

**Fig 1:**  
Preoperative  
CT and MRI  
scans of Mrs. V,  
showing sacral  
fracture and  
severe cauda  
equina  
compression.



Post-operative  
radiographs  
of Mrs. V after  
decompression  
and fusion  
from L5 to L3.

Mrs V underwent L3,L4,L5, & Ilium pedicle screws instrumentation with L4,L5,S1, and S2 laminectomy, decompression of dura and roots, L4-L5 inter-body fusion with bone graft under general anaesthesia. She was started on Duloxetine and was followed up in the community post discharge from hospital. She recovered well and continued to remain on Duloxetine.

## BACK PAIN – NON SURGICAL INTERVENTIONS

- All back pains do not require surgery
- However, all back pains require treatment!

At JISAR we strive to provide an integrated care for all patients with spinal disorders incorporating appropriate education and counselling about their disorders along with treatment options. In our experience, we have found that most patients are willing to participate in decision making when given the choice and appropriate information about their condition.

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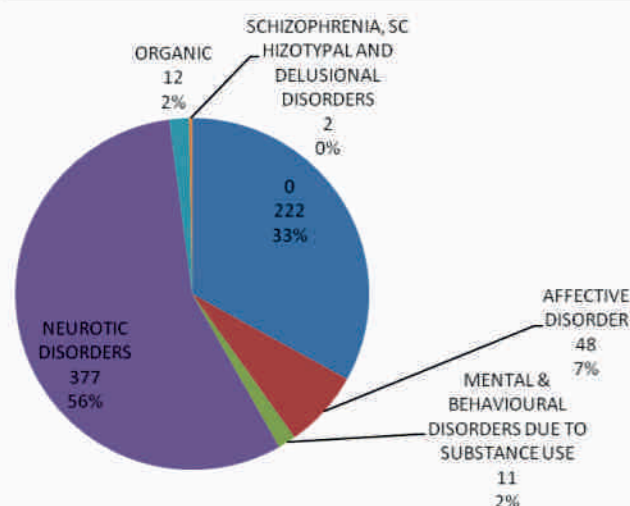
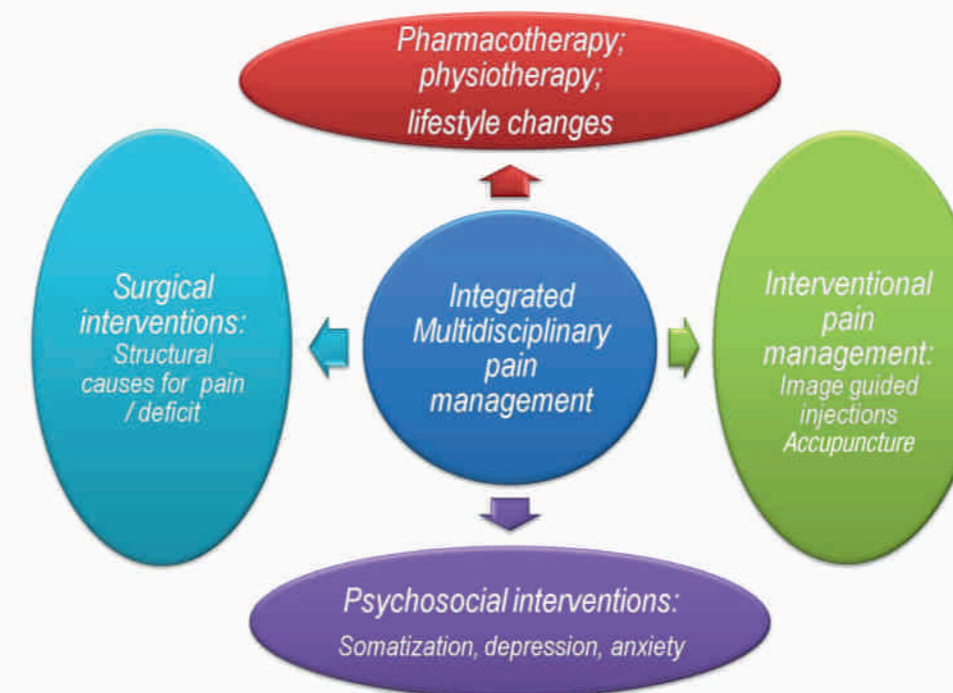
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## Integrated pain management at JISAR



Total N = 672

The pie chart is the statistics of patients seen at JISAR in the year 2013. As shown above 56% of the patients suffered from various forms of Neurotic disorders based on ICD-10 criteria and only 7% suffered from affective disorders. These figures are different when compared to some of the western studies where affective disorders are more prevalent (up to 50%) compared to neurotic studies. We are looking into the reasons for this disparity.

### REFERENCES

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We are glad to inform that we have a separate pain management team of specialists consisting of an anaesthetist and psychiatrist for spinal pain management alone. All our patients, including those undergoing spine surgeries, are evaluated for any overlapping psychological component and chronic pain related co-morbidities like anxiety and depression. In addition, specific breaks in pain cycle are achieved with interventional pain management.

In this issue, we highlight the advantages of pain management specialists working in an integrated spine centre catering for all spinal disorders.

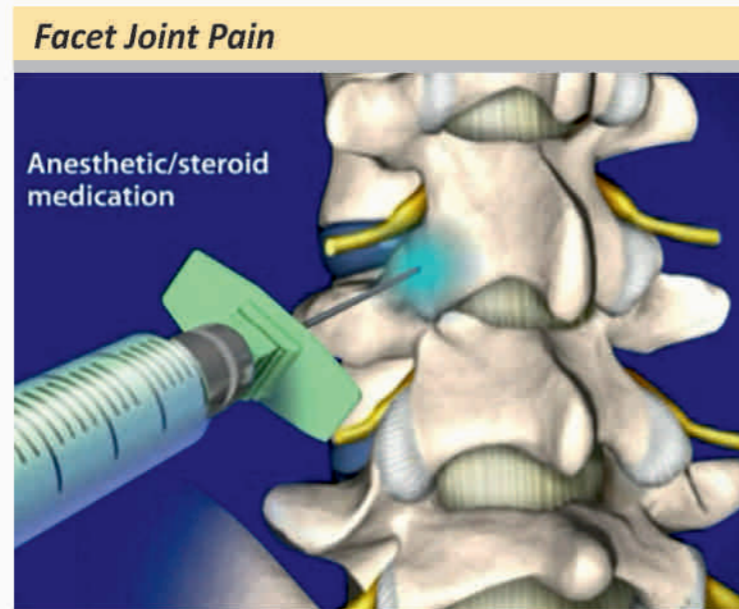
### Interventional Pain Management

Low back pain (LBP) is a common problem that has an enormous clinical, social, and economic impact on our society. The probable risk factors for LBP include genetic factors as well as ageing and smoking; however, none are convincingly causal. Possible risk factors include a history of back pain, job dissatisfaction, heavy physical work, obesity, static work posture, and psychosocial factors.

LBP is the most common symptom seen by interventional pain management physicians and is a common symptom seen by primary care physicians. The increasing awareness of anatomy and function of spine has dramatically changed the specialty of interventional pain management. Furthermore, precise needle placement which is an absolute requirement for interventional pain management has been made possible by the use of fluroscopy and contrast.

Interventional techniques are an integral part of chronic pain management. The goal of interventional procedures is to diagnose the site of pain, to decrease inflammation and provide pain relief. Pain that comes from injured or inflamed nerves can often be improved through the use of certain medications delivered specifically to the area of injury.

Patients who benefit the most from interventional pain procedure are those who have symptoms of radiculopathy or other types of nerve injuries. For these patients, an interventional procedure such as an epidural steroid injection or a selective nerve root block can target the nerve causing the pain. Injecting a mixture of a steroid medication and local anesthetic often gives patients immediate pain relief, and the steroids decrease the inflammation around the nerves in approximately 2-3 days.



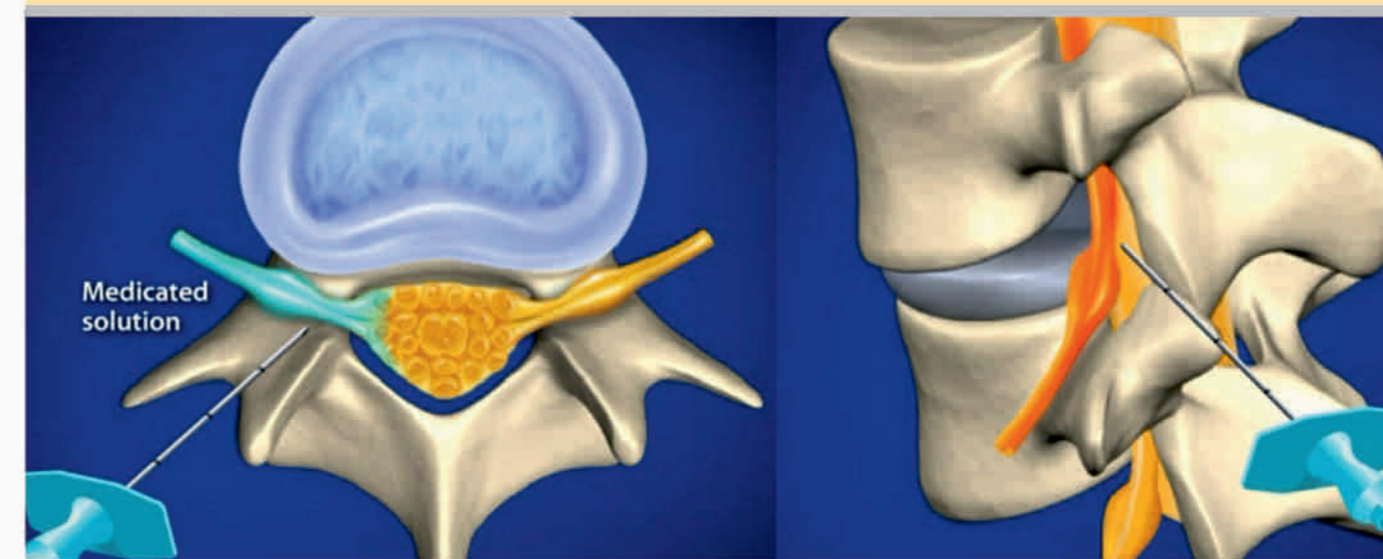
These nerve blocks allow patients to work effectively with physical therapists or start personal exercise programs to regain strength and function with less pain. There are a number of procedures that can be done depending on pain the patient has. The most common procedures are epidural injection, root block, caudal epidural, facet joint injections, sacro-iliac joint injections and so on.

Facet joints injection (zygapophyseal joints) are paired synovial joints formed by articulation of the inferior articular process of one vertebra with the superior articular process of the subjacent one. Osteoarthritis and trauma are among the most common conditions leading to pain emanating from facet joints. The primary symptom of pain emanating from this site is that of LBP. Facet joint injections or medial branch nerve blocks are primarily diagnostic tools. An intra-articular facet injection usually includes use of a steroid such as methylprednisolone, which reduces inflammation within the joint, thereby potentially reducing pain. However, injecting steroid into the facet joint does not usually provide lasting relief. Radiofrequency denervation followed after diagnostic facet injections can give long lasting pain relief.

### Transforaminal Epidural Injection

Undoubtedly, the epidural steroid injection [ESI] is the most familiar to primary care physicians. It's the precursor of the more specific spinal injection procedures done today. Historically, the ESI had been administered primarily as a therapeutic procedure. With widespread use of fluoroscopy and contrast medium, epidural injections into the anterior epidural space (transforaminal approach) have a significant diagnostic value. Three approaches to the epidural space are; the more conventional interlaminar, caudal procedures and the more target-specific transforaminal method. Even with experienced clinicians, an epidural needle placed without using fluoroscopy will result in approximately 25% incorrect placements.

*Transforaminal epidural injection for inflamed root under fluoroscopic guidance.*



Therefore, the fluoroscopically guided approach has become standard of care among interventional pain management physicians. When an intervertebral disc is herniated, a host of inflammatory mediators may affect lumbar nerve roots and result in clinical symptoms of radiculopathy or radicular pain. Inflammatory mediators identified in disc material may irritate the dorsal root ganglion. Precisely placing a corticosteroid at the site of the pathologic process, stops the inflammatory cascade and improves clinical outcomes. Unlike the more conventional interlaminar and caudal techniques, the transforaminal approach to the epidural space delivers drug very close, if not directly, to the site of the pathologic process.



*Caudal epidural injection with contrast flowing into epidural space.*

### Sacroiliac Joint (SIJ) Injection



Like the facet joint, the SIJ is also a diarthrodial synovial joint with a capsule. Unlike the facet joint, which has a clearly defined innervation, the SI joint has a nerve supply that is not clearly defined and is probably complex. The lack of clearly defined innervations precludes use of a nerve block as a diagnostic tool for identifying pain emanating from this site.

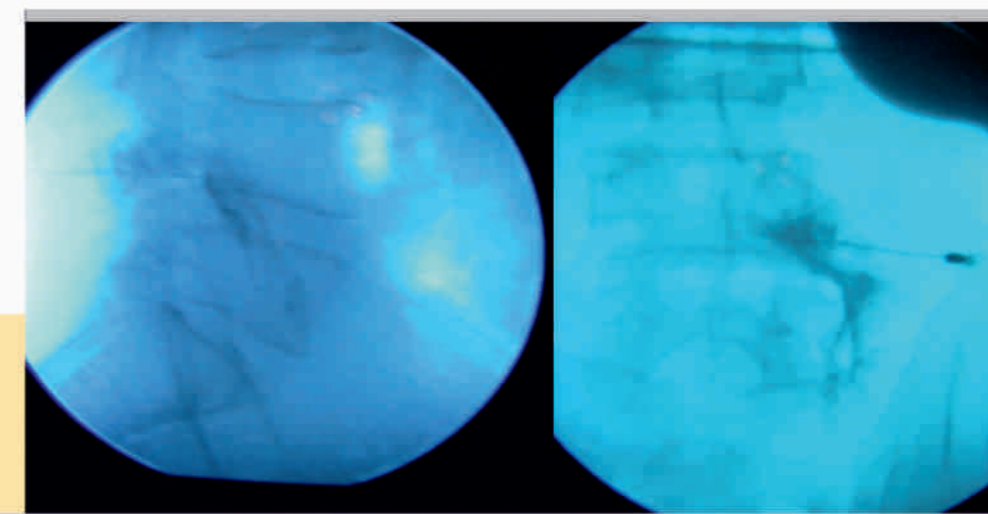
The SI joint can be the source of LBP in a substantial percentage of cases. Intra-articular injection of a local anesthetic into the SI joint is the technique of choice used to prove or disprove that it is the etiologic factor.

*Fluoroscopically guided Sacro-iliac joint injection.*

### Case Report 1

48 year old male patient came to the OPD, with 1 week history of back pain radiating down the right leg. Pain started after lifting some heavy weights. MRI suggested mild disc herniation at L4/5 with right nerve impingement. There were no deficits, the only complain was pain. He was given transforaminal epidural injection. He was advised pregabalin and normal physical activity. Patient was reviewed after 1 month.

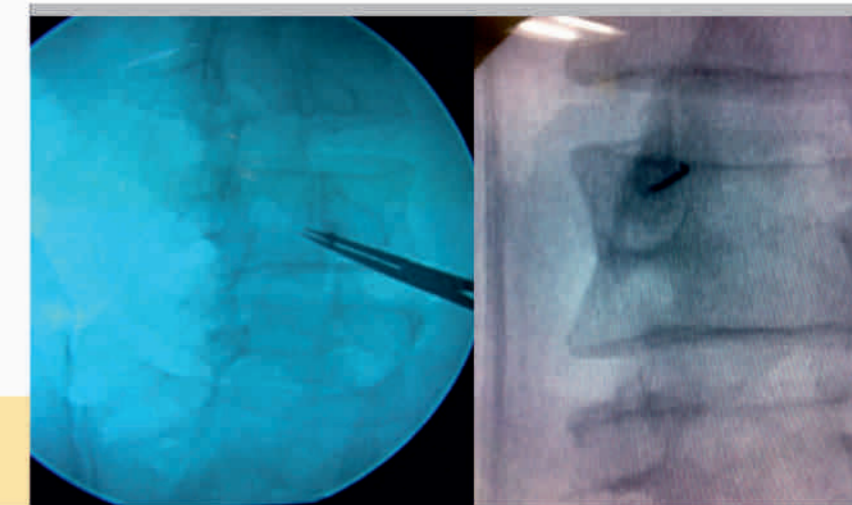
Patient was very happy; the pain had reduced by more than 80%. He was advised back strengthening exercise.



*Transforaminal right L4-5 epidural and root injection with contrast material.*

Case Report: 68 year old elderly gentleman, with Low back pain for more than 8yrs, had tried all sorts of medications and treatments. There was no history of any neuropathic symptoms. MRI suggested mild facet hypertrophy. Diagnostic facet joint injections were done. Patient was reviewed after a month. More than 60% reduction of pain was reported. Radiofrequency denervation was undertaken during follow up. Patient was advised back strengthening exercise, walking and normal activity. Patient continues to do well after 6months.

### Case Report 2



*Facet injection under fluoroscopic guidance.*

### Somatization: Back pain and depression, any relation?

The main symptoms of depression are low mood, lack of pleasure in doing things that were once enjoyable and losing interest. A person with depression may also experience some of the following like feeling tearful, irritable or tiredness, changes in appetite, and problems with sleep, concentration and memory with variations in mood.

People with depression typically can have lots of negative thoughts and feelings of guilt and worthlessness; they often criticise themselves and lack confidence. Sometimes people with depression harm themselves, have thoughts about suicide, or may even attempt suicide. Occasionally a person with severe depression may have hallucinations and delusions. People with depression may have feelings of anxiety as well.

Depression is approximately two to three times more common in patients with a chronic physical health problem than in people who have good physical health and occurs in about 20% of people with a chronic physical health problem.

A systematic review of the global prevalence of low back pain was published in general population from 54 countries. A total of 164 studies were collated which showed low back pain to be a major problem. The highest prevalence was in women aged 40-80 years of age (Hoy et al 2012).

#### Focus of the Intervention

**STEP 4 :** Severe and complex<sup>[a]</sup> depression; risk to life; severe self-neglect

**STEP 3 :** Persistent subthreshold depressive symptoms or mild to moderate depression with inadequate response to initial interventions; moderate and severe depression

**STEP 2:** Persistent subthreshold depressive symptoms; mild to moderate depression

**STEP 1:** All known and suspected presentations of depression

#### Nature of the Intervention

Medication, high-intensity psychological interventions, electroconvulsive therapy, crisis service, combined treatments, multiprofessional and inpatient care

Medication, high-intensity psychological interventions, combined treatments, collaborative care<sup>[b]</sup> and referral for further assessment and interventions

Low-intensity psychosocial interventions, psychological interventions, medication and referral for further assessment and interventions

Assessment, support, psychoeducation, active monitoring and referral for further assessment and interventions

[a] Complex depression includes depression that shows an inadequate response to multiple treatments, is complicated by psychotic symptoms, and/or is associated with significant psychiatric comorbidity or psychosocial factors

[b] Only for depression where the person also has a chronic physical health problem and associated functional impairment (see 'Depression in adults with a chronic physical health problem: treatment and management' [NICE clinical guideline 91]).

The most common somatic symptom was “headaches” (41.1%) and most of the depressed patients were “feeling low, depressed, or hopeless” (49.2%). Nearly half of the LBP patients with anxiety symptoms (41.8%) were “feeling nervous and anxious or on edge.” Bener et al 2013

For chronic low back pain, consistent features included supervised exercises, cognitive behavioural therapy and multidisciplinary treatment. Koes et al 2010

### Summary of Common Recommendations for Treatment of Low back pain

#### Acute or Subacute Pain

- ◆ Reassure patients (favourable prognosis).
- ◆ Advise to stay active.
- ◆ Prescribe medication if necessary (preferably time-contingent): first line is paracetamol; second line is nonsteroidal anti inflammatory drugs, consider muscle relaxants, opioids or antidepressant and anticonvulsive medication (as co-medication for pain relief).
- ◆ Discourage bed rest.
- ◆ Do not advise a supervised exercise programme.
- ◆ Multidisciplinary treatment

#### Chronic Pain

- ◆ Discourage use of modalities (such as ultrasound, electrotherapy)
- ◆ Short-term use of medication/manipulation
- ◆ Supervised exercise therapy
- ◆ Cognitive behavioural therapy
- ◆ Multidisciplinary treatment

### Case Report 3

Mrs V, 50 year old Indian lady from rural Karnataka, presented with history of progressively increasing back pain and both lower limbs numbness of 3 years duration. Pain occurred on lying supine, standing or walking, got relieved partially on lying laterally and in sitting position. It was associated with both lower limbs numbness and weakness on walking. Walking distance had gradually reduced over a period of few months. At the time of admission she was house bound.

She also gave a history of RTA with injury to lower back 2 years ago which was treated with bed rest for 6 months. Since then patient had urinary incontinence. She had intermittent back pain since the accident, which became continuous in the last 3 years. She reported of no other co-morbidities.

She did report of poor sleep, feeling easily tired, diurnal mood variation, loss of appetite and low mood for the last 2 months. With chronic pain in the background, she had persistent preoccupation about pain which was hampering her activities of daily living.

She also had premorbid history of stressful life events, like separation from husband. She was also a victim of domestic abuse from husband who was physically violent towards her. She currently lived with her sister's family who cared for her.