



# Breast Imaging & You



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# MIC is committed to excellence in breast imaging.

MIC offers our patients the most advanced breast imaging which can detect cancers at a very early stage.

Our standard of care is world-class with Digital Breast Tomosynthesis (DBT) for all screening and diagnostic mammograms and Automated Breast Ultrasound (ABUS) as an additional exam for women with dense breast tissue.

Your breast health is important to us and we hope you use the information in this booklet and on our website **[mic.ca](http://mic.ca)** to learn more about our breast imaging services, the importance of regular breast cancer screening and some of the causes of breast pain. At the end of the booklet, you will find a chart to keep track of your breast imaging.



Your healthcare  
practitioner



Accurate imaging,  
early detection and  
better outcomes

# Breast Imaging

Breast imaging uses diagnostic imaging equipment to look at the tissue inside your breasts and assess whether there are any abnormalities.



## Why is it so important?

Breast imaging can help detect breast cancer at the very early stages – often two years before you or your healthcare practitioner might notice a lump or other symptoms. In addition, breast imaging gives your healthcare team information to help:

- Assess breast symptoms such as lumps, tenderness or nipple discharge.
- Identify the type, location and stage of breast cancer.
- Determine the results of cancer treatment.
- Evaluate breast implants.

### MIC's breast imaging team

MIC's team is made up of skilled technologists and radiologists who specialize in breast imaging.

Our experts review every image and provide a report to your healthcare practitioner, usually within 24 hours.



## Our Breast Imaging Services



### DBT Mammography

Screening and diagnostic mammograms using the most advanced technology available: Digital Breast Tomosynthesis (DBT) for all patients.



### Breast Ultrasounds

Automated Breast Ultrasound (ABUS) to supplement DBT mammography for women with dense breast tissue.

Diagnostic ultrasounds to check abnormal results from a mammogram or to screen women who are pregnant or should not be exposed to x-rays.



### Breast interventions

Breast interventions such as cyst aspiration or image-guided biopsies to further explore any abnormalities.



### Breast MRIs

Very detailed images of the breast using our powerful 3T MRI scanner to supplement mammograms and ultrasound.

MIC performs  
over **37,000** DBT  
mammograms each year



DBT mammograms can  
show changes in your  
breasts up to **2 years before**  
**you might find a lump**



**1 in 8 women** will be  
diagnosed with breast cancer  
in their lifetime

# DBT Mammograms

MIC uses Digital Breast Tomosynthesis (DBT) for all mammograms. DBT is an advanced form of mammography that combines a low-dose x-ray system and computer reconstructions to create three-dimensional (3D) images of the breasts.



DBT has been shown to improve cancer detection rates while reducing the number of patients recalled for additional imaging and biopsies.

During your exam, one of our technologists will place your breast on a detector platform and it will be gradually compressed with a plastic paddle. This helps to:

- Even out the breast thickness so that small abnormalities are less likely to be hidden by overlapping breast tissue.
- Lower the radiation dose since a thinner amount of breast tissue is being imaged.
- Hold the breast still during imaging.

Your breast will remain compressed while the x-ray tube moves from one side of your breast to the other in an arc, capturing multiple images from different angles.

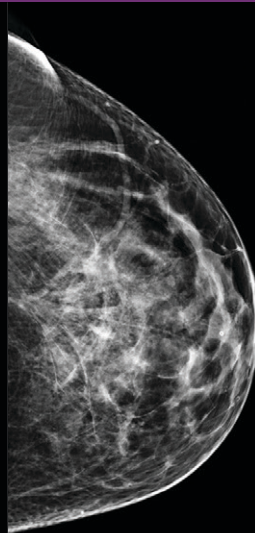
## Screening DBT Mammograms

Mammograms are used as a screening tool for early detection of breast cancers in patients who are not experiencing any problems or symptoms with their breasts. Screening mammography can show changes in the breast up to two years before a patient or practitioner can feel them. DBT screening mammography has been shown to improve accuracy and reduce the need for further imaging in women of all breast densities.

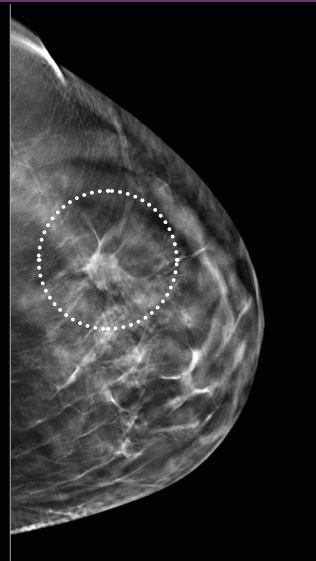


## Diagnostic DBT Mammograms

Diagnostic mammograms are used to evaluate a patient who has either had breast cancer or is experiencing symptoms such as a breast lump, pain or nipple discharge. Diagnostic mammograms may also be used to check an area of concern on a screening mammogram.



Conventional 2D  
mammogram



DBT 3D mammogram:  
Cancer detected





## Breast cancer screening

About 1 in 8 women in Alberta will be diagnosed with breast cancer during their lifetime. Screening mammograms are a straightforward, simple procedure and the best way to find breast cancer early, when treatment may work better.

When you have a screening mammogram, there is a small chance our radiologists will request more imaging to get a better look at your breast tissue. If we find something suspicious, you may need to have a biopsy to test for cancer cells. Most biopsies will be benign or non-cancerous.

The risk of breast cancer increases as you get older. Alberta's *Screening for Life* program uses the following guidelines for screening mammograms depending on your age and other factors:



## Under 40

If you are under 40, the risk of breast cancer is much lower and generally, there is no benefit in having screening mammograms. Talk to your healthcare practitioner if you are concerned that you may have an increased risk of breast cancer.

## Ages 40-49

If you are between 40 and 49, talk to your healthcare practitioner about your breast cancer risk and whether you should start having regular screening mammograms.

## Ages 50-74

If you are between 50 and 74, you should have regular screening mammograms since the risk of breast cancer increases with age.

## Age 75 and older

Talk to your healthcare practitioner to decide whether to continue with regular screening mammograms.

Your healthcare practitioner will give you a referral for your first screening mammogram. After that, you can book your own appointments without a requisition form.

Mammograms do not catch everything. Check with your healthcare practitioner if something doesn't feel normal for you, even if your mammogram showed nothing unusual.



**More than 3 out of 4** women diagnosed with breast cancer in Alberta are 50 or older.



of women who develop breast cancer have no family history.

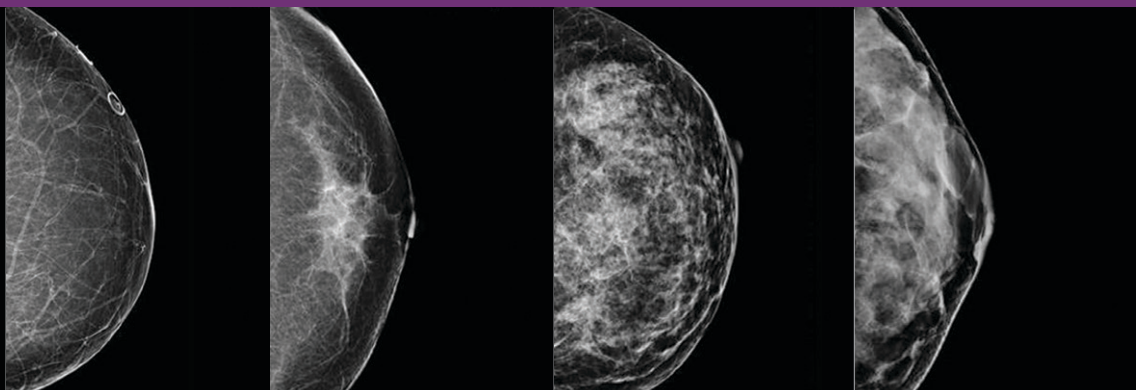
Breast cancer screening saves lives. To learn more, visit: [screeningforlife.ca](https://screeningforlife.ca)

# Dense breast tissue

When we talk about dense breasts, we are referring to the type of tissue found inside your breasts.

While some breasts are made up almost entirely of fatty tissue, others are made of thick, fibrous tissue and milk glands — or dense tissue.

MIC's radiologists use the following classification developed by the American College of Radiology to describe breast tissue:



a. The breasts are almost entirely fatty.

b. There are scattered areas of fibroglandular density.

c. The breasts are heterogeneously dense (more than 50% dense tissue) which may obscure small lesions.

d. The breasts are extremely dense (more than 75% dense tissue) which lowers the sensitivity of mammography.



When you have a screening mammogram at MIC, your radiologist will include a description of your breast tissue in the report we send to your healthcare practitioner.



## Automated Breast Ultrasound (ABUS) for women with dense breast tissue

Dense breast tissue can make it harder for radiologists to find cancer on a mammogram since it can mask the appearance of tumors and may slightly increase your breast cancer risk.

To get a better look at dense breast tissue, MIC uses screening DBT mammography supplemented by an Automated Breast Ultrasound (ABUS).

This combination of advanced technologies has been proven to increase detection of breast cancer by up to 36% in women with dense breasts compared to using only mammography.



### How does ABUS work?

ABUS uses a wide transducer that automatically scans your breast creating hundreds of 3D breast tissue images. This gives our radiologists a much more complete picture of dense breast tissue, allowing them to view abnormalities more clearly.

Screening DBT mammography and ABUS will detect most, but not every breast cancer. If you have dense breasts, ask your healthcare practitioner what is right for you.



Factors affecting breast density include:  
age, family history, pregnancy, and hormone therapy.

## Abnormalities and further testing



If your radiologist sees something abnormal on your mammogram, they may send you for a diagnostic mammogram, a diagnostic ultrasound or a breast MRI.

This can be very stressful, but 9 out of 10 women who go for extra tests do not have breast cancer.

Some common breast abnormalities that are not cancer include:

- Fluid-filled sacs (cysts). Up to 60% of women will have these at some point in their lives.
- Small solid nodules (fibroadenomas).
- Small calcium deposits (benign calcifications).

While only a very small number of abnormalities will be cancer, you should follow the recommendations of your MIC radiologist for additional testing. This is the only way your radiologist can determine if the abnormalities in your breast tissue require further investigation.

➔ **90%**  
of women who  
have additional  
tests do not  
have breast  
cancer



### Diagnostic mammography

Your radiologist may ask for additional mammography images to help them get a better view of your breast tissue. This is called a diagnostic mammogram.



### Diagnostic breast ultrasound

Your radiologist may want to look more closely at a targeted area in your breast tissue and may request a diagnostic breast ultrasound. This is a safe, painless procedure which uses high-frequency sound waves to produce pictures of the internal structures of your breast and axilla (armpit).

Your practitioner may request a diagnostic ultrasound if you have a lump or you are having pain and tenderness that is not usual for you. It can also be used as a screening tool for women who are pregnant or should not be exposed to x-rays (necessary for a mammogram).



### Breast Magnetic Resonance Imaging (MRI)

MIC's powerful new 3T MRI scanner produces very detailed pictures of the structures of the breast to supplement mammograms and ultrasound, particularly for women at high risk for breast cancer due to family history. The 3T MRI helps our radiologists determine the extent and staging of cancer, diagnose breast implant rupture and assess the effectiveness of cancer treatment.

Breast MRI in community clinics is not insured by Alberta Health Care.



## Breast interventions

If your healthcare team needs more information to determine whether an abnormality is harmless, the next step is to test some of the tissue for cancer cells.

A breast biopsy is a procedure used to find out more about lumps or abnormalities that have been detected in your breast tissue.



To perform the biopsy, your MIC radiologist will use either ultrasound or a special mammography machine to guide a needle to the suspicious area in your breast and obtain a tiny tissue sample. This sample is then sent to a laboratory to determine whether the growth is benign or cancerous and the results will be sent to your healthcare practitioner.

If your testing shows you have a cyst in your breast tissue, your MIC radiologist can perform a simple procedure to remove the fluid. This can help relieve any discomfort you may have from the cyst.





### **Ultrasound-Guided Core Biopsy**

Ultrasound is used to guide a special hollow needle to the abnormality in your breast and take a tiny cylinder-shaped (core) sample of tissue.

### **Tomosynthesis or Vacuum Assisted Breast Biopsy**

A special mammography machine is used to guide a needle to the abnormality in your breast to take a small tissue sample.

### **Wire Localization Procedure**

Ultrasound or mammography guidance is used to insert a fine wire in your breast to mark the exact location of the area of concern before a surgeon removes the lump or abnormal tissue.

### **Cyst aspiration**

Ultrasound is used to guide a very thin needle and syringe to the abnormality in your breast to remove fluid, usually to relieve symptoms such as pain.

All procedures are performed under local freezing.

# Breast Pain

70%

Breast pain is one of the most common breast problems and affects up to 70 percent of women at some point in their lifetime.



Many women have breast tenderness and pain, also called mastalgia. You may notice it at the same time as your monthly period (cyclic) or it may not follow any pattern (non-cyclic).

Breast pain can worsen with hormonal changes, the medicine you take, or the amount of stress in your life. You are more likely to experience breast pain before you go through menopause.

## Cyclical breast pain

This is the most common type of breast pain and may be caused by normal monthly hormonal changes when you get your period. The pain is usually felt in both breasts and feels like a heaviness or soreness in the breast that radiates to the armpit and arm.

Cyclic breast pain occurs more often in younger women and is usually most severe before your period starts. Most cyclic pain goes away without treatment and usually disappears at menopause.

## Non-cyclical breast pain

This is a less common type of breast pain. It is described as a sharp, continuous, burning pain that occurs in a specific area of the breast. The pain is not caused by monthly hormonal changes and may occur in only one breast. Women experiencing non-cyclic breast pain are usually 30-50 years of age.

Some non-cyclic pain may be caused by a fibroadenoma or a cyst. If your healthcare practitioner can identify the cause, they may be able to treat the pain.

## Does breast pain indicate breast cancer?

Breast pain is generally not a symptom of breast cancer. However, in rare cases, painful lumps may be caused by breast cancer.

## Chest wall pain

Chest wall pain (also called musculoskeletal pain) is sometimes confused with breast pain. Chest wall pain is found in the muscles and bones of the chest. The pain can affect one or both sides of the chest and can spread out from the armpit. Physical activity can make the pain worse. This pain often goes away in time.

Your healthcare practitioner should evaluate the pain, especially if you have a history of trauma or surgery in the area or have a heart condition.

## Assessing your breast pain

You should discuss your symptoms with your healthcare practitioner if your breast pain:

- Lasts longer than three weeks.
- Is in one area of the breast.
- Is getting worse, affecting your everyday activities or waking you up at night.

To assess your breast pain, your practitioner will ask you about your breast health and family history, and then examine your breasts. You may also have a mammogram and/or an ultrasound to look for the cause of the pain (such as a cyst). It's important to tell your practitioner where the pain is, how much pain you're having, and how long the pain lasts.

## Relieving breast pain

You may be able to relieve breast pain by:

- Eating a low-fat diet and increasing the amount of whole grains, fruits and vegetables.
- Reducing your salt intake.
- Reducing the amount of caffeine you consume.
- Wearing a well-fitted, supportive bra.
- Taking magnesium supplements two weeks before your period starts.

There are other options which you should discuss with your healthcare practitioner. These include:

- Reviewing your prescription for birth control pills (oral contraceptives).
- Adjusting hormone replacement therapy.
- Draining fluid-filled cysts.
- Pain relief or anti-inflammatory medication.

To learn more, visit **MyHealth.Alberta.ca**

## Keep track of your breast imaging

Knowing your breast imaging history helps make you an active partner in your breast health and gives MIC the information we need to compare your images and make note of any changes. This chart can help you keep a record of your breast imaging and remind you when to schedule your next appointment.



Type of procedure	Procedure date	Referring Practitioner	Procedure Clinic	Notes/results	Next appointment



## Taking control of your breast health

No matter how old you are, you need to know what looks and feels normal for you. Follow the screening and testing recommended by your MIC radiologist and your healthcare practitioner.

If you notice any unusual changes in your breasts—even if your mammogram and other imaging is normal—talk to your healthcare practitioner.

# How to book an appointment

MIC offers breast imaging at clinics throughout the Edmonton area.  
To book an appointment at a location convenient to you, contact us at:



## Central Booking

Ph: 780.450.1500

Toll Free 1.800.355.1755

Fax: 780.450.9551



Or request an appointment online at [mic.ca](http://mic.ca)

When you call, please have available:

- Your Alberta Health Care Insurance card
- Your exam requisition with your healthcare practitioner's exam instructions

**Note: MIC accepts all diagnostic imaging requisitions.**

