

Why Choose Canada Diagnostic Centres

Our practice is led by our Medical Director and other doctors with a focus on exceptional patient care, and the right blend of fellowship-trained and general radiologists provides a high level of both expertise and service. We invest heavily in the ongoing education and development of not only our technologists, but also our administrative and professional staff too, so that your patients benefit from having access to the very best people in all roles. We offer leading edge technology throughout our clinics, from our formidable 3 Tesla strength MRI to cutting edge ultrasound, digital x-ray, and 3D mammography. We pride ourselves on accurate, expert reporting delivered quickly to your office and to Netcare, and further availability on our IntelliConnect portal.

As a result, more than 7,000 medical practitioners refer nearly 350,000 patients to Canada Diagnostic Centres here in Alberta every year, and trust our expert radiologists and technologists to perform more than one million exams. We've worked hard to build that trust one patient at a time since we opened the doors in 1993 through a commitment to compassion and continuous quality improvement. At all levels of our practice we're guided by the simple principle to care for our patients the same way we would expect ourselves and our loved ones to be cared for. As a result, more than 96% of our patients consistently report that they would recommend our services to friends, family, and colleagues.

Canada Diagnostic Centres Services

We are a full service imaging centre with convenient locations across Alberta. Visit us online for a complete list of locations and services:

General Imaging:
Ultrasound
Walk in X-ray
Mammography
Bone Density
GI Studies

Private MRI & CT*
Pain Management
Women's Imaging
Kid's Imaging*

**Available only in Calgary*

Of the 21,000 patients who responded to our survey, 96.75% indicated they would recommend our services to family, friends and colleagues.

Exceptional patient care
for a *healthier you*



Booking An Appointment

Appointments may be booked by either the practitioner or the patient, please have health care card and requisition form available. There are locations throughout Alberta please visit us online for a full list of locations.



Phone
Toll-Free Ph 1.877.420.4232
Toll-Free Fax 1.877.919.3291



Online
CanadaDiagnostics.ca



Women's Imaging





Mammography

What is a Mammogram?

Physicians order mammograms for screening (prevention) and diagnosis. They are common procedures used in the early detection of breast cancer. It is a low-dose x-ray which is important to help identify growths that may be too small for the patient or the doctor to detect. All mammography images at Canada Diagnostic Centres are digital, providing sharp, detailed images and including the incorporation of 3D tomosynthesis.

Screening Mammography

A screening mammogram is a regular check-up for breast health in the absence of adverse symptoms. It is an important detection tool as it monitors changes to the breasts over time, which can help find cancer in its earliest stage.

What is our approach to routine screening Mammography?

We recommend annual screening mammography for women aged 40-49 who choose to begin screening after consultation with their physician. We recommend biennial screening mammography for women aged 50-74 who are at average breast cancer risk, i.e. scattered or fatty breast tissue (ACR A or B) and no other risk factors:

- Not heterogeneous or extremely dense breast parenchyma (ACR C/D)
- No first degree family history
- No prior high risk lesion (atypical hyperplasia, LCIS)
- Not BRCA gene + (also needs MRI)
- No personal history of breast cancer (becomes diagnostic)

- For those with elevated risk due to heterogeneously or extremely dense tissue (ACR C or D), a positive first degree family history, BRCA+, or a high risk but noncancerous lesion on a prior biopsy (atypical hyperplasia) we recommend annual screening, consistent with Towards Optimized Practice and Canadian Association of Radiologist guidelines

For women aged 75 or older, we recommend biennial screening mammography so long as ongoing general health makes it rational to continue screening. Generally this means expected life span of at least 10 more years.

Please note: 10 year breast cancer risk at ages 45 and 60, by ACR breast density and first degree family history (tools.bccsc-scc.org).

Age	Density	Fam Hx	Risk
45	B	No	1.20%
45	C	No	2.03%
45	D	No	2.45%
45	B	Yes	2.22%
45	C	Yes	3.45%
45	D	Yes	4.16%
60			
60	B	No	2.69%
60	C	No	3.76%
60	D	No	4.44%
60	B	Yes	3.93%
60	C	Yes	5.47%

When to have Bone Mineral Densitometry

- ✓ All women and men age 65+
- ✓ Fracture after a minor fall or bump
- ✓ Prolonged oral steroid use (such as Prednisone)
- ✓ Menopause, especially early menopause (before age 45)
- ✓ Spine fracture or low bone density identified on x-ray
- ✓ Conditions such as: Rheumatoid Arthritis, Crohn's or Celiac disease, Hyperparathyroidism, overactive thyroid, diabetes, liver or kidney disease and their associated treatments
- ✓ Low body weight (less than 60kg)
- ✓ Current smoker, or high alcohol intake



Safety and Experience

Safety of Bone Mineral Densitometry

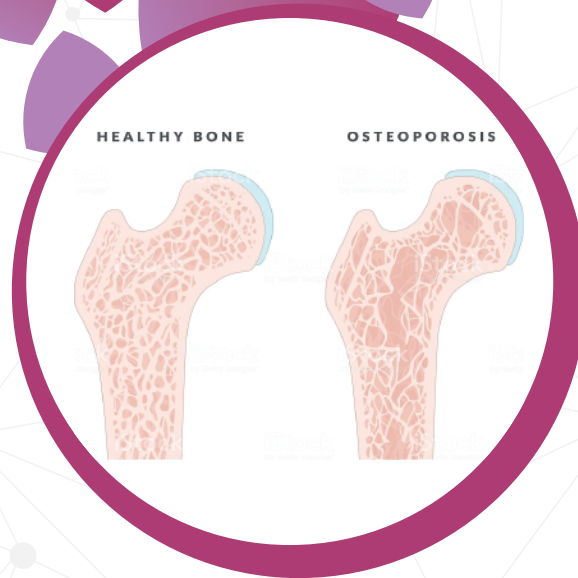
The Dual Energy X-ray Absorptiometry (DXA) scans are safe, accurate and painless, and are performed using very little radiation. Lower than expected bone density can be detected early, helping make decisions that may prevent fractures or further bone loss.

Bone Mineral Densitometry Experience

During the exam, you will lie on a padded table while the DXA unit scans two or more areas – usually the lumbar spine and one hip or forearm if needed. An extra scan called Vertebral Fracture Assessment (VFA) may also be performed as part of the BMD exam if a spinal (vertebral) fracture is suspected. Vertebral fractures can cause back pain, height loss and stooped posture.

The technologist will let you know at the time of the exam if extra images are needed. This exam usually takes between 15 and 30 minutes.

Please advise the physician if you have recently had a Barium Exam, CT Scan or any other type of scan. Tell the physician and the technologist if there is any possibility you are pregnant. Do not take calcium supplements for at least 24 hours before the exam. On the day of the exam - eat normally and take any necessary prescribed medications.



Bone Mineral Densitometry

What is Bone Mineral Densitometry?

A bone mineral densitometry test, also known as a bone mineral density or BMD test, is an enhanced form of low energy x-ray technology specifically designed to detect possible bone loss or osteoporosis. Low dose x-rays are used to measure the amount of bone minerals in specific areas most commonly at the lumbar spine, hip and forearm.

Osteoporosis and Bone Mineral Densitometry

Osteoporosis is a potentially crippling disease characterized by low bone density and deterioration of bone tissue. The condition leads to increased bone fragility and risk of fracture, most often at the spine, wrist or hip. Osteoporosis does not develop overnight. You can lose bone mass steadily for many years without experiencing any symptoms or signs, giving way to the name 'the silent thief'.

Why Bone Mineral Densitometry?

- Identify decreases in bone density, especially if the patient has specific risk factors such as older age, menopause, are taking certain medications or have a history of height loss or low-trauma fractures
- Determine future risk of bone fracture
- Confirm diagnosis of osteoporosis
- Monitor bone density over time, especially if on osteoporosis treatment
- Help physicians suggest steps to protect bones

Safety of Bone Mineral Densitometry

The Dual Energy X-ray Absorptiometry (DXA) scans are safe, accurate, and painless and are performed using very little radiation. Lower than expected bone density can be detected early, helping make decisions that may prevent fractures or further bone loss.

Screening indisputably saves lives. We are therefore conscientious about sending reminders that screening is coming due to patients, per the Radiologist's determination at the time of their prior mammogram with us. If the patient does not attend within 1 month we then send the patient's physician a reminder as well.

Advanced Technology For Peace of Mind

Tomosynthesis

This is an advanced, state of the art technology offered with mammograms. This 3D imaging technology involves taking pictures of the breast at multiple angles to create slices like a CT scan. This allows the radiologist to see the breast tissue more clearly and accurately.

Diagnostic Mammography

A diagnostic mammogram evaluates breast tissue when abnormal symptoms are present. It is also used to evaluate hard-to-see tissue due to special circumstances (i.e. implants or recent breast surgery). Some obvious symptoms of breast abnormalities can include (but are not limited to): lumps, pain, nipple discharge, changes in breast shape or size, or thickening of skin or breast tissue.

What is a diagnostic mammogram vs. screening?

An exam becomes diagnostic rather than screening whenever there is a sign or symptom of breast disease. These signs and symptoms include things such as pain, lump, nipple discharge, skin changes, a past personal history of breast cancer or if it is the first exam after a benign biopsy or other breast surgery.

If during the booking process or initial patient assessment we identify one of these issues, the patient will be booked for a diagnostic appointment rather than screening. Diagnostic means extra time will be set aside of the patient's visit to assess whether additional views or an ultrasound appointment are needed. In patients under 40, we may only need to do ultrasound but our Radiologist is ultimately responsible for making this call.

Breast Ultrasound

What is a Breast Ultrasound?
Breast ultrasound uses sound waves to produce images of breast tissue, and can be used to determine if a lump is solid (tumor) or fluid (cyst). It is also used to see lumps not clear on a mammogram or as a means of guiding a biopsy procedure.

A breast ultrasound can image all areas of the breast and surrounding area, and is particularly useful in imaging the areas, which can be difficult to capture with a mammogram.

What is our approach to routine Screening Ultrasound?
Screening ultrasound is shown to increase cancer detection in women with elevated breast density (ACR C or D). However, the incremental risk is fairly low in women with heterogeneously dense tissue (ACR C) and no other risks. Therefore we recommend screening ultrasound only if: Extremely dense (ACR D), or Heterogeneous dense (ACR C) AND an addition risk factor (1st degree family history, etc.).

When is a Breast Ultrasound required?

Breast ultrasound is routinely performed on women who:

- ✓ are undergoing a diagnostic mammogram
- ✓ are under the age of 40
- ✓ are not able to have a mammogram (such as during pregnancy)
- ✓ have breast implants
- ✓ have dense breasts

Breast ultrasound can also be used to screen for breast cancer in women with high risk factors.

Obstetrical Exams at Canada Diagnostic Centres

For consistency, accuracy, and reliability in obstetrical ultrasound (OBS) Canada Diagnostic Centres offers an Obstetrical Series option on our requisition forms. Once checked, our staff will ensure the patient is booked for all of the following exams:

Dating Ultrasound (7 weeks)

A 1st trimester ultrasound (also known as dating ultrasound) is frequently ordered to confirm a pregnancy, to check the age and progress of pregnancy in early stages, or to rule out miscarriage or ectopic pregnancy if a patient is experiencing pain or bleeding.

Nuchal Translucency (11-13 weeks)

A nuchal translucency is performed as genetic screening test and it is used to calculate the odds of the baby having a chromosomal abnormality, most commonly Down's syndrome (Trisomy 21). This test is only valid if performed between 11 weeks, 2 days to 13 weeks, 5 days of gestational age. A small fold of skin at the back of baby's neck is imaged and measured in this exam.

Detailed Anatomy (18-20 weeks)

This 2nd trimester ultrasound provides the physician with a detailed physical assessment of the baby. Baby's position, growth and development are checked as well as the volume of amniotic fluid and the position and condition of the placenta and cervix.

3rd Trimester Obstetrical (Biophysical profile/BPP) Ultrasound (28+ weeks)

This test is typically completed toward the end of a pregnancy and is used to check growth and development, and that movement is appropriate for gestational age. It may also be used to confirm the baby's position in the uterus (i.e. head down, breech presentation, etc.).

Patient Factors	ACR Breast Density Category		
Age / History	Fatty or Scattered	Heterogeneously Dense	Extremely Dense
40-49	Annual Mammo	Annual Mammo	Annual Mammo + U/S
40-49, +1st degree hx	Annual Mammo	Annual Mammo + U/S	Annual Mammo + U/S
50-74	Biennial Mammo	Annual Mammo	Annual Mammo + U/S
50-74, +1st degree hx	Annual Mammo	Annual Mammo + U/S	Annual Mammo + U/S
75+	Biennial Mammo	Biennial Mammo	Biennial Mammo





Obstetrical Ultrasounds

What is an Obstetrical Ultrasound?

An obstetrical ultrasound determines the presence of an embryo, assesses the mother's anatomy and examines the fetus to assess growth and well-being. An obstetrical ultrasound will assess the baby in detail to assure appropriate growth and development, even counting fingers and toes. Our sonographers check to make sure the baby is thriving and there are no signs of distress.

Why Obstetrical Ultrasound?

- ✓ Early pregnancy assessment and dating
- ✓ Ectopic pregnancy detection
- ✓ Chromosomal abnormality detection
- ✓ Early abnormality assessment
- ✓ Morphology scans ("anatomy scans")
- ✓ Assessing the positioning of the placenta
- ✓ Detection of bleeding in pregnancy

Magnetic Resonance Imaging

What is Breast MRI?

Breast MRI is a leading-edge tool for breast cancer screening and diagnosis. Breast MRI offers the highest sensitivity rate of all current breast imaging techniques for the detection of invasive and intraductal cancers. This exam uses no radiation and is performed utilizing our state-of-the-art GE Signa 3T MRI machine.

Why Breast MRI?

This procedure is most often used when results from a diagnostic mammogram or ultrasound are inconclusive. It can also be used to determine the extent of cancer in breast tissue or to assess types of breast cancer less easily detected by other procedures.



Breast MRI Indications

Current indications include:

- Breast cancer screening in high risk patients (ideally performed annually in addition to mammography/ultrasound)
- Problem solving in patients with indeterminate clinical or imaging findings (following mammographic/sonographic work up)
- Evaluation of patients with implants in whom mammography may be limited or for assessment of implant integrity
- Evaluation of non-physiologic nipple discharge (following negative mammogram/ultrasound)
- Evaluation of all patients with a new diagnosis of breast cancer, atypia or other high risk lesion (preoperative staging/extent of disease work up)
- Assessment of residual disease in patients with positive margins
- To assess for recurrence when other modalities are inconclusive (e.g., scar vs. recurrence)
- To monitor response to neo - adjuvant chemotherapy
- Metastatic lymphadenopathy when the primary is unknown but suspected to be of breast origin (following negative mammogram/ultrasound)

MRI

Breast MRI 3T vs. 1.5T

The benefit of a 3T image versus that of the traditional 1.5T is the greater signal strength. This translates to higher spatial, temporal and contrast resolutions, as well as faster scan times, all factors that improve image quality and diagnostic strength.

When looking specifically at the breast, the improved resolution provides the opportunity for better detection / sensitivity and improved lesion characterization (morphology and dynamic contrast assessment), potentially increasing specificity and helping decrease the number of unnecessary biopsies.

Breast MRI Pricing

Breast MRI scans are provided on a per fee basis and are not covered by Alberta Health Care. However most Health Spending Accounts will cover the cost of a private MRI that is prescribed by a qualified medical practitioner.

*Current data suggests 1 in 5 patients undergoing their first breast MRI will require a short-term follow-up MRI study recommended by the Radiologist, 6 months after the first exam.

Breast MRI Location

Canada Diagnostic Centres – Chinook
1-6020 1A Street SW
Calgary, AB

Interventional Procedures

What is an Interventional Procedure?

An interventional procedure (commonly known as a biopsy) involves obtaining tissue samples to determine whether abnormal cells are present. A biopsy is necessary when imaging studies cannot clearly define an anomaly, and can confirm benign (non-cancerous) or malignant (cancerous) tissue.

1. Ultrasound guided biopsies

During the procedure, a radiologist uses ultrasound to guide a needle into tissue to obtain samples.

1a. Core needle biopsy

This biopsy extracts samples from an area of abnormal tissue. A hollow needle withdraws tiny cores of tissue and is most often done using a local anaesthetic.

1b. Fine needle aspiration

A very fine needle is used to take fluid samples from cysts or lymph nodes.

1c. Needle localizations

Needle-localized biopsies use very thin needles or guide wires to mark the area that needs to be surgically sampled. These are typically done using ultrasound to precisely place the wire, but may also be done using mammography.

2. X-ray guided biopsies

Stereotactic mammotome biopsy. This procedure uses mammographic imaging to precisely identify and biopsy an abnormality within the breast.

Pain Management

What is Pain Management?

Pain management therapies treat painful or uncomfortable conditions by injecting medication into affected areas, reducing inflammation, blocking pain nerves, or promoting healing.

These therapies are beneficial because they:

- Help reduce the amount of pain medication taken
- Help perform physiotherapy with greater comfort
- Help maintain daily activities while awaiting other treatments such as surgery, or if very successful, to avoid surgery altogether

What imaging is used?

Image Guided Pain Management injections utilize:

- Fluoroscopy (digital x-ray technology to produce real time images)
- Ultrasound (inaudible high frequency sound waves to produce real time images)

Peripheral Injections

For the joints and other structures located in the following areas:

- Ankles and feet
- Elbows, wrists and hands
- Hips and pelvis
- Knees
- Shoulders

Advanced Spinal Injections

Spinal injection areas located along the spinal column including the low back (lumbar spine), mid-back (thoracic spine), neck (cervical spine), and head can be treated.

- Degenerative disc disease
- Facet and sacroiliac (SI) joint arthritis
- Spinal nerve roots (sciatica)
- Headache

What is a Lumbar Epidural Steroid Injection/Selective Nerve Root Block?

A lumbar epidural steroid injection is an injection of long acting anti-inflammatory medication (steroid) into the space around the nerve roots of the spine (usually into an opening on the side of the spine called a neural foramen). The steroid injected reduces inflammation and swelling of spinal nerve roots and other tissues surrounding it.

How long will the benefits of an injection last?

Results vary by individual. It might take anywhere from two days to two weeks before your condition improves. On average, steroid injections provide 2-6 months of pain relief.

