Breast Cancer

What is breast cancer?

Breast cancer is one of the most common cancers that affects women and people assigned female at birth (AFAB). It happens when cancerous cells in your breasts multiply and become tumors. About 80% of breast cancer cases are invasive, meaning a tumor may spread from your breast to other areas of your body.

Breast cancer typically affects women age 50 and older, but it can also affect women and people AFAB who are younger than 50. Men and people assigned male at birth (AMAB) may also develop breast cancer.

Breast cancer types

Healthcare providers determine cancer types and subtypes so they can tailor treatment to be as effective as possible with the fewest possible side effects. Common types of breast cancer include:

- Invasive (infiltrating) ductal carcinoma (IDC): This cancer starts in your milk ducts and spreads to nearby breast tissue. It's the most common type of breast cancer in the United States.
- Lobular breast cancer: This breast cancer starts in the milk-producing glands (lobules) in your breast and often spreads to nearby breast tissue. It's the second most common breast cancer in the United States.
- Ductal carcinoma in situ (DCIS): Like IDC, this breast cancer starts in your milk ducts. The difference is DCIS doesn't spread beyond your milk ducts.

Less common breast cancer types include:

- Triple-negative breast cancer (TNBC): This invasive cancer is aggressive and spreads more quickly than other breast cancers.
- Inflammatory breast cancer (IBC): This rare, fast-growing cancer looks like a rash on your breast. IBC is rare in the United States.
- Paget's disease of the breast: This rare cancer affects the skin of your nipple and may look like a rash. Less than 4% of all breast cancers are Paget's disease of the breast.

Breast cancer subtypes

Healthcare providers classify breast cancer subtypes by receptor cell status. Receptors are protein molecules in or on cells' surfaces. They can attract or attach to certain substances in your blood, including hormones like estrogen and progesterone. Estrogen and progesterone help cancerous cells to grow. Finding out

if cancerous cells have estrogen or progesterone receptors helps healthcare providers plan breast cancer treatment.

Subtypes include:

- ER-positive (ER+) breast cancers have estrogen receptors.
- PR-positive (PR+) breast cancers have progesterone receptors.
- HR-positive (HR+) breast cancers have estrogen and progesterone receptors.
- HR-negative (HR-) breast cancers don't have estrogen or progesterone receptors.
- HER2-positive (HER2+) breast cancers, which have higher than normal levels of the HER2 protein. This protein helps cancer cells to grow. About 15% to 20% of all breast cancers are HER2-positive.

Symptoms and Causes

Common signs of breast cancer and what to look for.

What are breast cancer symptoms?

The condition can affect your breasts in different ways. Some breast cancer symptoms are very distinctive. Others may simply seem like areas of your breast that look very different from any other area. Breast cancer may not cause noticeable symptoms either. But when it does, symptoms may include:

- A change in the size, shape or contour of your breast.
- A mass or lump, which may feel as small as a pea.
- A lump or thickening in or near your breast or in your underarm that persists through your menstrual cycle.
- A change in the look or feel of your skin on your breast or nipple. Your skin may look dimpled, puckered, scaly or inflamed. It may look red, purple or darker than other parts of your breast.
- A marble-like hardened area under your skin.
- A blood-stained or clear fluid discharge from your nipple.

What causes breast cancer?

Experts know breast cancer happens when breast cells mutate and become cancerous cells that divide and multiply to create tumors. They aren't sure what triggers that change. However, research shows there are several risk factors that may increase your chances of developing breast cancer. These include:

- Age: Being 55 or older.
- Sex: Women and people AFAB are much more likely to develop the condition than men and people AMAB.

- Family history: If your parents, siblings, children or other close relatives have breast cancer, you're at risk of developing the disease.
- Genetics: Up to 15% of people with breast cancer develop the disease because they have inherited genetic mutations. The most common genetic mutations involve the *BRCA1* and *BRCA2* genes.
- Smoking: Tobacco use has been linked to many different types of cancer, including breast cancer.
- Drinking beverages containing alcohol: Research shows that drinking beverages containing alcohol may increase breast cancer risk.
- Having obesity.
- Radiation exposure: If you've had prior radiation therapy — especially to your head, neck or chest — you're more likely to develop breast cancer.
- Hormone replacement therapy: People who use hormone replacement therapy (HRT) have a higher risk of being diagnosed with the condition.

What are the complications of breast cancer?

The most significant complication is metastatic breast cancer — breast cancer that spreads to other areas of your body, including your brain, bones, liver and lungs. Studies show about 1 in 3 women and people AFAB who have early-stage cancer later develop metastatic breast cancer.

Diagnosis and Tests

How is breast cancer diagnosed?

Healthcare providers may do physical examinations or order mammograms to check for signs of breast cancer. But they do the following tests to diagnose the disease:

- Breast ultrasound.
- Breast magnetic resonance imaging (MRI) scan.
- Breast biopsy.
- Immunohistochemistry test to check for hormone receptors.
- Genetic tests to identify mutations that cause breast cancer.

Stages of breast cancer

Healthcare providers use cancer staging systems to plan treatment. Staging cancer also helps providers set a prognosis, or what you can expect after treatment. Breast cancer staging depends on factors like breast cancer type, tumor size and location, and whether cancer has spread to other areas of your body. Breast cancer stages are:

- Stage 0: The disease is noninvasive, meaning it hasn't spread from your breast ducts to other parts of your breast.
- Stage I: There are cancerous cells in nearby breast tissue.
- Stage II: The cancerous cells have formed a tumor or tumors. The tumor is either smaller than 2 centimeters across and has spread to underarm lymph nodes or larger than 5 centimeters across but hasn't spread to underarm lymph nodes. Tumors at this stage can measure anywhere between 2 and 5 centimeters across, and may or may not affect the nearby lymph nodes.
- Stage III: There's breast cancer in nearby tissue and lymph nodes. Stage III is usually referred to as locally advanced breast cancer.
- Stage IV: Cancer has spread from your breast to areas like your bones, liver, lungs or brain.

Management and Treatment

How is breast cancer treated?

Surgery is the primary breast cancer treatment, but healthcare providers may use other treatments. Breast cancer surgeries include:

- Mastectomy.
- Lumpectomy.
- Breast reconstruction.

Providers may combine surgery with one or more of the following treatments:

- Chemotherapy.
- Radiation therapy, including intraoperative radiation therapy (IORT).
- Immunotherapy.
- Hormone therapy, including selective estrogen receptor modulator (SERM) therapy.
- Targeted therapy.

What are treatment side effects?

Common chemotherapy and radiation therapy side effects include fatigue, nausea and vomiting. Targeted therapy, immunotherapy and hormone therapy have similar side effects, including gastrointestinal issues like constipation and diarrhea.

People react differently to breast cancer treatments. If you're receiving treatment, ask your healthcare provider how treatment may affect you, including how it may affect your daily life. Also, ask your provider about palliative care. Palliative care helps manage breast cancer symptoms and treatment side effects so you're as comfortable as possible as you go through treatment.

Complications of breast cancer surgery

All surgeries have potential complications, and breast cancer surgery is no exception. As you're considering your options, it's important to remember that surgery removes potentially life-threatening cancer. In general, the risks of breast cancer outweigh the complications.

If you're having breast cancer surgery, ask your healthcare provider to explain potential complications, which may include:

- Infection at the surgical site.
- Blood clots that can happen after surgery.
- Nerve damage.
- Lymphedema.

Prevention

Can breast cancer be prevented?

You may not be able to prevent breast cancer. But you can reduce your risk of developing it. Just as important, regular self-exams and mammograms can help detect breast cancer early on, when it's easier to treat.

How can I lower my risk?

There's no sure way to reduce breast cancer risk, but the American Cancer Society (ACS) has the following advice for all women and people AFAB:

- Get to and stay at a healthy weight: This is a weight that's right for you. Ask a healthcare provider for information on setting up healthy weight management.
- Eat a healthy diet: Some studies show a diet that includes vegetables, fruit, calcium-rich dairy foods and lean protein may reduce your risk of breast cancer. Avoiding red meat and processed meat may also reduce your risk.
- Get moving: Studies show that regular physical activity lowers breast cancer risk.
- Avoid beverages containing alcohol: Research shows a link between breast cancer and alcohol. The American Medical Association recommends women and people AFAB limit alcohol to one drink a day.
- Get screened: Mammograms often detect tumors when they're too small to be felt.
- Do regular self-exams: Examining your breasts regularly helps to maintain breast health and may allow you to find breast cancer tumors.

Some women and people AFAB have an increased risk for breast cancer because family members have it or they inherited a genetic mutation. If that's your situation, you may want to consider the following:

- Genetic screening for breast cancer genes.
- Medication that may lower breast cancer risk like tamoxifen, raloxifene or aromatase inhibitors.
- Prophylactic (preventive) mastectomy.
- Frequent breast cancer screenings and physical examinations. If you have an increased risk for breast cancer, ask your provider if you should have additional tests to detect breast cancer, particularly if you're under age 40 and have increased risk.

Outlook / Prognosis

What is the survival rate for breast cancer?

Breast cancer survival rates vary based on several factors, like whether the cancer is invasive or noninvasive, the cancer type and the cancer stage. According to data kept by the National Cancer Institute (U.S.), overall, 91% of people with breast cancer were alive five years after diagnosis. The institute organizes breast cancer survival rates by stages:

- Local: Cancer hasn't spread outside your breast.
- Regional: Cancer has spread to nearby lymph nodes and tissue.
- Distant: Cancer is in more distant areas of your body like your liver or lungs.

Breast cancer stage	Five-year survival rate
Local	99%
Regional	86%
Distant	30%

As you think about breast cancer survival rates, remember, they're only estimates based on other people's experiences. Cancer affects different people in different

ways. If you have specific questions about cancer survival rates, talk to your healthcare provider. They're your best resource because they know your situation.

What's the outlook for breast cancer?

Right now, more people are being diagnosed with early-stage breast cancer — meaning they're diagnosed when it's easier to treat — and fewer people are dying of breast cancer.

Data shows 99% of people with early-stage breast cancer were alive five years after diagnosis. In some cases, they may be considered cured of breast cancer. But breast cancer can come back, and when it does, it may come back as metastatic breast cancer.

Outlook may also depend on race. According to the American Cancer Society, Black women and people AFAB are slightly less likely to develop breast cancer than white women. But Black women are more likely to die of breast cancer than white women.

Living With

How do I take care of myself?

Living with breast cancer may not be easy. You may have days when you feel overwhelmed by your situation. Consider the following suggestions for taking care of yourself as you go through breast cancer diagnosis and treatment:

- Get enough rest: Breast cancer and treatment can be exhausting. Try to remember to rest when you need to, not just when you think you have time.
- Eat well: Treatment may affect your appetite. A diet of fruit, vegetables, lean protein and healthy grains can help you stay strong during treatment.
- Manage your stress: Cancer is stressful. Exercise can help, from regular walks to exercise programs.
- Find support: You're a breast cancer survivor, starting the day you were diagnosed. Ask your healthcare provider about cancer survivorship programs, which may help you manage some of the challenges that come with living with breast cancer.

When should I see my healthcare provider?

Contact your provider if your symptoms seem to be getting worse or if you have new symptoms, like pain or weakness in a different part of your body.

When should I go to the emergency room?

You should go to the emergency room if your reaction to cancer treatment is stronger than you expected. For example, you should go to the emergency room if you're severely dehydrated from constant vomiting.

What questions should I ask my healthcare provider?

Most people have lots of questions when they first learn they have breast cancer. Here are some ideas of questions you may want to ask your provider:

- What type of breast cancer do I have?
- What's the tumor stage, size and grade?
- What's my estrogen and progesterone receptor status?
- What's my HER2 status?
- Will I need surgery?
- What are other treatment options?
- Is there a clinical trial available for me?

Additional Common Questions

How long can you have breast cancer without knowing?

You can have breast cancer for years before noticing changes in your breasts like a lump. That said, not all lumps or bumps are cancer. Check with a healthcare provider if you have an unusual bump or mass that doesn't go away after a few days.

How fast does breast cancer spread?

That depends on several factors, including the type of breast cancer you have, whether it's hereditary and, the tumor stage and grade. If you have breast cancer, ask your healthcare provider for information about what you can expect.

Can men get breast cancer?

Yes, men and people AMAB can get breast cancer, but it's not common. Approximately 2,600 men develop male breast cancer every year in the United States, making up less than 1% of all cases. Transgender women are more likely to develop breast cancer compared to cisgender men. Additionally, transgender men are less likely to develop breast cancer compared to cisgender women.