

Slip Disc with Sciatica – Newer Non-Surgical Treatment

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Abstract: Patients who are not helped by weeks of conservative therapy are often referred for surgery on the premise that further non-operative care is unlikely to help. Ideally, a patient with low back pain that has persisted beyond a four-week period should be referred to a multidisciplinary pain centre. With interventional pain management patients are getting back to life. It has both diagnostic and treatment values, as sometimes all investigations put together do not give the exact diagnosis. Early aggressive treatment plan of pain has to be implemented to prevent peripherally induced CNS changes that may intensify or prolong pain making it a complex pain syndrome. Only 5% of total LBP patients would need surgery & 20% of discal rupture or herniation would need surgery. Nonoperative treatment is sufficient in most of the patients, although patient selection is important even then. Depending upon the diagnosis one can perform & combine properly selected percutaneous fluoroscopic guided procedures with time spacing depending upon patient's pathology & response to treatment.

INTRODUCTION

The inter-vertebral discs are made-up of two concentric layers, the inner gel like Nucleus Pulposus and the outer Annulus fibrosus. As a result of advancing age, the nucleus loses fluid, volume and resiliency and the entire disc structure becomes more susceptible to trauma and compression. This condition is called as degeneration of the disc. The disc then is highly vulnerable to tears and as these occur, the inner nucleus pulposus protrudes through the fibrous layer, producing a bulge in the inter-vertebral disc. This condition is named as herniated disc. This can then cause compression to the spinal cord or the emerging nerve roots and lead to associated problems of Sciatica radiating pain from back to legs in the distribution of the nerve. Other symptoms could be weakness, tingling or numbness on the areas corresponding to the affected nerve. Sometimes bowel or bladder sphincter compromise is also present, which is made evident for urine retention and this need to be taken care as an emergency.

“Do not take your back for guaranteed” says Dr. Jain who is heading Spine & Pain Clinic, New Delhi. One can prevent back pain with spine care and avoiding risk factors like bad postures like slouch & couch, osteoporosis, obesity, smoking, prolonged driving, sedentary lifestyle, too heavy or too little exercise, bad spine postures and wrong way of pushing or lifting heavy objects.

While spinal arthritis is the common reason of young age back pain at prime of their carriers including some sports & film celebrities, disc diseases including slip disc is prevalent in all age groups, in young age due to trauma & in old age due to degeneration. Also, it has to be known that those who had a herniated disc have 10 times more chances of having another herniation than the rest of the population.

The first steps to deal with a herniated or prolapsed lumbar disc are conservative. These include rest, analgesic and anti-inflammatory medication and in some cases physical therapy. At this point it is convenient to have some plain X-rays done, in search of some indirect evidence of the disc problem, as well as of degenerative changes on the spine.

If in a few days these measures have failed, the diagnosis has to be confirmed by means of examinations that give better detail over the troubled area, as the MRI, CT which will show the disc, the space behind it and in the first case, the nerves. In some instances the EMG (electromyography) is also of great value, as this will show the functionality of the nerves and muscles.

Provocative Discography: coupled with CT: A diagnostic procedure

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& prognostic indicator for surgical outcome is necessary in the evaluation of patients with suspected discogenic pain, its ability to reproduce pain (even with normal radiological finding), to determine type of disc herniation /tear, finding surgical options & in assessing previously operated spines.

NEED FOR NON-SURGICAL OPTIONS

Outcome studies of lumbar disc surgeries documents, a success rate between 49% to 95% and re-operation after lumbar disc surgeries ranging from 4% to 15%, have been noted. “In case of surgery, the chance of recurrence of pain is nearly 15%. In FBSS or failed back surgery the subsequent open surgeries are unlikely to succeed.

Reasons for the failures of conventional surgeries are:

1. Dural fibrosis
2. Arachnoidal adhesions
3. Muscles and fascial fibrosis
4. Mechanical instability resulting from the partial removal of bony & ligamentous structures required for surgical exposure & decompression
5. Presence of Neuropathy.
6. Multifactorial etiologies of back & leg pain, some left unaddressed surgically.

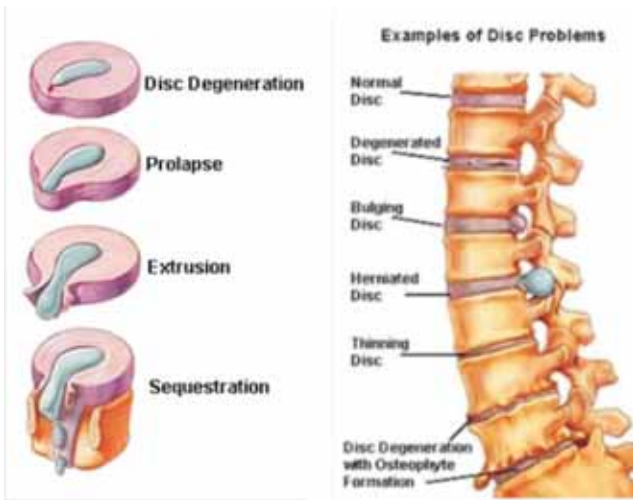
NON-SURGICAL TREATMENTS

Patients who are not helped by weeks of conservative therapy are often referred for surgery on the premise that further non-operative care is unlikely to help. Ideally, a patient with low back pain that has persisted beyond a four-week period should be referred to a multidisciplinary pain centre. Early aggressive treatment plan of pain has to be implemented to prevent peripherally induced CNS changes that may intensify or prolong pain making it a complex pain syndrome.

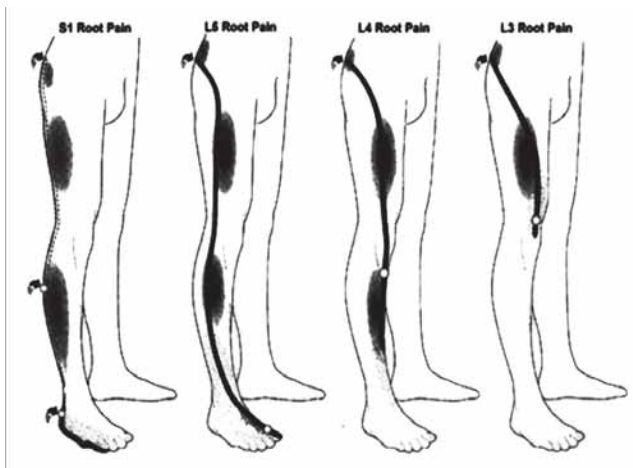
Depending upon the diagnosis one can perform & combine properly selected percutaneous fluoroscopic guided procedures with time spacing depending upon pt's pathology & response to treatment. Different non surgical interventions can be employed successfully:

- Epidural Steroid Inj. Via interlamellar/ transforaminal or caudal route.
- Nerve root sleeve block.
- Epidurogram & Epidurolysis.
- Nucleoplasty- Laser, Coblation, Drill, RF Biacuplasty decompressions.
- Ozone Discolysis
- Facet Joint Block & RF Denervation
- SI Joint Block

Once the diagnosis has been confirmed, one of the best alternatives existing



Various Stages of Disc Disease



Sciatica- Back pain radiating to Leg

today is the Ozone Discolysis as the results obtained are excellent and practically has no complications. In most patients left with pain killers as the only treatment, the symptoms eventually disappear, only that this could take weeks to months. Ozone speeds up these developments, seen the same result in a few weeks. The problem has to be seen and approached integrally and frequently the combination of therapies has to be used, most frequently physiotherapy.

OZONE DISC TREATMENT

Ozone Disc Treatment a revolutionary newer technology cures many of the patients of slip disc & sciatica, as ozone's nascent oxygen atom shrinks the disc, taking away pressure from pain sensitive nerves. It is non surgical, safe & effective alternative to open spine surgery, now the treatment of

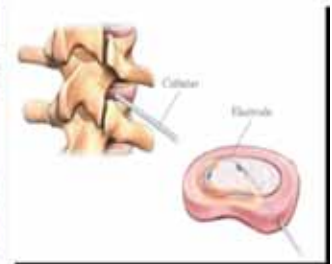


Cervical Disc Ozone Injection

Disc Cervical Ozone Injection



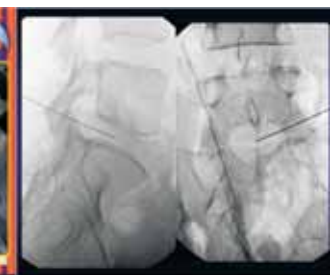
Cervical Disc Pressing Nerve



Disc - IDET



Postero-lateral Approach for Lumbar Disc



AP & Lat. Views of Intradiscal needle

choice for prolapsed disc (PIVD) done under local anaesthesia in a day care setting with success rate of 80% in early degenerative disc disease. This procedure is ideally suited for cervical & lumbar disc herniation with nerve compression. Total cost of the needle procedure is much less than that of surgical discectomy. Patient does not require bed rest for more than a day or two & prolonged absence from work realizing the importance of time, at much lower cost with almost no complications. This procedure is done under radiological guidance for precise needle placement and best results. Then patient is given advice for spine care & healthy habits. This technology is latest & many people including medical caregivers don't know about it. It has benefited millions in developed world and is now available in India also. Only 5% of total low back pain patients would need surgery & 20% of



Needle Discectomy for Slip Disc



Ozone Chemonucleolysis



Lumbar Ozone Injection



Drill decompression- Disc jelly on drill

discs rupture or hernia patient would need surgery. Non-operative treatment is sufficient in most of the patients, although patient selection is important even then. If despite the ozone therapy the symptoms persist, Percutaneous intradiscal decompression can be done with Drill Discectomy/ Laser or Coblation Nucleoplasty/ Biacuplasty are good alternatives before open surgical Discectomy which has to be contemplated in those true emergencies, as mentioned above as the first choice.

DEKOMPRESSOR DRILL DISCECTOMY

A mechanical device cuts & drills out the disc material debulking the disc reducing nerve compression curing Sciatica & Brachialgia. It comes in needle size of 17G for lumbar discs & 19 G for cervical discs. In lumbar region postero-lateral approach is used & in cervical discs antero-lateral approach is used. In **Biacuplasty** radiofrequency energy is used in bipolar manner heating & shrinking the disc & making it harder as well for weight bearing. In **Laser or Coblation Nucleoplasty** energy is used to evaporate the disc thereby debulking to create space for disc to remodel itself.

Dr. Neeraj Jain's message is "pain is real and treatable- there is no merit

in suffering" "No one needs to suffer as so many good and effective treatments are now available at specialty pain clinics". You must see a pain specialist if you still suffer from pain after a month of conservative treatment. Sooner your pain is managed better are the overall results. With interventional pain management patients are getting back to normal life.

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Vertebroplasty/Kyphoplasty: A Novel Approach for Treatment of Spine Fractures

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Abstract: As life expectancy is increasing so is the incidence of vertebral body (VB) fractures now being the commonest fracture of the body. Percutaneous Vertebroplasty/ Kyphoplasty (PVP) is an established interventional technique in which bone cement is injected under local anaesthesia via a needle into a fractured VB with imaging guidance providing instant pain relief, increased bone strength, stability, decreasing analgesic medicines, increased mobility with improved quality of life and early return to work in days. In this era of minimally access surgery replacing open surgeries, PVP is a novel procedure & should be in the first line of management in place of conservatism or major spine surgery for painful uncomplicated compression fracture spine. PVP is a novel procedure with high benefit to risk ratio, which is highly underutilized in relation to the high prevalence of the vertebral fractures. Vertebroplasty is a palliative procedure and does not correct the underlying cause of the vertebral fracture. Medical management of osteoporosis or malignancy must therefore be initiated and continued.

INTRODUCTION

Discovering the fact that fracture /# vertebrae is the commonest # of body, its incidence >the # hip, it becomes imperative to take it more seriously. With increasing life span there is more of aged osteoporotic population, more so due to sedentary indoor lifestyle and post menopausal osteoporosis. Diabetics, smokers & alcoholics are at higher risk of developing osteoporosis. I have seen such alcoholic patient developing six spine fractures in just three months time from a single fracture being on complete bed rest.

Stable VB # are normally treated conservatively with bed rest, strong analgesics, removable braces, a programmed progressive ambulation and physiotherapy. Fractures with > 50% of anterior VB collapse or > 20% of sagittal angulations are potentially unstable and may require posterior instrumentation and fusion if not cemented in time. For burst # pedicle instrumentation with extension segmental constructs are required. PVP is not ideal for # dislocations or # distractions. Spine surgeon has to be consulted if patient needs operative spine stabilization.

Quick fix of fracture spine makes patient walk back same day instead of bed rest of months together avoiding morbidity & mortality of prolonged

bed rest, making bedridden patient walk, in a way bringing patient back to normal life.

VERTEBROPLASTY: AN OVERVIEW

Percutaneous Vertebroplasty (PVP) is an established interventional technique in which rapidly hardening surgical polymethyl methacrylate bone cement is injected under local anesthesia via a large bore needle into a vertebral body (VB) under imaging guidance providing increased bone strength, stability, pain relief, decreased analgesics, increased mobility with improved QOL and early return to work. Kyphoplasty has the added advantage of addressing fracture with spinal deformity and appears to be associated with fewer instances of bone cement extravasations.

As per Greek mythology pain was thought to be due to intrusion of particles into soul, now pain relief is done by intrusion of particles into bone. The bone of content is to fill bone with content. In this era of MAS replacing open surgeries, PVP is a novel procedure & should be in the first line of management in place of painful conservatism or major spinal surgery with a list of complications in polytrauma settings for painful uncomplicated VB #; especially when the spine surgery is relatively complicated or patient refuses due to surgery phobia or cost involved or there may be comorbid conditions /injuries deterrent for surgery. PVP is a big help in polytrauma setting when stabilizing spine does lot of good to the patient's overall management.

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