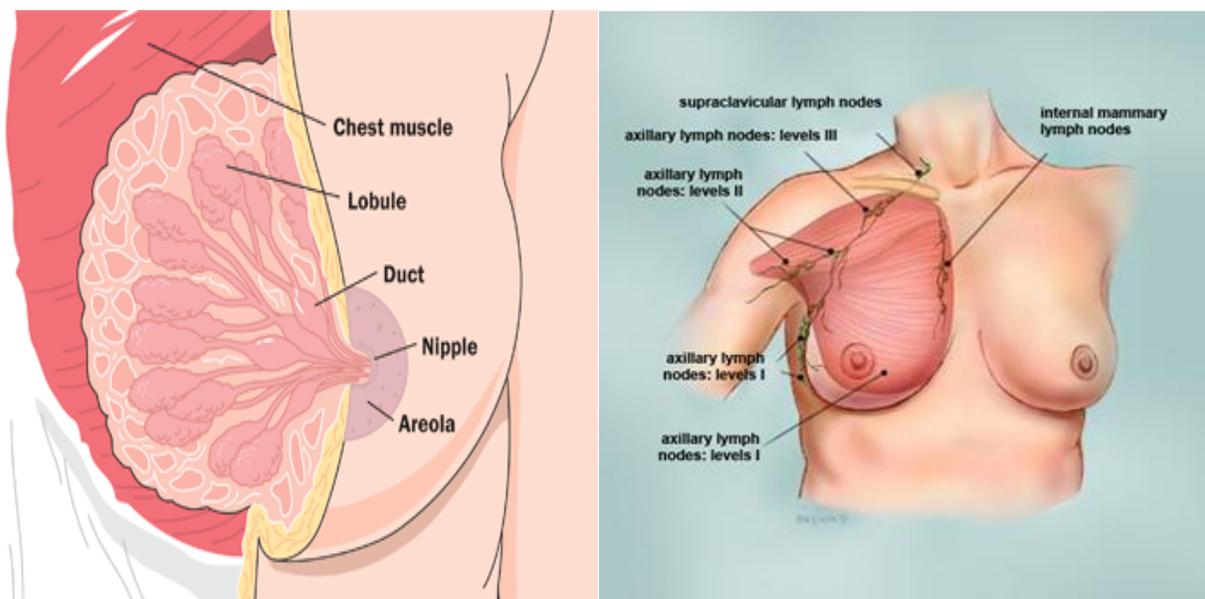
Breast cancer is a malignant tumor that starts in the cells of the breast. A malignant tumor is a group of cancer cells that can grow into (invade) surrounding tissues or spread (metastasize) to distant areas of the body. Although breast cancer predominantly occurs in women, it can also affect men.

About 1% of breast cancer develops in males. It is less common in men than in women for two reasons:

- Men have fewer breast cells than do women.
- A woman's breast cells are constantly exposed to fluctuations in hormones, including estrogen, which is known to increase the risk of developing breast cancer.

Male breast cancer is still relatively rare. Therefore, the remainder of this document refers only to breast cancer in women.

To understand breast cancer, it helps to have some basic knowledge about the normal structure of the breasts, shown in the diagram below.



The female breast is made up of:

- Lobules:** Milk-producing glands.
- Ducts:** Tiny tubes that carry the milk from the lobules to the nipple.
- Stroma:** Fatty tissue and connective tissue surrounding the ducts and lobules, blood vessels, and lymphatic vessels.
- Nipple:** Small, raised area at the tip of the breast.
- Areola:** Area of darker-colored skin around the nipple.
- Chest muscle:** Located behind the breast in the chest wall. It helps to support breast tissue.
- Lymph vessels:** Thin tubes that carry lymph to small, bean-shaped glands called lymph nodes. Lymph nodes are found near the breast, under the arm, and throughout the body. Lymph nodes and lymph vessels are part of the lymph system, which helps your body fight disease and infection.

Most breast cancers begin in the cells that line the ducts (*ductal carcinoma*). Some begin in the cells that line the lobules (*lobular carcinoma*), while a small number start in the lymphatic vessels and begin to grow in lymph nodes.

BREAST CANCER STATISTICS WORLDWIDE

According to the World Health Organization (WHO), there are about 1.38 million new cases and 458 000 deaths from breast cancer each year (IARC Globocan, 2008). Breast cancer is by far the most common cancer in women worldwide, in developed and developing countries. The low survival rates in less developed countries can be explained mainly by the lack of early detection programs, resulting in a high proportion of women presenting with late-stage disease, as well as by the lack of adequate diagnosis and treatment facilities.

Breast cancer is the leading cancer ailment in Ghana at 15% according to sources from Korle Bu Teaching hospital (KBTH). In a study at KBTH in 2007, Dr. Clegg Lamptey found that 57% of those who presented with breast cancer had advanced cancers with average tumor size about 6x7 centimeters.

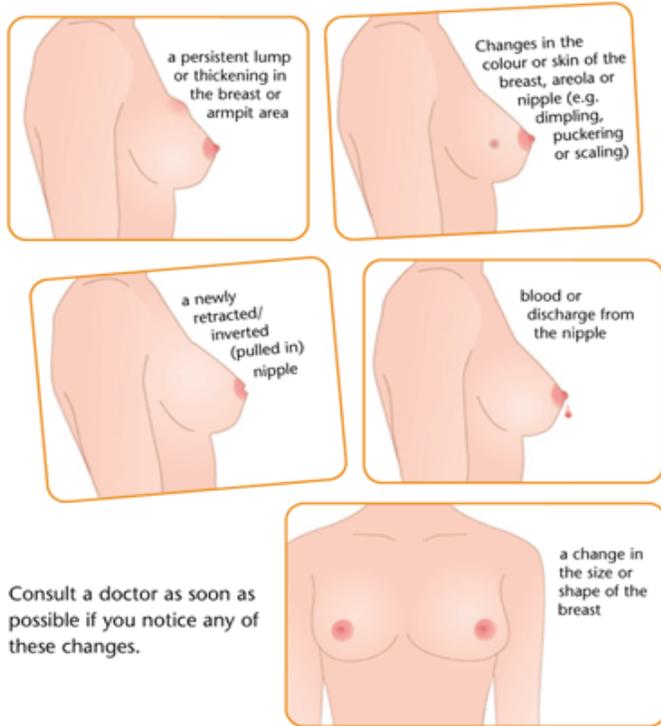
BREAST CANCER RISK FACTORS

Anything that increases a person's chances of developing a disease is called a risk factor. Having many risk factors does not mean you will develop breast cancer, whilst having fewer risk factors will not definitely prevent the disease.

Risk factors for breast cancer include:

- **Being female:** Over 99% of cases per year are in women.
- **Age:** The chances of breast cancer increase as you get older.
- **Family history:** Breast cancer risk is higher among women whose close blood relatives have this disease.
- **Personal history:** A women with cancer in one breast has a 3 to 4 fold increased risk of developing a new cancer in the other breast or in another part of the same breast.
- **Race and ethnicity:** White women have a higher risk of developing breast cancer, but African-American women tend to have more aggressive tumors which spread faster when they do develop breast cancer.
- **Menstrual periods:** Women who started their menstrual cycle at a younger age (before 12) or went through menopause later (after 55) seem to have a slightly increased risk.
- **Previous chest radiation:** Women, who, as children or young adults, had radiation therapy to the chest area as a treatment for another cancer, have an increased risk for breast cancer.
- **Breast tissue:** Women with dense breast tissue have a higher risk of breast cancer.
- **Procreation:** Having no children/first child after 30 increases the risk of breast cancer.
- **Breastfeeding:** Not breastfeeding increases the risks of breast cancer.
- **Contraceptive pills:** Use of oral contraceptives in the last 10 years increases the risk
- **Hormone therapy:** Using combined hormone therapy after menopause increases the risk.
- **Alcohol and smoking:** Drinking alcohol (more than one drink a day), and smoking are clearly linked to an increased risk of developing breast cancer.
- **Overweight:** Being overweight or obese after menopause increases breast cancer risk.
- **Physical activity:** Not getting regular exercise increases the risk of breast cancer.

BREAST CANCER SIGNS AND SYMPTOMS



Breast cancer may cause any of the following signs and symptoms :

- A lump or thickening in an area of the breast: In or near the breast, or in the underarm area.
- A scaly, red or swollen skin on the breast, nipple or areola.
- A change in the shape, position or size of the nipple, particularly if it turns inward into the breast.
- A fluid discharge or bleeding from the nipple.
- A change in the size or shape of the breast.
- A dimple or puckering in the skin of the breast.
- A rash on a nipple or surrounding area.
- A pain in one of the breasts or nipple.

THE DIAGNOSIS OF BREAST CANCER

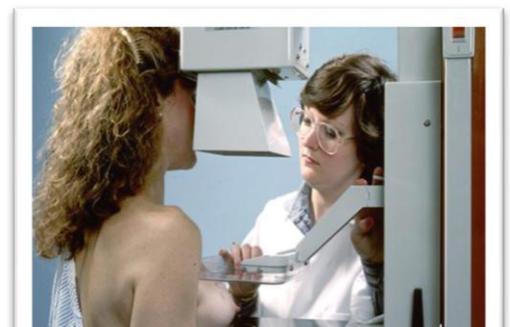
Tests that examine the breasts are used to detect and diagnose breast cancer. A doctor should be seen if any changes in the breast are noticed. The following tests and procedures may be used:

- **Clinical Breast Exam (CBE) and history:**

An examination of the breast by a doctor or other health professional. The doctor will carefully look at your breasts for abnormalities in size or shape, or changes in the skin of the breasts or nipple. Then, using the pads of the fingers, he will gently feel (palpate) your breasts and under the arms for lumps or anything else that seems unusual. A history of the patient's health habits and past illnesses and treatments will also be taken.

- **Mammogram or Mammography:**

A low-dose x-ray exam of the breasts to look for changes that are not normal. A mammogram allows the doctor to have a closer look for changes in breast tissue that cannot be felt during a breast exam. It is used for women who have no breast complaints and for women who have breast signs and symptoms. The mammogram is safe, quick, but may be uncomfortable due to the fact that the breasts will be squeezed between two plates of the machine. The squeeze is important to flatten the breast tissue, give a good picture and



- **Breast Ultrasound:**

Uses sound waves to make a picture of the tissues inside the breast. A breast ultrasound can show all areas of the breast, including the area closest to the chest wall, which is hard to study with a mammogram.

A breast ultrasound is used to see whether a breast lump is filled with fluid or if it is a solid lump. An ultrasound does not replace the need for a mammogram, but it is often used to check abnormal results from a mammogram.



- **Breast MRI:**

Magnetic resonance imaging of the breast is a test used to detect breast cancer and other abnormalities in the breast. It captures multiple pictures of the breast. Breast MRI usually is performed when the doctor needs more information than a mammogram, ultrasound or clinical breast exam can provide.



- **Blood samples:**

To measure the amounts of tumor markers released by cancer cells or produced by the body.

- **Biopsy:**

The removal of cells or tissues by the insertion of a needle into a lump to withdraw some fluid/tissue so they can be viewed under a microscope by a pathologist to check for signs and type of cancer.

BREAST CANCER TREATMENT

Your doctor will discuss the best treatment for you, the timing of your treatment, and any potential side effects. As well as your diagnosis, treatment decisions will be influenced by factors such as your general health and personal choice.

Once Breast cancer has been confirmed it is essential to begin the treatment process as soon as possible and follow all treatment recommendations in order to maximize the effectiveness of the treatment as this will affect the overall prognosis.

Breast cancer treatment can include a combination of all, or some of the following treatments.

SURGERY

- Surgery is usually the first step in the treatment process and is used to remove cancerous tissue from the breast. The surgery offered will depend on the type of cancer, its size, where it is in the breast and how much of the surrounding tissue needs to be removed.

- The types of surgery offered include a lumpectomy or a mastectomy.
- A lumpectomy, or wide local excision, involves removing the cancer and a small amount of normal tissue around it.
- A mastectomy involves the removal of the entire breast. A modified radical mastectomy also involves removing some of the lymph nodes under the armpit and some muscle from the chest wall.

RADIOTHERAPY

- Radiotherapy uses high-energy x-rays to destroy cancer cells with a targeted, carefully measured dose of radiation.
- The treatment is usually used to kill any remaining cancer cells after surgery or to reduce the size of tumor before surgery.
- Radiotherapy can also be used to reduce the risk of breast cancer recurring after surgery. It can also offer pain relief for advanced breast cancer.

CHEMOTHERAPY

- Chemotherapy is a treatment that uses chemicals to destroy cancer cells by targeting rapidly dividing cells in the body.
- Chemotherapy can be used before surgery to shrink large tumors, after surgery to kill cancer cells that may have spread to other parts of the body, or independently of surgery to slow the growth of secondary cancer.
- As chemotherapy is not specific to cancer cells it can destroy other rapidly dividing cells such as hair follicles and the lining of the gut, and this causes some of the side effects associated with treatment such as hair loss and nausea.
- Chemotherapy is given in form of tablets or by injection. Usually these drugs are given in cycles with certain treatment intervals followed by a rest period. The cycle length and rest intervals differ from drug to drug.

HORMONE THERAPY

- Some breast cancers are stimulated to grow by the hormone estrogen, which attaches to receptors on the surface of cancer cells.
- Anti-hormone therapies to block estrogen from binding with estrogen receptors, or stop the body from producing estrogen altogether can be used to prevent further growth of cancers in some instances.

TARGETED THERAPY

- Targeted therapies are a group of drugs that block the growth and spread of cancer by targeting specific molecules present in cancer cells.
- Because these treatments are specific to cancer cells they may be less harmful to normal cells and so can have fewer side effects.

BREAST CANCER PROGNOSIS

Women are living longer with breast cancer. Early detection and better treatment options have improved survival rates. There is always a chance that breast cancer may come back or spread to another part of the body after treatment. Regular screening to check for further spread is essential. The size of the tumor and how far it has been spread are some of the most important factors in predicting the prognosis of a woman with breast cancer.

BREAST CANCER CONTROL

Breast cancer control involves prevention and early detection of the cancer.

1- PREVENTION

Breast cancer can be prevented by controlling specific modifiable risk factors. Different ways to prevent breast cancer are being studied and include:

- A healthy diet
- Regular physical exercise
- Limited alcohol and smoking
- Maintain a healthy weight to avoid obesity
- Breastfeeding
- Avoiding contraceptive pills/hormone therapy

2- EARLY DETECTION

Early detection in order to improve breast cancer outcome and survival remains the cornerstone of breast cancer control. The goal of screening exams for early breast cancer detection is to find cancers before they start to cause symptoms.

Following the American Cancer Society's guidelines for the early detection of breast cancer, improves the chances that breast cancer can be diagnosed at an early stage and treated successfully.

- **Annual mammograms** are recommended for women beginning in their 40's and continuing as long as they are in good health.
- **Clinical breast exam** (CBE) is recommended for women in their 20s and 30s every three years. And every year for the women starting at age of 40.
- **An Annual breast MRI** is recommended for any women at high risk (family history, genetic tendency, and other risk factors) in addition to the mammograms.
- **A monthly Breast self examination** (BSE) is an option for women starting in their 20s. Women should know how their breasts normally look and feel and report any breast changes to their health professional. Finding a breast change does not necessarily mean there is a cancer. The practice of BSE has been seen to empower women, taking responsibility for their own health. The best time for a woman to examine their breasts is when the breasts are not tender or swollen. Women who examine her breasts should have their technique reviewed during their periodic health exams by their health professional.

HOW TO EXAMINE YOUR OWN BREASTS?

Do it yourself

Monthly breast self-exam

1 Stand before a mirror. Inspect both breasts for anything unusual, such as any discharge from the nipples, puckering, dimpling, or scaling of the skin.

The next two steps are designed to emphasize any change in the shape or contour of your breasts. You should be able to feel your chest muscles tighten while doing these steps.

2 Watching closely in the mirror, clasp hands behind your head and press hands forward.

3 Next, press hands firmly on hips and bow slightly toward your mirror as you pull your shoulders and elbows forward.

Some women do steps 4 and 5 in the shower. Fingers glide over soapy skin, making it easy to concentrate on the texture underneath.



4 Raise your left arm. Use three or four fingers of your right hand to explore your left breast firmly, carefully, and thoroughly. Beginning at the outer edge, press the flat part of your fingers in small circles, moving the circles slowly around the breast. Gradually work toward the nipple. Be sure to cover the entire breast. Pay special attention to the area between the breast and the armpit, including the armpit itself. Feel for any unusual lump or mass under the skin. Repeat the exam on your right breast.



5 Gently squeeze each nipple and look for a discharge.

6 Steps 4 and 5 should be repeated lying down. Lie flat on your back, right arm over your head and a pillow or folded towel under your left shoulder. This position flattens the breast and makes it easier to examine. Use the same circular motion described earlier. Repeat on your right breast.

