Non-cancerous Breast Conditions

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Fibrosis and Simple Cysts in the Breast

Many breast lumps turn out to be caused by fibrosis and/or cysts, which are non-cancerous (benign) changes in breast tissue that happen in many women at some time in their lives. These changes are sometimes called fibrocystic changes, and used to be called fibrocystic disease.

Fibrosis and/or cysts are most common in women of childbearing age, but they can affect women of any age. They may be found in different parts of the breast and in both breasts at the same time.

Fibrosis
Fibrosis refers to a large amount of fibrous tissue, the same tissue that ligaments and scar tissue are made of. Areas of fibrosis feel rubbery, firm, or hard to the touch.

**Cysts**

A round, movable lump, especially one that’s tender to the touch, suggests a cyst. Cysts are fluid-filled, round or oval sacs within the breasts. They are most often found in women in their 40s, but they can occur in women of any age. Monthly hormone changes often cause cysts to get bigger and become painful and more noticeable just before the menstrual period.

Cysts start out from fluid building up inside the breast glands. Microcysts (tiny, microscopic cysts) are too small to feel and are found only when tissue is looked at under a microscope. If fluid continues to build up, macrocysts (large cysts) can form. These can be felt easily and can be as large as 1 or 2 inches across. As they grow, the breast tissue around the cyst may stretch and be painful.

**Diagnosis**

Most often, fibrocystic changes are diagnosed based on symptoms, such as breast lumps, swelling, and tenderness or pain. These symptoms tend to be worse just before a woman’s menstrual period begins, and may change as you move through different stages of your menstrual cycle. Your breasts may feel lumpy and, sometimes, you may notice a clear or slightly cloudy nipple discharge.

Sometimes, one of the lumps might feel firmer or have other features that lead to a concern about cancer. When this happens, an ultrasound may be done to make sure that the lump is a simple fluid-filled cyst. If the ultrasound isn't clear, a biopsy may be needed to make sure that it's not cancer.

**Treatment**

Putting a thin needle into the cyst can confirm the diagnosis and, at the same time, drain the cyst fluid. Removing the fluid may reduce pressure and pain for some time, but the fluid doesn’t need to be removed unless it’s causing discomfort. And if removed, the fluid might come back later. Cysts may go away over time.

Most women with fibrocystic changes and without bothersome symptoms do not need treatment, but they might be watched closely. If you have mild discomfort from fibrosis,
you may get relief from well-fitted, supportive bras, applying heat, or using over-the-counter pain relievers.

Some women report that their breast symptoms improve if they avoid caffeine and other stimulants found in coffee, tea, chocolate, and many soft drinks. Studies have not found that these stimulants cause these symptoms, but many women feel that avoiding these foods and drinks for a couple of months is worth trying.

Because breast swelling toward the end of the menstrual cycle is painful for some women, some doctors recommend that women with severe symptoms cut out salt in their diets or take diuretics (drugs to help remove fluid from the body). It’s been suggested that some types of vitamin or herbal supplements might relieve symptoms, but so far none have been proven to be helpful, and some may have side effects if taken in large doses. Some doctors prescribe hormones, such as oral contraceptives (birth control pills), tamoxifen, or androgens. But these are usually given only to women with severe symptoms because they also can have serious side effects.

**How do fibrosis and simple cysts affect your risk for breast cancer?**

Neither fibrosis nor cysts increase your risk of later developing breast cancer.

- References


Hyperplasia of the Breast (Ductal or Lobular)

Hyperplasia is also known as epithelial hyperplasia or proliferative breast disease. It’s an overgrowth of the cells that line the ducts or the milk glands (lobules). Hyperplasia may be called either ductal hyperplasia (also called duct epithelial hyperplasia) or lobular hyperplasia based on how the cells look under a microscope.

Ductal and lobular hyperplasia occur at about the same rate, and have much the same effect on breast cancer risk.

Hyperplasia is often described as usual or atypical based on the pattern of the cells.

- In usual hyperplasia, the pattern of cells is very close to normal.
- The cells are more distorted in atypical hyperplasia (or hyperplasia with atypia).¹ This can be either atypical ductal hyperplasia (ADH) or atypical lobular hyperplasia (ALH).

Diagnosis

Hyperplasia doesn’t usually cause a lump that can be felt, but it can cause changes that can be seen on a mammogram. It’s diagnosed by doing a biopsy. (A hollow needle may be used to remove a small piece of tissue that’s checked under a microscope. Or, surgery may be done to take out the breast tissue with hyperplasia.)

Treatment
Most types of hyperplasia do not need to be treated. But if atypical hyperplasia (ADH or ALH) is found on a needle biopsy, more breast tissue around it might be removed to be sure that there is nothing more serious nearby.¹

Some types of hyperplasia are linked to a higher risk of breast cancer (see below). Most women with hyperplasia, especially atypical hyperplasia, need to see a health care provider more often. They may need regular breast exams, mammograms, and breast MRIs.

Some women with atypical hyperplasia choose to take medicine to help lower their risk of breast cancer. More on this can be found in *Deciding Whether to Use Medicine to Reduce Breast Cancer Risk*.

Most women with atypical hyperplasia will not develop breast cancer.¹ It’s important to talk with a health care provider about your risk and what, if any, treatment is best for you.

**How does hyperplasia affect your risk for breast cancer?**

Different types of hyperplasia can affect breast cancer risk:

- Mild hyperplasia of the usual type: This does not increase the risk for breast cancer.
- Moderate or florid hyperplasia of the usual type (without atypia), also known as usual hyperplasia: The risk of breast cancer is about 1½ to 2 times that of a woman with no breast abnormalities.
- Atypical hyperplasia (either ADH or ALH): The risk of breast cancer is about 4 to 5 times higher than that of a woman with no breast abnormalities.² ³ More details about pathology reports showing atypical hyperplasia can be found in *Understanding Your Pathology Report: Atypical Hyperplasia*.

**References**


Lobular Carcinoma in Situ (LCIS)

Lobular carcinoma in situ (LCIS) may also be called lobular neoplasia. In this breast change, cells that look like cancer cells are growing in the milk-producing glands of the breast (called the lobules), but they don’t grow through the wall of the lobules.

LCIS typically does not spread beyond the lobule (become invasive breast cancer) if it isn’t treated. But having LCIS increases your risk of developing an invasive breast cancer in either breast later on, so close follow-up is very important.

Diagnosis
LCIS is diagnosed by a biopsy. (Breast tissue is removed and checked under a microscope.) Often, LCIS does not cause a tumor that can be felt or changes that can be seen on a mammogram. In most cases, LCIS is found when a biopsy is done for another breast problem that’s nearby.

You can learn more about pathology reports showing LCIS in Understanding Your Pathology Report: Lobular Carcinoma In Situ.

**Treatment**

In most cases, LCIS does not need to be treated. Sometimes if LCIS is found using a needle biopsy, the doctor might recommend that it be removed completely (with an excisional biopsy or some other type of breast-conserving surgery) to help make sure that LCIS was the only thing there. This is especially true if the LCIS is described as pleomorphic or if it has necrosis (areas of dead cells), in which case it might be more likely to grow quickly.

Women with LCIS are at higher risk for breast cancer, so close follow-up with a health care provider is very important. This usually includes yearly mammograms and breast exams. Close follow-up of both breasts is important because women with LCIS have the same increased risk of developing cancer in both breasts. There isn’t enough evidence to recommend routine breast MRI in addition to mammograms for all women with LCIS, but it’s reasonable for women with LCIS to talk with their doctors about their other risk factors and the benefits and limits of being screened yearly with MRI.

Women should also talk to a health care provider about what they can do to help reduce their breast cancer risk.

Some women with LCIS choose to take medicine to help lower their risk of breast cancer. More details on this can be found in Deciding Whether to Use Medicine to Reduce Breast Cancer Risk.

Because LCIS is linked to an increased risk of cancer in both breasts, some higher risk women with LCIS (such as those with a strong family history of breast cancer or certain genetic changes) choose to have a bilateral prophylactic mastectomy (removal of both breasts but not lymph nodes) to help lower this risk. This may be followed by delayed breast reconstruction.

**How does LCIS affect breast cancer risk?**
Women with LCIS have a 7 to 11 times higher risk of developing invasive cancer in either breast.\(^2\) For this reason, women with LCIS should make sure they have regular breast cancer screening tests and follow-up visits with a health care provider for the rest of their lives.

- **References**
  


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Adenosis of the Breast

In adenosis the breast lobules (milk-producing glands) are enlarged, and there are more glands than usual. Adenosis is often found in biopsies of women who have fibrocystic changes.

There are many names for this benign breast condition, including aggregate adenosis, tumoral adenosis, or adenosis tumor. Even though some of these terms contain the term tumor, adenosis is not breast cancer.

Sclerosing adenosis is a special type of adenosis in which the enlarged lobules are distorted by scar-like fibrous tissue. This type may cause breast pain.

Diagnosis

If many enlarged lobules are close to one another, they may be large enough to be felt as a breast lump. In cases like this, a breast exam may not be enough to tell if the lump is adenosis or a breast cancer.

Calcifications (mineral deposits) can form in adenosis, in sclerosing adenosis, and in breast cancers. These can show up on mammograms, which can make it hard to tell these conditions apart.

Because of these uncertainties, a biopsy is usually needed to know if the breast change is caused by adenosis or cancer. (In a biopsy, a small piece of tissue is removed and checked under a microscope.)

Treatment

Women with adenosis do not need treatment, but might be watched closely.

How does adenosis affect your risk for breast cancer?

Adenosis is not thought to increase breast cancer risk, although some studies have
found that women with sclerosing adenosis have a slightly higher risk of developing breast cancer.¹

- References
Guray M, Sahin AA. Benign breast diseases: Classification, diagnosis, and management. *Oncologist.* 2006;11;435-449.


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**Fibroadenomas of the Breast**

Fibroadenomas are common benign (non-cancer) tumors made up of both glandular breast tissue and stromal(connective) tissue.

Fibroadenomas are most common in young women in their 20s and 30s, but they can be found in women of any age.

Fibroadenomas can often feel like a marble within the breast. Some fibroadenomas are too small to be felt, but some are several inches across. Fibroadenomas tend to be round and have borders that are distinct from the surrounding breast tissue. You can move them under the skin and they’re usually firm, but not tender. A woman can have one or many fibroadenomas.
Diagnosis

Some fibroadenomas can be felt, but some are only found on an imaging test (like a mammogram). A biopsy (taking out tissue to check it under a microscope) is needed to know if a tumor is a fibroadenoma or some other problem.

Most fibroadenomas look the same all over when seen under a microscope and are called simple fibroadenomas. But some fibroadenomas have other changes, too, and are called complex fibroadenomas. (Complex fibroadenomas tend to be bigger and tend to occur in older patients.1)

Treatment

Many doctors recommend removing fibroadenomas, especially if they keep growing or change the shape of the breast.

Sometimes (especially in middle-aged or elderly women) these tumors stop growing or even shrink on their own, without any treatment. In this case, as long as the doctors are sure the masses are fibroadenomas and not breast cancer, they may be left in place and watched to be sure they don’t grow. This approach is useful for women with many fibroadenomas that are not growing. In such cases, removing them all might mean removing a lot of nearby normal breast tissue, causing scarring that would change the shape and texture of the breast. This could also make future mammograms harder to read.

It’s important for women who have fibroadenomas to have breast exams regularly to make sure they’re not growing.

Sometimes one or more new fibroadenomas grow after one is removed. This means that another fibroadenoma has formed – it does not mean that the old one has come back.

How do fibroadenomas affect your risk for breast cancer?

Women with simple fibroadenomas have a slightly increased risk of breast cancer – about 1½ times the risk of women with no breast changes. Complex fibroadenomas seem to increase the risk slightly more than simple fibroadenomas.
Phyllodes Tumors of the Breast

Phyllodes tumors (FILL-odes or full-OH-deez) can also be spelled phylloides tumors (full-OY-deez). These are rare breast tumors that start in the connective (stromal) tissue of the breast.
Phyllodes tumors are most common in women in their 30s and 40s, but women of any age can have them. Women with Li-Fraumeni syndrome (a rare, inherited genetic condition) have an increased risk for phyllodes tumors.

Most phyllodes tumors are benign (not cancer), but about 1 out of 10 of these tumors are malignant (cancer).

**Diagnosis**

The tumors are usually felt as a painless lump, but some may hurt. They tend to grow quickly and stretch the skin. They’re often hard to tell from fibroadenomas on imaging tests (like an ultrasound or mammogram), or even with certain types of needle biopsies. In most cases, the entire tumor needs to be removed (during an excisional biopsy) to know for sure that it’s a phyllodes tumor that’s not cancer.

**Treatment**

Breast-conserving surgery is the main treatment. Phyllodes tumors can sometimes come back in the same place if they’re removed without taking enough of the normal tissue around them. For this reason, they’re treated by taking out the tumor and at least a 1 cm (a little less than ½ inch) margin of normal breast tissue around the tumor. Mastectomy may be needed if a cancer-free margin of normal breast tissue cannot be taken out with the tumor.

Phyllodes tumors that are cancer are treated by removing them along with a wider area of normal tissue, or by removing the entire breast (mastectomy). Malignant phyllodes tumors are different from the more common types of breast cancer. They don’t respond to hormone therapy and are less likely than most breast cancers to respond to radiation therapy or the chemotherapy drugs normally used for breast cancer. Phyllodes tumors that have spread to other parts of the body are often treated more like sarcomas (soft-tissue cancers) than breast cancers.

Because these tumors can come back, close follow-up with frequent breast exams and imaging tests are usually recommended after treatment.

**How do phyllodes tumors affect your risk for breast cancer?**
Having a phyllodes tumor that’s not cancer does not affect your breast cancer risk, but you may be watched more closely and get regular imaging tests, because these tumors can come back after surgery.

- References


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Intraductal Papillomas

Intraductal papillomas are benign (non-cancer) wart-like tumors that grow within the milk ducts of the breast.
They are made up of gland tissue along with fibrous tissue and blood vessels (called fibrovascular tissue).

**Solitary papillomas** or solitary intraductal papillomas are single tumors that often grow in the large milk ducts near the nipple. They are a common cause of clear or bloody nipple discharge, especially when it comes from only one breast. They may be felt as a small lump behind or next to the nipple. Sometimes they cause pain.

Papillomas may also be found in small ducts in areas of the breast farther from the nipple. In this case, there are often several growths (**multiple papillomas**). These are less likely to cause nipple discharge.

In **papillomatosis**, there are very small areas of cell growth within the ducts, but they aren’t as distinct as papillomas are.

**Diagnosis**

Ductograms are sometimes helpful in finding papillomas. An ultrasound and/or **mammogram** may be done to learn more about the size and location of papillomas. If the papilloma is large enough to be felt, a **biopsy** can be done. (This is where tissue is removed from the papilloma and looked at under microscope.)

**Treatment**

The usual treatment is **surgery** to remove the papilloma and the part of the duct it’s in.

**How do intraductal papillomas affect your risk for breast cancer?**

Having a single (solitary) papilloma does not raise breast cancer risk unless it contains other breast changes, such as atypical hyperplasia. However, having multiple papillomas increases breast cancer risk slightly.¹

- **References**


Granular Cell Tumors of the Breast

Granular cell tumors start in primitive (early) nerve cells. They are very rarely found in the breast.

Most granular cell tumors are found in the skin or the mouth, but they are uncommon even in those places. They are almost never cancer.

A granular cell tumor of the breast can most often be felt as a firm lump that you can move, but some may be attached to the skin or chest wall. They are usually about ½ to 1 inch across and most often are in the upper, inner part of the breast.¹

Diagnosis
A mammogram and/or breast ultrasound may be done to learn more about the shape, size, and location of the tumor. Granular cell tumors are sometimes thought to be cancer because they can form lumps that are fixed in place. They may also look like cancer on a mammogram. A biopsy (removing a sample of tissue to be looked at under the microscope) is usually needed to be sure this breast change is not cancer.

**Treatment**

Granular cell tumors are usually removed along with a small margin (rim) of normal breast tissue around them.

**How do granular cell tumors affect your risk for breast cancer?**

Granular cell tumors of the breast are not linked to a higher risk of having breast cancer later.

- **References**


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**Fat Necrosis and Oil Cysts in the Breast**

Fat necrosis happens when an area of the fatty breast tissue is damaged, usually as a result of injury to the breast. It can also happen after breast surgery or
radiation treatment. Fat necrosis is more common in older women with very large breasts.

As the body repairs the damaged breast tissue, it’s usually replaced by firm scar tissue. But some fat cells may respond differently to injury. Instead of forming scar tissue, the fat cells die and release their contents. This forms a sac-like collection of greasy fluid called an oil cyst.

**Diagnosis**

Oil cysts and areas of fat necrosis can form a lump that can be felt, but usually doesn’t hurt. Sometimes the skin around the lump looks thicker, red, or bruised. These changes can be hard to tell apart from cancers on a breast exam or even a mammogram. A biopsy (removing all or part of the lump to look at the tissue under the microscope) may be needed to find out if the lump contains cancer cells.

Oil cysts (like other cysts) can often be seen on ultrasound and then diagnosed by needle aspiration. This is where a thin needle is put into the cyst to take out the fluid.

**Treatment**

Fat necrosis and oil cysts usually don’t need to be treated. Sometimes fat necrosis goes away on its own.

The needle aspiration done to remove the fluid in an oil cyst can also serve as treatment.

In some cases, surgery may be used to take out the lump or lumpy area if it gets bigger or becomes bothersome.

**How do fat necrosis and oil cysts affect your risk for breast cancer?**

These breast changes do not increase a woman’s risk of breast cancer.

- **References**

Mastitis

Mastitis is an infection in the breast. It most commonly affects women who are breastfeeding, but less often it affects women who are not breastfeeding.

A clogged milk duct, not fully draining milk from the breast, or breaks in the skin of the nipple can lead to infection. This causes the body’s white blood cells to release substances to fight the infection, which can lead to swelling and increased blood flow. The infected part of the breast may become swollen, painful, red, and warm to the touch. The woman may also have fever and a headache, or general flu-like symptoms.

Diagnosis

Mastitis can usually be diagnosed based on a woman’s symptoms and the results of a breast exam. It usually affects only one breast.
Treatment

Mastitis is treated with antibiotics. In some cases, a breast abscess (a collection of pus) may form. Abscesses are treated by draining the pus, either by surgery or by using a needle (often guided by ultrasound), and then antibiotics.

Inflammatory breast cancer has symptoms that are a lot like mastitis and can be mistaken for an infection. If you’ve been diagnosed with mastitis and antibiotic treatment doesn’t help within a week or so, you might need a skin biopsy to be sure it’s not cancer. Inflammatory breast cancer can spread quickly, so don’t put off going back to the doctor if you still have symptoms after antibiotic treatment.

How does mastitis affect your risk for breast cancer?

Having mastitis does not raise your risk of developing breast cancer.

- References


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Duct Ectasia

Duct ectasia is common in women over 50. It occurs when a breast duct widens and its walls thicken, which can cause it to become blocked and lead to fluid build-up.

Duct ectasia (ek-TAY-zhuh), also known as mammary duct ectasia, occurs when a milk duct in the breast widens and its walls thicken, which can cause the duct to become blocked and lead to fluid build-up. It’s common in women who are getting close to menopause. But it can happen after menopause, too.
Diagnosis

Often, this condition causes no symptoms and is found when a biopsy (removing a piece of tissue to checked under a microscope) is done for another breast problem.

Less often, duct ectasia may cause a sticky green or black nipple discharge, which is often thick. The nipple and nearby breast tissue may be tender and red. The nipple may be pulled inward. Sometimes scar tissue around the abnormal duct causes a hard lump that may be confused with cancer. An ultrasound and/or mammogram may be done to learn more about the changed part of your breast.

If there’s a lump, a biopsy may be needed to make sure it’s not cancer. (This is when a hollow needle is used to take a tiny piece of tissue from the area so it can be checked under a microscope for cancer cells.)

Treatment

Duct ectasia sometimes gets better without treatment. Warm compresses and antibiotics may be used in some cases. If the symptoms do not go away, the abnormal duct may be removed with surgery.

How does duct ectasia affect your risk for breast cancer?

Duct ectasia does not increase your breast cancer risk.

- References

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Other Non-cancerous Breast Conditions

These are some of the less common types of benign (non-cancerous) tumors and conditions that can be found in the breast.

Radial scars

Radial scars are also called complex sclerosing lesions. They’re most often found when a breast biopsy is done for some other purpose. Sometimes radial scars distort the normal breast tissue.

Radial scars are not really scars, but they look like scars when seen under a microscope. Radial scars do not usually cause symptoms, but they are important for 2 reasons:

- If they are large enough, they may look like cancer on a mammogram, or even on a biopsy.
- They’re linked to a slight increase in the woman’s risk of developing breast cancer.

Women who have them may be advised to see their health care provider more often than usual so tests can be done to watch for changes in the radial scars. Some providers recommend surgery to remove radial scars.

Other breast changes that are not cancer

Lipomas are common, benign fatty tumors that can appear almost anywhere in the body, including the breast. They’re usually not tender.

Rare benign lumps or tumors that may be found in the breast include:

- **Hamartoma**: a smooth, painless lump formed by the overgrowth of mature breast cells, which may be made up of fatty, fibrous, and/or gland tissues
- **Hemangioma**: a rare tumor made of blood vessels
- **Hematoma**: a collection of blood within the breast caused by internal bleeding
- **Adenomyoepithelioma**: a very rare tumor formed by certain cells in the milk duct walls
- **Neurofibroma**: a tumor that’s an overgrowth of nerve cells
Do any of these breast changes affect your risk for breast cancer?

None of these conditions raises breast cancer risk, but they may need to be biopsied or removed to know what they are and be sure they don’t have any cancer cells in them.

- **References**


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