DEGENERATIVE SPINAL DISEASES

- The AP diameter of the cervical canal 17-18, 12-14 mm in the thoracic and 15-27mm in the lumbar.
- The degeneration of the disc goes with changes in facet joints .. The nervous elements /nociceptors produce the discogenic pain.

Aetiology : Overweight / aging... wear &tear/ Genetic / Smoking... vascularity.

Clinical Manifestations

1. ***General manifestations*** *>> Pain , Morning stiffness , Inability to perform ADL, depression, loss of income.*
2. ***Radiculopathy manifestations*** *>> Root pain / shooting , paresthesia, loss of sensation, Ms weakness,,urinary if S1-3*
3. ***Myelopathy manifestations/cord*** *>> paresthesia, loss of sensation ▸ below the area affected*

- *In case of chronic duration 1. Spasticity during walking / hypertonia, urine urgency, retention, or incontinence*

2. Signs of UMNLs …. Babinski , Hofmann, hyperreflexia. ▸ below the area affected

3. Ms weakness & atrophied , Areflexia ▸ at the same level

Pathological Entities:

1. Prolapsed disks

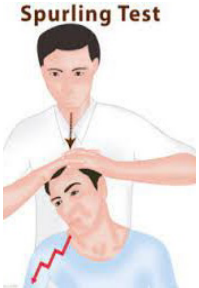
A. Cervical 20%

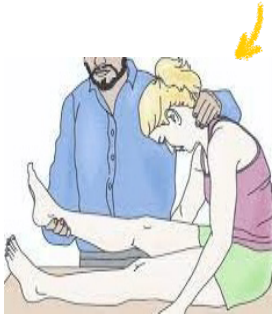
- shooting pain from neck /to fingers

+ parasthesias in a dermatome D.

- Spasm, mechanical or degenerative
- Radiculopathy +\- Myelopathy
- **Spurling's maneuver** , **Lhermittes sign**
- **image / MRI** : see foramina, canal, ligamentum Flavum Or hypertrophied facet joint >> degeneration
- **Management** : conservative, painkillers, rest, physiotherapy — if fails or NDs or myelopathy ▸surgery **ACDF** c3-7

Hematoma, dysphasia, hoariness, nerve injury





2. Canal stenosis

- enlargement of the facets joints, thick ligamentum flavum , disc protrusion , osteophytes, calcification PLL, **straight cervical**
- Symptoms of roots (radiculopathy), cord (myelopathy)

A. Cervical

- **image / MRI:** see all above , cord ischemia ?
- **Management:** conservative, nsaids , rest neck collar ….

If with NDs >> **surgery**

- anterior approach : if … bars, osteophytes,
- posterior approach : if … ligamenum flavum, stenosed

3. Spondylolisthesis

- breaks in 2 **pars interarticularis**
- congenital, stress fx, trauma, degenerative.
- LBP / in flexion , cauda equina,
- **image / MRI , xray:** lateral: slippage
- **Management:** NSAID, rest, physiotherapy sport….. if fails, cauda equina compression, decompressive laminectomy

B. Thoracic 1%

- in lower Ts, Hx of trauma

- narrow canal >> acute & serious & with NDs

So Treated by **Surgery** — **lateral route**

— Costotransversectomy approach

— posterolateral transpedicular

B. Lumbar

- **image / MRI:** see all above , cord ischemia ? Multiple? (hour-glass deformity)

- **Management:** conservative, nsaids , rest, physiotherapy, sport….

If with NDs, affect ADL, cauda equina s. >> **surgery**

- **decompressive laminectomy** or **multiple laminotomies** or **fenestrations**.

C. Lumbar 80%

- Hx of painful episodes(electrical, increase in cough) , Hx of lifting heavy object

- parasthesias, numbness/ dermatome , difficulty in walking / Ms weakness +/- bladder dysfunction

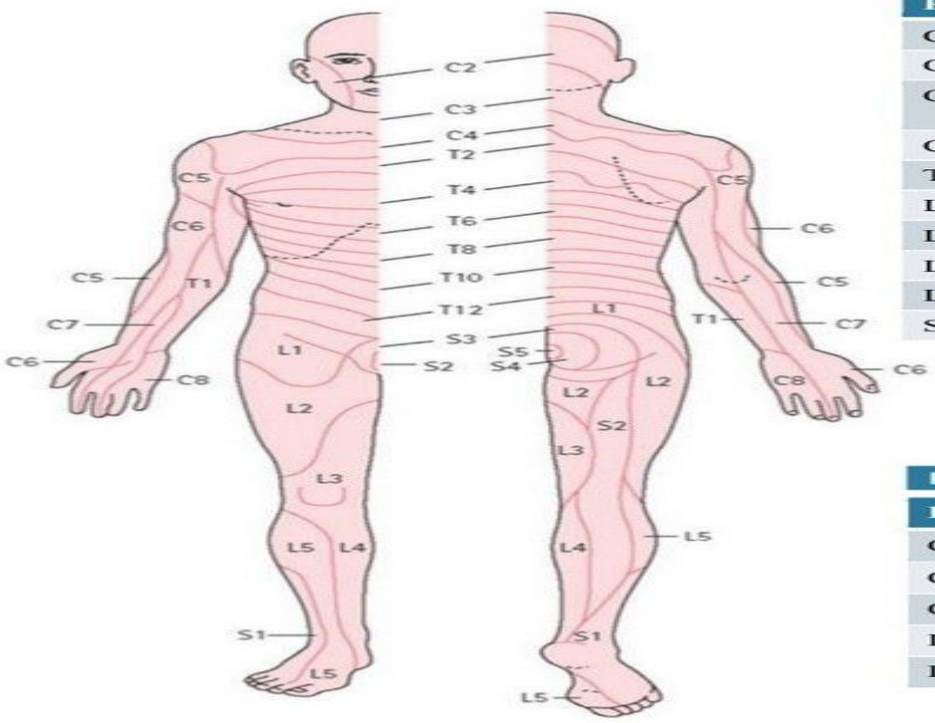
-**PE** : straight leg sign(<60') ,decrease power, absent/ decrease reflexes

- **LATERAL** … root at same level **POSTEROLATERAL**… root below **CENTRAL/ POSTERIOR**… cord, bilateral

- **Image / MRI** : Modic change >> degenerative

- **Surgery :** Motor weakness, bladder problems, cauda equine, others fails, progress, , foot drop, acute cauda …. Do surgery ▶️ **microsurgical discectomy / interlaminar approach** or **endoscopic discectomy** +/- **foramintomy**

- May by block the root >> stop pain 🛑



Nerve Root Motor Function	
Nerve Root	Test
C5	Elbow Flexion
C6	Wrist Extension
C7	Wrist Flexion, Finger Extension
C8	Finger Flexion
T1	Finger Abduction
L1,2	Hip Abduction
L3,4	Knee Extension
L5, S1	Knee Flexion
L5	Great Toe Extension
S1	Great Toe Flexion

Root Values for Tendon Reflexes	
Root Value	Tendon Reflexes
C5	Biceps
C6	Brachioradialis
C7	Triceps
L3,4	Quadriceps
L5, S1	Achilles Tendon