



Breast Cancer
Awareness
Guide

About Breast Cancer

Breast cancer is the second most common cancer in women, second only to skin cancer, according to the National Cancer Institute. It is also one of the most treatable cancers. This cancer, which mostly affects women but can also be found in men, occurs when breast cells grow out of control and form a tumor.

BY THE NUMBERS

More than 250,000 people were diagnosed with breast cancer in 2018, according to the National Cancer Institute, while about 3.5 million women were living with breast cancer. About 40,000 of those cases ended in death. Around 12.4 percent of women will be diagnosed with breast cancer in their lifetimes.

However, breast cancer is generally very treatable, and almost 90 percent of women with breast cancer are alive five years after their diagnosis. The likelihood of survival depends largely on the stage of the breast cancer at diagnosis; 62 percent of cases are diagnosed at the localized stage, which means it's only found in one part of the body. The five-year survival for localized breast cancer is almost 99 percent. When the cancer has metastasized to other parts of the body, it becomes harder to treat.

CAUSES

While there is a lot we don't know about the causes of breast cancer, family history has been shown to be a factor. Having a benign breast disease; dense breast tissue; exposure of breast tissue to estrogen caused by early menstruation, older age at first birth or never giving birth or starting menopause at a late age; and taking hormones all have been



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shown to be risk factors. There is also evidence that drinking alcohol and obesity can be risk factors for breast cancer. As with all cancer, older age is a risk factor, though an increas-

ing number of younger women are being diagnosed with breast cancer, which is thought to be related to a gene mutation.

While there are no surefire

ways to prevent breast cancer, there are things women can do to reduce their risks, known as protective factors, including: taking estrogen-only hormone therapy after getting a hyster-

ectomy; less exposure of breast tissue to estrogen, caused by early pregnancy or breastfeeding; getting sufficient exercise; and overall healthy eating and lifestyle choices.

Signs and Screenings

There are a number of ways doctors can test for breast abnormalities, including simple physical exams and family history assessments to X-rays and other radiation screenings to find a tumor, pinpoint a problem area or determine how far cancer has spread.

The testing will start with basic exams and mammograms. If your doctor finds anything abnormal in the regular screenings, she may order additional tests such as ultrasounds, MRIs, blood tests or a biopsy.

SIGNS OF BREAST CANCER

Although cancer presents differently in different people, the National Cancer Institute listed a number of warning signs for which women should be on the alert and contact their doctor if these appear. They include: a lump or thickening in or near the breast or underarm; changes in a breast's size or shape; skin puckering or dimpling; a nipple turned inward; fluid coming from the nipple; or scaly, red or swollen skin.

SELF-EXAMS

Checking yourself can be part of a healthy breast regimen. According to the NCI, self-exams have not been found to help reduce the number of deaths from breast cancer, but it can offer some benefit; many women find lumps on their own, though these frequently are not indicative of cancer. The breast tissue can have cysts and other lumps. It's important to remember breast tissue changes during menstruation and menopause; pregnancy, aging and taking birth control all can cause the breasts to feel different.

CLINICAL BREAST EXAMS

During an annual physical, your doctor will examine your breasts for



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lumps or other changes. She will also feel around the breast and test the lymph nodes, which are one of the first places cancer spreads. As with self-exams, the breast tissue can change from year to year; your doctor will determine if further testing is needed. During this time, you can

also talk about your family history with your doctor, which could be indicative of cancer risk.

MAMMOGRAMS

A mammogram is an X-ray of the breast, which can find tumors that can't be felt with physical exams.

Mammograms can also find small deposits of calcium that may indicate breast cancer. Doctors also may use it after breast cancer has been found to determine how far it's spread. The medical community recommends regular mammograms for women age 40 and older.

Breast Cancer Treatment

The most effective treatment for breast cancer depends on the stage at which it is diagnosed.

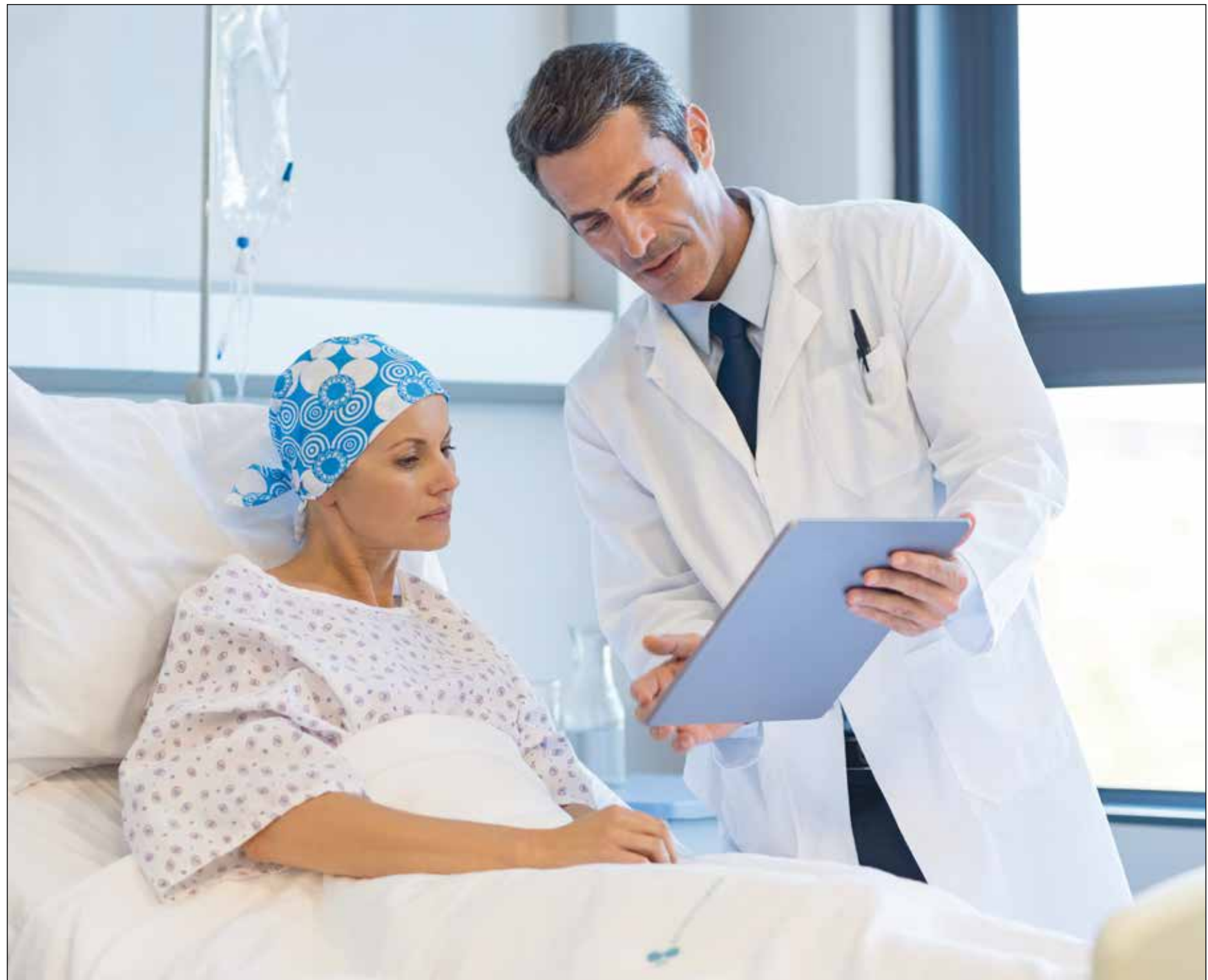
According to the National Cancer Institute, there are five available treatment options: surgery, radiation, chemotherapy, hormone therapy and targeted therapy. A doctor may recommend a combination of these treatments.

SURGERY

Removing the sentinel lymph node (the first node to receive drainage from a tumor) is common. Patients may also get a lumpectomy, which removes the cancer and some normal tissue around it. A total mastectomy is the removal of the entire cancerous breast; this may also include removing some of the lymph nodes to determine if the cancer spread.

CHEMOTHERAPY AND RADIATION

Before surgery, chemotherapy, which uses drugs to stop the growth of cancer cells, can shrink a tumor and reduce the amount of tissue that needs to be removed. After surgery, the doctor may recommend chemotherapy or radiation to kill any remaining cancer cells. Radiation therapy uses high-energy X-rays to destroy the cancer cells or keep them from growing. External radiation therapy requires a machine to send radiation toward the body, while internal radiation therapy requires a radioactive substance placed directly in or near the cancer. Both treatments, while they have shown to be effective, come with serious side effects.



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HORMONE AND TARGETED THERAPY

These types of therapy are given after the surgery to remove the breast cancer with the purpose of destroying any remaining cancer cells. Hormones like estrogen, which is produced naturally by glands in the body, can cause breast cancer to grow, and hormone therapy

is used to reduce the production of hormones or stop them from affecting the cancer's growth.

Certain types of hormone therapy have been shown to cause other health problems, including an increased risk of other types of cancer. Patients should talk to their doctor about continued hormone testing after the can-

cer treatment is finished.

Targeted therapy uses drugs and other substances to find specific cancer cells without damaging healthy cells. There are many types of treatments, including the use of antibodies, which can be used to deliver cancer-fighting drugs directly to the cancer cells instead of flooding the entire system.



The BRCA Gene

Actress Angelina Jolie made headlines in 2013 when she announced she had a double mastectomy despite not having breast cancer.

Instead, she found out she had a genetic mutation in the BRCA gene, which significantly increased her risk of breast cancer.

Her decision jump-started a conversation about whether women should undergo elective surgery to lessen their risk of breast cancer before any diagnosis or the different factors to take into consideration when determining treatments.

WHAT IS IT?

According to the Mayo Clinic, the BRCA gene mutation is responsible for 5 to 10 percent of breast cancer cases and about 15 percent of ovarian cancer cases. A blood test can find the mutation in the BRCA1 or BRCA2 genes. You may consider this form of testing if you have a personal history of breast cancer diagnosed at a young age or affecting both breasts; a personal history of ovarian cancer; a family history of breast, ovarian or pancreatic cancer; or a relative with a known BRCA gene mutation. People who have a close male relative with breast cancer are at greater risk as well. Talk to your doctor about your family history with all types of cancer to get a better understanding of your risk.

WHAT TO DO?

If you get a positive result, this does not mean you will develop breast cancer. If you know you're at greater risk, consider more frequent clinical screenings; taking oral contraceptives, which have been shown to reduce the risk of ovarian cancer; chemoprevention, which is hormonal medication that reduces the risk of breast cancer; or Jolie's choice to have preventive surgery. This reduces the chance of breast cancer by about 90 percent, according to research. It's not clear how much it reduces the risk of ovarian cancer.

WHO BENEFITS

Women who have been diagnosed with breast cancer may also benefit from getting the test. The National Cancer Institute discussed a study related to the BRCA mutation, in which women 40 years old and younger who had been diagnosed with breast cancer were tested for the mutation. Of the hundreds of women tested, about a third told researchers it influenced their cancer treatment — 86 percent of those with the mutation had both breasts removed even though both were not affected by the cancer, while 53 percent also had their ovaries and fallopian tubes removed.

Recurrent Breast Cancer

While most breast cancers are treatable, it may come back. According to the Mayo Clinic, recurrent breast cancer, which happens when not all cancer cells go undetected during treatment and remain in the body, may occur months or even years after you have initially been treated.

It may come back in the same place or may appear in other parts of the body; where it recurs also affects the symptoms a patient experiences.

LOCAL RECURRENCE

When the cancer reappears in the same place as your original cancer, this is known as a local recurrence. Women who had a lumpectomy could have a recurrence in the remaining breast tissue; women who had a mastectomy could experience a local recurrence in the tissue lining the wall of the chest or in the skin surrounding the breast. Symptoms of local recurrence of cancer could include a new lump or irregularly firm area, changes to the skin on or around the breast, skin inflammation, or redness or nipple discharge. Symptoms of cancer on the chest wall include painless nodules on or under the skin and unusual thickening near the mastectomy scar.

REGIONAL OR DISTANT RECURRENCE

When cancer returns to the lymph nodes near the chest, this is regional breast cancer occurrence. Possible symptoms include lumps or swelling in the nodes in the underarm or collarbone area, in the groove above the collarbone or in the neck.

Distant or metastatic recur-



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rence means the cancer has moved to other parts of the body. Symptoms of this type of recurrence include persistent or worsening chest or bone pain, a persistent cough, lack of appetite, weight loss, headaches, seizures or difficulty

breathing.

RISK FACTORS

There is no way to say with certainty whether cancer will come back. However, there are features of the initial cancer diagnosis that are seen in

greater frequency when cancer recurs. They include:

- Cancer cells in lymph nodes at the time of the original diagnosis.
- Larger tumor size.
- Lack of radiation treatment after a lumpectomy.

- Younger age.
- Inflammatory breast cancer.
- Initial cancer that didn't respond to hormone therapy or treatments directed to the triple negative breast cancer.
- Positive tumor margins.

Male Breast Cancer

It's rare, but men have breast tissue and can have breast cancer. Like breast cancer in women, early diagnosis plays a significant role in a good outcome. And like the disease in women, treatment generally includes surgery to remove the affected tissue, chemotherapy and radiation therapy.

CAUSES

The Mayo Clinic reports that science is still unclear on the causes of male breast cancer. We do know that everyone of all genders is born with some breast tissue, which consists of milk-producing glands known as lobules, ducts that move milk to the nipples, and fat. At puberty, women develop more breast tissue; men do not, but they retain what they were born with.

There is evidence that a family history of breast cancer can make men more likely to get the disease. Gene mutations, particularly in BRCA2, increase a man's risk of both breast and prostate cancer. Other risk factors are older age; exposure to estrogen; a genetic syndrome known as Klinefelter's syndrome, in which boys are born with more than one copy of the X chromosome; liver and testicular disease; and obesity.

TYPES

There are several types of male breast cancer, according to the Mayo Clinic. Cancer that begins in the milk ducts, or ductal carcinoma, is the most common type of male breast cancer. Lobular carcinoma, which is cancer that starts in the milk-producing glands, is rare, since men have very few milk-producing glands. Other types of male breast



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cancer are Paget's disease, which affects the nipple, and inflammatory breast cancer.

SYMPTOMS AND TREATMENT

Symptoms of breast cancer in men may include a painless

lump or thickening in the breast tissue, nipple discharge or changes to the nipple, such as redness, scaling or turning inward, or changes to the skin covering the breast.

Diagnosis and treatment for male breast cancer includes

clinical breast exams, imaging tests that allow the doctor to identify problem areas and abnormalities or a biopsy, when a doctor extracts tissue from the suspicious area to test if it's cancer. Because male breast cancer is often hor-

monone-related, hormone therapy may be part of a treatment regimen; surgical treatment could include a full mastectomy or removal of a few lymph nodes that would be the most likely place for cancer to spread.

Emotional Support

Breast cancer takes a huge toll on the body, but the diagnosis and treatment can also be incredibly difficult emotionally. Cancer is a scary diagnosis, with the questions of long-term effects and the likelihood of death, and treatment is hard, with chemotherapy and radiation causing other problems and making the patient sick in different ways.

Cancer treatment is also very involved; it can take over families' lives and be hard on spouses or partners, children and caregivers. According to the Mayo Clinic, getting the necessary emotional support can make this frightening process easier to handle.

WHILE UNDERGOING TREATMENT

Talk to your oncologist about cancer support groups in the area or ways to seek out support online. Cancer can be isolating, both because treatment makes patients so sick that going out in public is difficult, and it can also be difficult to feel a part of a group when feeling self-conscious about colostomy bags, a mastectomy, hair loss or worrying about your diagnosis.

You can also look into other ways to treat the side effects of cancer treatments. Appropriate pain management can help you handle both the physical and emotional toll of cancer. You can speak to a therapist about overwhelming sadness, distress or anxiety. When you are physically able to, exercise or going about your normal routine as much as possible can make you feel better (though don't push yourself further than your body can handle).

CANCER SURVIVORS

Finding out you're in remission is good news, but often cancer survivors are still left with an array of emotions and can benefit from sustained support. The fear of recurrence is common, even years after treatment; the Mayo Clinic recommends acknowledging this fear and doing what you



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can to remain on top of your health, including going to follow-up appointments and getting the recommended tests, talking to friends or family about your fears and keeping busy. By

returning to your old hobbies or acquiring new ones, you will worry less about the future.

You may also experience depression, anxiety or difficulty handling

stress. Exercise, rest and attending a support group for other cancer survivors. If you need more help, talk to your doctor and consider asking for a referral to a counselor.