

A close-up, slightly blurred photograph of a hand holding a white, oval-shaped pill. The hand is positioned in the center-right of the frame, with the thumb and index finger gripping the pill. The background is a soft, out-of-focus light green. On the left side of the slide, there is a solid red arrow pointing to the right.

# Chronic Back Pain

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ST5

UHCW



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# Introduction

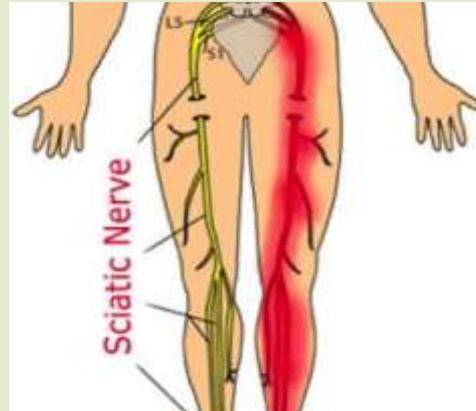
- Pain occurring between the lower costal margins and the gluteal folds lasting more than 3 months.
- Prevalence 60 -85%,
- About 6 % of patients develop long standing back pain
- One of the leading causes for clinical consultation, affecting employment and causing significant disability .
- The direct and indirect impact on healthcare costs and society is huge



# Classification



SIMPLE MUSCULOSKELETAL OR  
**MECHANICAL BACK PAIN (MBP)**  
(95%) WITH OR WITHOUT REFERRED  
PAIN TO LIMBS.



**SPINAL NERVE ROOT PAIN** (DUE TO  
NERVE ROOT IRRITATION ) (4-5%)



**SERIOUS SPINAL PATHOLOGY**  
(1%)

# Mechanical back pain

- ▶ Common in 20-55 yr
- ▶ Dull aching pain mainly in lumbosacral area and buttocks.
- ▶ May or may not refer to legs but if so mostly into upper thighs.

Types:

Discogenic (40%)

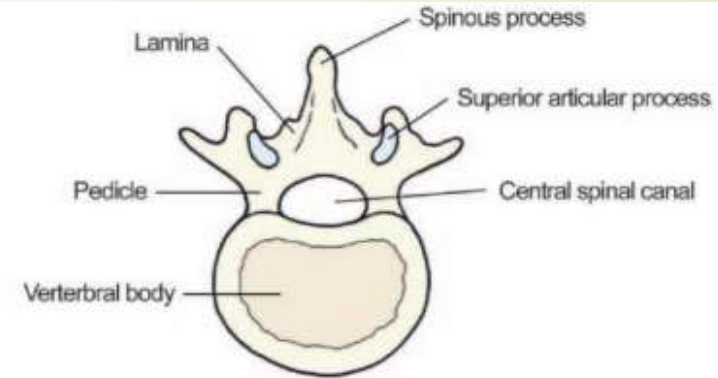
Sacroiliac joint (20%)

Lumbar facet joint pain (10-15%)

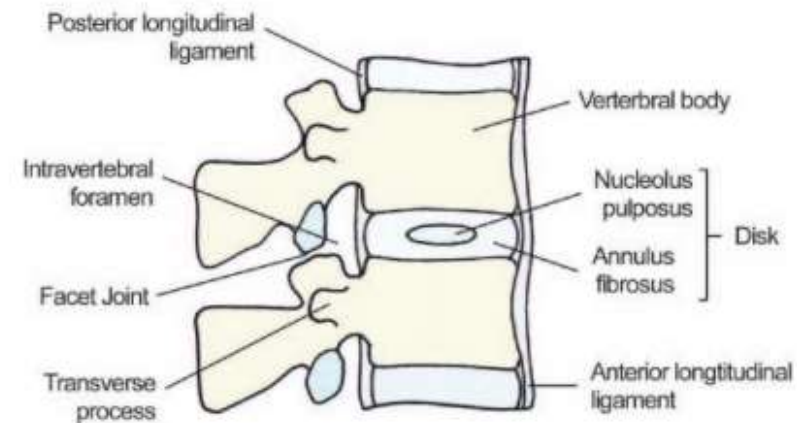
Myofascial pain

# MBP – Discogenic pain

- Arising from IV discs.
- Nucleus pulposus has no sensory innervation.
- Internal Disc changes causing leakage of contents of NP into disruptions within AF.



Transverse view lumbar vertebrae



Lateral view of lumbar vertebrae

Fig. 1 Anatomy of the lumbar spine.

# MBP - Sacroiliac joint pain

- ▶ Largest axial joint and surrounded by fibrous capsule
- ▶ 20 % of MBP most common cause being pregnancy
- ▶ Stressing the joint may reproduce patients pain

# MBP- Lumbar Facet Joint Pain

- Accounts for 10 – 15% young adults and 40 % in elderly patients.
- These joints function to stabilise the vertebral column and limit rotation and shift.
- Increase on lateral bending , extension **NOT FLEXION** , presence of paravertebral tenderness.



# Myofacial pain

- Strains and tears in stabilising spinal ligaments can cause LBP
- Muscles may be a source and is characterised by presence of a trigger point.
- **Trigger point** is defined as a tender point in a taut band of muscle that can cause referred pain .
- Palpation or needling of trigger points can reproduce patients pain.

# Spinal Nerve root pain

- Localised radiating sharp shooting pain down the leg in a dermatomal pattern
- Radicular element is much worse than the back pain itself.
- Typically radiates below the knee to the foot
- Paraesthesia can occur along the nerve distribution.
- Coughing straining ,sneezing exacerbate radicular pain
- SLR, Femoral stretch test
- Full neurological examination may reveal sensorimotor deficits,

## ■ Femoral Nerve Stretch Test:

- Tests for nerve root impingement at L2, L3, L4
- Test position:
  - Patient prone with a pillow under the abdomen; examiner at side of patient
- Action:
  - Examiner passively extends hip while keeping knee flexed to 90°
- Positive test:
  - Pain in anterior and lateral thigh



## Slump Test

- Region of body you are testing
  - Lumbar spine
- What you are testing for
  - Discogenic pathology of the lumbar spine
- How to do it
  - Cervical → Thoracic → Lumbar spine flexion
  - Passively extend knee
  - Passively foot dorsiflexion
- What a + sign means
  - If any of the steps reproduce radicular symptoms
- Special Notes
  - This is used in association with the straight leg raise to rule out radiculopathy versus other hip pathologies versus hamstring tightness



## Straight Leg Test

for Compressive (Neurogenic) Causes of Back Pain



# Causes

## ► Disc Herniation

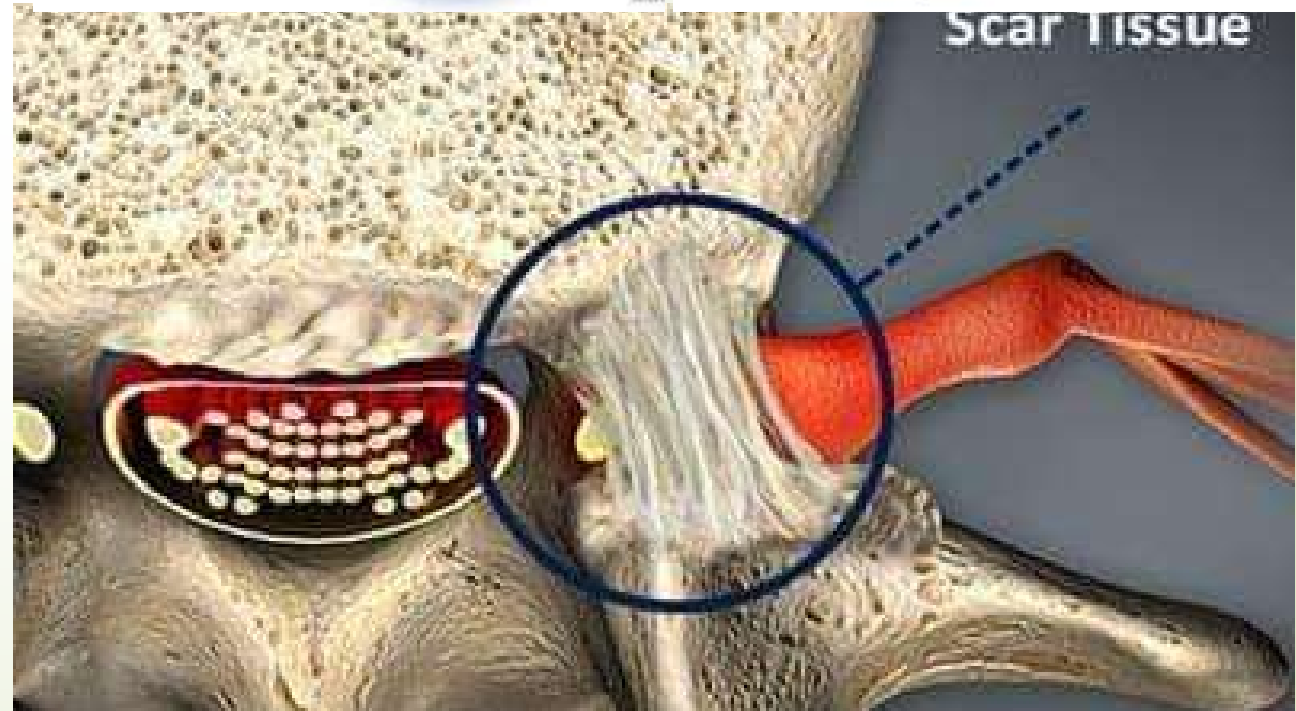
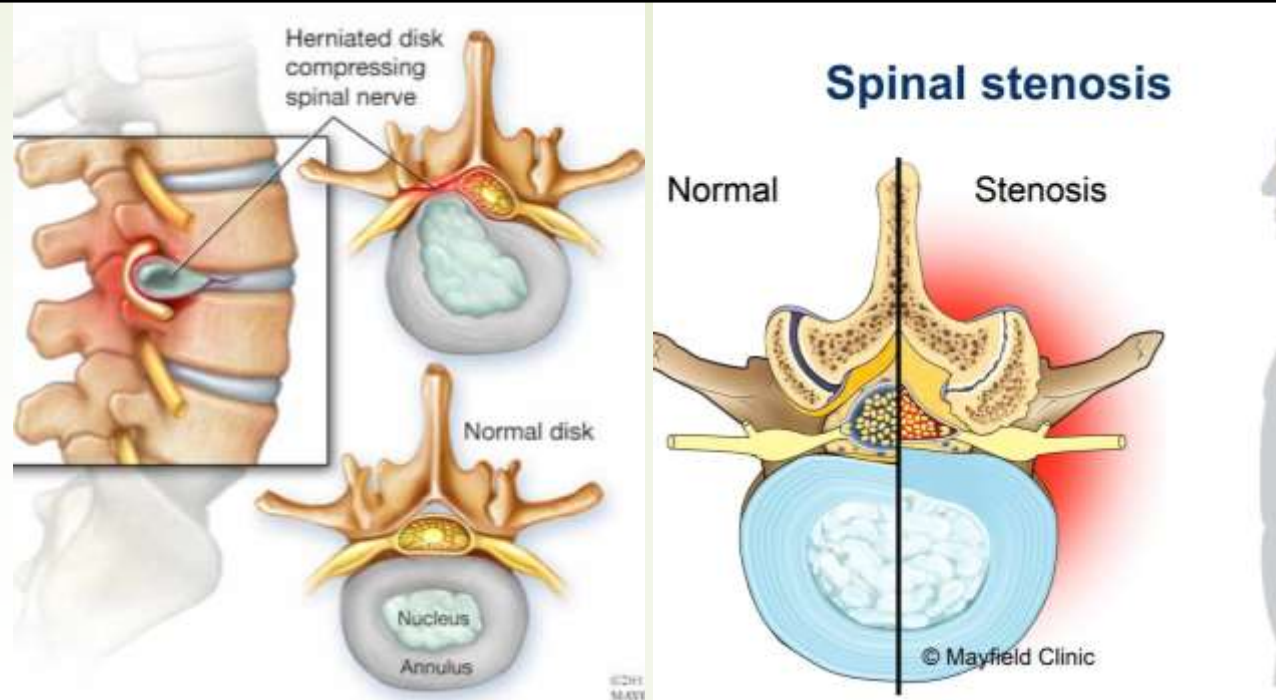
- Peak age 30 -55 .Posterior herniation is more common.
- Compression effect and chronic inflammatory changes

## ► Spinal Stenosis

- 55 and above
- Caused by bone and ligament hypertrophy narrowing spinal canal and IV foramen compression and chronic inflammatory changes,
- Characterised by neurogenic claudication .
- Walking uphill is easier and increases on extension
- extension

## ► Epidural Adhesions

- Post spinal surgery chronic inflammation post damaged discs
- Continuous and independent of activity
- Distribution can be mono or multisegmented uni or B/I





# Serious Spinal Pathology

- Need to exclude Red flag markers in the history and need further investigations to rule out spinal tumours, infections, trauma, inflammatory disease and cauda equina syndrome.

- Red flags (TUNAFISH)

**T**rauma ;

**U**nexplained weight loss

**N**eurological findings

**A**ge >55

**F**ever

**I**mmunocompromised

**S**teroid use

**H/o** HIV,TB,Cancer



# Assessment

- ▀ History
- Site
- Onset
- Character
- R adiation
- Associated symptoms
- Time/duration
- Exacerbating/Relieving
- Severity

# Examination

- ▶ Inspection
- ▶ Palpation
- ▶ Provocation tests
- ▶ Neurological tests

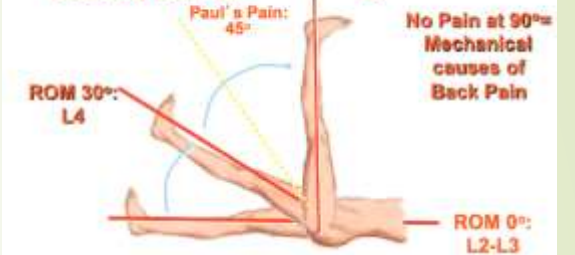
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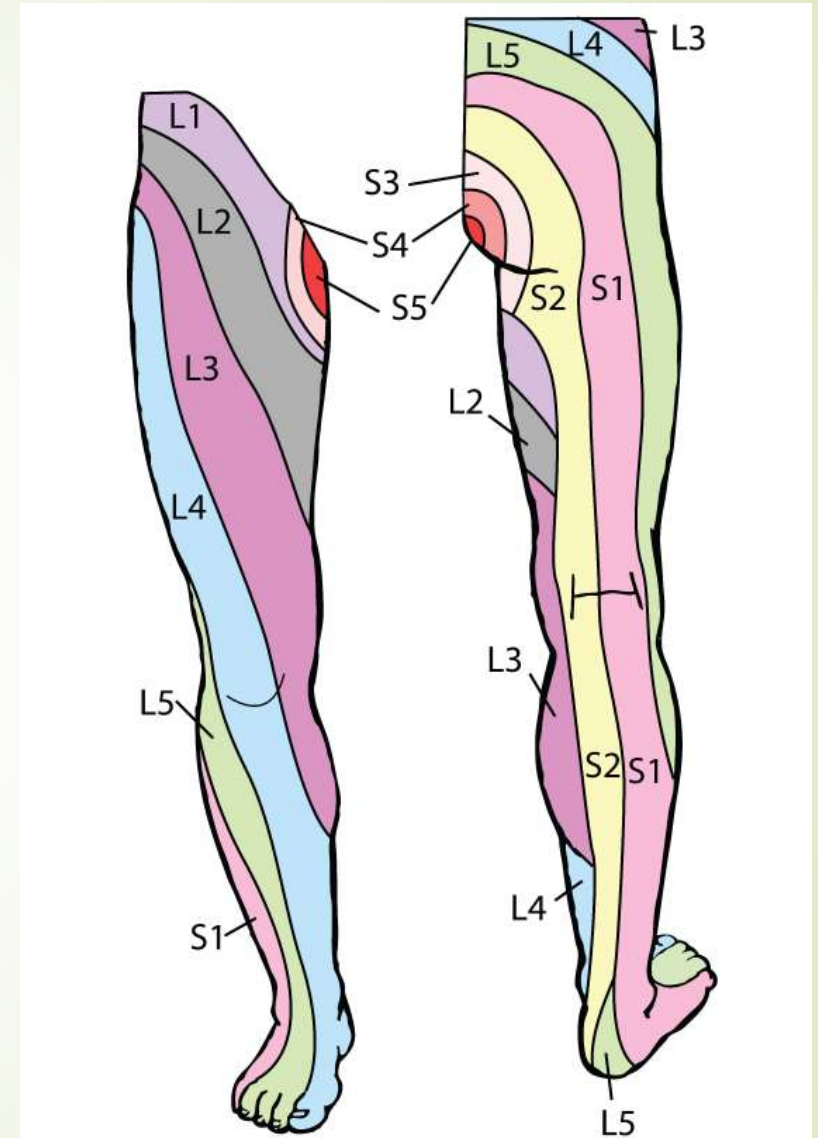
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# Neurological examination

- ▶ L4 – Sensory  
Motor – Quadriceps  
Reflexes – knee
- ▶ L5 – Sensory  
Motor – Dorsiflexion of ankle  
Reflex – Ankle
- ▶ S1- Sensory  
Motor – Plantar flexion  
Reflex -Ankle





# Investigations

- Musculoskeletal pain -Xrays have limited value. MRI often show non specific changes .
- Patients with RED flags need urgent MRI
- Patients with radicular pain in legs due to nerve root irritation may benefit from MRI .
- No role for nerve conduction studies





# Management

Physical therapy

Pharmacotherapy

Injection therapy

Neuromodulation

Psychological  
interventions

Surgery



# Physical therapy

- ▶ Regular physical exercise is recommended to avoid disability
- ▶ Graded exercise programmes
- ▶ Stretching and strengthening exercises
- ▶ Adherence to regular home exercise is important to achieve long term goals.



# Pharmacotherapy

- ▶ Multimodal analgesia
- ▶ In MSK type of pain with PCM,NSAIDS, can be useful
- ▶ In radicular pain ,Amitryptaline, gabapentin.pregabalin,duloxetine
- ▶ Opioids ?? Nice guidelines mention opioids should not be offered to manage low back pain .
- ▶ Pros and cons are weighed up on individual basis .

Steady non incremental dose of opioids may be helpful

Consider opioid rotation .



# Injection Therapy

- ▶ For diagnostic and treatment purpose as part of multimodal approach
- ▶ Most of them use a combination of LA with steroids.
- ▶ MSK may respond to trigger point injections
- ▶ Facet joint nerve blocks (diagnostic) followed by Radiofrequency denervation (treatment ). Sacroiliac injections etc.
- ▶ Radicular pain respond to epidural injections which can be lumbar,caudal, transforaminal and nerve root /dorsal root ganglion blocks




# Neuro modulation

- Indication for referral to spinal cord stimulators
  - Failed back surgery syndrome
  - CRPS
  - Pain associated with PVD
  - Refractory Angina pectoris
- 
- Nice recommendation is to consider this treatment if the pain score is 50 mm in VAS for more than 6 months despite conservative management .



# Psychological intervention

- CBT
  - Acceptance commitment therapy
  - Mindfulness based approach
  - Pain management programme
- 



# Surgery and Barriers to recovery

- ▶ Lumbar decompression surgery for radicular pain
- ▶ Lumbar fusion

## Barriers to recovery

- Strong belief that activity related pain is harmful;
- Low mood, negative attitude, social withdrawal
- Dissatisfaction at work
- Problems with litigation/claims/compensation
- Sickness behaviour
- Overprotective family or sometimes even lack of family support



# Summary

- Chronic back pain can be MSK, radicular pain or due to some serious spinal pathology.
- Recognising Red flags is important
- Management is multimodal, multidisciplinary with biopsychosocial approach
- Goal is symptoms relief and functional rehabilitation





Thank You