

## 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



## Pain Management Program



## 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 you must take
- Help you perform physiotherapy with greater comfort
- Allow you to 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)

## Did You Know About Our Pain Management Physiotherapy Program?

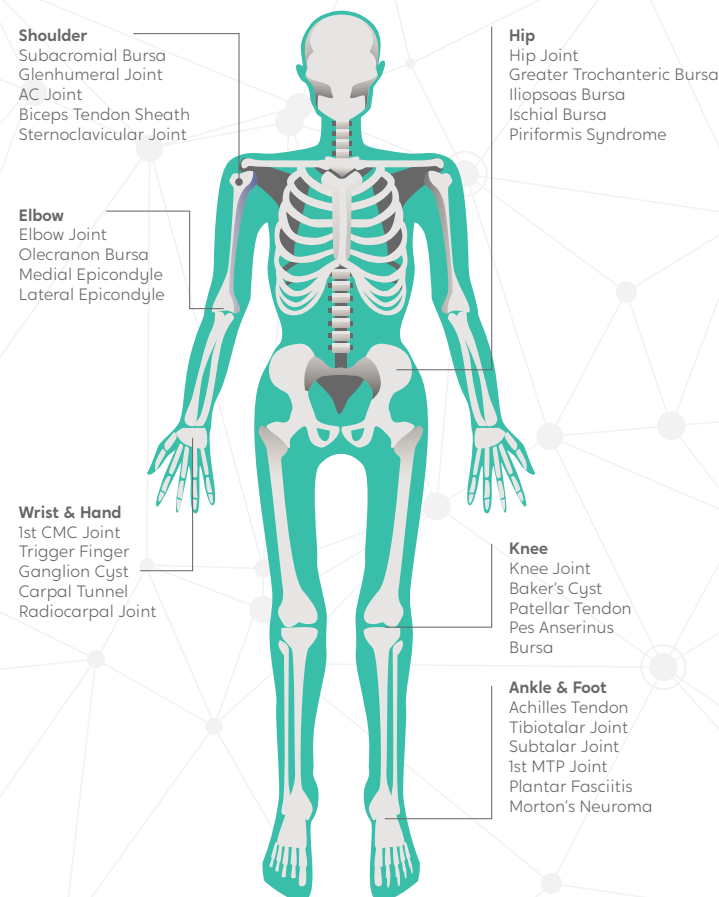
In collaboration with leading physiotherapists, Canada Diagnostic Centres would like to assist you further with your pain reduction and recovery.

We firmly believe that a proper physiotherapy program will prolong the benefits of the procedure and how well you function afterwards.

## 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



### Indications

The epidural space is a narrow area between the vertebral bones of the spine and the dural sac passing through them that contains the spinal cord and nerve roots. It is within the epidural space that a damaged disc or changes related to osteoarthritis impact spinal nerves to produce local back pain symptoms, sciatica pain, or both. Lumbar Epidural Steroid injections are indicated at or just below the level where a damaged disc or other issue is affecting adjacent nerve roots, or a Selective Nerve Root Block along the affected nerve itself.

### What to Expect

Once the patient arrives for their appointment, they will change, then a Canada Diagnostic Centres staff member will ask safety questions and provide information to the patient. The patient will then be brought into the fluoroscopy suite where technologists will prepare them for the injection. The Radiologist will perform the injection. The patient will then be observed for a short time in the recovery area to ensure there are no unexpected developments.

The patient may notice immediately that their pain is gone or has lessened, but may also have numbness or weakness in the leg on the injected side. These are both temporary effects due to the local anaesthetic injected and will last only for a few hours. As a result, we require patients to be driven to and from their appointment.

Pain may return later that day and soreness or aching may be present for a day or two. This is due to the mechanical process of needle insertion as well as initial irritation from the medications injected. Most patients should start noticing lasting pain relief by the third day as the steroid begins to take effect.

### MRI or CT Requirements

We perform evidence-based procedures driven by Spine Intervention Society (SIS) Guidelines, targeted to specific pathology. A safe and effective treatment requires an accurate diagnosis, and therefore prior MRI or CT imaging is required to determine a patient's specific pathology.



### Radiofrequency Neurotomy Success

At 1 year: 80% of patients with more than 60% pain relief and 60% of patients with more than 80% pain relief.

#### Stage 1: Facet Joint Injections

- Continue indefinitely if providing relief more than 6 months
- If successful but relief is less than 6 months, go to Stage 2A

#### Stage 2A: Diagnostic Medial Branch Block

- If two successive MBB's are positive at the joint, go to Stage 2B
- If unsuccessful, return to facet joint injections

#### Stage 2B: Radiofrequency Neurotomy

- RFN can be repeated directly, as needed

## Advanced Spinal Injections

### 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. This may in turn reduce pain, tingling, numbness and other symptoms caused by this inflammation, irritation or swelling.

This injection can also be used to help identify which specific spinal nerve root(s) is the source of pain. When the injection is done for both diagnosis and treatment it is called a selective nerve root block. The injection is typically 2-3 ccs and consists of a local anaesthetic, long acting steroid medication and sterile saline.

### Pain Management Therapy Options:

#### Cortisone

Cortisone is a steroid that acts as an anti-inflammatory and can be injected into soft tissue and joints. It is helpful for treating pain caused by arthritis, injury or inflammation around a tendon.

#### Monovisc®

Monovisc® is a ultra-pure hyaluronic acid joint lubricating fluid option that is used for the symptomatic treatment of osteoarthritis pain of the knee or hip most commonly.

#### Durolane®

Durolane is a hyaluronic acid single injection treatment to relieve the pain of osteoarthritis in specific small and large joints. Hyaluronic acid is a naturally occurring molecule that provides the lubrication and cushioning in a normal joint.

#### Cingal™

Cingal is a single injection containing both a steroid and a joint lubricating fluid that is used for immediate and long-lasting pain relief in the knee.

#### Botox®

Botox® for chronic migraine is a purified complex protein indicated in the treatment of adults with chronic migraine headaches, and can also be used for other muscle tension or spasm problems.

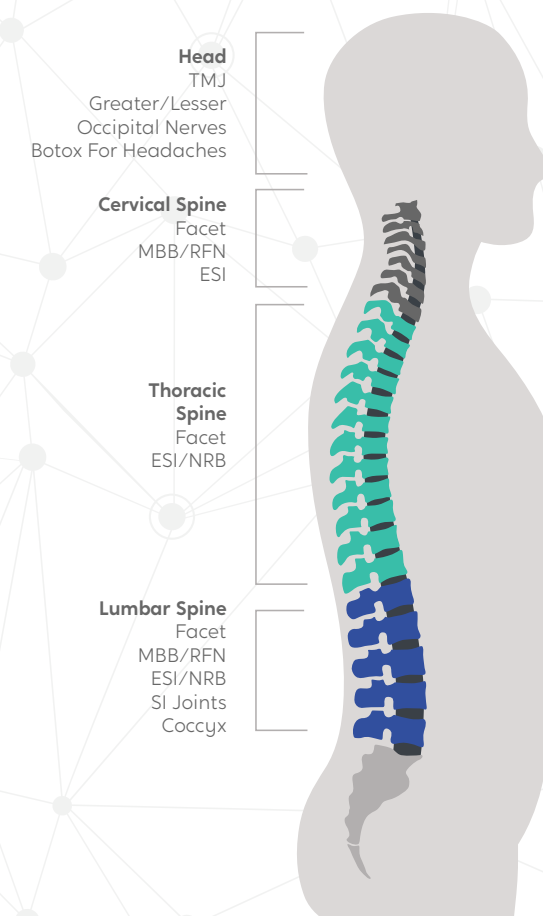
#### Platelet Rich Plasma (PRP)

In this procedure, your blood is drawn and centrifuged to extract platelet rich plasma a concentrated source of healing factors. This is then injected back into the affected area to enhance the natural healing process and reduce pain. This injection is commonly used to treat injured tendons.

## Pain Management Therapy Options

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



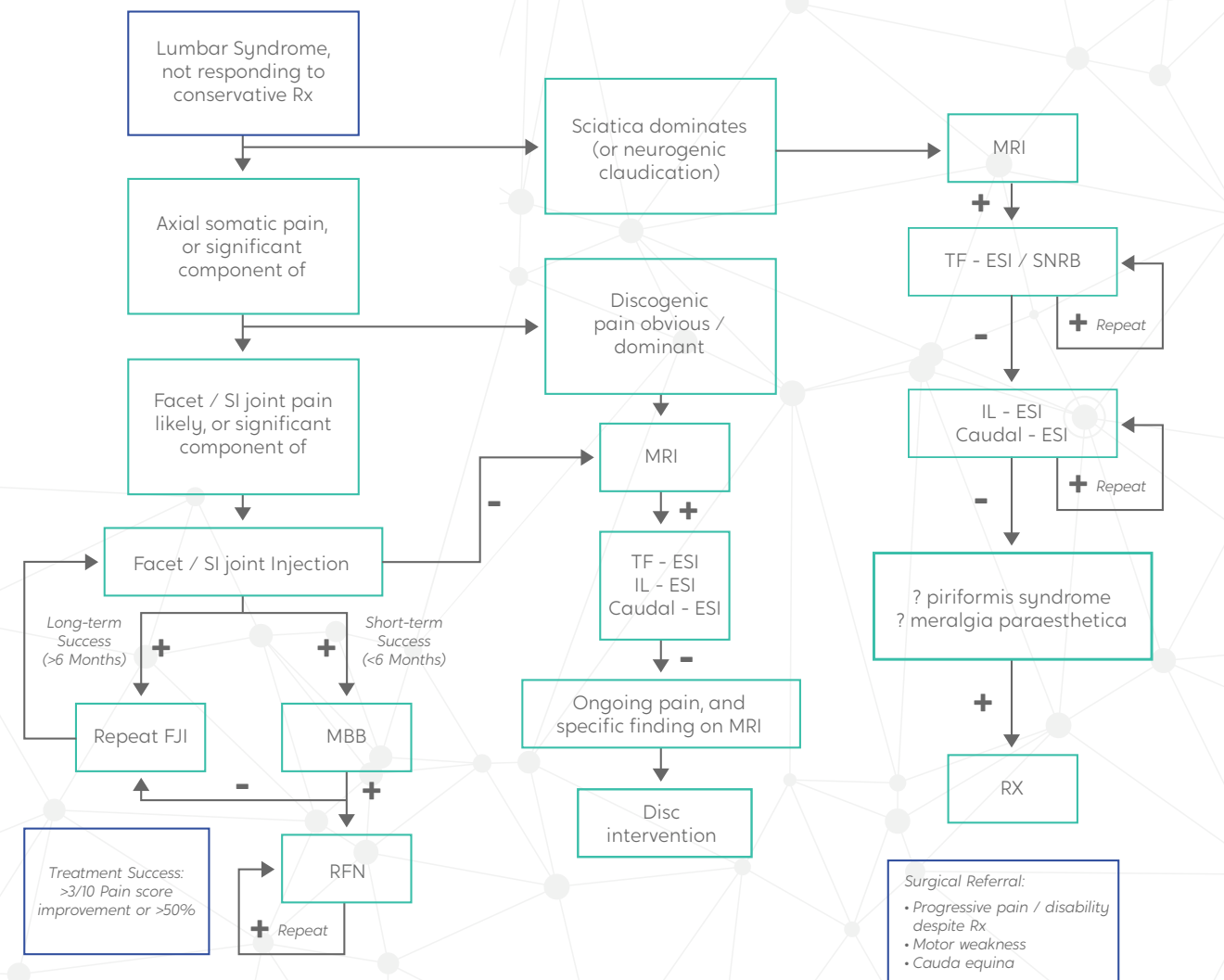
### How long will the benefits of an injection last?

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.

### How often can I receive injections?

We recommend steroid injections occur no more than once every three months in a given body part. The frequency of injection varies according to the kind of therapy used.

## Lumbar Injections Care Pathway



**FJI** = Facet Joint Injection  
**MBB** = Medial Branch Block  
**RFN** = Radiofrequency Neurotomy

### General Guidance for Facet Joint Injection Ordering:

#### What levels to consider selecting in a patient with suspected facet joint pain?

- Joints with increased uptake on bone scan other asymmetric pathology on MRI
- Joints that are tender to palpation and abnormal on x-ray or CT, beginning with the lowest (Note: L4-5 and L5-S1 are much more likely to be symptomatic than higher joints)
- For MBB / RFN, a combined L4-5 / L5-S1 approach is therefore usually appropriate as a next step, unless indicate a higher joint is symptomatic
- Joints with effusions, synovial cysts, or affected level there is specific information to indicate a higher joint is symptomatic

**SNRB** = Selective Nerve Root Block  
**kTF-ESI** = Transforaminal Epidural Steroid Injection  
**IL-ESI** = Inter-Laminar Epidural Steroid Injection

### General Guidance for Epidural Steroid Injection Ordering:

#### What levels to consider selecting in a patient with suspected discogenic orradicular pain?

- SNRB matching suspected symptomatic nerve root impingements
- TF-ESI matching suspected symptomatic disc herniations or annular tears
- IL-ESI at or below the level of pathology if the above interventions are unsuccessful

## Lumbar Spine Procedures

### Facet Joint Indications:

- Back pain more than leg pain
- Worst pain above belt line
- Morning stiffness fading with activity (OA)
- Pain exacerbated by sit-to-stand maneuver
- Pain worse with extension-rotation towards symptomatic side
- Radiation to groin/thigh

### Stage 1: Facet Joint Injection

A facet joint injection is a procedure used to either provide pain relief or determine the location of pain. The procedure involves injecting a small amount of anaesthetic along with a steroid medication. Pain relief is intended to help the patient tolerate a physical therapy routine to rehabilitate injured areas.

If the patient is receiving more than 6 months of pain relief, they may continue receiving facet joint injections. If pain relief is less than 6 months, they may have an MBB to determine eligibility for RFN.

**Preliminary Imaging Required:** Prior to a facet joint injection, a lumbar spine x-ray is required. If your patient does not have a recent x-ray on file, we will take one the same day as the injection.

### Stage 2A: Medial Branch Block (MBB)

MBB is a procedure where anaesthetic is injected around medial nerves connected to specific facet joints. Several levels of the spine are typically injected in one procedure.



If the patient has marked pain relief immediately after being injected, the facet joint is then determined to be the pain source (typically 2-6 hours of pain relief if the MBB is successful). The patient will record their pain in a supplied pain diary, which is then collected by Canada Diagnostic Centres to determine if the procedure is deemed positive.

An MBB is primarily diagnostic. If the test is positive, the patient is booked for a confirmatory block, which if successful, would make them a candidate for RFN. If the test is negative, the patient is not a candidate for RFN at this time.

**Preliminary Imaging Required:** Prior to an MBB, a lumbar spine x-ray is required. If your patient does not have a recent x-ray on file, we will take one the same day as the procedure.

### Stage 2B: Radiofrequency Neurotomy

RFN is a procedure used to treat facet joint pain caused by degenerative changes or injury. This procedure involves the creation of a heat lesion on selected nerves to interrupt pain signals to the brain, effectively eliminating the pain. Tissues are heated to a temperature of 80°C produced with rapidly alternating electrical current of 2-4 watts, held for 80-90 seconds with an electrode tip. The procedure is well tolerated by patients and requires no sedation (only local anaesthetic). This procedure is often used to treat facet joint and SI joint pain.