YOUR GUIDE TO
BREAST ASSESSMENT

Breast Care Program
St. Joseph's Hospital
268 Grosvenor St.
London, ON N6A 4V2

St. Joseph's Health Care London

South West Regional Cancer Program
in partnership with Cancer Care Ontario

THE BEST IN BREAST CARE

The Breast Care Program at St. Joseph's Health Care London provides a confidential, coordinated, specialized breast assessment service. The goal of the program is to make sure that you receive the information you need and have the right test done as quickly as possible when a change in your breast is detected.

St. Joseph's Breast Care Program offers complete and thorough breast imaging, diagnostic and surgery services. The program is made up of a team with a wide range of skills and experience:

- Surgeons
- Radiologists
- Medical radiation technologists
- Ultrasound technologists
- Nurse navigators
- Advanced practice nurses
- Social workers
- Spiritual care providers

This program provides seamless, state-of-the-art care for patients. We focus on individual care needs and make sure that all care providers are working together. The Breast Care Program is a leader in patient care, teaching and breast cancer research.

The specially designed Norton and Lucille Wolf Breast Care Centre is the main hub of St. Joseph's Breast Care Program.

CONTACT INFORMATION AND HOURS OF OPERATION

Location	Norton and Lucille Wolf Breast Care Centre St. Joseph's Hospital Zone D, Level 1, Room D1-112 268 Grosvenor St. London, ON N6A 4V2
Hours	8:00 am – 4:00 pm Monday to Friday
Telephone	General information: (519) 646-6100 ext. 65008 Appointment information: (519) 646-6100 ext. 66223 Nurse Navigator: (519) 646-6100 ext. 65971
Fax	(519) 646-6027

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ABOUT THE BOOKLET

If you have just found out you have a screening abnormality or a change in your breast, this book is meant for you. When breast tissue looks different than expected it is called an abnormality. Most abnormalities are harmless changes in breast tissue. The important thing right now is for you and your doctor to have more information about the change that has occurred.

In order to collect more information, a number of tests such as mammograms, special views, ultrasounds and different samples of tissue (biopsies) might be done. This process is called breast assessment. You may also hear it called breast follow-up or work-up.

This booklet has been designed for you by patients and your health care providers. It was made to help you understand the different tests you may hear or read about during the breast assessment process.

Many people do not know that men can get breast cancer as well as women. Because it is not common (about 1% of all breast cancers), men are not normally screened for breast cancer. However, if you are a man with a change or abnormality in your breast, you will follow the process described in this book. The information in this booklet applies to both men and women equally.

ASSESSING A BREAST CHANGE OR ABNORMALITY

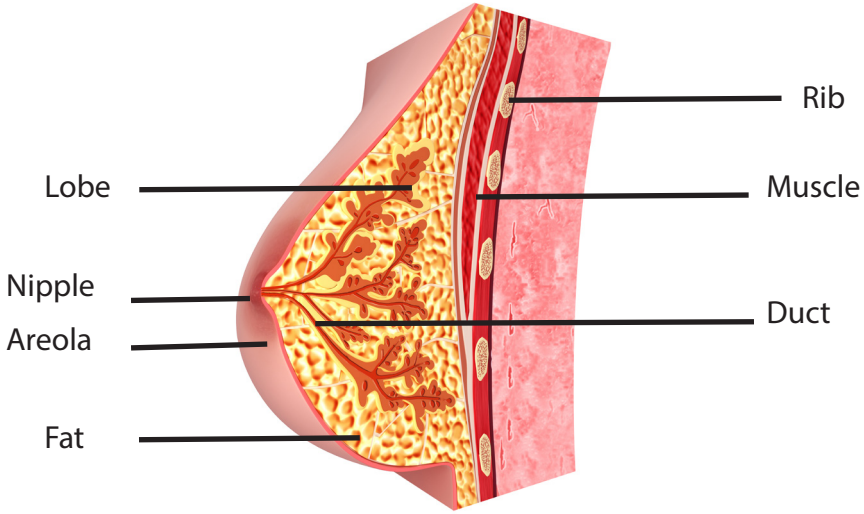
Breast assessment includes all the tests and procedures needed to give you and your doctor more information about the change or abnormality found in your breast.

It is common to find an area on a physical breast examination or on a screening mammogram that needs further testing. If this happens, a diagnostic mammogram and/or an ultrasound are often the only tests(s) needed to confirm that the breast change is harmless (benign). About 90% of breast changes or abnormalities are found to be benign.

BASIC BREAST ANATOMY

The breast is a complex structure lying on the chest muscles. It is made up of two kinds of tissue – fatty tissue and fibroglandular tissue. Fibroglandular tissue refers to the areas of the breast that contain milk glands and ducts. Breast density is determined by the amount of fat and fibroglandular tissue. It appears as dense tissue on the mammogram and makes it harder to detect breast cancer. Breast density tends to decrease with age due to the hormonal shifts related to menopause. This is why mammograms are more effective in women over 50 years of age.

Lymph nodes are small, bean-shaped organs that act as filters in the channels that carry lymph fluid. Lymph fluid that leaves the breast eventually goes back into the bloodstream. Lymph nodes try to catch and trap infection and cancer cells before they reach other parts of the body. Most of the lymph nodes filtering the breast are in the armpit and in the breast tissue



TESTS USED TO ASSESS A SCREENING ABNORMALITY OR A CHANGE IN THE BREAST

Breast imaging tests are carried out by specially trained technologists. The tests are then reviewed by a special doctor called a radiologist. Please note that your technologist will not tell you your tests results.

X-ray images from earlier tests can easily be sent from one testing facility to another so that the radiologist can compare them.
The average time for each procedure is described below; however, the actual appointment itself will be longer due to wait times and other preparatory procedures. You may also be asked to do multiple procedures and should allow for more time, if possible.

MAMMOGRAM

A mammogram is an x-ray test of the breast tissue performed by a specially trained Medical Radiation Technologist (MRT). During a mammogram exam, at least two images are taken of each breast, one from the top and one from the side.

- **Screening mammogram** is for women without any breast problems symptoms. This is different from a **diagnostic mammogram**, which is done specifically to diagnose symptoms of the breasts such as lumps, thickenings, skin changes, etc.

If you have any breast symptoms at the time of your screening appointment, it is important that you share them with the technologist. A different type of test might be needed.

Most breast abnormalities are too small to be felt during a physical examination but can be seen on a mammogram. Mammograms are able to find many breast cancers.

If you are over 50, it is recommended that you follow the Ontario Breast Screening Program (OBSP) guidelines for routine screening mammograms. Our breast imaging centre is an Ontario Breast Screening Program (OBSP) assessment site in partnership with Cancer Care Ontario (CCO). The OBSP does not need a requisition from your family doctor; which means that you can refer yourself. This program is for Ontario women only, aged 50 to 74 years old, who have no previous history of breast cancer, no implants and no current breast symptoms.

What Can I Expect?

- The breast x-ray, called a mammogram, takes about 20 minutes.
- Your breast will be compressed with a plastic compression device while the x-ray image is taken.
- The breast must be compressed well to take the image. The tighter the compression, the better and clearer the image. When the compression is tighter it makes the breast tissue thinner so less radiation will be used. During compression, your breast will feel tight and uncomfortable but it only lasts for a few seconds for each image. You can ask for a remote control to manage the amount of compression, with guidance from the technologist.

How Can I Prepare?

- Book your mammogram when your breasts are least tender. For women, this would be about one week after menstruating.
- Wear a two-piece outfit because you will be asked to undress from the waist up.
- Do not use powder or deodorant/antiperspirant on the breast or underarm areas the day of your mammogram. These products may show up on the mammogram and give a false reading.
- Try to relax during the mammogram. If you are relaxed, the mammogram will be faster and more comfortable.
- If your breasts are tender you may want to discuss pain relief options with your doctor beforehand.

SPECIAL MAMMOGRAPHY VIEWS

Special mammography views are also called a diagnostic mammogram. These views are done using the same machine as a regular mammogram. The radiologist will determine which tests are most appropriate based on your breast findings. The most common special views are:

- Magnification views
- Spot compression views
- Tomosynthesis/3D Views
- Contrast mammography

Magnification Views

Magnification views are enlarged images of an area in the breast. Tiny deposits of calcium (calcifications) can show up on a mammogram. These deposits are often magnified so that they can be better assessed.

Spot Compression Views

Spot compression views are special images of one small area in the breast. You may also hear this referred to as "coned compression views". Compressing a small area of the breast makes the image clearer and the breast abnormality easier to see.

Tomosynthesis/3D Views

Tomosynthesis or 3D mammography views are also part of a diagnostic mammogram. Multiple images of each breast are taken from different angles. The breast is placed and compressed the same way as for a regular routine mammogram. The x-ray tube moves in a semicircle across the breast and takes about the same amount of time as a regular mammogram. The x-rays are sent to a computer where they are viewed by the radiologist. The radiologist can scroll through the images similar to looking at the pages of a book, with each page being a different layer of the breast.

Contrast Mammography

Contrast mammography is a diagnostic study to assess breast abnormalities. X-ray contrast (dye) will be injected into a vein in your arm. Drink a few glasses of water before your appointment because it is easier to find a vein when you are well hydrated.

***Important safety information**:*

- *If you are over 60 or have any kidney problems, you may need to have a creatinine blood test before having a contrast mammography.*
- *If you have any history of allergy, especially to imaging contrast, it is important that you share it with the technologist.*

A regular mammogram is performed 2 minutes from the start of the contrast injection. Special computer software is applied to the mammogram that allows the radiologist to look for signs of an abnormality. You can expect to be in the department for about 1 hour.

What is an abnormal mammogram?

An abnormal mammogram does not always mean that there is cancer. In fact, it is very common for the radiologist to request a repeat mammogram, an ultrasound or magnetic resonance imaging (MRI) to get a clearer picture of your breast tissue.

GALACTOGRAM

This test maybe used to investigate nipple discharge. There must be active nipple discharge before the test can be done. During a galactogram, x-ray contrast (dye) is injected into the milk duct system of the breast.

A radiologist inserts a special tube (cannula) into the nipple and injects a small amount of the contrast. X-ray images are then taken. The contrast produces a visual map for tracing the source of the discharge and will help the doctor diagnose the problem.

What Can I Expect?

- The procedure takes about 1 hour.
- The test may be uncomfortable for some people. Please tell your technologist if there is anything that can be done to make you more comfortable.

How Do I Prepare?

- You may eat or drink normally before the procedure.
- Wear a two-piece outfit, as you will be asked to undress from the waist up.
- Do not manually express fluid from the nipple at any time before this test.

ULTRASOUND

Ultrasound is a procedure that uses high frequency sound waves to take images (pictures) of the inside of the breast. The images are displayed on the screen and are checked by a radiologist.

A breast ultrasound is used as a complementary tool to a mammogram, MRI finding or to assess a lump. A breast ultrasound is used to see whether a breast lump is filled with fluid (a cyst) or if it is a solid lump. A cyst is a sac that is filled with fluid and is not cancerous.

The radiologist may also want to examine your breast if you have a symptom (like a lump or skin changes) and might also ask you some questions about your symptoms and medical history.

What Can I Expect?

- An ultrasound can take about 30 to 45 minutes but please allow for extra time.
- Ultrasound gel is placed on the skin and then a small probe applies pressure to the breast and is moved over the gel. Sound waves pass through the breast and back to the ultrasound probe. The ultrasound machine then uses those sound waves to create an image on the screen.
- Sometimes you will be asked to wait and have the images checked by a radiologist. Often the radiologist will come to the examination, because it may be important to see the images on the screen. Do not be alarmed if this happens, it is very common.
- The radiologist may also want to examine your breast if you have a symptom (like a lump or skin changes) and might also ask you some questions about these symptoms.

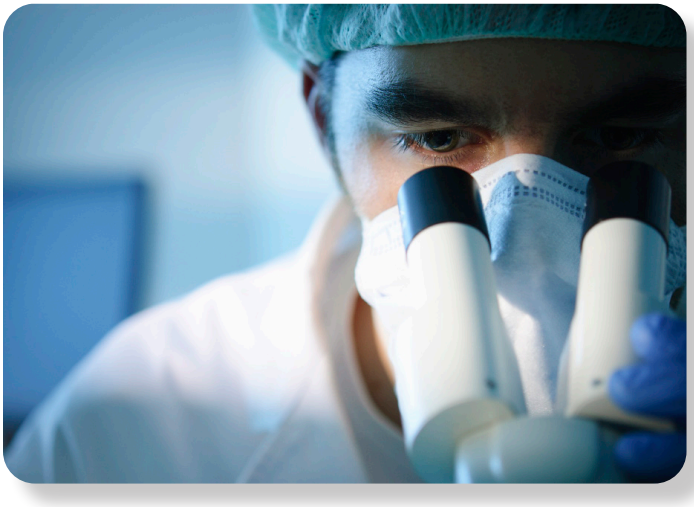
How Can I Prepare?

- Wear a two-piece outfit because you will be asked to undress from the waist up.

BREAST ASSESSMENT BIOPSIES

During a biopsy, a small sample of tissue is removed by a needle. The sample is examined under a microscope. There are many different types of biopsies done with imaging and are listed below. This section provides a description of each type of biopsy.

- Magnetic Resonance Imaging (MRI) Biopsy
- Fine Needle Aspiration Biopsy (FNAB)
- Ultrasound Guided Core Biopsy
- X-ray or Stereotactic Guided Core Biopsy
- Lymph Node Core Biopsy



It is common that after a biopsy, either a titanium or stainless-steel tissue marker (clip) will be inserted into the biopsied region. This helps the radiologist to link between the biopsied area and other tests. It also helps to find the area which may become smaller after a biopsy. Once a tissue marker has been inserted, two mammographic views (images) will be obtained to confirm its location.

This is a very small, sterile piece of metal. It is smaller than the size of a surgical clip and cannot set off any alarms.

What can my health care team learn from the biopsy results?

A specially trained doctor called a pathologist examines the tissue or fluid samples under a microscope. The pathology report is sent to your doctor in approximately one or two weeks.

The report will tell whether the tissue sample has cancer or any other finding. In addition, the radiologist will review the pathology results and will comment whether the results can explain the abnormality seen on breast imaging and will give your doctor recommendations.

If cancer cells are found, the report will give more information to help determine the next steps. Your doctor will discuss your treatment choices with you. Some type of follow-up or treatment may still be needed even if there is no cancer.

Magnetic Resonance Imaging (MRI) Biopsy

MRI biopsies are addressed in the MRI section (page 17).

Fine Needle Aspiration Biopsy (FNAB)

A radiologist will freeze the area of interest in your breast. Using ultrasound, a very thin needle will be inserted into the area and fluid taken out. If the area disappears, it means it was a cyst. If fluid does not come out, the area may be solid and the radiologist will try to take some samples to send to the lab for examination.

What Can I expect?

- This procedure takes approximately 20 to 30 minutes.
- You may experience a little discomfort.

How Can I Prepare?

- You may eat or drink normally before the procedure.
- Wear a two-piece outfit because you will be asked to undress from the waist up.

Ultrasound Guided Core Biopsy

An ultrasound-guided needle biopsy is a test used to learn more about a breast abnormality. This procedure uses an ultrasound to find the area of interest and a small sample of breast tissue is then removed. The samples are sent away for examination under a microscope.

What Can I Expect?

- The procedure can take approximately 1 hour but can be longer.
- The area is cleaned and draped with cloth.
- A radiologist will freeze the area of interest. This makes the procedure more comfortable for you.
- You should not experience any pain during the procedure but will feel slight pressure.
- The biopsy needle is inserted and a core of tissue is quickly removed using a spring-loaded device. Several cores may be taken. The biopsy sample is sent to the lab for testing.
- At the end of the procedure, pressure will be applied to the area for 5 to 10 minutes to reduce bruising.
- After the freezing wears off you may experience a tingling sensation and have a small amount of bleeding. A dressing on the site will protect your clothes.
- You should avoid any intense activity for up to 48 hours.

How Can I Prepare?

- You are encouraged to eat and drink before the examination.
- Wear a two piece outfit because you will be asked to undress from the waist up.
- Arrange to have someone drive you home after the test.

Important safety information:

- If you are taking anticoagulants or blood thinners, please tell the nurse and technologist at the time of the biopsy.

X-ray or Stereotactic Guided Core Biopsy

Sometimes, it is easier to locate the area of concern using mammogram guidance instead of ultrasound. This is called stereotactic guidance and is often used to biopsy very small calcium deposits or other suspicious areas that cannot be biopsied under ultrasound.

Special features on a mammography machine allow x-ray images to be taken at two different angles. These images are used to guide the placement of a biopsy needle.

What Can I Expect?

- The procedure takes about 1 hour.
- The biopsy maybe be performed either lying down on the mammography bed or sitting up in the mammography chair. Your breast is compressed during the biopsy as it was during the mammogram. Once you are in the correct position the biopsy will be done.
- A radiologist will freeze the area to be biopsied. This makes the procedure more comfortable.
- The biopsy needle is inserted and a core of tissue is quickly removed using a spring-loaded device. Several samples may be taken. The biopsy sample is sent to the lab for testing.
- After the biopsy is complete, pressure will be applied to the area for 5 to 10 minutes to control the bleeding.
- There may still be a small amount of bleeding as well as a tingling sensation or discomfort in your breast as the freezing wears off. A dressing on the site will protect your clothes.
- You should avoid any intense activity for up to 48 hours after the procedure.
- Before you leave the department, the technologist will give you a pamphlet on after care instructions and make sure you are feeling well before you leave.

How can I Prepare?

- You are encouraged to eat and drink before the procedure.
- Wear a two-piece outfit because you will be asked to undress from the waist up.
- Arrange to have someone drive you home after the test.
- Be aware that your activity will be limited for 24 hours after the biopsy. You will also be advised to avoid intense activity for up to 48 hours.

Important safety information

- If you are taking anticoagulants or blood thinners please inform the technologist about this before your procedure.

Lymph Node Core Biopsy

This biopsy procedure is to check lymph nodes under the armpit area. The process is similar to the ultrasound core biopsy, where a small needle is used to take tissue samples from the lymph node. Samples are sent to the lab for examination.

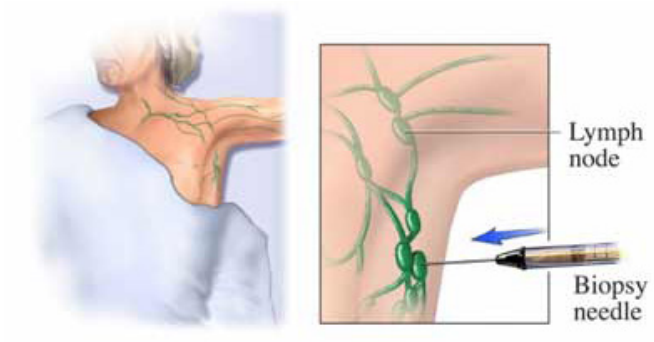


Image taken from 'Cancer Care of Western New York' https://cancercarewny.com

Important safety information

- If you are taking anticoagulants or blood thinners please inform the technologist about this before your procedure.

MAGNETIC RESONANCE IMAGING (MRI)

During diagnostic breast examinations, it is often helpful for the radiologist to have several different types of studies performed to have a very good understanding of your breast health.

MRI is a specialized test that creates very detailed 3D images of the breast. If any of your breast imaging procedures are not completely clear, your doctor may recommend a breast MRI for a better assessment. MRI is also used as a complementary screening tool for patients who are at high risk for developing breast cancer.

What Can I Expect?

- The procedure will take up to 1 hour and you will be in the MRI machine for up to 30 minutes.
- You will need to change into a gown and pants that will be provided.
- A locker will be provided for your belongings.
- An intravenous (IV) line will be inserted into your arm prior to the procedure and a contrast agent (dye) will be given through this site. This helps to define the structures of your breasts on the images.
- A technologist will ask you to lie on your stomach on a special imaging table. The table is moved into the MRI scanner, which looks like a large tunnel. This tunnel contains a very powerful magnet which is strong enough to create images of your breast tissue.
- You will need to stay very still during the procedure.
- As the magnetic energy passes through your body, you will hear some loud mechanical noises. You will be offered ear protection and the technologist will speak to you throughout your images to make sure you are comfortable. The magnetic energy and the noises are not harmful in any way and you will not experience any side-effects.

How Do I Prepare?

- An MRI can be a difficult test if you suffer from claustrophobia (fear of confined spaces). If you have concerns related to this, please contact your family practitioner or the nurse navigator. Your doctor may prescribe medication to make you more comfortable.
- Staff will explain the procedure and answer your questions.
- Do not wear piercings, jewelry, make-up, nail polish, perfume or magnetic eyelashes.
- You may eat and drink normally, although some people report that it is easier to lie on their stomach if they have not had a large meal. This is your preference.
- You do not need someone to drive you home.

Important safety information

1. MRI is not safe for patients with pacemakers, defibrillators and certain implanted devices (i.e. ear implants and aneurysm clips).
2. Pregnancy may put you at risk.
3. If you are over 60 or have any kidney problems, you may need to have a creatinine blood test before receiving imaging contrast.
4. If you have any history of allergy, especially to imaging contrast, it is important that you share it with the technologist.

If any of these conditions relate to you please contact the nurse navigator to discuss this further.

MAGNETIC RESONANCE IMAGING (MRI) BIOPSY

An MRI biopsy is done under special circumstances to obtain a sample of breast tissue. The suspicious area is located with the use of MRI (see section above). A needle biopsy is then performed to remove a small core of tissue for examination under a microscope.

What Can I Expect?

- The procedure takes up to 2 hours. One hour of this time may be spent in the MRI scanner.
- An intravenous (IV) line will be inserted into your arm prior to the procedure and a contrast agent (dye) will be given through this site. This helps to define the structures of your breasts on the images.
- You will be asked to lie on your stomach on a special bed that fits your breasts.
- A technologist or radiologist will clean the skin surface with an antiseptic solution. The area will be frozen with a needle so that it feels numb. This makes the procedure more comfortable.
- The biopsy needle is inserted using a device that makes an unusual noise and a small tissue sample is removed. Usually more than one sample is taken. The biopsy sample is sent to a lab for testing.
- A 2 mm titanium clip will be placed at the biopsy site. This will mark the location of the biopsy for future imaging. You will not notice it in your breast and it will not set off airport alarms.
- After the test, pressure will be applied for 5 to 10 minutes to control bleeding. You should not do intense activity for up to 48 hours to prevent bleeding.
- You may experience a tingling sensation in your breast as the freezing wears off.
- You may have a small amount of bruising afterwards.

- You will notice a puncture site where the needle entered your breast, but no stitches are required. You should keep this area clean and dry for 24 hours to allow for healing.
- After the MRI biopsy, you will have a mammogram in the Breast Care Centre to confirm that the clip is in the right spot.
- A follow-up care sheet will be provided for you to take home.

How Do I Prepare?

- An MRI can be a difficult test if you suffer from claustrophobia (fear of confined spaces). If you have concerns related to this please contact your family practitioner or the nurse navigator. Your doctor may prescribe medication to make you more comfortable.
- Staff will carefully explain the procedure and answer your questions.
- Do not wear piercings, jewelry, make-up, nail polish, perfume or magnetic eyelashes.
- You may eat and drink normally, although some people report that it is easier to lie on their stomach if they have not had a large meal. This is your preference.
- Arrange to have someone drive you home after the test.

Important safety information

1. MRI is not safe for patients with pacemakers, defibrillators and certain implanted devices (i.e. ear implants and aneurysm clips).
2. Pregnancy may put you at risk.
3. If you are over 60 or have any kidney problems, you may need to have a creatinine blood test before receiving imaging contrast.
4. If you have any history of allergy, especially to imaging contrast, it is important that you share it with the technologist.
5. If you are taking anticoagulants or blood thinners please inform the technologist about this before your procedure.

If any of these conditions relate to you please contact the nurse navigator.

SERVICES AND ORGANIZATIONS

Ontario Breast Screening Program
https://www.cancercareontario.ca/en/types-of-cancer/breast-cancer/screening

Breast Cancer Society of Canada
https://bcsc.ca/
1-800-567-8767

Canadian Cancer Society
Local office listed in phone book/online
Information Service: 1-888-939-3333

Cancer Care Ontario
https://www.cancercareontario.ca/en

Wellspring
1-519-438-7379
https://wellspring.ca/london-region/

ACKNOWLEDGMENTS

A Woman's Guide to Breast Assessment
http://www.ontla.on.ca/library/repository/mon/4000/10306963.pdf

Additional notes:

- Permission has been granted to use all images in this book.
- This booklet is available in other formats by request.