

Spinal Pain

Spinal pain is a very common condition and represents the most common category of musculoskeletal pain. Spinal pain can have a major negative impact on one's quality of life. It can cause loss of productive work, inability to enjoy leisure activities and in time lead to frustration, anxiety and secondary depression.

Often, neck and back pain resolve in time and with simple measures such as rest and anti-inflammatory medication, within several weeks. When such measures prove ineffective, the next level of treatment is pursued, such as physical therapy, massage, acupuncture or chiropractic care. When a reasonable trial of one or more of these interventions fail to provide pain relief and restoration of physical function, the next level of diagnostic and therapeutic options may be considered. Spinal injections represent one of these options.

Spinal Injections as a Diagnostic Tool

If simple measures fail to provide adequate pain relief, it is reasonable to perform more advanced diagnostic tests to determine the source of the pain. Once a precise anatomic diagnosis is made then more specific treatment options can be pursued which hopefully will result in symptom resolution. This is true for both more advanced non-surgical and surgical options.

X-rays, MRI's, CT scans and bone (SPECT) scans represent common radiological tests to evaluate the anatomy of your spine. These tests are critically important to identify more serious conditions such as a spinal fracture, tumor and infection. When there is weakness, numbness and pain in the arm or leg, a MRI scan is the best test to find what may be compressing and compromising a particular nerve root. Common causes of nerve root compression include a herniated disc, bone spur or cyst.

These radiological studies, however, have limitations. Often they find minor abnormalities despite significant pain or multiple abnormalities, of which not all are the cause of pain.

Having a history and physical examination by a physician, for those patients with nerve root compression, neurologic signs and pain is a reasonably accurate method to determine the precise source of pain. However, in the absence of neurologic signs (weakness and numbness), a history and physical examination can yield a tentative, but not a definitive diagnosis. Physical examination is helpful to determine the level of spinal involvement and what are the potential pain generators (e.g. disc, facet, muscle).

Largely, in those individuals without nerve root compression associated pain is when spinal injections assist in making an accurate diagnosis of the pain source.

Under intermittent x-ray guidance (fluoroscopy), small caliber needles can be placed into precise locations to numb (anesthetize) potential pain generators such as a spinal nerve or joint.

As means of determining if the disc is the pain source, one specific diagnostic injection is used to temporarily reproduce ones similar discomfort. This test is referred to as a provocation discography. This test essentially simulates pressing to produce pain in a tender disc vs. lack of pain with pressing in a normal or asymptomatic disc. The test involves injection of x-ray dye (contrast medium) and monitoring of pressures and pain produced during an injection into the disc. When the radiological (MRI or CT) tests are used in conjunction with anesthetic injections and at times provocational discography, the source of spinal pain can be determined in the vast majority of patients.

Spinal Injections as a Therapeutic Tool

Not only can injection procedures provide diagnostic information, they can potentially be of great therapeutic value when cortisone is injected. Cortisone is a type of steroid. Cortisone is not, however, an anabolic steroid such as those that have been used by body builders to gain muscle mass and strength. Cortisone is specifically used to reduce local inflammation and subsequent pain. It is commonly placed around irritated nerves (interlaminar, caudal or transforaminal epidural) or into irritated spinal joints (facet or sacroiliac joints.)

Additionally, other procedures have been developed that do not involve injecting cortisone. Instead it relies on using a special insulated needle through which radiofrequency waves are passed. Heat is then generated around the tip of needle to destroy small nerves which transmit pain from symptomatic spinal joints. Essentially, this treatment acts to hide the underlying joint pain that did not resolve with other treatments by destroying the nerves that provide sensation to the target joints.

One should avoid receiving excessive cortisone injections in a 12 month period or one may risk developing secondary side effects and potential complications from too much cortisone. Generally, we limit one to 3-4 injection procedures in a 12 month period . We do not perform a cortisone injection more often than every 2 weeks to reduce the risks of receiving excessive cortisone.

How are these injections performed?

First, your referring physician will make a request for a particular procedure or an evaluation to determine if a procedure may benefit you. You will be scheduled at a local surgery center and will be prepared for the procedure via our administrative office.

Upon check-in you may fill out personal informational forms. You will be brought back to the pre-op area where a nurse assessment will be performed. An intravenous line will be placed. You will then be brought to the procedure suite where you will visit with the physician before the procedure. The physician will take your history, perform a focused examination, and review your radiological studies (MRI, CT, bone scans). Your physician will then discuss your options. Not all patients, however, are appropriate to receive spinal injection procedures. If it is appropriate, the physician will explain in detail what to expect before, during and after the procedure. All your questions will be answered.

After medical consent is signed, you will lay on the x-ray table and your skin will be cleansed with betadine or hibiclens to reduce any risk of infection. Monitoring leads will be placed to measure your blood pressure, pulse and oxygen level. If you are receiving IV sedation it will be adjusted so that you are as comfortable as possible during the procedure. We use x-ray guidance (fluoroscopy) to visualize your spinal anatomy and plan the angles necessary to guide a small

needle to the targeted area. Your skin will be numbed and the needle will be inserted to the appropriate location. Once the needle is in the correct location, x-ray dye (contrast medium) will be injected to assure the flow is to the target location. If not, the needle will be gently re-positioned and contrast medium re-injected. Once adequate flow occurs, anesthetic (numbing) and cortisone (if it is not just a diagnostic procedure) will be slowly injected.

You will be taken to the recovery room where a snack and beverage will be provided during a 30 minute observation and recovery period. At this point, you will rate your pain after the procedure on a pain diary. The physician will come out to assure you have no further questions and to let you know any other details about the procedure that may be helpful.

If you had a diagnostic procedure we will ask you to monitor your pain and mark your results every hour for 6 hours on a pain form after you leave the center. If you received a cortisone injection you will also report any pain relief after 2 weeks. This form should be returned to our office when completed for review.

Post injection activities

It is recommended you go home and rest the day of the procedure. You can cautiously return to your usual daily activities the day after the procedure. If the procedure provides substantial benefit you may increase your exercise, work or sporting activities slowly over 2-4 weeks. Remember, often you cannot tell if you have irritated the underlying problem until 2 days after the activity. If this occurs, cut back on your level of physical activity for several weeks before re-challenging it.

You will follow-up with your referring physician for continued management and care. It is optimal to follow-up with your referring physician no sooner than 10-14 days after a therapeutic injection. This provides ample time for the cortisone to be effective.

Risks

All injection procedures have risk. Anytime the skin is penetrated there is a very remote risk of local bleeding and infection. When the needle is placed near various structures in the spine there are additional risks of more serious complications. Because we use x-ray guidance (fluoroscopy) and contrast dye to visualize flow of the medication before we perform the active component of the procedure, the risks are dramatically reduced. A complication from any injection procedure, however, remains a very remote possibility. Please call the office if you have any concerns regarding risks or symptoms you may feel after the procedure.