

types of breast cancer



primary breast cancer

Primary breast cancer refers to cancer that has not spread (metastasized) beyond the breast.

The two most common types of breast cancer are found in the breasts' milk glands – in either the ducts (ductal carcinoma) or the lobules (lobular carcinoma).

- **Ductal carcinoma** refers to cancer that has originated in the milk ducts – the tubes that carry breast milk to the nipple.
- **Lobular carcinoma** refers to breast cancer that has originated in the lobules, where breast milk is made.

The next most important characteristic of breast cancer is the distinction between whether your cancer is non-invasive (in situ) or invasive*.

- **Non-invasive breast cancer (or “in situ” cancer)** refers to a type of cancer where the breast cancer cells have not spread beyond their originated location – the cancer cells have not “invaded” the surrounding breast tissue. Often in situ breast cancer is referred to as a pre-cancerous condition, as it can develop into invasive cancers.

- **Invasive breast cancer** (sometimes called infiltrating breast cancer) refers to a type of cancer where the breast cancer cells have spread beyond their originated location – the cancer cells have “invaded” the surrounding breast tissue and can travel to other parts of the body, such as the lymph nodes.

* NOTE: Invasive breast cancer is not the same as metastasis. See Secondary Breast Cancer for more information.

Types of non-invasive (in situ) breast cancer:

- **Ductal Carcinoma In Situ (DCIS)** is the most common form of non-invasive breast cancer. Just about all women with DCIS can be treated successfully. DCIS is a breast cancer originating in the milk ducts that has not spread or invaded the surrounding breast tissue. This cancer is considered early-stage breast cancer – some doctors refer to it as a “pre-cancerous” condition. DCIS often appears on a mammogram as small white specks of calcium – it is important to realize that most calcifications are not cancer. If left untreated, DCIS can in time develop into invasive breast cancer.
- **Lobular Carcinoma In Situ (LCIS)** is less common than DCIS. LCIS is a breast cancer originating in the lobules that has not spread or invaded the surrounding breast tissue. Controversy exists in the medical community as to whether LCIS is an early form of breast cancer or just an indicator for future cancer development. However, it is agreed by experts that a diagnosis of LCIS means that your risk of developing breast cancer in either breast is increased. As well, you are more likely to develop invasive breast cancer in the breast with LCIS, and if cancer develops in the other breast it is just as likely that it could be invasive lobular or ductal carcinoma.

Types of invasive breast cancer:

- **Invasive Ductal Carcinoma (IDC)**, also called “infiltrating,” is the most common type of invasive breast cancer, accounting for roughly 85% of all cases. IDC is a cancer originating in the milk ducts that is able to break free of the ductal wall and invade surrounding breast and fatty tissue. This form of breast cancer can stay localized but can also spread throughout the body and be carried through your bloodstream or lymphatic system.
- **Invasive Lobular Carcinoma (ILC)** is a less common type of invasive breast cancer, affecting around 10% to 15% of all women with



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the disease. This type of cancer behaves similarly to IDC in that the cancer originates in the milk glands and is able to invade surrounding breast and fatty tissue as well as spread throughout the body. ILC can be difficult to detect by touch and is also less likely to appear on a mammogram – it more often is identified as a general thickening or a feeling that your breast tissue has changed.

*NOTE: These types of cancer are based on how the cancer looks under the microscope. There is also increasing interest in the genetic or molecular features of the cancer, which may be more important than how a cancer looks. These features give some indication about which treatments the cancer will respond to and include whether the cancer is hormone sensitive (estrogen or progesterone receptor positive) or if it has too much of a gene known as HER2. In the near future, many more genetic features may be part of the standard diagnosis of breast cancer and may be more important than our current classification.

other types of breast cancer

Not all types of breast cancer originate in the milk ducts or lobules.

- **Inflammatory breast cancer** is a rare aggressive type of invasive breast cancer. The main symptoms include swelling (inflammation), redness of the breast, dimpled skin on the breast (similar to the skin on an orange) and the breast feeling warm to the touch. Unlike other types of breast cancer whose symptoms may take years to appear, inflammatory breast cancer symptoms have a tendency to arise within weeks or months and can be misdiagnosed as an infection due to the symptoms and lack of a lump, which is often the case. Unfortunately, a breast cancer diagnosis is usually reached with a mammogram and a breast ultrasound only once the symptoms do not improve. Given the swift onset of inflammatory breast cancer, routine mammography can miss this diagnosis. The average age of diagnosis of inflammatory breast cancer is slightly younger than the age of diagnosis of other types of breast cancer.

- **Paget's disease of the nipple** is a rare type of breast cancer affecting the nipple. Characteristically, the disease is identified by a red scaly rash on the nipple that can spread to the areola (the darker area around the nipple). The skin of the nipple may be crusted, scaly, itchy, red and bloody or ulcerated with a burning sensation. The nipple can also look compressed against the breast. A lump is detected in about half of all cases. If no lump exists, the prognosis for this type of cancer is better. Paget's disease can be connected with either in situ or invasive breast cancer. Due to Paget's symptoms, this type of cancer can be confused with skin conditions such as eczema, dermatitis or psoriasis, making it difficult to diagnose. In 90% of cases where an eczema-like rash is observed, this indicates an underlying cancer in the breast ducts. The unique traits of the rash usually affect the nipple first and do not go away.

- **Medullary carcinoma** of the breast is a particular type of invasive breast cancer where the tumour borders are well defined – there is a distinct boundary between the tumour tissue and normal tissue. Other defining characteristics consist of the large size of the cancer cells and the presence of immune system cells around the border of the tumour. Medullary carcinoma accounts for about 3% to 5% of breast cancers. The prognosis for this type of breast cancer is usually better than more common types of invasive breast cancer. However, medullary carcinoma is often difficult to distinguish from invasive ductal carcinoma (IDC). The majority of cancer specialists believe that true medullary cancer is very rare and that cancers that are diagnosed as medullary cancer should be treated as the usual invasive ductal breast cancer.

- **Tubular carcinoma** is a rare type of invasive ductal breast carcinoma. This type of breast cancer gets its name because of the way the cells appear under a microscope. The cancer cells look like tiny tubes that are well differentiated, meaning the cells are more like normal cells than poorly defined ones. Tubular car-



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cinomas account for about 2% of all breast cancers and most often occur in women in their 50s. This breast cancer has a better prognosis than invasive ductal and lobular carcinoma, as it tends to be small, highly estrogen dependent and HER2/neu negative. Women with this type of breast cancer are less likely to metastasize and have an exceptional survival rate.

- **Mucinous (colloid) carcinoma**, also called colloid carcinoma, is a rare type of invasive breast cancer. This type of breast cancer is formed by cancer cells producing mucous that grows into a jelly-like tumour. The prognosis for mucinous carcinoma is typically better than for the more common types of invasive breast cancer.
- **Phylloides (Cytosarcoma phyllodes)** tumours are typically identified as a large bulky tumour. They develop in the connective tissue of the breast instead of in a duct or lobule. The prognosis for a phylloides tumour is vague. If the tumour cannot be removed, it is challenging to treat.
- **Metaplastic carcinoma** is a rare type of breast cancer that is often confused with other benign and malignant entities. This type of breast cancer represents less than 1% of all first-time diagnosed breast cancers. This cancer is identified by lesions that are likely to stay localized and will contain quite a few different types of cells that are not typically identified in other types of breast cancer. The prognosis and treatment for metaplastic carcinoma is the same as for invasive ductal carcinoma.
- **Micropapillary carcinoma** is an invasive and quite aggressive type of breast cancer. It is characterized by the growth of cohesive tumour cell clusters within prominent clear spaces resembling dilated angiolymphatic vessels. In over 70% of cases, this type of breast cancer commonly spreads to the lymph nodes.
- **Sarcoma** is a tumour that develops in the connective, supportive or soft tissue of the breast. This type of tumour is most often malignant (cancerous).

- **Adenoid cystic carcinoma** is an unusual type of breast cancer that is identified by a large local tumor. Adenoid cystic carcinoma is invasive, however it is slow growing and relentless. This type of breast cancer is unlikely to metastasize.

secondary (metastasized) breast cancer

Secondary breast cancer is cancer that has spread from the breast to another part of the body. This spread is called a metastasis. With breast cancer, a metastasis most often occurs in the bones, lungs or liver. Secondary breast cancer is made up of the same type of cells as the primary (original) cancer but it resides in another part of the body.

Primary cancer cells can spread from the breast to another part of the body in two ways – through the bloodstream or the lymph fluid that flows through the lymphatic system.

When cancer cells make their way into the bloodstream or lymphatic system, they can become trapped in organs and tissues. They can then multiply and divide to form a secondary breast cancer. It is important to note that breast cancer cells do not always create a secondary cancer. Many cancerous cells die or can be inactive for many years. It is not understood why some cancer cells remain inactive or why for that matter years later they can become active and form a secondary cancer.

Detecting secondary breast cancer can be difficult, as the metastasis must become large enough to be identified on a scan. Often it is women themselves who identify their symptoms. Studies are happening to develop techniques to detect metastasis at an early stage. It is also important to note that a secondary cancer found may not in all cases be the same cancer as the primary cancer.