

# Low Back Pain

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**Specialist**  
**Kingston Hospital**

# Incidence

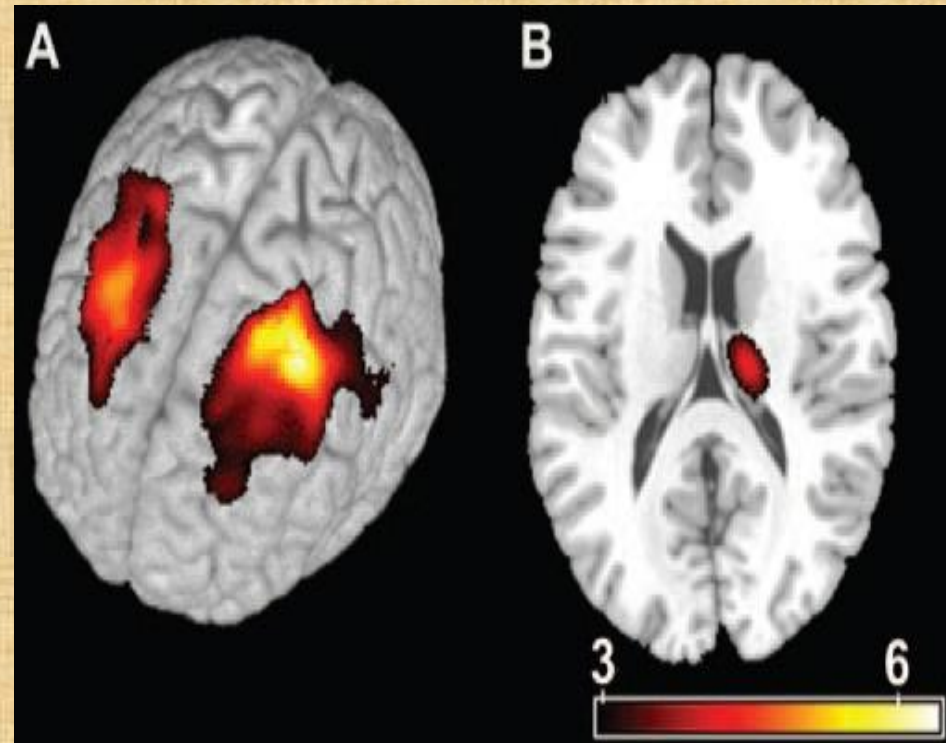
- About 80% will suffer with low back pain at some point in their life.
- 90% -self limiting and resolve <1 month.
- 30% report moderate pain at 1 year after the initial episode
- 1 in 5 report substantial limitations in activity.

# Economic Burden

- Health care costs- £1.6 billion/year
- Equivalent to 1-2% of GDP of UK
- Second commonest reason for long term sickness
- 1% of popln are off sick at any one day.

# Back pain & Brain Drain

- **Chronic Back Pain Is Associated with Decreased Prefrontal and Thalamic Gray Matter Density**
- **26 back pain patients Vs controls**
- **5-11% loss of brain volume**
- **Equivalent to 10 to 20 years of age**
- **Decrease related to duration in pain- 1.3cubic cm/ year in pain**

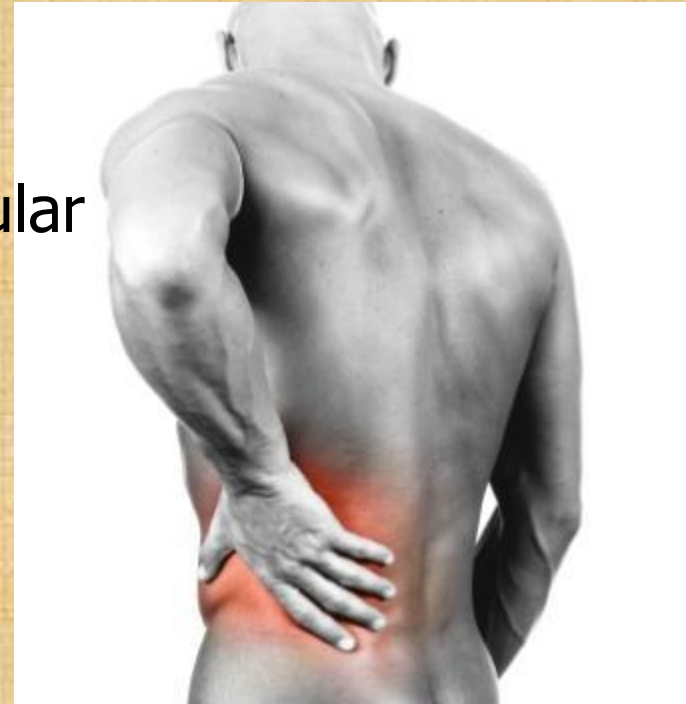


# The first question...

**Is the back pain coming from the back?**

Abdomen	GIT, Urinary tract, Vascular
Pelvis	Genito-urinary
Hip	

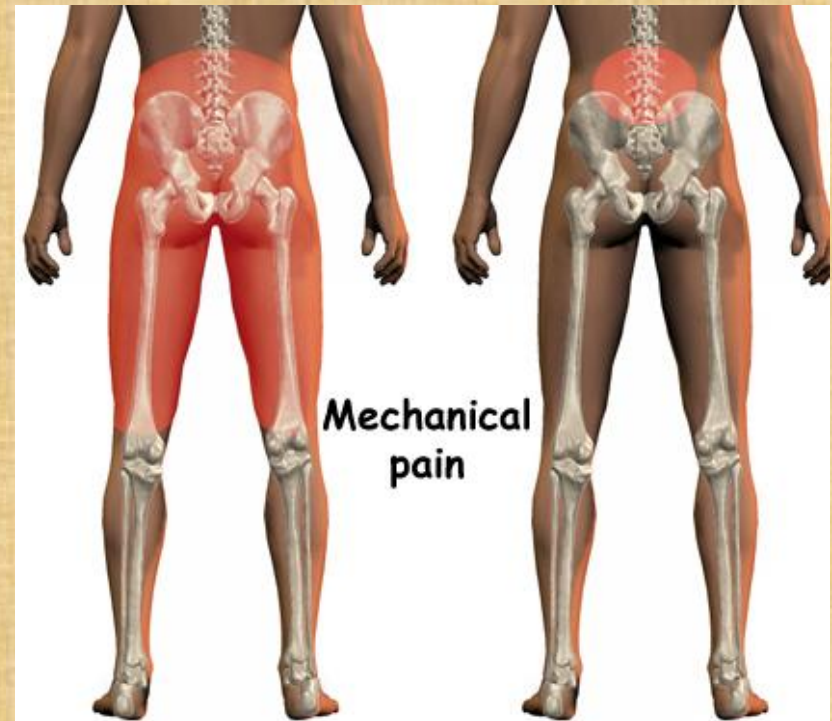
Functional pain??



# Etiology

Definitive pathological diagnosis is made only in 15%

- Triage -
  - Simple Mechanical LBP- 80 to 90%
  - Nerve root (radicular) pain "sciatica"-5 to 15%
  - Serious spinal pathology – 1 to 2%



# Serious Spinal Pathology LBP (1 -2%)

- Infection
- Neoplastic disease
- Inflammatory arthritis
- Fracture
- Cauda Equina

# Is there a serious systemic disease?

## “Redflags”

### **History**

- Age <20 and >50
- H/o Trauma
- H/o Malignancy
- H/o Loss of weight/appetite
- Poly arthritis
- Unremitting night time pain
- Fever, Night sweats
- IV drug use
- H/O steroid use
- Cauda Equina symptoms

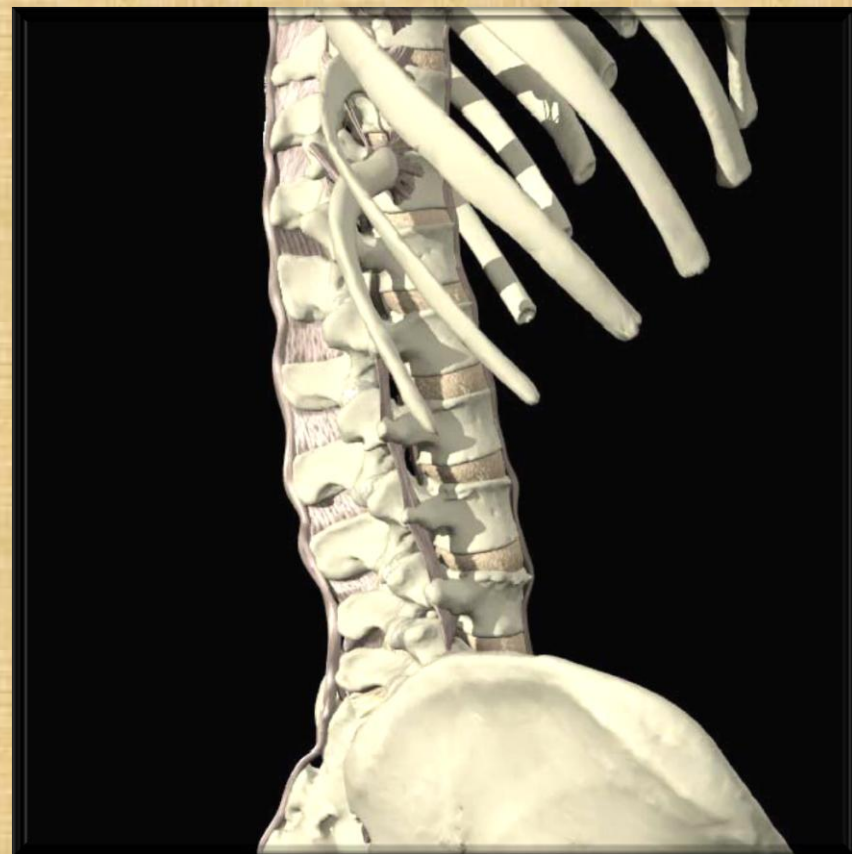
### **Disease**

- Vertebral fracture
- Vertebral metastasis
- Inflammatory arthritis
- Infections



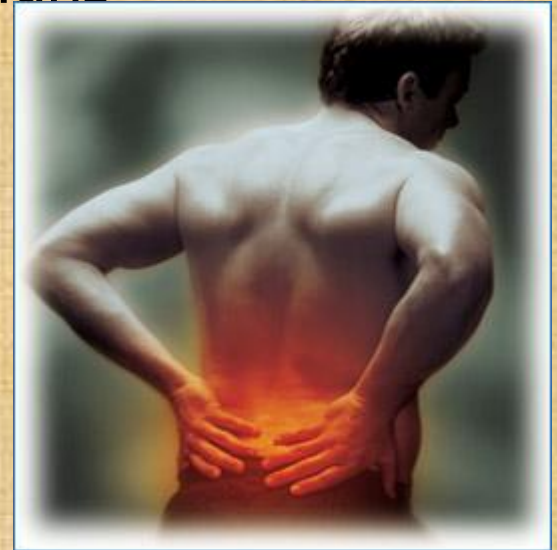
## Simple Mechanical LBP( 80 – 90%)

- Idiopathic (65%-70%)
  - Muscle strain or ligamentous injury
- Degenerative disc
- Facet joint disease
- Congenital deformity (scoliosis, kyphosis, transitional vertebrae)
- osteoporosis



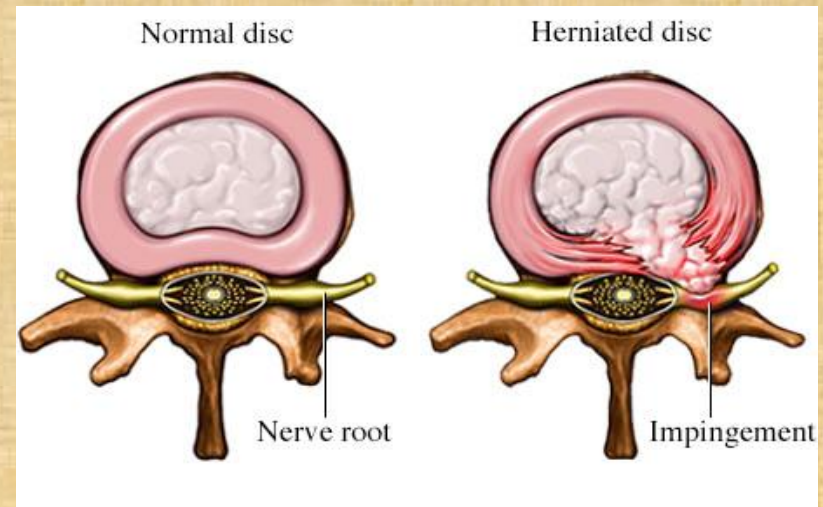
# Simple mechanical back pain (Ordinary backache)

- Clinical presentation usually at age 20-55 years
- Lumbosacral region, buttocks, and thighs
- Pain is mechanical in nature
  - Varies with physical activity
  - Varies with time
- Patient well



# *Nerve root pain(5-15%)*

- Annular tear
- Herniated disc
- Foraminal stenosis
- Spinal stenosis
- Epidural scar/adhesion
- Infection (such as herpes zoster)



# Nerve root pain

- Unilateral leg pain is worse than back pain
- Pain generally radiates to foot or toes
- Numbness or paraesthesia in the same distribution
- Nerve irritation signs
  - Reduced SLR which reproduces leg pain
- Motor, sensory, or reflex changes
  - Limited to one nerve root



# When to Investigate?

- Possible serious spinal pathology( Redflags)
- Non mechanical LBP
- Targeted injections
- Persistent mechanical LBP.

# What Investigations?

- Xray – Fracture, metastasis
- MRI- Nerve impingement
- Bone scan- “ Bone activity”- Hot spots
  - Inflammatory arthritis
  - Metastasis
- Vitamin D

# **MRI Study**

**To rule out sinister causes as opposed to finding the cause of back pain.**

- **98 asymptomatic patients**
- **52% had disc bulges**
- **27% had disc protrusions**
- **1% had disc extrusions (outside the annulus)**
- **14% had annular defects**
- **8% had facet pathology**
- **7% had spondylolithesis**
- **7% had stenosis (central or foraminal)**

Jensen

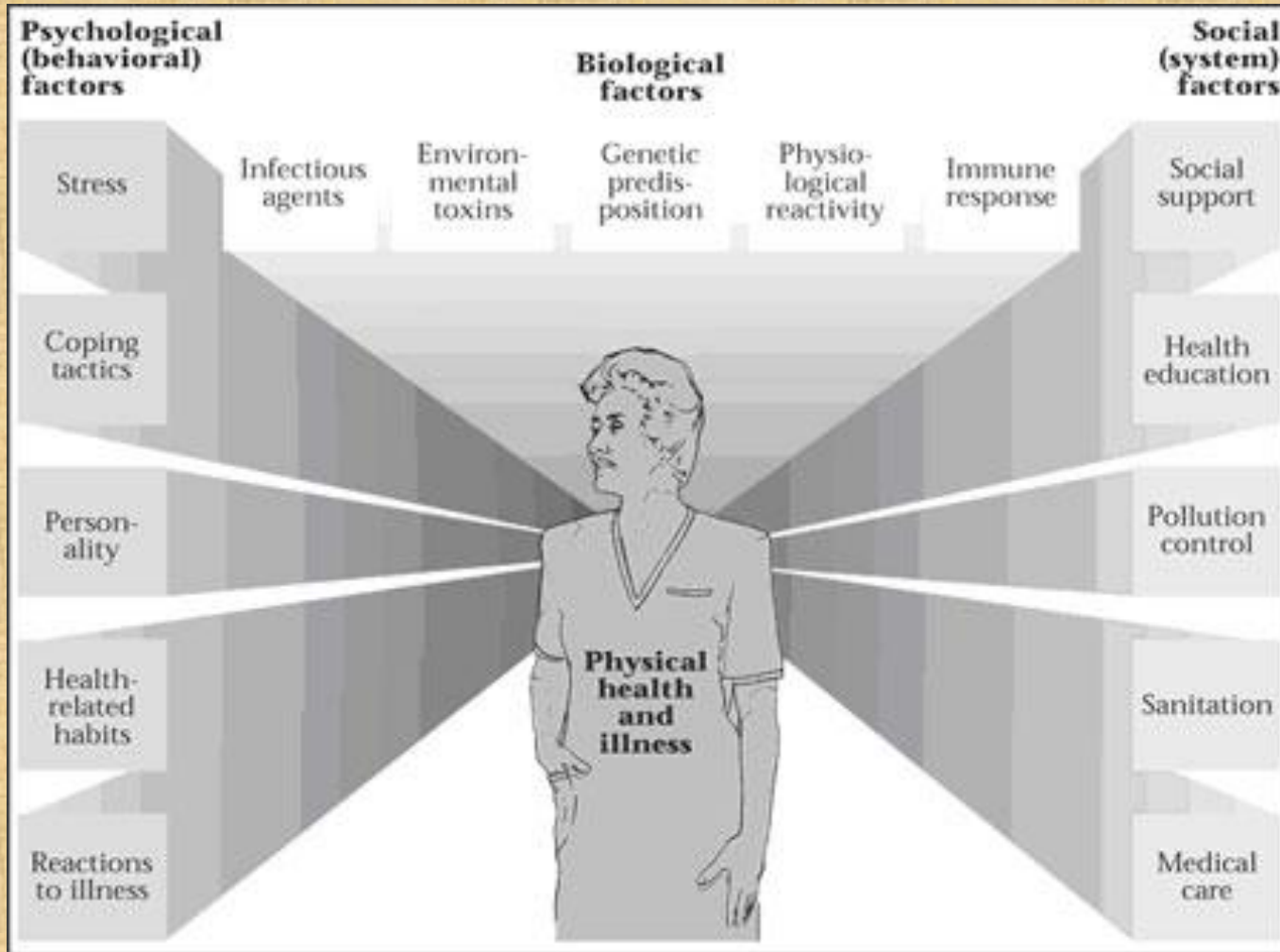
NEJM July 1994

# When To Refer

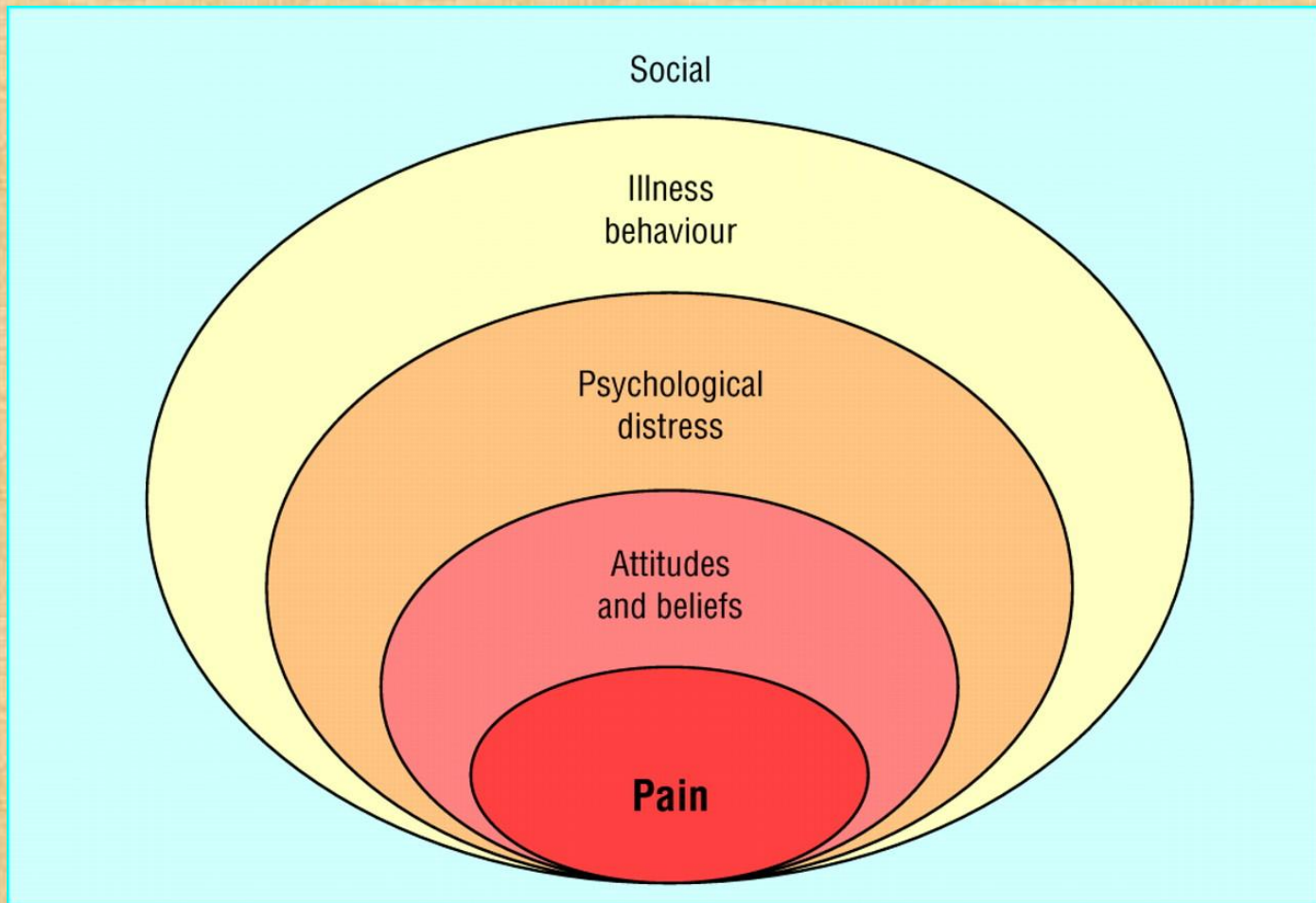
- Serious spinal pathology
- Significant yellow flags
- Persistent Neuropathic pain after 2 to 4 weeks.
- Progressive neurosigns.



# A classical pain clinic patient...



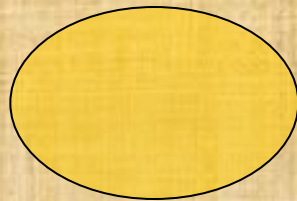
# Chronic pain is different...



# Ms. Unhappy

- 33 year old woman, accident at work
- “lifted something heavy and felt a click at the back”
- MRI: unremarkable

**Nocicepti  
on**

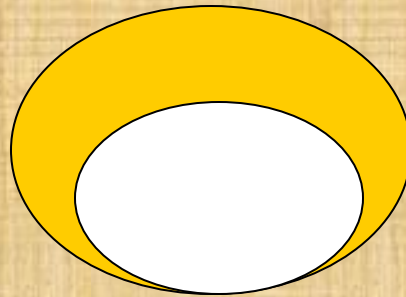


# Ms. Unhappy

- She felt so bad that she cannot sleep, cannot eat, and became irritable

Why can't you fix my back and fxxk off

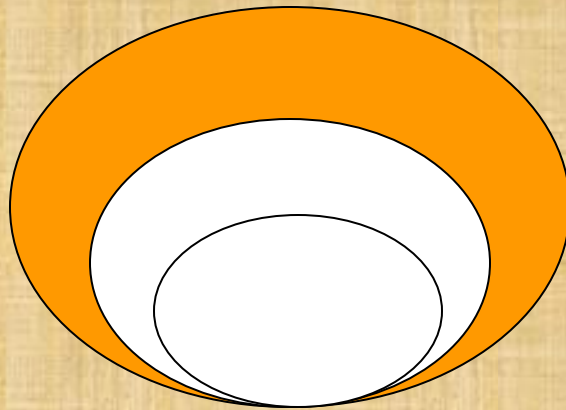
**Affect**



# Ms. Unhappy

- She cannot work, cannot go out, cannot do housework, cannot....

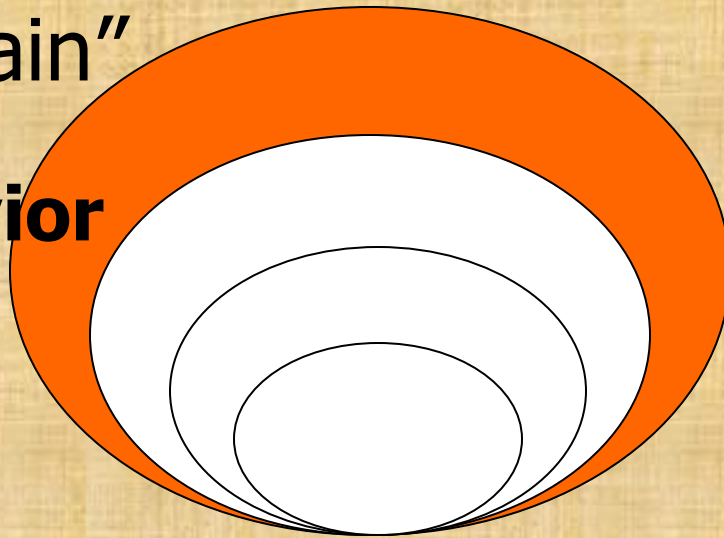
**Social**



# Ms. Unhappy

- She insisted to use a walking aid, visited 4 doctors for the “right diagnosis”, alcohol to “knock me off the pain”

**Behavior**



# Psychosocial stressors

## “Yellow flags”

- Psychological risk factors hindering recovery
  - Belief that back pain is potentially disabling
  - Fear avoidance behaviour with reduced activity
  - Tendency to low mood or withdrawal from social interaction
  - An expectation that passive treatment rather than active participation will help.

# Risk factors for acute pain becoming chronic

- Previous history of LBP
- Total work loss in the last 1 year
- Radiating leg pain
- Poor physical fitness
- Heavy smoking
- Low job satisfaction
- Psychosocial problems
- Insurance claims
- Personal problems- alcohol, marital, financial



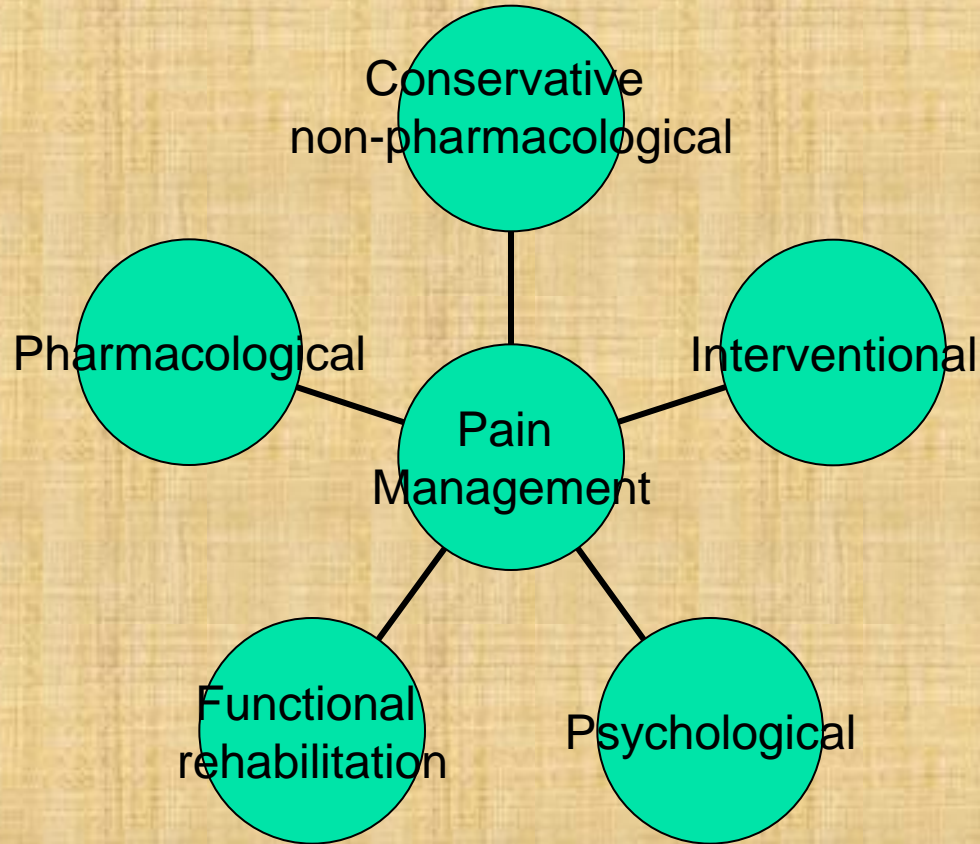
# Goals of the treatment

Symptom

Function

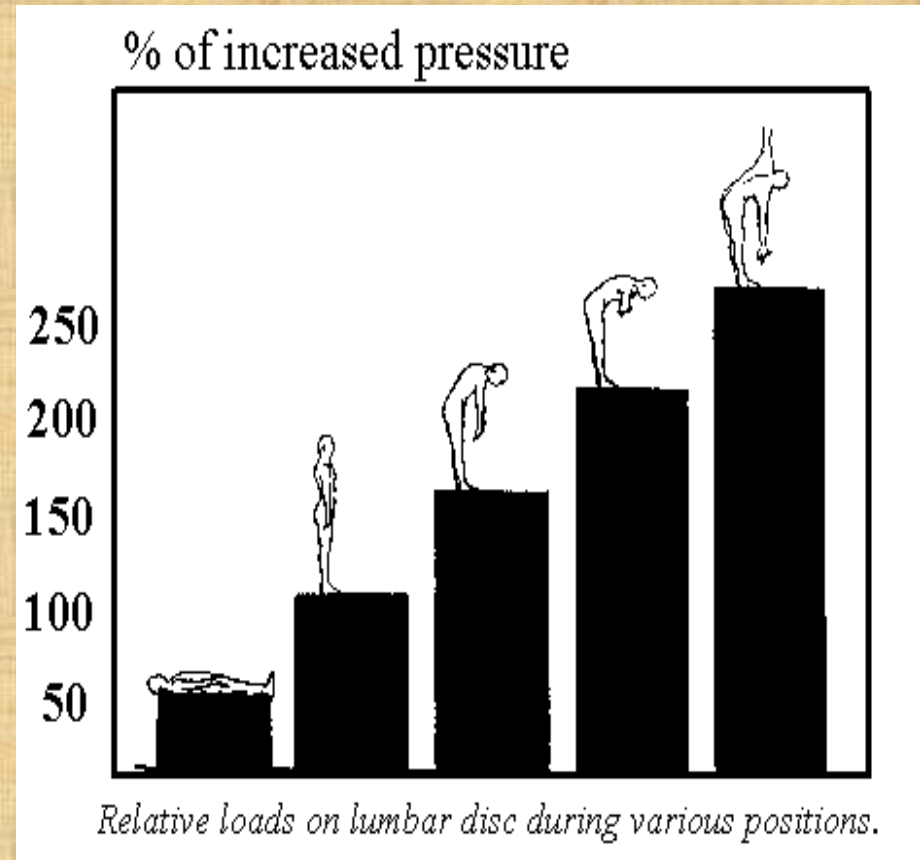


# Management options



# Simple mechanical back pain

- 20% of patients need only reassurance
- Back care advice
- Encourage activity
- Hurt is not equal to harm

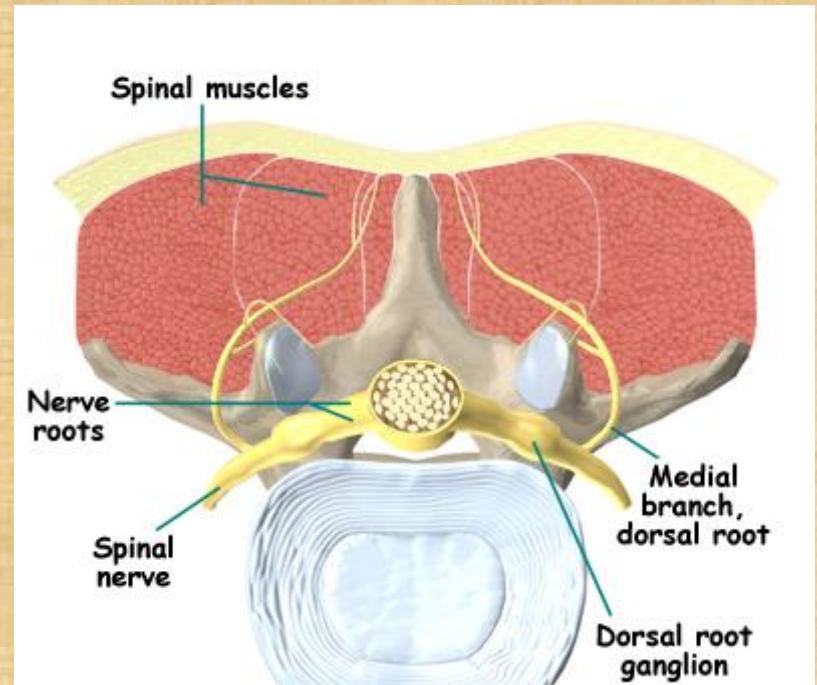


# Simple mechanical back pain

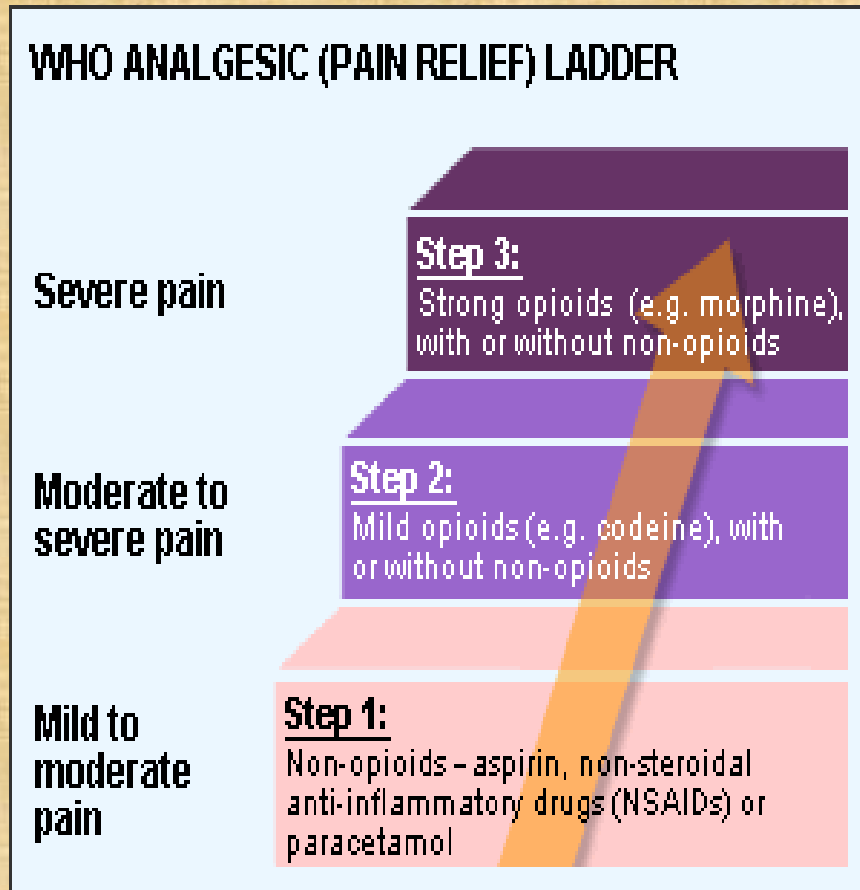
Physical therapy

Drug therapy

Injection therapies



# Simple mechanical backpain +/- referred leg pain- Drug



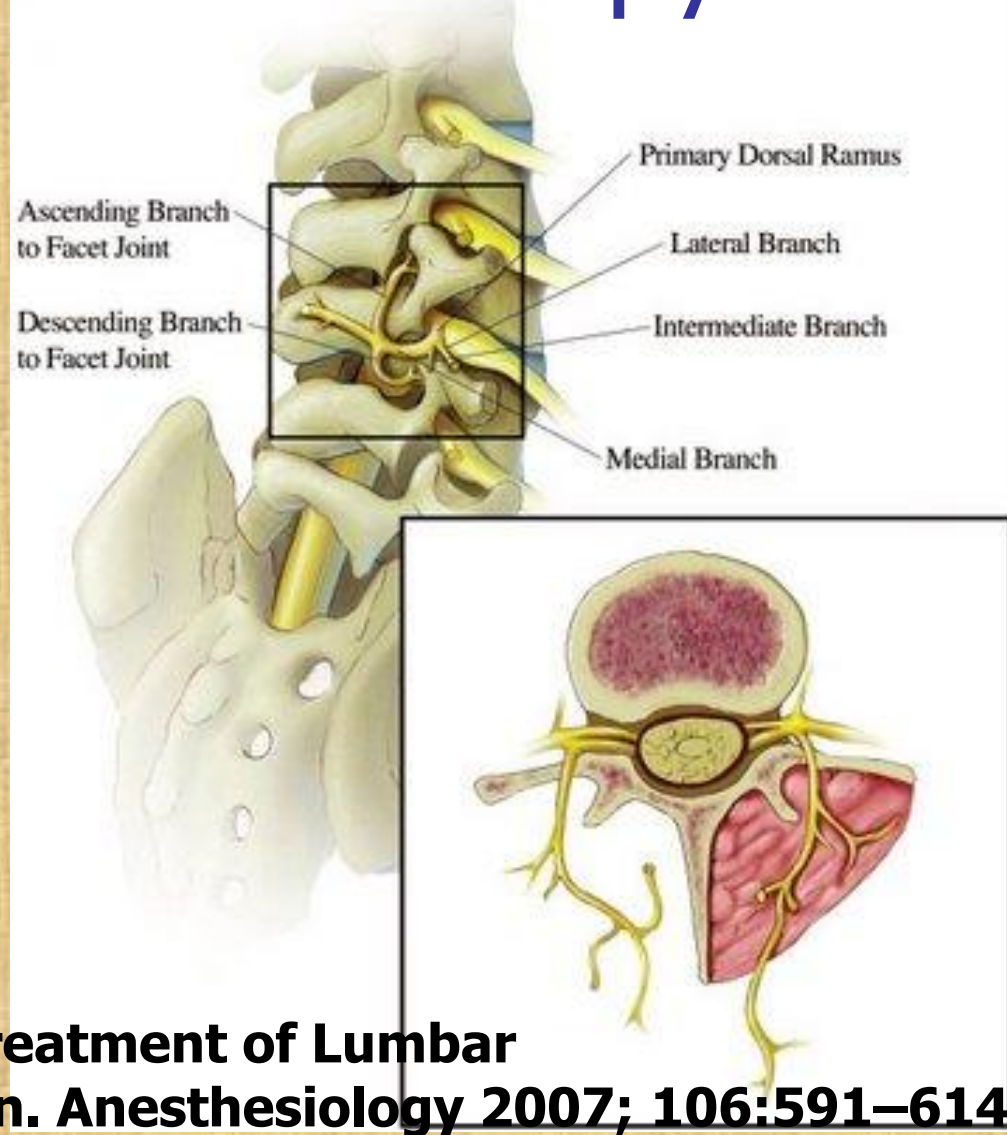
- Tramadol – Opioid and serotonin reuptake inhibitor
- Opioids: best used as part of a structured, multi-modal approach rather than unimodal therapy
- Muscle relaxants- short course

# Drugs..

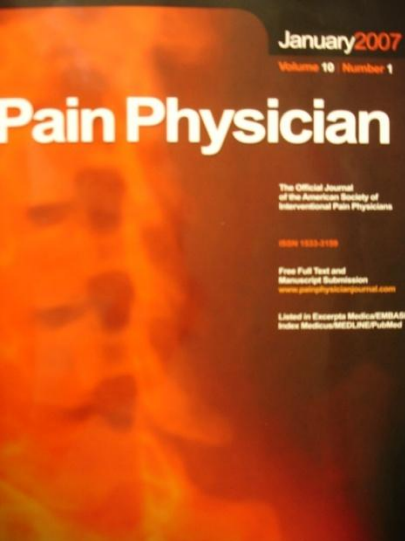
- Drowsiness, Dizziness
- Dry mouth
- Hallucinations
- Addiction
- Constipation- Targinact
- Frequent falls
- Patient preference.

# Back pain – injection therapy

Trigger point injections  
Facet joint injection  
Sacroiliac joint injection  
Facet joint medial branch  
block  
Facet joint nerve  
radiofrequency  
neurotomy



**Pathogenesis, Diagnosis, and Treatment of Lumbar Zygapophysial (Facet) Joint Pain. Anesthesiology 2007; 106:591–614**



## Evidence-Based Guidelines for Interventional Techniques in the Management of Chronic Spinal Pain. Pain Physician 2009; 12:699-802

- Diagnostic lumbar facet blocks are recommended for patients with lumbar facet joint pain.
- Strong recommendation for therapeutic median branch block for short and long term relief.
- Strong recommendation for radiofrequency denervation of median branch.

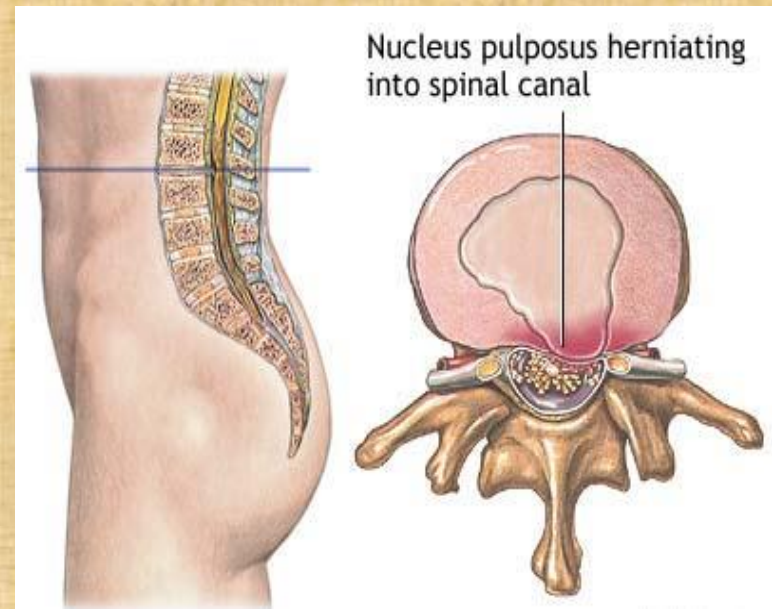


# Nerve root (radicular) pain

Physical therapy

Pharmacological: Amitriptyline,  
gabapentin, pregabalin, opioids

Injection therapies



# NICE – 2010 Neuropathic Pain( Radiculopathy).

## First Line Treatment

Amitryptiline or pregabalin.

Amitryptiline helpful but side effects- try  
Imipramine or Nortryptiline



## Review- Second Line Treatment

If first line was amitryptiline try  
pregabalin and vice versa.



Try a combination of pregabalin  
and amitryptiline



## Third Line

Consider tramadol.  
DO NOT start strong opioids



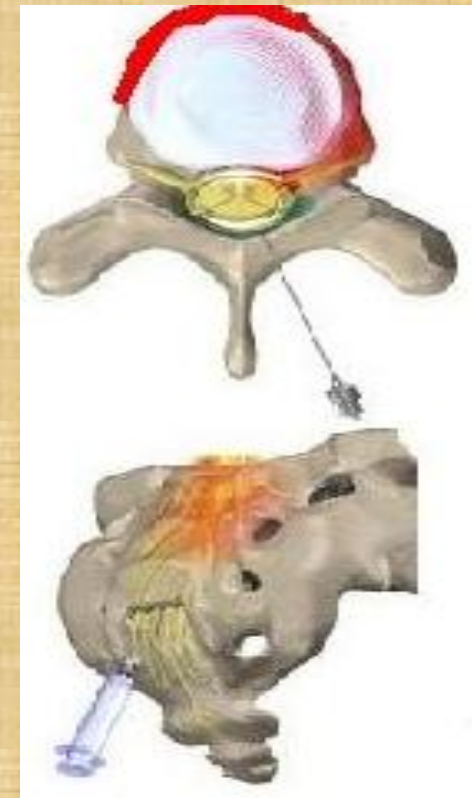
Referral to pain clinic

Review

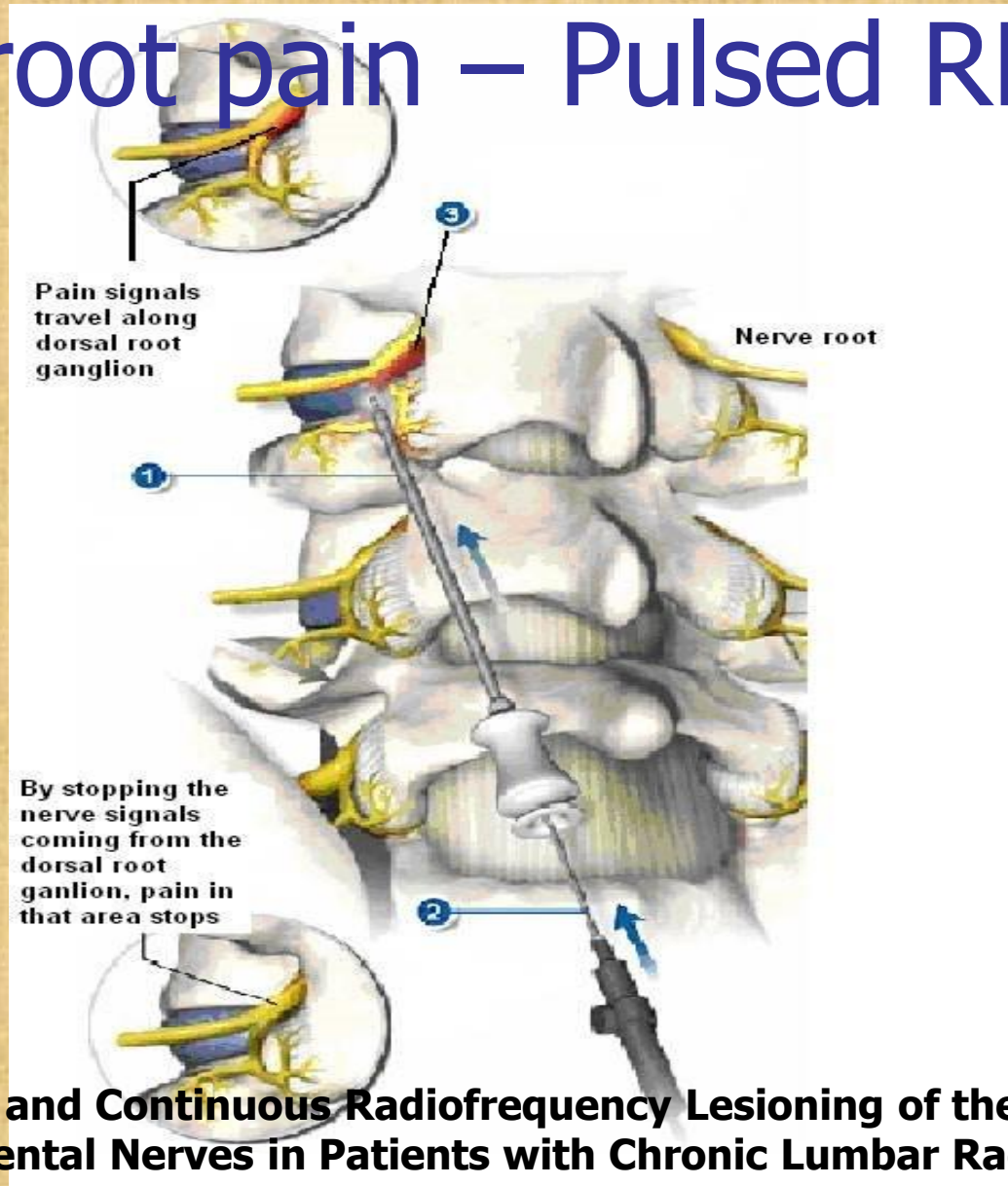
## Epidural Steroids in the Management of Chronic Spinal Pain: A Systematic Review

Salahadin Abdi, MD<sup>1</sup>, PhD, Sukdeb Datta, MD<sup>2</sup>, Andrea M. Trescot, MD<sup>3</sup>, David M. Schultz, MD<sup>4</sup>, Rajive Adlaka, MD<sup>5</sup>, Sairam L. Atluri, MD<sup>6</sup>, Howard S. Smith, MD, PhD<sup>7</sup>, and Laxmaiah Manchikanti, MD<sup>8</sup>

- **Lumbar ESI: Strong evidence in short term**  
**Limited evidence in long term**
- **TFESI : Strong evidence in short term**  
**Moderate evidence in Long term**
- **Caudal ESI: Strong evidence in short term**  
**Moderate evidence in long term**



# Nerve root pain – Pulsed RF



**Response to Pulsed and Continuous Radiofrequency Lesioning of the Dorsal Root Ganglion and Segmental Nerves in Patients with Chronic Lumbar Radicular Pain. Pain Physician 2008; 11:137-144**

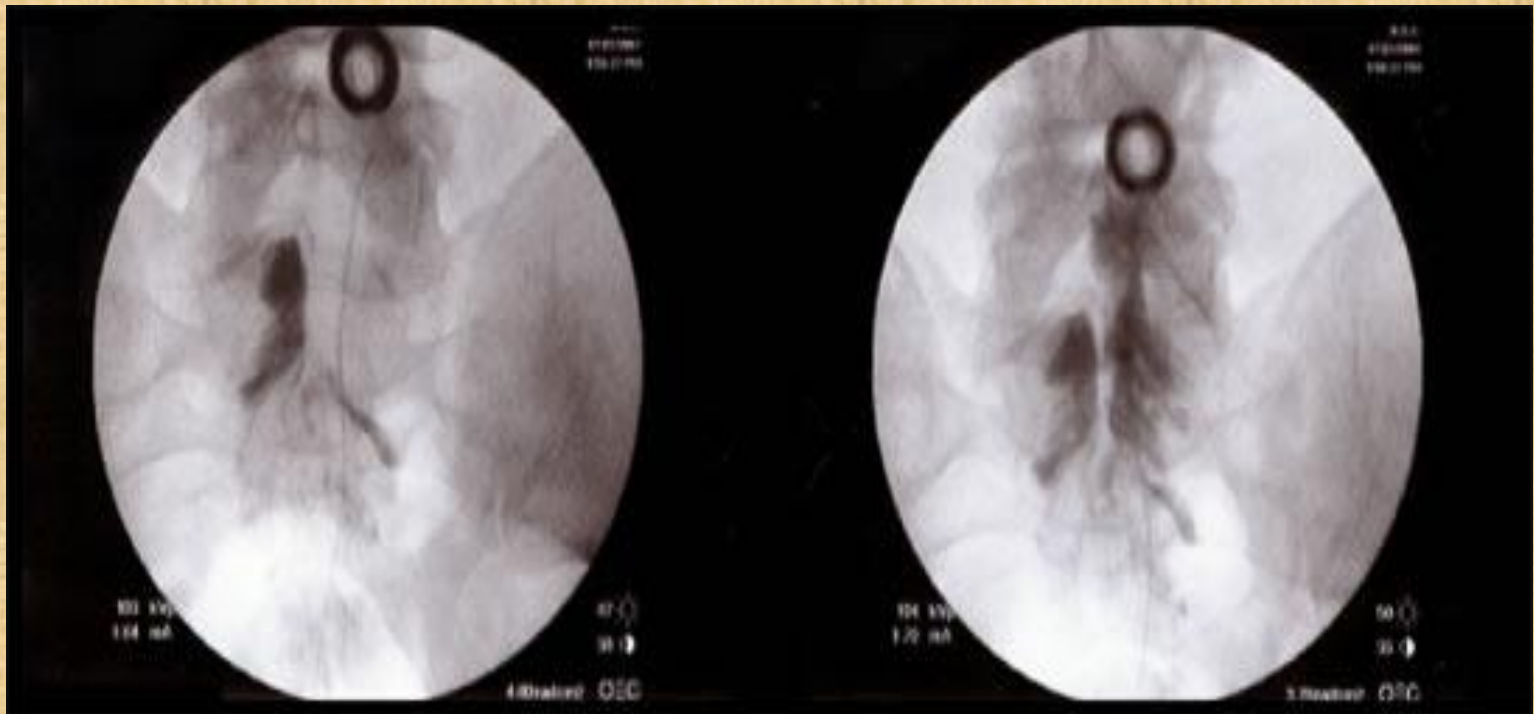
# Surgery Vs Epidural

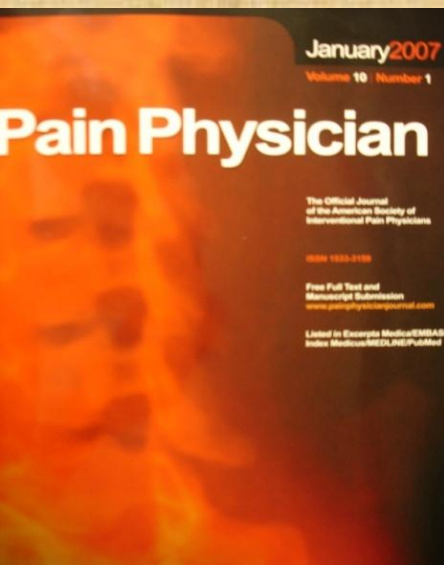
- ***Riew et al:*** 5 yr follow up, 55 randomized pts with radiculopathy; 29 avoided surgery; 21 of 29 had f/u at 5 yrs: 17 of 21 still had no surgery
- At 5 yr f/u all pts who avoided surgery: significant decreases in neurologic symptoms and back pain
- **Conclusion:** majority of patients with lumbar radicular pain who avoid an operation for at least 1 year after receiving nerve root block with either bupiv + betamethasone will continue to avoid surgery at 5 yr

# Epiduroplasty

- Epidural adhesiolysis
- Indications:
  - Radicular pain unresponsive to epidural
  - Post laminectomy syndrome

# Epidurogram- filling defect





## Evidence-Based Guidelines for Interventional Techniques in the Management of Chronic Spinal Pain. Pain Physician 2009; 12:699-802

- Epidural adhesiolysis is strongly recommended for post laminectomy syndrome.



# In summary...

Triage – ordinary backache, nerve root pain, serious spinal pathology

Red flags – urgent referral

Yellow flags – Behavioural modification, positive attitude

Management – Symptom, Function

**[www.controlpain.co.uk](http://www.controlpain.co.uk)**



# THANK YOU

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THE PAIN STARTS IN MY HUSBAND'S LOWER BACK,  
THEN IT TRAVELS UP HIS SPINE TO HIS NECK,  
THEN IT COMES OUT HIS MOUTH AND INTO MY EARS.  
AND THAT'S WHY I GET THESE HEADACHES.

