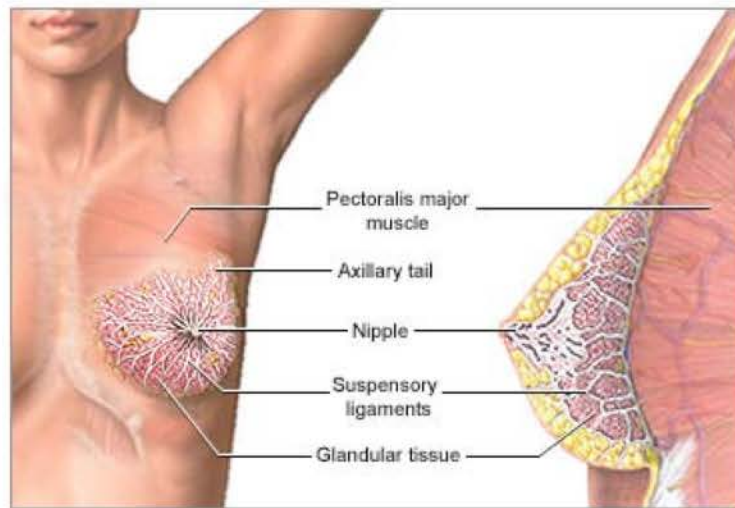


## Breast cancer



ADAM.

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Breast cancer is a malignant growth that begins in the tissues of the breast. Over the course of a lifetime, one in eight women will be diagnosed with breast cancer.

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- **Age and Gender** -- As with most cancers, age is a significant factor. In fact, 77% of new cases and 84% of breast cancer deaths occur in women aged 50 and older. More than 80% of breast cancer cases occur in women over 50. Less than 1% of breast cancers occur in men. The risk of breast cancer is clearly related to hormonal influences, but how these affect the disease and particularly types of the disease is not yet clear.
- **Genetic Factors and Family History of Breast Cancer**
- **Early Menstruation and Late Menopause**
- **Oral Contraceptives (birth control pills)**
- **Hormone Replacement Therapy**
- **Physical Characteristics** -- Obesity is controversial as a risk factor. Some studies report obesity as a risk of breast cancer, possibly associated with higher levels of estrogen production in obese women.
- **Alcohol Consumption**
- **Chemicals**
- **DES** -- Women who took diethylstilbestrol (DES) to prevent miscarriage may have an increased risk of breast cancer.

- **Radiation** -- People exposed to radiation, particularly during childhood may face an increased risk for breast cancer in adulthood. Especially at risk are those that received chest irradiation for prior cancers.
- **Additional Risk Factors** -- Some studies show previous breast, uterine, ovarian, colon cancer, and a strong history of cancer in the family may increase the risk for breast cancer.

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- **Breast lump** or breast mass noted upon breast exam -- usually painless, firm to hard and usually with irregular borders
- Lump or mass in the armpit
- A change in the size or shape of the breast
- Abnormal nipple discharge
  - Usually bloody or clear-to-yellow or green fluid
  - May look like pus (purulent)
- Change in the color or feel of the skin of the breast, nipple, or areola
  - Dimpled, puckered, or scaly
  - Retraction, "orange peel" appearance
  - Redness
  - Accentuated veins on breast surface
- Change in appearance or sensation of the nipple
  - Pulled in (retraction), enlargement, or itching
- Breast pain, enlargement, or discomfort on one side only
- Any breast lump, pain, tenderness, or other change in a man
- Symptoms of advanced disease are bone pain, weight loss, swelling of one arm, and skin ulceration

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Any worrisome breast changes should be confirmed and investigated by a medical professional. After getting as much information as possible about the symptom and any risk factors, the physician performs a physical examination including both breasts, armpits, and the area of the neck and chest. Additional tests and treatment may then be recommended:

- X-ray mammography may help identify the breast mass.
- Ultrasound (sonogram) can show whether the lump is solid or fluid-filled.
- Needle aspiration or needle biopsy of breast lumps can demonstrate if they are fluid-filled and provide material to send to the laboratory for analysis. In the case of very small abnormalities visible only on mammography, special techniques are necessary.
- A surgical biopsy or breast lump removal provides a portion or all of a breast lump for laboratory study.

If breast cancer is diagnosed, additional testing is performed, including chest X-ray and blood tests. Surgery, radiation, chemotherapy, or a combination of these may then be recommended, not only for treatment, but also to help determine the stage of disease. Staging is important to help guide future treatment and follow-up, and to give some idea of what to expect in the future.

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The choice of initial treatment is based upon many factors. For stage I, II, or III cancers, the main considerations are to adequately treat the cancer and prevent a recurrence either at the place of the original tumor (local) or elsewhere in the body (metastatic). For stage IV cancer, the goal is to improve symptoms and prolong survival. However, in most cases, stage IV breast cancer cannot be cured.

- Surgery may consist only of breast lump removal ([lumpectomy](#)), or partial, total, or radical [mastectomy](#), usually with the removal of one or more lymph nodes from the axilla (armpit). Special procedures to find the most likely lymph nodes to which cancer may have spread (sentinel nodes) are often used.
- Radiation therapy can be directed at the tumor, the breast, the chest wall, or other tissues known or suspected to have remaining cancer cells.
- Chemotherapy is used to help eliminate cancer cells that may still remain in the breast or that may have already spread to other parts of the body.
- Hormonal therapy with tamoxifen is used to block the effects of estrogen that may otherwise help breast cancer cells to survive and grow. Most women with breast cancers which express estrogen or progesterone on their surface benefit from treatment with tamoxifen. A new class of medicines called aromatase inhibitors, such as Aromasin, have been shown to be as good or possibly even better than tamoxifen in women with stage IV breast cancer.

Most women receive a combination of these treatments. For stage 0 breast cancer, mastectomy or lumpectomy plus radiation is the standard treatment. For stage 1 and 2 disease, lumpectomy (plus radiation) or mastectomy with at least "sentinel node" lymph node removal is standard treatment.

Chemotherapy, hormone therapy, or both may be recommended following surgery. The presence of breast cancer in the axillary lymph nodes is very useful for staging and the appropriate follow-up treatment.

Stage III patients are usually treated with surgery followed by chemotherapy with or without hormonal therapy. Radiation therapy may also be considered under special circumstances.

Stage IV breast cancer may be treated with surgery, radiation, chemotherapy, hormonal therapy, or a combination of these (depending on the situation).

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Even with aggressive and appropriate treatments, breast cancer often spreads (metastasizes) to other parts of the body such as the lungs, liver and bones. The recurrence rate is about 5% after total [mastectomy](#) and removing armpit lymph nodes when the nodes are found not to have cancer. The recurrence rate is 25% in those with similar treatment when the nodes have cancer.

Other complications can be the result of surgery, altered drainage of the lymph from the arm, radiation changes and treatment with chemotherapy and tamoxifen. But the results of delaying or avoiding early detection and treatment of breast cancer are far more distressing and often deadly.