SPINAL PAIN

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PAIN GENERATORS IN THE SPINE

- Ligaments: ALL,PLL
- Muscle
- Periosteum bone
- Outer 1/3 annulus disc
- Facet joints
- Sacro-iliac joint

- **sinuvertebral N** (first branch of sp N outside foramen) supplies posterior disc, dura, PLL, (re enters foramen)

- **Medial branch of the dorsal ramus** supplies facet joint, ligament,vertebral arch, spinous process and paraspinal muscles

- **Gray Ramus communicans** from sympathetic trunk innervate the anterior & lateral aspect of the disc.

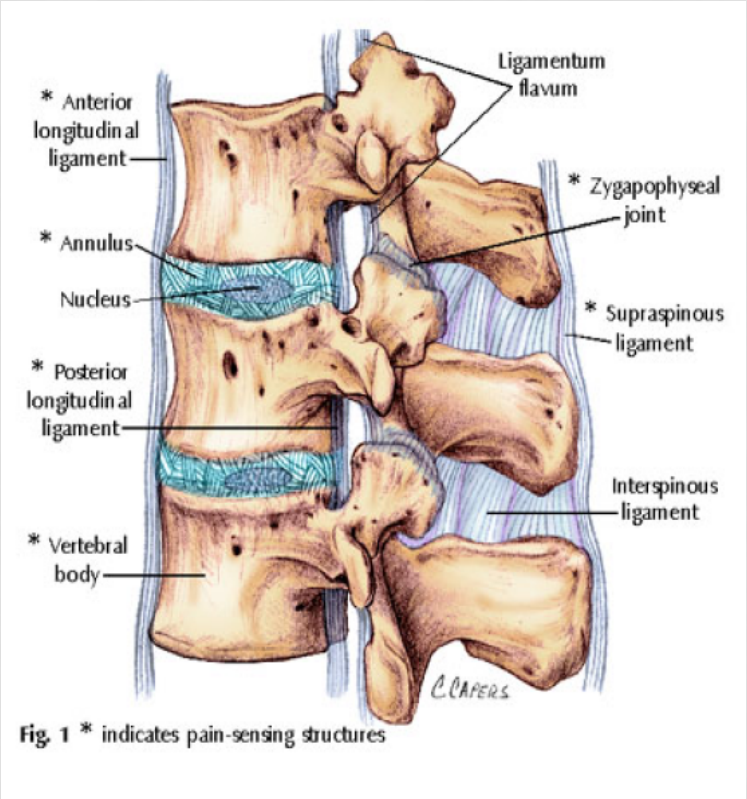
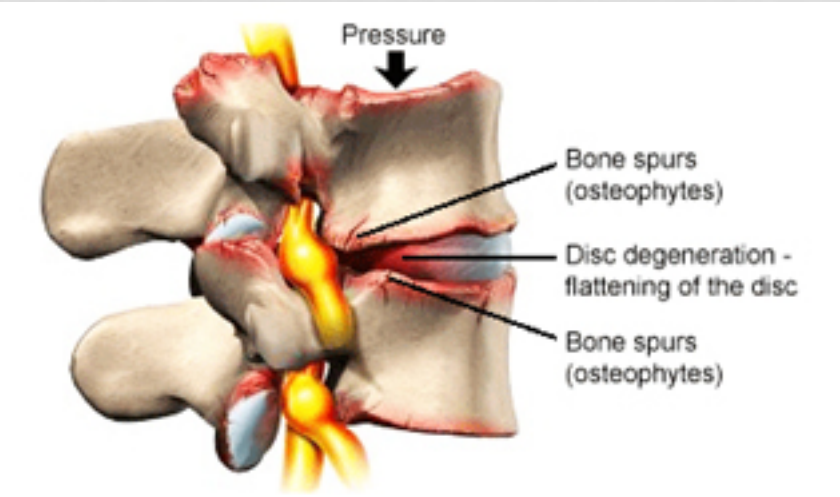


Fig. 1 * indicates pain-sensing structures

AETIOLOGY

- Mechanical:disc dessication, bone plate changes , disc bulging, ligamentous hypertrophy, osteophytosis, facet arthropathy, canal stenosis.
- Non mechanical: neoplastic, infection, inflammatory arthritis, pagets disease
- Referred from visceral disorders: renal,vascular, endometrial, pancreatic



NATURAL HISTORY

- Acute (<4/52)
- Subacute (4/52-12/52)
- Chronic (>3 mo)
- Recurrent, intermittent and episodic
- Stop characterising as a series of acute problems , but accept it as a chronic problem
- The evidence suggests >75% become chronic

Annals of Internal Medicine
Established in 1927 by the American College of Physicians

From: Diagnosis and Treatment of Low Back Pain: A Joint Clinical Practice Guideline from the American College of Physicians and the American Pain Society

Ann Intern Med. 2007;147(7):478-491. doi:10.7326/0003-4819-147-7-200710020-00006

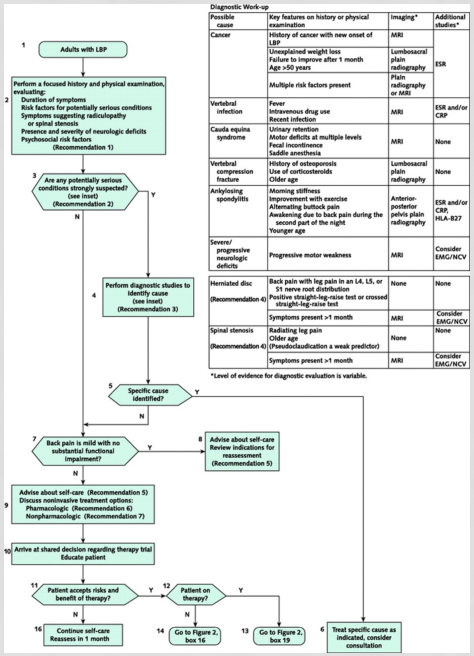


Figure Legend:

Initial evaluation of low back pain (LBPDo not use this algorithm for back pain associated with major trauma, nonspinal back pain, or back pain due to systemic illness. CRP = C-reactive protein; EMG = electromyography; ESR = erythrocyte sedimentation rate; MRI = magnetic resonance imaging; NCV = nerve conduction velocity.

MX OF ACUTE AXIAL PAIN

- Self limiting process
- 90% disappear within 1-3 months
- Assessment:
- History, P/E, biopsychosocial context
- Assess for red flags, yellow flags
- Further investigate if serious condition identified
- Management
- Review

- **Red Flags:** serious physical risk factors for fracture, tumour, infection, cauda equina
- Age<20, >50
- Major trauma
- Minor trauma, >50, osteoporosis, steroid use
- Fever,
- Past history cancer
- HIV, IV drug use, immunosuppression, ESR >15
- Weight loss
- Thoracic pain, pain at rest & supine, worse at night
- P/E: lax anal tone, perianal numbness, motor weakness knee, ankle

- **Yellow flags**: psychosocial & occupational risk factors that ↑ risk of chronicity
- Attitudes & beliefs about pain
- Low job satisfaction/heavy work, unsocial hours
- History SAD
- Litigation/compensation
- Depression/mood disorder
- Overprotective family/ lack of social supports
- Affect the presentation pain, response to treatment, influence progression to chronic pain

MANAGEMENT

- Provide information on nature of pain
- Reassure natural history optimistic, address fears
- Provide advice to remain active, resume normal activities as soon as possible
- Encourage activities to restore function, & avoid disability
- General exercise program helps pt with chronic, subacute , postsurgical pain.
- Non pharmacological Tx: passive: heat/massage/TENS, active: strengthening, stretching
- Pharmacological: paracetamol/NSAIDS/ opioids not indicated but if used for severe pain , should be S.A, regular, not on pain contingent basis. Adjuvants : TCA, benzo,AED not indicated for acute pain.
- Identify concerns that may affect Mx


Everything will be okay...

REVIEW

- Assess pain level & activity
- Reassess red & yellow flags
- Assess for barriers to Tx
- Continue to educate on biomechanics & ergonomics, & ways to minimize reinjury
- Amend plans
- Encourage self management

WADDELLS SIGNS OF NON ORGANIC BEHAVIOUR

- Presence >3 suggest non organic pain & more thorough assessment be made with psychological intervention
- tenderness: superficial, skin rolling or pinching, non anatomical
- simulation: pain in back on axial loading head, rotation hip / shoulders in line
- distraction: SLR v sitting pt up in bed with legs at 90°
- regional disturbances: sensory & motor loss non dermatomal/ anatomic
- over reaction to pain stimulus, Sx magnified

NSLBP

- Multidimensional nature
- bio-psycho-social approach
- No evidence for any form of Ix or Rx over others
- Simple analgesia, CBT, manipulation can be considered

INVESTIGATION

- CT/MRI to exclude red flag conditions / radiculopathy / LCS
- Local anaesthetic blocks to diagnose ligament sprain eg interspinous block
- Bone scan: diagnose painful phase of spondylolysis
- SI joint block
- Facet block
- Discogram

INTERVENTIONS

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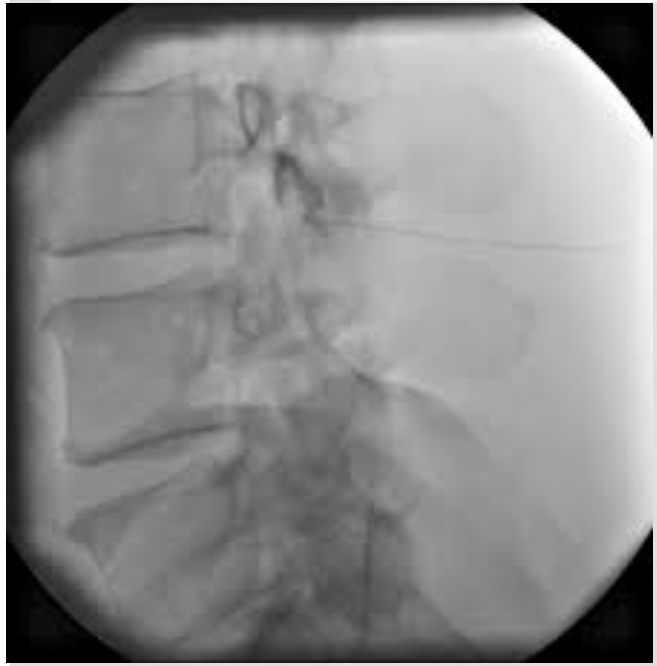
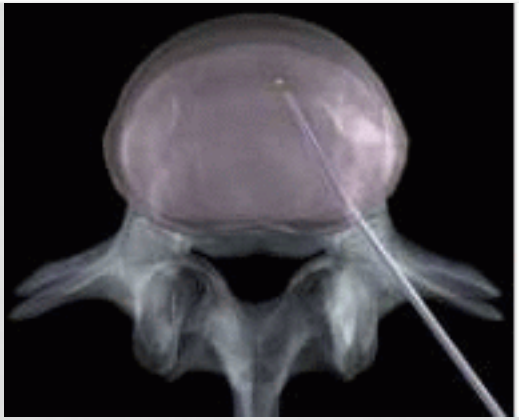
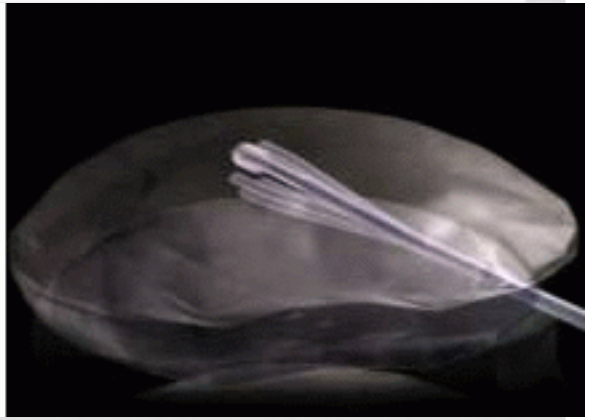
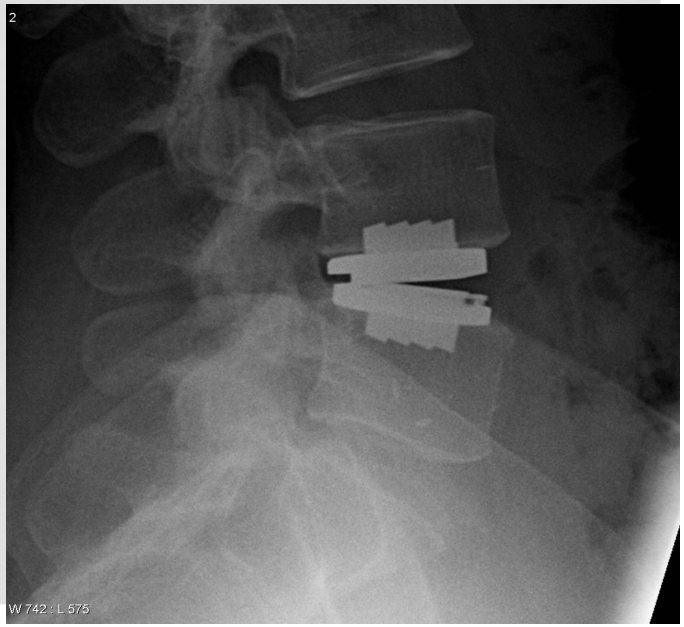


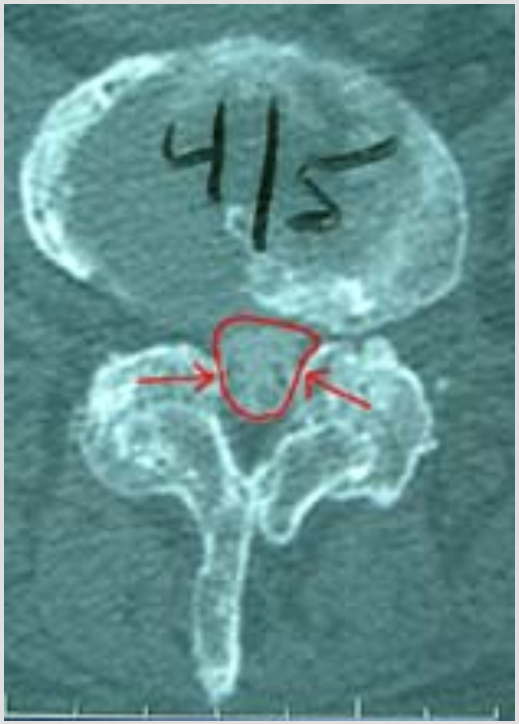


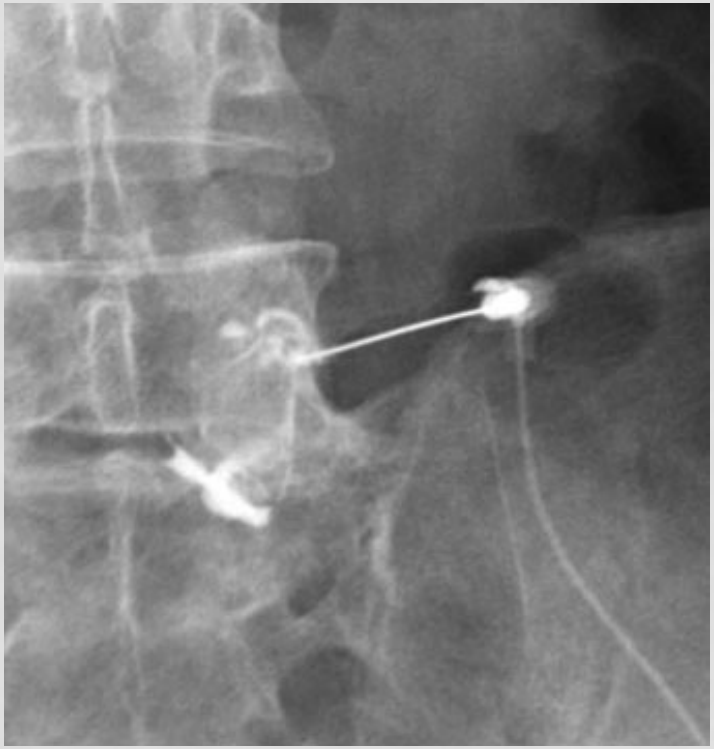




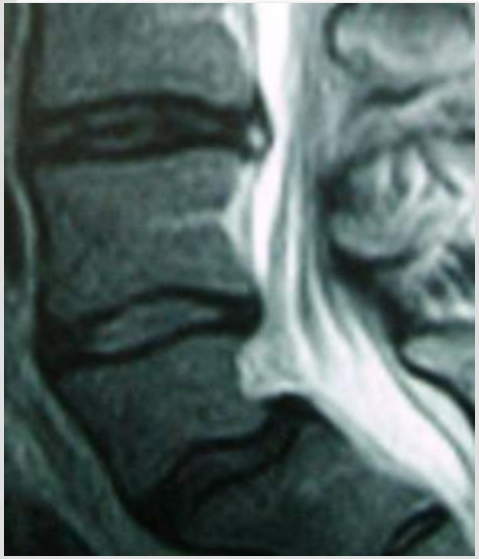
FACET SYNDROME

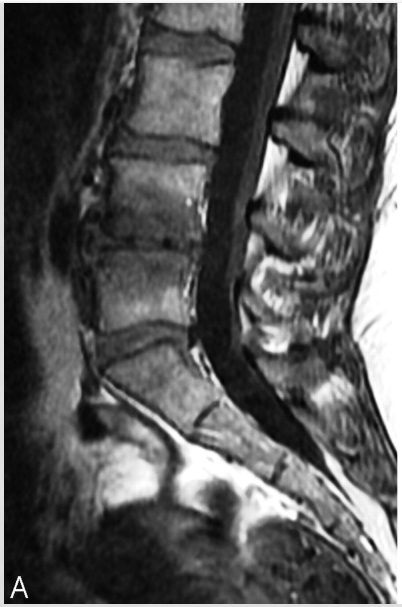
- Local pain, worse with movement, axial loading
- Diagnostic blocks
- RF of MB

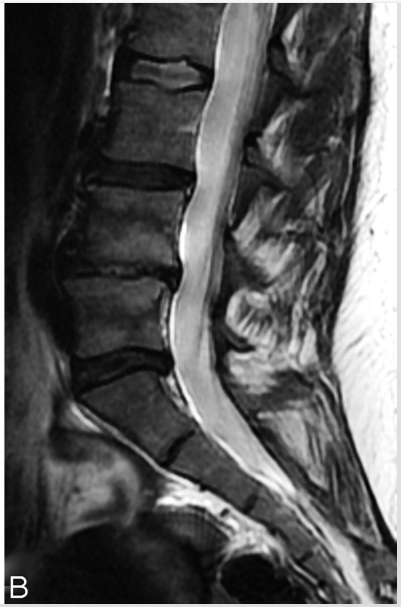


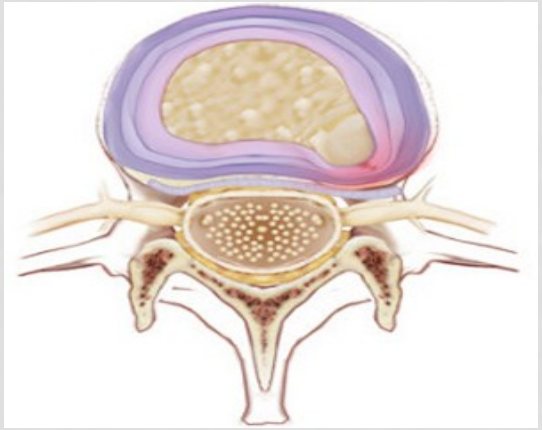


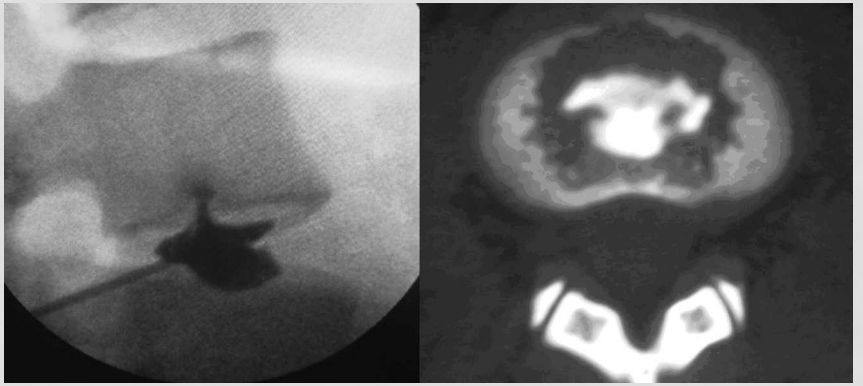
DISCOGENIC PAIN





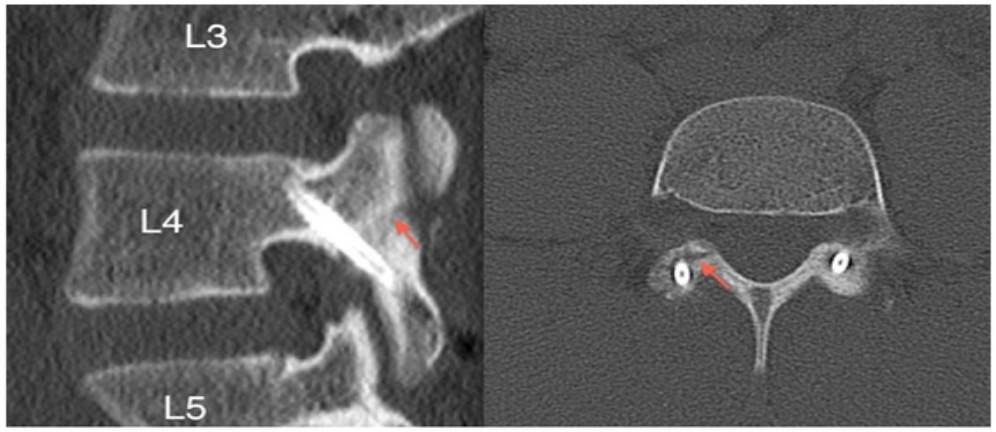






WHEN TO INTERVENE SURGICALLY

- Spondylolysis: failed conservative mx
- +ve response to injection
- Bone scan +ve



WHEN TO INTERVENE SURGICALLY

- Discogenic back pain

- IDET
- TDR
- Dynamic stabilization
- Fusion- ALIF/PLIF/ TLIF/PLF/360/DLF