

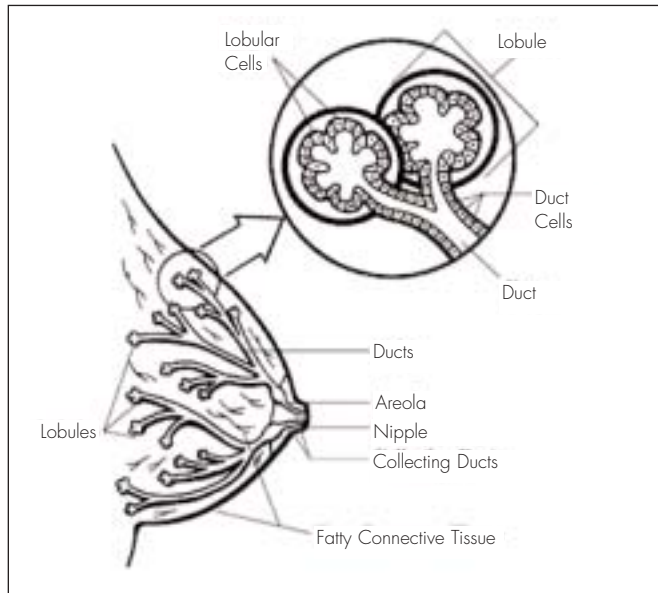
INFORMATION ABOUT BREAST CANCER

WHAT IS BREAST CANCER?

Breast cancer is the most common form of cancer that affects women. Although it is much more rare, men can get breast cancer as well. About one in eight women in the United States will develop breast cancer in her lifetime. However, cancer is just one of many possible breast diseases, and not all of these are harmful.

HOW BREAST DISEASES FORM

The body is made up of very small cells. Normal cells in the body grow and die in a controlled way. Sometimes cells keep dividing and growing without normal controls, causing an abnormal growth called a tumor. Some tumors of the breast are actually benign, which means they are slow growing and harmless, and some lumps in the breast are not even tumors at all. Malignant (cancerous) tumors are ones that invade and destroy other cells and can be life threatening.



About 80 percent of cases of breast cancer originate in the mammary ducts (milk passages), while about 20 percent arise in the lobules (milk glands).

SOURCE: AMERICAN CANCER SOCIETY

NONCANCEROUS (BENIGN) BREAST DISEASES

Some breast diseases cause discomfort or pain and require treatment, while others are of little concern and need no medical attention. They are rarely life threatening. Unfortunately, many breast diseases have symptoms just like cancer and require tests, such as surgical biopsy, to diagnose. The majority of biopsies result in the diagnosis of a benign breast disease. Some of the more common benign breast diseases are hyperplasia, cysts, fibroadenomas and calcifications. The term "fibrocystic changes" is used to describe a broad range of different benign breast diseases. Hyperplasia and cysts are often included in this category.

Even though they are not dangerous, a few of the benign diseases do increase the risk for later development of breast cancer. If a woman is told she has fibrocystic changes, she should ask for more details about the specific type of fibrocystic change that was identified and how it may affect her breast cancer risk.

CANCEROUS TUMORS

Most forms of breast cancer start in the mammary ducts (milk passages) or the lobules (milk glands), about 80 percent and 20 percent of breast cancer cases, respectively. Cancerous tumors in the breast usually grow very slowly so that by the time one is large enough to be felt as a lump, it may have been growing for as long as 10 years. If left untreated, these tumors can invade the fatty tissue of the breast and then spread to other parts of the body. The main stages of the cancerous breast tumors are:

- **Carcinoma in situ** – when abnormal cells grow inside the lobules or milk ducts but there is no sign that the cells have spread out to the surrounding tissue or beyond.
- **Invasive breast cancer** – when abnormal cells from inside the lobules or ducts break out into the surrounding tissue.
- **Advanced stage** – when a tumor is very large or has spread to other organs (like the liver, lungs and bones).

SIGNS AND SYMPTOMS

The signs of breast cancer are not the same for all women. In fact, some women have no signs that they can see. If a woman experiences any of these symptoms, she should see a doctor right away:

- A lump, hard knot or thickening
- Swelling, warmth, redness or darkening
- Change in breast size or shape
- Dimpling or puckering of the skin
- Itchy, scaly sore or rash on the nipple
- Pulling in of your nipple or other parts
- Nipple discharge that starts suddenly
- New pain in one spot

DISTRIBUTION OF THE DISEASE IN THE POPULATION

In the United States, approximately 211,000 new cases of invasive breast cancer are diagnosed among women and an estimated 40,000 women die from breast cancer in a typical year. It is also reported that in a typical year, approximately 1,300 men are diagnosed and 400 men die of breast cancer. Overall, breast cancer is the leading cancer type among American women and is second only to lung cancer in cancer deaths. For women ages 40 to 59, breast cancer is the leading cause of cancer deaths¹.

In the United States, a woman's chance of being diagnosed with breast cancer is²:

- From age 20 to age 30 1 in 2,000
- From age 30 to age 40 ..1 in 250
- From age 40 to age 501 in 67
- From age 50 to age 601 in 35
- From age 60 to age 701 in 28
- Ever1 in 8

1 American Cancer Society, *Cancer Facts & Figures*, 2003.

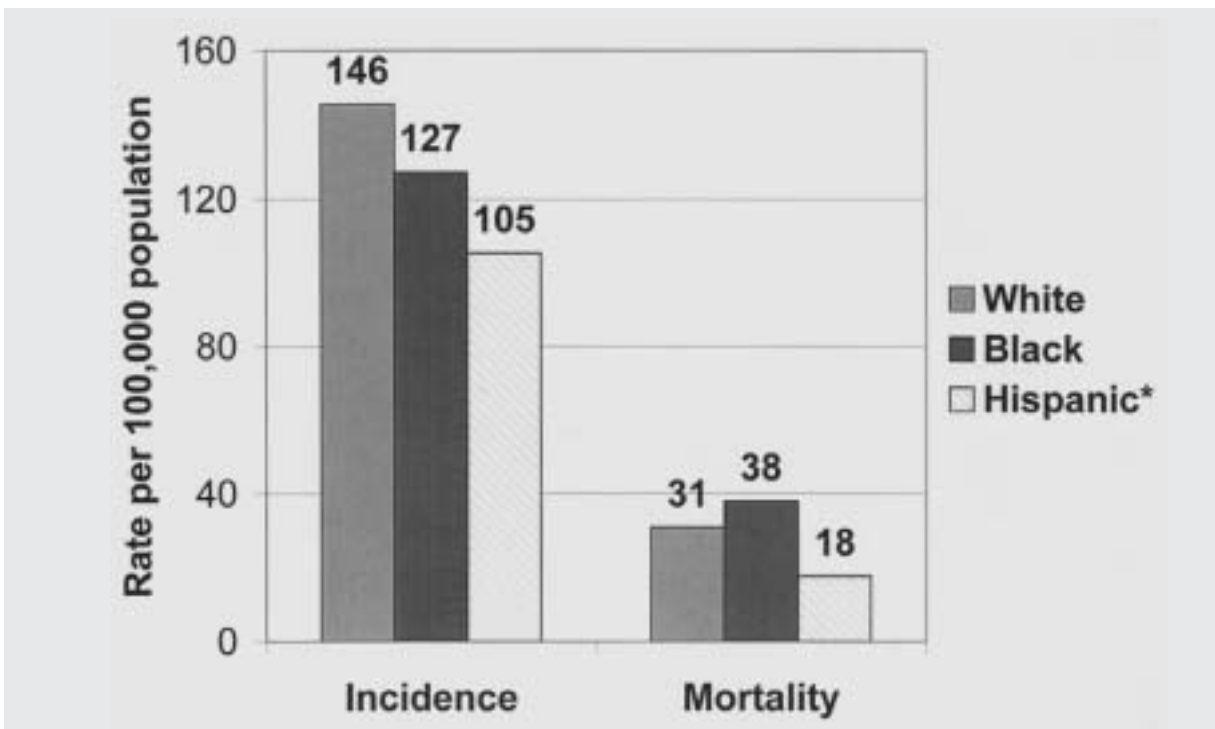
2 National Cancer Institute Surveillance, Epidemiology, and End Results Program, 1973-1998.

In New Jersey, an estimated 7,400 new cases of invasive breast cancer are diagnosed each year, with approximately 1,400 deaths expected due to breast cancer¹.

In the United States and in New Jersey, fewer cases of breast cancer are diagnosed among minority women, particularly black and Hispanic women. This does not mean that they are less likely to get breast cancer. Instead, because these women usually have less access to screening services, they are less likely to be diagnosed at earlier stages of the disease. This also means that they are more likely to die from breast cancer, because it is not found early enough to treat effectively. Adding to the problem is the fact that minority women often have less access to health services in general, making it difficult to obtain life-saving cancer treatments.

As shown in Table 1, a large racial and ethnic disparity (inequality) exists among women. Black women die from breast cancer at the highest rate, even though cancer does not seem to be diagnosed as often for them. The lower incidence rates among black women (the number of new breast cancer cases found per 100,000 black women) are most likely the result of low use of breast cancer screening services. Despite this low rate of new cases among black women, their mortality rate (the number of deaths from breast cancer per 100,000 black women) is higher than that of any other group. This disparity points to the problem of so many minority women who are not referred or encouraged to obtain screening mammography services, and it is an area for great improvement by our healthcare system.

TABLE 1 BREAST CANCER INCIDENCE AND MORTALITY RATES BY RACE AND ETHNICITY



SOURCE: NEW JERSEY STATE CANCER REGISTRY, 2000.

Note: Rates are per 100,000 New Jersey women and age-adjusted to the 2000 U.S. Standard.

* Persons of Hispanic ethnicity can be of any race.

RISK FACTORS

Doctors cannot always explain why a person gets cancer, but it is known that certain aspects of the environment and of life choices may increase the chance of developing cancer. Most of the known risk factors for breast cancer increase a woman's chance of getting the disease by only a small amount.

RISK FACTORS FOR BREAST CANCER THAT YOU CANNOT CHANGE INCLUDE:

- **Gender.** Being a woman is the main risk factor for breast cancer (although it is not impossible for men to get breast cancer).
- **Age** The chances of getting breast cancer increases as a woman gets older.
- **Genetic risk factors.** About 1 in 10 cases of breast cancer is linked to changes (mutations) in certain genes.
- **Family history.** Breast cancer risk is higher among women whose close blood relatives have the disease.
- **Personal history of breast cancer.** A woman with cancer in one breast has a greater chance of getting a new cancer in the other breast or another part of the same breast. Also, certain types of benign breast diseases can increase the risk of breast cancer.
- **Race and ethnicity.** White women are slightly more likely to get breast cancer than are African-American women, although African-American women are more likely to die of this cancer. Asian, Hispanic and American-Indian women have a lower risk of getting breast cancer. Jewish women of Eastern European descent are more likely to inherit the genes that are associated with breast cancer.
- **History of radiation treatment.** Women who have had chest-area radiation treatment as a child or young woman have a greatly increased risk of breast cancer.
- **Menstrual periods.** Women who began having periods early (before 12 years of age) or who went through menopause after the age of 50 have a small increased risk of breast cancer. The same is true for women who have not had children, or who had their first child after they were 35 years old. However, a woman who has her first child before the age of 20 experiences a decreased risk of breast cancer.
- **Rapid development.** Taller height and rapid growth early in life is related to breast cancer risk.

BREAST CANCER RISKS RELATED TO LIFESTYLES INCLUDE:

- **Birth control pills.** Women who use the birth control pill currently, or within a 10-year period, have a slightly greater risk of breast cancer.
- **Hormone replacement therapy (HRT).** Studies suggest that long-term use (five years or more) of HRT (especially estrogens) may slightly increase the risk of breast cancer.
- **Not breastfeeding.** Some studies suggest that breastfeeding, if kept up for 1/2 to two years, may slightly lower breast cancer risk.
- **Alcohol.** Use of alcohol is clearly linked to an increased risk of breast cancer. Women who have one drink a day have a very small increased risk. Those who have two to five drinks daily have about 1/2 times the risk of women who drink no alcohol.

- **Diet.** Being overweight is linked to a higher risk of breast cancer, especially for women after menopause. Some studies show that in populations that consume a high-fat diet, women are more likely to die of breast cancer than women in populations that consume a low-fat diet.
- **Lack of exercise.** Some studies suggest that exercise in youth might offer life-long protection against breast cancer. Even a small amount of physical activity as an adult could lower breast cancer risk.

PREVENTING CANCER

*W*hile there is no perfect way to prevent breast cancer, or any other form of cancer, there are ways to decrease or modify some of the known risk factors. These include drugs and medical procedures as well as simple lifestyle changes.

PREVENTIVE DRUGS AND PROCEDURES

Tamoxifen. Tamoxifen is a drug that blocks the effect of estrogen on breast cancer cells. A study recently published in the Journal of the National Cancer Institute has shown that tamoxifen lowers the risk of getting breast cancer in women who are at elevated risk. However, tamoxifen may also increase the risk of getting some other serious diseases, including endometrial cancer, stroke and blood clots in veins and in the lungs. Women who are concerned that they may be at an increased risk of developing breast cancer should talk with their doctor about whether to take tamoxifen to prevent breast cancer. It is important to consider both the benefits and risks of taking tamoxifen.

Fenretinide and raloxifene are two other drugs that are being studied for potential breast cancer prevention.

Hormonal Factors. Hormones produced by the ovaries, as well as the use of oral contraceptives and hormone replacement therapy, appear to increase a woman's risk for developing breast cancer. The removal of one or both ovaries reduces the risk. The use of drugs that suppress the production of estrogen may inhibit tumor cell growth.

Prophylactic Mastectomy. In some rare cases, women at very high risk of breast cancer might consider a preventive (prophylactic) mastectomy. This is an operation in which one or both breasts are removed before there is any known breast cancer.

Radiation. Studies have shown that reducing the number of chest X-rays, especially at a young age, decreases the risk of breast cancer. Radiation treatment for childhood Hodgkin's lymphoma may put women at a greater risk for breast cancer later in life.

Genetics. Women who inherit specific genes are at a greater risk for developing breast cancer. Research is underway to identify high-risk genes and develop methods of reducing genetic risk.

HEALTHY LIFESTYLES

Some of the risk factors related to breast cancer are beyond our control, but there are a number of lifestyle choices that can make a difference. Two of the main determinants of breast cancer risk – rapid early growth and early menstruation – are related to diet. It is not known if a diet low in fat will prevent breast cancer, but there is a decreased risk associated with eating plenty of fruits and

vegetables. The American Cancer Society encourages maintaining a healthy weight and limiting the use of red meats, especially those high in fat or highly processed. Studies also show that certain vitamins may decrease a woman's risk of breast cancer, especially for premenopausal women at high risk.

Other healthy lifestyles that decrease the risk of breast cancer include more exercise and less alcohol. Women who limit the amount of alcohol they drink to one drink or less per day, if they drink at all, can decrease their risk. Meanwhile, exercise, especially for young women, may decrease hormone levels and contribute to a decreased breast cancer risk. Also, although no direct link has been found between smoking and breast cancer, smoking increases the overall risk of getting cancer.

SCREENING FOR EARLY DETECTION

Getting regular breast cancer screening tests is the single best way to lower the risk of dying from breast cancer. The primary goal of screening is to make sure that every person who is tested and has the disease is identified as having it. By finding the disease early, before any symptoms arise, these tests greatly improve the chances of successful treatment. If detected early, the 5-year survival rate for breast cancer that has not spread is 96 percent. The standard screening techniques currently available to women are breast self-exam, clinical breast exam and mammography.

BREAST SELF EXAMS

The breast self-examination (BSE) is an excellent first line of defense against breast cancer, because each woman's body is unique and she is the best person to track changes. The American Cancer Society recommends that all women over the age of 20 perform a BSE once a month. The BSE takes just a few minutes each month. Most mammography facilities have instructional videos, pamphlets and/or shower cards available. Also see the instructions in the box on this page.

CLINICAL BREAST EXAMS

Every woman should see her doctor on a regular basis. A clinical breast examination should be part of the routine checkup. Beginning at age 20, women should have a clinical breast exam every two to three years. Women age 40 and older should have one every year.

PERFORMING THE BREAST SELF-EXAMINATION

It's best to perform your exam about 7 to 10 days after the first day of your period, when your breasts are least tender. If you no longer menstruate, choose the same day each month to perform BSE.

As you do your examination, keep in mind that your goal is to become acquainted with how your breasts normally LOOK and FEEL. This knowledge will help you identify a change more quickly, which should be reported to your physician.

1. Look at your breasts in a mirror from four positions - arms at your side; arms over your head; hands pressed against the back of your neck; and hands on your hips while bending forward. Watch for these changes:
 - Discharge from the nipples
 - Change in how the nipple looks
 - Puckering, dimpling, or redness of the breast skin
2. When in the shower and your skin is soapy, raise one arm and use the other hand to examine the armpit and breast. Press firmly with three or four fingers, making circles until you reach the nipple. Feel for these changes:
 - Lump or thickening
 - Change in the size or shape of the breast
3. Lying down on your back, repeat the shower exam.

If you find something that you know is unusual for you, have a doctor check it out. A lump you find should never be ignored. But remember, a change you see or feel in your breast does not automatically mean you have breast cancer. About 80 percent of lumps found are not cancerous, but it is best to report any change to your physician for further evaluation.

SCREENING MAMMOGRAMS

A mammogram is the most accurate test for breast cancer. It can detect approximately 90 to 95 percent of breast cancers, even before they can be felt. Therefore, a regular mammogram is important, even if a woman or her doctor does not feel anything abnormal when examining the breasts.

DETAILS ON THE PROCEDURE

Mammography is a technique using low-level radiation X-rays to find breast lumps that cannot be felt either because they are too small or because they have an indistinct shape. The standard screening examination requires a minimum of two pictures of each breast. More pictures may be needed depending on breast size or body shape. Proper positioning and improving technology allow mammography to be done with the lowest radiation exposure possible. Radiologists who are trained in mammography read the film, looking for any signs of abnormal tissue.

QUALITY / CERTIFICATION

All facilities providing mammography must be certified by the Food and Drug Administration (FDA) under the Mammography Quality Standards Act. To be certified, a facility must be accredited by an FDA-approved accreditation body, such as the American College of Radiology. This assures good quality, trained and licensed technologists and experienced, board-certified radiologists. Each of the facilities listed in this guide have this certification.

As part of the Act, there are regulations for mammography providers that deal with patient rights, including:

Mammography facilities are required to provide patients with written results of their mammograms in language that is easy to understand.

A consumer complaint mechanism is required to be established in mammography facilities.

Patients must be able to obtain their original mammograms, not copies, when they are needed.

For cases in which a facility's mammograms are determined to be substandard and a risk to public health, facilities will notify the patients and their doctors and suggest an appropriate plan of action.

GUIDE TO USING MAMMOGRAPHY SERVICES

MAKING AN APPOINTMENT

After reviewing the directory of mammography service providers in your area, call the facilities that seem to offer services that are the most helpful and convenient for you. Since some women experience breast tenderness during part of their monthly cycle, the mammogram may be uncomfortable at that time. It is best to schedule the appointment for the week just following your period.

While on the phone, you should verify that your insurance company is accepted (including Medicare and Medicaid). If you are uninsured, or not insured for mammography, be sure to discuss the fees and payment methods. Details about free and reduced-fee services are available in the directory. If you want any special services, such as breast self-exam instruction, or have unique needs, it is also important to mention this when making the appointment.

HOW TO PREPARE FOR THE VISIT

For most facilities, the first thing you will need is a referral from your primary care physician or gynecologist. Before going to the appointment, be sure your previous mammograms are available to the radiologist for comparison with your new study. This comparison makes possible earlier recognition of minimal changes that could signal a small cancer.

On the day of the appointment, do not wear deodorant, perfume, powders or ointments under the arms, because these tend to distort the pictures. Remove all jewelry from the neck. Also, notify the technician or radiologist if you are pregnant or breastfeeding.

WHAT TO EXPECT

When you go to your appointment, you will be asked to undress from the waist up and will be given a gown to wear. During the procedure, which usually takes about 15 minutes, each breast is compressed between two plates, and an X-ray image is made. It is important to flatten the breast to spread out the tissue to help identify any abnormal areas. Some women may find mammograms uncomfortable due to the firm pressure placed on each breast. If the plates hurt, tell the technician so they can be readjusted.

You should describe any breast symptoms or problems that you are having to the technologist performing the examination. You should also be prepared to discuss your medical history, including prior surgeries, hormone use and family or personal history of cancer. After the mammography visit, if you do not hear from your doctor within 10 days, call the doctor or the facility to find out the results.

DIAGNOSIS, TREATMENT AND OTHER SERVICES

DIAGNOSING THE DISEASE

Mammograms can show if the inside of the breast looks normal, but it cannot show for sure whether a woman has breast cancer. There are a number of follow-up tests available to provide additional information and help doctors determine the problem.

Diagnostic Mammogram. A diagnostic mammogram uses generally the same techniques as the screening mammogram, while providing more detailed X-ray images. It takes longer and involves more X-rays to obtain views of the breast from several angles.

Ultrasound. Ultrasound is an imaging technique using high-frequency sound waves to produce a picture called a sonogram. Ultrasound imaging of the breast can distinguish between solid tumors and fluid-filled cysts and be used to evaluate lumps that are hard to see on a mammogram. Sometimes, ultrasound is used as part of other diagnostic procedures, such as fine needle aspiration (also called needle biopsy).

Ultrasound is not used for routine breast cancer screening because it does not consistently detect certain early signs of cancer such as microcalcifications (tiny deposits of calcium in the breast that cannot be felt but can be seen on a conventional mammogram), which may indicate that cancer is present.

Ductogram. Also called a galactogram, a ductogram is a special kind of X-ray that uses a fine plastic tube placed into the opening of the duct at the nipple to find the cause of a nipple discharge.

Biopsy. A biopsy is a procedure that takes cells or a tissue sample from the breast to be tested for cancer in a laboratory. There are several kinds of biopsies:

- **Fine needle aspiration** – uses a very thin needle to remove a sample of cells.
- **Core needle biopsy** – uses a thin needle to remove a sample of tissue.
- **Incisional biopsy** – surgically removes a portion of the tumor.
- **Excisional biopsy** – surgically removes an entire suspicious area from the breast.

A biopsy is the only way to know for sure if breast cancer is present.

NEW AND EXPERIMENTAL BREAST IMAGING METHODS

Digital Mammography. Several of the mammography facilities listed in this guide use digital mammography, usually in addition to conventional mammography. Digital mammography is a technique for recording X-ray images in computer code instead of on X-ray film. The images are displayed on a computer monitor, and the radiologist can enhance or magnify the images before they are printed on film. From the patient's perspective, the procedure for a mammogram with a digital system is the same as for conventional mammography.

Digital mammography may have some advantages over conventional mammography. The images can be stored and retrieved electronically, which makes long-distance consultations with other mammography specialists easier. Because the images can be adjusted by the radiologist, subtle differences between tissues may be noted. The improved accuracy of digital mammography may reduce the number of follow-up procedures. Despite these benefits, studies have not yet shown that digital mammography is more effective in finding cancer than conventional mammography.

Computer-Aided Diagnosis (CAD). Several of New Jersey's mammography facilities also utilize a CAD machine that digitally checks a mammogram image and points to areas it "thinks" the radiologist should check more closely.

Magnetic Resonance Imaging (MRI). This procedure uses a magnet linked to a computer to create detailed pictures of areas inside the body.

Nuclear Medicine Studies. In these procedures, a tiny amount of radioactive substance such as technetium sestamibi is injected into an arm vein. A camera or a positron emission tomography (PET) scanner is then used to provide an image of where radiation accumulates.

Thermography (or thermal imaging). This is a way of measuring and mapping the heat from the breast with the use of a special camera. A computer looks for “hot spots” and analyzes the images.

Computed Tomography Laser Mammography. This test uses laser technology to examine different planes of breast tissue and produce a 3D view of the breast.

TREATMENT FOR BREAST CANCER

Once breast cancer is detected, there are a number of treatments available. The treatment depends on the type of tumor, whether the cancer has spread and other factors. Some of the most common treatments are:

Lumpectomy. This is a surgical procedure that removes the lump or tumor and a small amount of breast tissue around it, leaving the rest of the breast. A lumpectomy is usually the preferred treatment when the cancer has not spread outside the breast.

Total Mastectomy. This is a surgical procedure that removes the entire breast and usually the nearby lymph nodes. This may be necessary when there is more than one cancer in the breast, or when a single cancer is large within the breast. Breast reconstruction or breast forms (prostheses) are usually available to women who have a breast removed.

Radiation Therapy. Radiation from special equipment is aimed at the tumor to kill cancer cells and shrink the tumor.

Drug Treatment. Drug treatment may include chemotherapy or hormone treatment. Chemotherapy kills cancer cells that may have spread to other parts of the body. Hormone treatment interferes with the growth of cells in certain cancers.

Radiation and drug treatment are often given after surgery to make sure that all cancer cells have been caught.

Biological Therapy. This treatment uses materials produced by the body or manufactured in a laboratory to boost, direct or restore the body’s natural defenses against disease. One type of biological therapy called biological response modifier (BRM) therapy, or immunotherapy, is sometimes used to treat cancer.

CLINICAL TRIALS

Cancer clinical trials are research studies in which cancer patients help doctors find ways to improve health and cancer care. It is one of the final stages of a long and careful cancer research process. Each study tries to answer scientific questions and to find out whether new approaches to cancer prevention, diagnosis and treatment are safe and effective.

When conducting a clinical trial, the doctor compares the effect of the new approach or medication to the current method. For those patients whose cancer is in a very serious stage, participation in a clinical trial provides the chance to try a new treatment that may be more helpful. However, participating patients would never go without treatment as part of a study. Doctors in charge of clinical trials are required to help patients make decisions about trial participation, including all the pros and cons, through a process called “informed consent.”

Unfortunately, cancer patients in New Jersey are not always aware that this option is available to them. Some may have fears about participating in a clinical trial or face other barriers. In particular, clinical trial participants do not represent the racial and ethnic diversity of the population. Black and Hispanic patients often are not well informed or encouraged by their doctors to consider this opportunity.

In New Jersey, more than 60 cancer treatment centers conduct clinical trials, which may be funded by the National Cancer Institute, the New Jersey Department of Health and Senior Services, the Cancer Institute of New Jersey or other agencies. Contact New Jersey Cancer Trial Connect at 866-788-3929 or visit www.njctc.org for information about innovative cancer clinical trials and a list of ongoing studies by diagnosis or treatment.

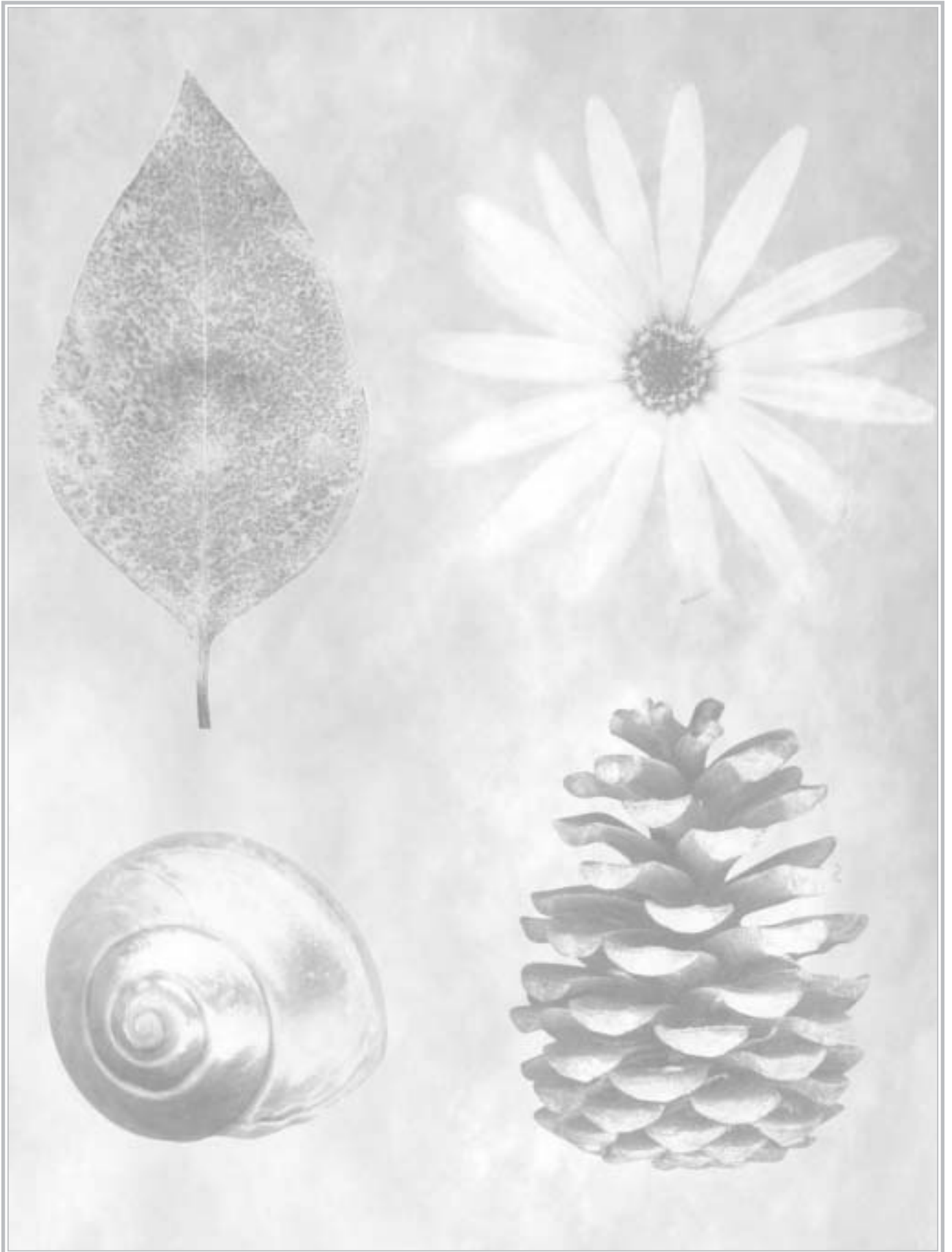
PALLIATIVE AND HOSPICE CARE

Palliative care is the relief of suffering in the face of cancer or other disease process. Suffering includes the mental, emotional, social and spiritual domains. Palliative care in any setting is a course of action, intervention and treatment that works alongside medical treatments. It helps a person have the best possible quality of life as his or her cancer or other illness progresses. The main goals of palliative care are:

- To relieve pain and other symptoms
- To help improve emotional, mental and spiritual well-being
- To support the family members of the patient during his or her illness and after his or her death.

Palliative care involves a partnership between the person who has cancer, his or her family and friends, and the members of the health care team. The comprehensive palliation approach requires a multidisciplinary team including nursing, pharmacy, social work, volunteer services, spiritual/pastoral care, nutrition, arts, physical therapy and medicine. In New Jersey, healthcare professionals and legislators are learning more and more about the important role of palliative care and what they can do to improve the public's understanding of and access to this care.

In some cases, a person's cancer has developed to a more serious stage and cannot be cured or controlled with treatment, or the person doesn't wish to receive additional treatment. For these patients and their families, hospice, a type of palliative care, can help them focus on living each remaining day as fully as possible. Hospice care settings include the home, hospitals and other residential sites such as assisted living and skilled nursing facilities. Hospice care uses palliation strategies to improve and maintain a patient's comfort, dignity and quality of life, whether in an inpatient or outpatient setting, during the last phase of life.



GLOSSARY OF BREAST CANCER RELATED TERMS

Adjuvant Systemic Therapy: Treatment given in addition to surgery and radiation to eliminate tumors that may have spread to other sites. There are two types, chemotherapy and hormone therapy.

Alopecia: Hair loss.

Angiogenesis: Blood vessel formation, which usually accompanies the growth of malignant tissue.

Anti-carcinogen: Referring to an agent that counteracts carcinogens (cancer causing agents).

Antiemetic: A medicine to prevent or relieve nausea and vomiting.

Areola: The more darkly shaded circle of skin surrounding the nipple.

Atypical Hyperplasia: Overgrowth of mildly abnormal but noncancerous (benign) cells within the breast milk ducts.

Axilla: The underarm region.

Axillary Lymph Nodes: The lymph nodes under the arm.

Benign: Not cancerous. Does not invade nearby tissue or spread to other parts of the body.

Biopsy: Removal of tissue that is then examined for cancer cells.

Bone Scan: A test done to determine whether or not there are any signs of cancer in the bones. A small amount of radioactive material is injected into the bloodstream. It collects in the bones, especially abnormal areas, and is detected by a scanner. Collections on bone scan may result from cancer as well as from benign bone diseases like arthritis.

Breast Cancer: An uncontrolled growth of abnormal breast cells.

Breast Self-Examination (BSE): A method used by women to become familiar with the normal appearance and feel of their breast tissue, so that if a change occurs it will be detected early.

Calcifications: Deposits of calcium in the breast that appear on a mammogram. Microcalcifications sometimes can indicate pre-cancerous or cancerous cell growth.

Cancer: General name for over 100 diseases in which cell growth is uncontrolled.

Chemotherapy: A drug or combination of drugs given in cycles. These drugs kill cancer cells in various ways.

Clinical Breast Examination: The inspection and palpation of the breasts by a trained medical professional.

Clinical Trials: Research studies done with human patients. These studies generally test the benefits of possible new treatments or diagnostic procedures.

Core Needle Biopsy: A needle biopsy that removes pieces of tissue rather than just cells from a lump.

Cyst: A fluid-filled sac.

Definitive Surgery: When all of the known tumor is removed and no follow-up surgery is needed.

Diagnosis: Identification of a disease from its signs and symptoms.

Duct: A pathway in the breast through which milk passes from lobes to the nipple.

Ductal Carcinoma In Situ (DCIS): Type of in situ (non-invasive) breast cancer that originates mainly in the milk ducts of the breast.

Ductal Papilloma: A noncancerous breast tumor, arising in the breast duct, which usually cannot be felt. It generally appears as either a bloody or clear nipple discharge.

Estrogen: A female hormone produced by the ovaries and adrenal glands, important to reproduction, and which may stimulate some cancers to grow.

False Negative: A test result that incorrectly reports that a person is disease-free when she actually has the disease.

False Positive: A test result that incorrectly reports that a healthy person has a disease.

Fat Necrosis: A non-cancerous breast change in which the breast responds to trauma with a firm, irregular mass, often years after the event. The mass is the result of fatty tissue dying, following either surgery, or blunt trauma to the breast. This breast change is not associated with an increased risk of breast cancer.

Fibroadenoma: A benign fibrous tumor that may occur at any age but is more common in young adulthood.

Fibrocystic Condition (fibrocystic changes): A non-cancerous breast condition, sometimes resulting in painful cysts or lumpy breasts, also referred to as benign breast disease.

Fine Needle Aspiration (FNA): Biopsy procedure that uses a very thin, hollow needle to remove a sample of cells from the abnormal area of the breast. Also called a fine needle biopsy.

Genes: The part of a person's cells that contains all the DNA information that determines how they will grow and develop, and how their body works. The information in a person's genes is inherited from previous generations on both sides of a person's family.

Hormones: Chemicals produced by various glands in the body, which produce specific effects on specific target organs and tissues.

Hormone Receptors: Specific proteins on breast cells that hormones attach to. A high number of hormone receptors often indicates that a cancer cell needs the hormone to grow.

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

Immunotherapy: Treatment that uses the body's natural defenses to fight cancer. Also called biological therapy.

Implant, Breast: An "envelope" containing silicone, saline, or both, used to restore breast form.

Incisional Biopsy: Surgical biopsy that removes only part of the tumor, usually done on advanced or large tumors.

Induction Chemotherapy (also called **Primary Chemotherapy**, **Preoperative Chemotherapy**, or **Neoadjuvant Therapy**): Chemotherapy used as a first treatment, often used for large or advanced cancers to shrink tumors before surgery.

Informed Consent (risks and benefits): The process through which a patient learns about the possible benefits and side effects of a recommended treatment plan and then accepts or declines the treatment. The patient is usually asked to sign a consent document, and may decide to stop the treatment at any time and can receive other available medical care.

In Situ Cancer: Cancers contained in the milk ducts and lobules of the breast that have not left their original location and spread to the surrounding breast tissue. In situ means “in place.”

Intraductal: Within the milk duct. Intraductal can describe a benign or malignant process.

Intraductal Hyperplasia: An excess of cells growing within the breast’s milk ducts.

Intravenous: Being within or entering the body by way of the veins.

Invasive Cancer: Cancer that has spread from the original location into the surrounding breast tissue and possibly into the lymph nodes and other parts of the body.

Investigational New Drug (new experimental treatment): A chemical or biological drug that has been approved for use by clinical investigators in research trials but which is not yet available for commercial use.

Lactic Acid: Substance produced as waste by cancer cell metabolism.

Lesions: Area of abnormal tissue.

Lobular Carcinoma In Situ (LCIS): An in situ cancer where the cells originate mainly in the lobules of the breast.

Lobules: Spherical-shaped sacs in the breast that produce milk.

Local Treatment: Treatment that focuses on getting rid of the cancer from a limited (local) area, namely the breast, the chest wall, and lymph nodes under the armpit (axillary nodes).

Localized Breast Cancer: Cancer that is contained in the breast and has not spread to surrounding tissue, lymph nodes, or other organs.

Lump: Any kind of mass in the breast or elsewhere in the body.

Lymph nodes: Small clumps of immune cells that act as filters for the lymphatic system. Clusters of lymph nodes are found in the underarms, groin, neck, chest, and abdomen. They are also called lymph glands.

Malignant: Cancerous.

Mammary Ducts: Canals that carry milk from the lobules to the nipple openings when a woman is breastfeeding.

Mammary Duct Ectasia: A non-cancerous breast condition resulting from the inflammation and enlargement of the ducts behind the nipple. Generally, women do not experience any symptoms, however, calcifications seen on a mammogram may indicate its presence. No treatment is necessary if the woman is not experiencing any symptoms (burning, pain or itching of the nipple area).

Mammary Glands (breast tissue): The breast glands that produce and carry milk, by way of ducts, to the nipples during pregnancy.

Mammogram: An X-ray of the breast.

Diagnostic Mammogram: A diagnostic mammogram is used to further evaluate a woman with a breast problem/symptom or an abnormal finding on a screening mammogram. This procedure involves two or more X-ray views per breast.

Screening Mammogram: Screening mammography is used to identify early signs of breast cancer in a woman who is not currently having any breast problems or symptoms. This procedure involves two X-ray views of each breast.

Stereotactic Mammography: Three-dimensional mammography used when taking a needle biopsy of a nonpalpable lesion.

Mastectomy: Surgical removal of the breast and some surrounding tissue.

Prophylactic (Preventive) Mastectomy: A procedure sometimes recommended for a patient at high risk of developing cancer in one or both breasts. Breast tissue is removed without removing skin or muscle.

Partial Mastectomy (also called Breast Conserving Surgery, Lumpectomy, Wide Excision, Segmental Mastectomy or Excisional Biopsy): Surgery that removes only the part of the breast containing and closely surrounding the cancer tumor.

Modified Radical (Total) Mastectomy: Most common type of mastectomy performed today. The breast and some of the underarm lymph nodes are removed, while the chest muscles are saved.

Radical Mastectomy (also called Halsted Radical): the surgical removal of the breast, chest muscles, and underarm lymph nodes.

Menarche: The first menstrual period.

Menopause: The ending of the normal menstrual cycle in women. It occurs most frequently in the late forties or early fifties.

Metastases: Spread of the cancer to other organs through the lymphatic and/or circulatory system.

Microcalcifications: Small, clustered deposits of calcium in the breast, which may be seen on a mammogram. These may or may not be associated with a breast lump. Approximately 20%-25% represent breast cancer.

MRI (Magnetic Resonance Imaging): An imaging technique that uses a magnet linked to a computer to create detailed pictures of parts of the body like the liver, brain, lung, chest, or any other organ suspected of having metastases.

Neoplasm: Excessive number of cells in a mass that can be either benign or malignant.

Nonpalpable: Breast lumps or abnormalities that cannot be felt but that can be detected on a mammogram.

Oncologist: The doctor who is responsible for planning and overseeing drug treatment of cancer, such as chemotherapy and hormone therapy.

Palpable Mass: Breast lumps or abnormalities that can be felt during a clinical breast examination.

Pathologist: The doctor who microscopically evaluates the breast tissue and lymph nodes removed during biopsy or surgery.

Cytopathologist: A pathologist who specializes in looking at individual cells. A cytopathologist is needed to interpret the results of fine needle aspiration.

Premenopausal Women: Women who have regular periods.

Prevention: The elimination of causes of disease from the population, so that risk of disease is either eliminated (as in the case of many infectious diseases today), or postponed until later in life (with heart disease and various cancers).

Prognosis: The expected or probable outcome or course of a disease; the chance of recovery.

Prosthesis, Breast: An artificial breast form that can be worn under clothing after a mastectomy.

Radiation Therapy (also called Radiotherapy): Treatment given by a radiation oncologist using moderate-dose radiation to kill or damage cancer cells in the area exposed.

Radiologist: The radiologist oversees and reads any X-rays, mammograms, or other scans related to diagnosis or follow-up. In general, radiologists specialize in creating and interpreting pictures of areas inside the body. Radiologists also perform the needle biopsy and wire localization procedures.

Recurrence: Return of cancer in the same site or another location.

Risk (of Disease): Probability of disease developing in an individual during a specified time period.

Screening: A test or procedure used to detect cancer or a pre-cancerous condition in an apparently healthy person without symptoms.

Second Primary Tumor: In a woman who has had one breast cancer, a second breast cancer can arise in a different location from the first. In a local recurrence, the tumor recurs near the location of the primary tumor.

Tamoxifen: Drug that is used to treat both early and advanced stage breast cancer. It works by blocking the hormone estrogen from cancer cells that are estrogen receptor-positive, therefore preventing their growth. Taken in pill form.

Tumor: An abnormal growth or mass of tissue that may be benign (non-cancerous) or malignant (cancerous).

Ultrasound (also called Sonogram): Diagnostic test that uses sound waves to create images of tissues and organs. Tissues of different densities reflect sound waves differently.

X-rays: Radiation that can be useful, at low levels, in the diagnosis of cancer and, at high levels, in its treatment.