

What is Breast Cancer?

Every day, cells in your body divide, grow and die. Most of the time cells divide and grow in an orderly manner. But sometimes cells grow out of control. This kind of growth of cells forms a mass or lump called a tumor. Tumors are either *benign* or *malignant*.

Benign [bee-NINE] tumors

Benign tumors are not cancerous. But left untreated, some can pose a health risk. So they are often removed. When these tumors are removed, they typically do not reappear. The cells of a benign tumor do not invade nearby tissue or spread to other parts of the body.

Malignant [ma-LIG-nant] tumors

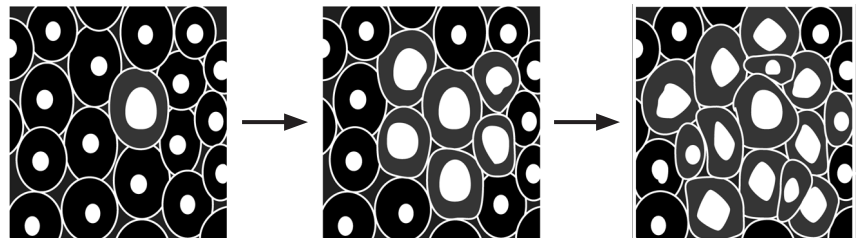
Malignant tumors are made of abnormal cells and are cancerous. Malignant tumor cells can invade nearby tissue and spread to other parts of the body. A malignant tumor that develops in the breast is called breast cancer.

How does breast cancer grow and spread?

To grow, malignant breast tumors need to be fed. They get nourishment by developing new blood vessels in a process called angiogenesis. The new blood vessels supply the tumor with nutrients that promote growth. As the malignant breast tumor grows, it can expand into nearby tissue. This process is called invasion. Cells can also break away from the primary, or main, tumor and spread to other parts of the body. The cells spread by traveling through the blood stream and lymphatic system. This process is called metastasis. When malignant breast cells appear in a new location, they begin to divide and grow out of control again as they create another tumor. Even though the new tumor is growing in another part of the body, it is still called breast cancer. The most common locations of metastatic breast cancer are the lungs, liver, bones and brain.

Breast cancer growth

The light circles represent normal breast cells and the dark-shaded circles represent cancerous breast cells. As the cancerous cells grow and multiply, they develop into a malignant tumor within the breast.



Why does breast cancer grow?

We all have genes that control the way our cells divide and grow. When these genes do not work like they should, a genetic error, or *mutation*, has occurred. Mutations may be inherited or spontaneous. Inherited mutations are ones you were born with — an abnormal gene that one of your parents passed on to you at birth. Inherited mutations of specific genes, such as the BRCA1 and BRCA2 genes, increase a woman’s risk of developing breast cancer. Spontaneous mutations occur within your body during your lifetime. The actual cause or causes of mutations still remains unknown. Researchers have identified two types of genes that are important to cell growth. Errors in these genes turn normal cells into cancerous ones. The table below provides a description of each.

| Type of gene | How it should work | How it works when damaged |
|------------------------------|---|---|
| Oncogene | It “turns on,” or starts normal cell division and growth. | The gene does not stop when it should and cell growth continues out of control. |
| Tumor suppressor gene | It “turns off,” or stops normal cell division and growth. | The gene does not work and cell growth continues out of control. |

But remember...

Cells can grow out of control before any symptoms of the disease appear. That is why breast screening to find early changes is so important. If breast cancer is found early, there are more treatment options and improved chance for survival. Susan G. Komen for the Cure® recommends that women 40 years and older have a mammogram every year. If you have a history of breast cancer in your family, talk with your doctor about your personal risk, including when to start getting mammograms and how often to have them. If your mother or sister had breast cancer before menopause, you may need to start getting mammograms and yearly clinical breast exams before age 40. It is important for all women to have clinical breast exams at least every three years starting at age 20 and every year after age 40.

Resources

Susan G. Komen for the Cure®
1-877 GO KOMEN (1-877-465-6636)
www.komen.org

American Cancer Society
1-800-ACS-2345
www.cancer.org

National Cancer Institute
1-800-4-CANCER
www.cancer.gov

Related fact sheets in this series:

- Ductal Carcinoma in Situ
- Genetics & Breast Cancer
- Types of Breast Cancer Tumors

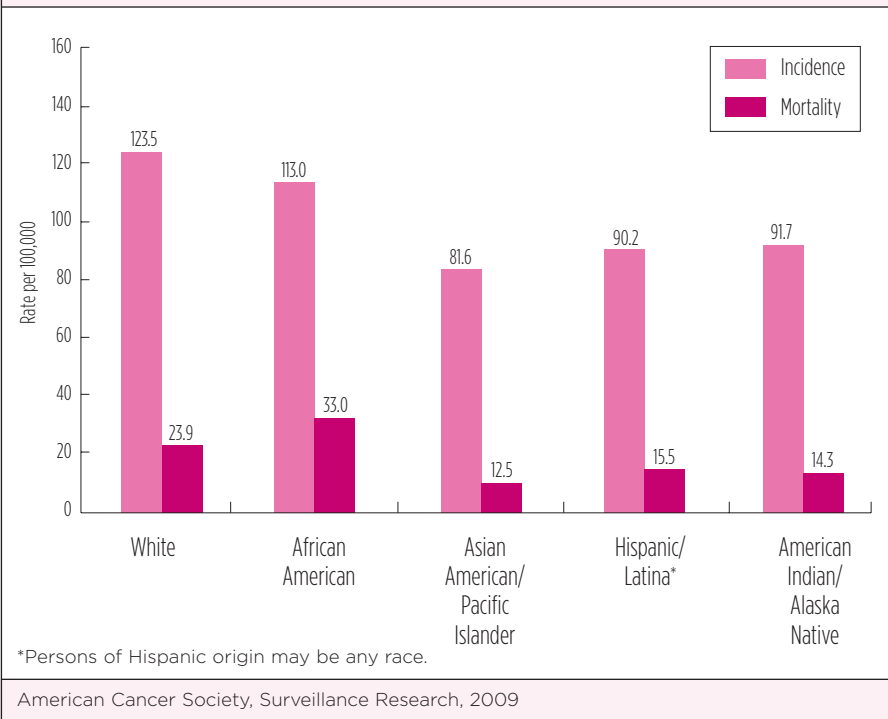
Racial & Ethnic Differences

Breast cancer differences

Breast cancer is one of the most common cancers among women in the United States. It is the most frequently diagnosed cancer among nearly every racial and ethnic group, including African American, American Indian/Alaska Native, Asian/Pacific Islander and Hispanic/Latina women. Race is not considered a factor that might increase a woman's chance of getting breast cancer. However, the rates of developing and dying

from the disease differ among ethnic groups. This may be due to differences in specific risk factors, the biology of the breast cancer or in breast cancer screening rates and treatment. The differences in screening rates could be due to the cost of health insurance and/or lack of awareness about screening tests and access to screening facilities.

Rate of new cases and deaths from breast cancer by race and ethnicity, United States, 2002-2006



Screening can help save lives

Ask your doctor which screening tests are right for you if you are at a higher risk.

- 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.

The risk of dying increases greatly when breast cancer is diagnosed at more advanced stages.

Incidence trends

White women have a higher rate of developing breast cancer than any other racial or ethnic group.¹ However, among women under age 40, African Americans have a higher incidence of breast cancer than white women.² They are also more likely to be diagnosed with larger tumors than white women. Hispanic/Latina women have a lower incidence of breast cancer than white women.¹ They are more likely to be diagnosed with larger tumors and late stage breast cancer than white women.³

When Asian women migrate to the U.S., their risk of developing breast cancer increases up to six-fold.⁴ Asian immigrant women living in the U.S. for as little as a decade had an 80 percent higher risk of breast cancer than new immigrants.⁴

During 1999-2006, breast cancer incidence rates among white and Asian American/Pacific Islander women declined slightly.¹ Incidence among African American, Hispanic/Latina and American Indian/Alaska Native women remained mostly unchanged.¹

Death rates

Even though white women get breast cancer at higher rates, African American women are more likely to die from breast cancer (see graphs on front side). Studies have found that African American women often have aggressive tumors associated with poorer prognosis (expected outcome). Hispanic/Latina women are also more likely to die from breast cancer than white women.³ Some ethnic and racial groups have been less likely to receive breast cancer screening, and thus their breast cancers are often diagnosed at later stages. This later diagnosis increases the chance of dying from breast cancer.

Survival rates

Survival rates are determined by the percentage of people who are alive five years after the time of their diagnosis. All racial and ethnic groups are less likely than white women to survive for five years after being diagnosed with breast cancer.

The five-year survival rates for:

- White women is 90 percent¹
- African American women is 78 percent, lower than that of any other ethnic and racial group in the U.S.¹
- Hispanic/Latina women is 86 percent³
- Asian women is 91 percent¹
- Pacific Islander women is 86 percent¹
- American Indian/Alaska Native women is 84 percent¹

This might be explained by differences in breast cancer screening practices among the groups, stage at diagnosis, biology of the tumor and treatment. Studies looking at possible genetic links to increased mortality are ongoing. Mammograms and clinical breast exams help to detect breast cancer at earlier stages, when there are more treatment options and a better chance of survival.

1 American Cancer Society, Breast Cancer Facts & Figures 2009-2010.

2 American Cancer Society, Cancer Facts & Figures for African Americans 2009-2010

3 American Cancer Society, Cancer Facts & Figures for Hispanics/Latinos 2009-2011.

4 Ziegler R.G., et al, Journal of National Cancer Institute, 1993.

Resources

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Related fact sheets in this series:

- Breast Cancer Risk Factors
- Breast Cancer Detection
- Breast Health Resources