# Spondylogenic diseases, back pain

Josef Bednařík

*Department of Neurology, University Hospital Brno and Faculty of Medicine, Masaryk University Brno*

# HOW TO CLASSIFY SPONDYLOGENIC DISEASES?

- According to the character of structural changes
  - Degenerative changes (spondylosis)
  - Non-degenerative structural changes (tumor, trauma, inflammation, osteoporosis, maldevelopment)
  - Non-structural „functional“ changes
- According to clinical manifestation
  - BACK PAIN SYNDROMES
  - PSEUDORADICULAR SYNDROME
  - RADICULAR SYNDROME
  - MYELOPATHY
  - CAUDA EQUINA SYNDROME

# HOW TO CLASSIFY SPONDYLOGENIC DISEASES?

- According to involved part of the spine
  - cervical
  - thoracic
  - lumbosacral
- According to aetiology
  - developmental (congenital)
  - trauma
  - infection
  - tumors
  - metabolic (osteoporosis)
  - physical overload (occupational, sports)

# HOW TO CLASSIFY SPONDYLOGENIC DISEASES?

It is not possible to establish reliably the etiology of s.c. simple back pain attacks in up to 85% of cases.

It seems to be useful and pragmatic to classify spondylogenic syndromes according to clinical manifestation a try to establish etiology.

# DIAGNOSTIC ALGORITHM IN ACUTE BACK PAIN: TRIAGE BASED ON DIFFERENT PROGNOSIS AND DIFFERENT MANAGEMENT

There exists a dilemma, how on one side **not to burden** a lot of patients with otherwise benign and self-limited conditions with sometimes risky diagnostic procedures and not negligible side effects (and with respect to high frequency of these patients also not to increase economical burden of health care system), and on the other side **not to postpone** causal treatment in a small group of patients with potentially threatening disease that may lead to serious consequencies.

# DIAGNOSTIC ALGORITHM IN ACUTE BACK PAIN: TRIAGE BASED ON DIFFERENT PROGNOSIS AND DIFFERENT MANAGEMENT

Possible solution is an entry ***„triage"***, who could perform a physician of the first contact with a patient suffering from acute back pain. The triage is based on taking a history, a basic neurological examination and on identification of „risk factors" increasing probability of serious structural spine disease or damage - (***„red flags"***).

# DIAGNOSTIC ALGORITHM IN ACUTE BACK PAIN: TRIAGE BASED ON DIFFERENT PROGNOSIS AND DIFFERENT MANAGEMENT

The triage could differentiate 3 big groups of acute back pain with different prognosis and necessity to differentiate diagnostic-therapeutic approach:

A. Up to 85% of acute back pain patients belongs to **non-specific, „simple“ back pain**, whose natural course is self-limited and who usually recovers spontaneously. It is, however, differentiate two other groups with more serious prognosis and requiring different diagnostic and therapeutic approach.

# DIAGNOSTIC ALGORITHM IN ACUTE BACK PAIN: TRIAGE BASED ON DIFFERENT PROGNOSIS AND DIFFERENT MANAGEMENT

B. Patients with ***compressive neurological syndromes*** due to **spondylosis**, endangered by development of **neurological deficit: radicular syndromes** (discogenic or osteogenic), **neurogenic claudication syndrome** in multilevel lumbar stenosis and **cauda equina syndrome** (usually due to medial disc herniation). These compressive syndromes form about 8-10 % of patients with low back pain.

# DIAGNOSTIC ALGORITHM IN ACUTE BACK PAIN: TRIAGE BASED ON DIFFERENT PROGNOSIS AND DIFFERENT MANAGEMENT

C. Patients with **serious specific structural and usually progressive disease of the spine** (tumor, infection, autoimmune inflammation, trauma, osteoporosis), that are in danger of development of neurological deficit, but pain could be the first symptom of serious, life-threatening, but potentially treatable disease (about 5 % of back pain patients). Identification of indicators (risk factors) of increased risk of such a disease **(„red flags“) is considered as already verified strategy.**

# DIAGNOSTIC ALGORITHM IN ACUTE BACK PAIN: TRIAGE BASED ON DIFFERENT PROGNOSIS AND DIFFERENT MANAGEMENT

**„RED FLAGS“:**

- age >50 (55) yrs or <20 yrs (tumor); age >70 yrs (suspicion of trauma);
- presence of primary extravertebral tumor (increased OR from 0.7 to 9%), chronic inflammation (infection of kidney, skin, lungs), or other serious disease (diabetes – infection);
- long-term steroid treatment (trauma, infection); other immunosupression (HIV, cytostatics – infection); intravenous administration of drugs (infection);

# DIAGNOSTIC ALGORITHM IN ACUTE BACK PAIN: TRIAGE BASED ON DIFFERENT PROGNOSIS AND DIFFERENT MANAGEMENT

**„RED FLAGS“:**

- spine surgery or other invasive procedure (lumbar puncture, periradicular therapy, epidural catheter - infection);
- loss of weight, unexplained fever (tumor, infection);
- history of trauma;
- pain lasting >1 month (especially tumor);
- pain of extraordinary intensity or lasting >1 month without relief, resting, especially noctural pain (tumor, infection); pain provoked by stance and decreasing while sitting; localized in thoracic level; considerable local tenderness of vertebra

# DIAGNOSTIC ALGORITHM IN ACUTE BACK PAIN: G.P. VS. SPECIALIST?

All current clinical guidelines on the management of back pain agree on the attitude that patients with acute non-specific low back pain without red flags, extravertebral disease or neurological deficit should be managed by a doctor of the first contact, ie general practitioner for approximately one month. A specialist should by contacted in case of red flags, neurological deficit or if a patients doesnot respond to standard treatment for at least one monthtandardní léčbu.

In all other cases a patients should be managed by a specialist.

# WHOM WILL A PATIENT WITH ACUTE LOW BACK PAIN VISIT IN THE USA?

- GP 58,6%
- Ortopedic surgeon!!!) 36,9%
- Chiropractist 30,8%
- Osteopathy specialist 13,8%
- Internist 7,6%
- Rheumatologist 2,5%
- Neurologist: 0!!!

**Deyo R, Tsui-Wu Y-Jo. Descriptive epidemiology of low-back pain and its related medical care in the United States. Spine 1987; 12:264-268.**

# A SYSTEMATIC REVIEW FOR AN AMERICAN COLLEGE OF PHYSICIANS (CHOU ET AL. 2017): LBP

*Table 2.* Pharmacologic Therapies Versus Placebo for Acute Low Back Pain

| Drug | Pain | | | Function | | |
|---|---|---|---|---|---|---|
| | Magnitude of Effect | Evidence | SOE | Magnitude of Effect | Evidence | SOE |
| Acetaminophen | No effect | 1 RCT | Low | No effect | 1 RCT | Low |
| NSAIDs | Small (pain intensity); no effect (pain relief) | 1 SR (4 RCTs), 1 RCT | Moderate | Small | 2 RCTs | Low |
| Opioids | No evidence | - | - | No evidence | - | - |
| Skeletal muscle relaxants | Pain relief: relative risk, 1.72 (95% CI, 1.32–2.22) at 5–7 d | 1 SR (4 RCTs), 1 RCT | Moderate | No evidence | - | - |
| Benzodiazepines | Unable to estimate | 2 RCTs | Insufficient | Unable to estimate | 2 RCTs | Insufficient |
| Antiseizure medications | No evidence | - | - | No evidence | - | - |
| Systemic corticosteroids | No effect | 2 RCTs | Low | No effect | 2 RCTs | Low |

NSAID = nonsteroidal anti-inflammatory drug; RCT = randomized, controlled trial; SOE = strength of evidence; SR = systematic review.

# A SYSTEMATIC REVIEW FOR AN AMERICAN COLLEGE OF PHYSICIANS (CHOU ET AL. 2017): LBP

***Table 3.*** Pharmacologic Therapies Versus Placebo for Chronic Low Back Pain

| Drug | Pain | | | Function | | |
|---|---|---|---|---|---|---|
| | **Magnitude of Effect** | **Evidence** | **SOE** | **Magnitude of Effect** | **Evidence** | **SOE** |
| Acetaminophen | No evidence | – | – | No evidence | – | – |
| NSAIDs | Small to moderate | 1 SR (4 RCTs), 2 RCTs | Moderate | None to small | 4 RCTs | Low |
| Opioids (strong opioids) | Small | 1 SR (6 RCTs), 4 RCTs | Moderate | Small | 1 SR (4 RCTs), 4 RCTs | Moderate |
| Opioids (buprenorphine patch or sublingual) | Small | 3 RCTs | Low | Unable to estimate | 3 RCTs | Insufficient |
| Tramadol | Moderate | 1 SR (5 RCTs), 2 RCTs | Moderate | Small | 1 SR (5 RCTs), 2 RCTs | Moderate |
| Skeletal muscle relaxants | Unable to estimate | 3 RCTs | Insufficient | – | – | – |
| Benzodiazepines: tetrazepam | Failure to improve at 10–14 d: relative risk, 0.71 (95% CI, 0.54–0.93) | 1 SR (2 RCTs) | Low | – | – | – |
| Tricyclic antidepressants | No effect | 1 SR (4 RCTs) | Moderate | No effect | 1 SR (2 RCTs) | Low |
| Antidepressants: selective serotonin reuptake inhibitors | No effect | 1 SR (3 RCTs) | Moderate | – | – | – |
| Antidepressants: duloxetine | Small | 3 RCTs | Moderate | Small | 3 RCTs | Moderate |
| Gabapentin/pregabalin | Unable to estimate | 2 RCTs | Insufficient | Unable to estimate | 2 RCTs | Insufficient |

NSAID = nonsteroidal anti-inflammatory drug; RCT = randomized, controlled trial; SOE = strength of evidence; SR = systematic review.

# A SYSTEMATIC REVIEW FOR AN AMERICAN COLLEGE OF PHYSICIANS (CHOU ET AL. 2017): LBP

*Table 4.* Pharmacologic Therapies Versus Placebo for Radicular Low Back Pain

| Drug | Pain | | | Function | | |
|---|---|---|---|---|---|---|
| | Magnitude of Effect | Evidence | SOE | Magnitude of Effect | Evidence | SOE |
| NSAIDs | Unable to estimate | 1 SR (2 RCTs) | Insufficient | – | – | – |
| Benzodiazepines: diazepam | Relative risk, 0.5 (95% CI, 0.3–0.8) for pain relief | 1 RCT | Low | No effect | 1 RCT | Low |
| Antidepressants: duloxetine | Unable to estimate | 1 RCT | Insufficient | Unable to estimate | 1 RCT | Insufficient |
| Systemic corticosteroids | No effect | 6 RCTs | Moderate | No to small effect | 6 RCTs | Moderate |
| Gabapentin/pregabalin | Unable to estimate | 5 RCTs | Insufficient | Unable to estimate | 5 RCTs | Insufficient |

NSAID = nonsteroidal anti-inflammatory drug; RCT = randomized, controlled trial; SOE = strength of evidence; SR = systematic review.

# A SYSTEMATIC REVIEW FOR AN AMERICAN COLLEGE OF PHYSICIANS (CHOU ET AL. 2017): LBP: WHAT IS NEW?

- New evidence of no-effectivenes of paracetamol in acute LBP!!!
- New evidence of effectivenes of duloxetine in chronic LBP!!!
- NSAIDs have lower effect in acute and chronic LBP compared to previously believed effect
- Myorelaxants has short-lasting effect in acute LBP, but cause sedation
- Opioids – moderate effect in chronic LBP
- Effect of systemic administration of corticosteroids doesnot seem to be proved
- Generally, all proved effects are short-lasting and of mild or moderate degree

# NONINVASIVE TREATMENTS FOR ACUTE, SUBACUTE, AND CHRONIC LOW BACK PAIN: A CLINICAL PRACTICE GUIDELINE FROM THE AMERICAL COLLEGE OF PHYSICIANS (QASEEM ET AL. 2017)

Acute/subacute LBP:

- Start with non-pharmacological treatment
- If pharmacological treatment is necessary, consider NSAIDs or myorelaxants

Chronic LBP

- Start with non-pharmacological treatment
- If non-pharmacological treatment is ineffective, consider NSAIDs, tramadol, duloxetin.
- If ineffective, consider opioids with respect to their risks

# RECOMMENDATION NICE 2016 (HTTPS://WWW.NICE.ORG.UK/GUIDANCE/NG59)

- Consider NSAIDs with respect to side-effect profile and risk for an individial patient
- After NSAIDs administration monitor a patient, side effects and use gastroprotection, use lowest-possible dose and shortest-possible duration of treatment!
- Consider weak opioids (as monotherapy or in combination with paracetamol) in case of ineffectiveness, intolerance or contraindication of NSAIDs!
- Don't use paracetamol in monotherapy!!
- Don't use opioids routinely for acute LBP
- Don't use opioids for chronic LBP
- Don't use SSRI, SNRI??? and TCA in LBP
- Don't use anticonvulsants (pregabalin, gabapenti) in LBP (except radicular pain)

# CONCLUSIONS

Always consider the use of pharmacotherapy in LBP:

- “most episodes of acute LBP are self-limited and not every patient needs pharmacotherapy!
- It is recommended to explain to patients benign character of acute LBP episodes, expected benefit of pharmacotherapy and possible side-effects
- Risks of side effects of pharmacotherapy could overweight its benefit!
- Use non-pharmacological treatment?

# CONCLUSIONS

In acute LBP after decision to start pharmacotherapy:

- Short-lasting therapy, for necessary episode only, follow side effects, instruct a patient!
- Consider NSAIDs, non-benzodiazepin myorelaxants
- In severe pain (even in chronic LBP) consider weak opioids and their combination with paracetamol, strong opioids (oxycodon), tapentadol

# CONCLUSIONS

In chronic LBP:

- Consider pharmacotherapy (complex problem, change of regimen, exercise, yellow flags!!!)
- In case of acute exacerbations of pain consider NSA, opioids (weak, strong, tapentadol)
- In case of a neuropathic component of pain consider gabapentinoids, duloxetine, opioids, tapentadol, eventually in combination with analgesics relieving nociceptive pain (NSAIDs, paracetamol)
- Short-lasting therapy!

# CONCLUSIONS

As non-indicated procerures in LBP are currently considered:

- Paracetamol in monotherapy
- Myorelaxants in chronic LBP
- Antidepressants (TCA, SSRI)
- Long-term pharmacotherapy (especially opioids, NSAIDs)
- Systemic administration of corticosteroids

# EPIDEMIOLOGY

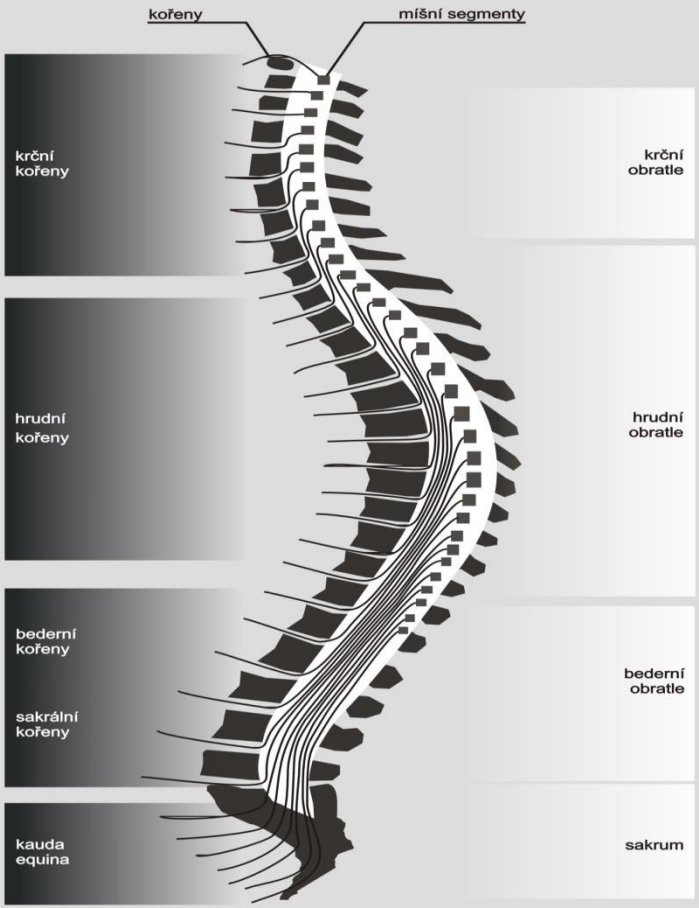
- 1. Most frequent cause of working disability in people younger than 45 years
- 2. Most frequent cause to visit the doctor
- 3. Most frequent cause of surgery
- 5. Most frequent cause of hospital admittion

# EPIDEMIOLOGY

- 1% of population is on sick leave
- 10-15% of sick leave days
- 1% of population is permanently disabled

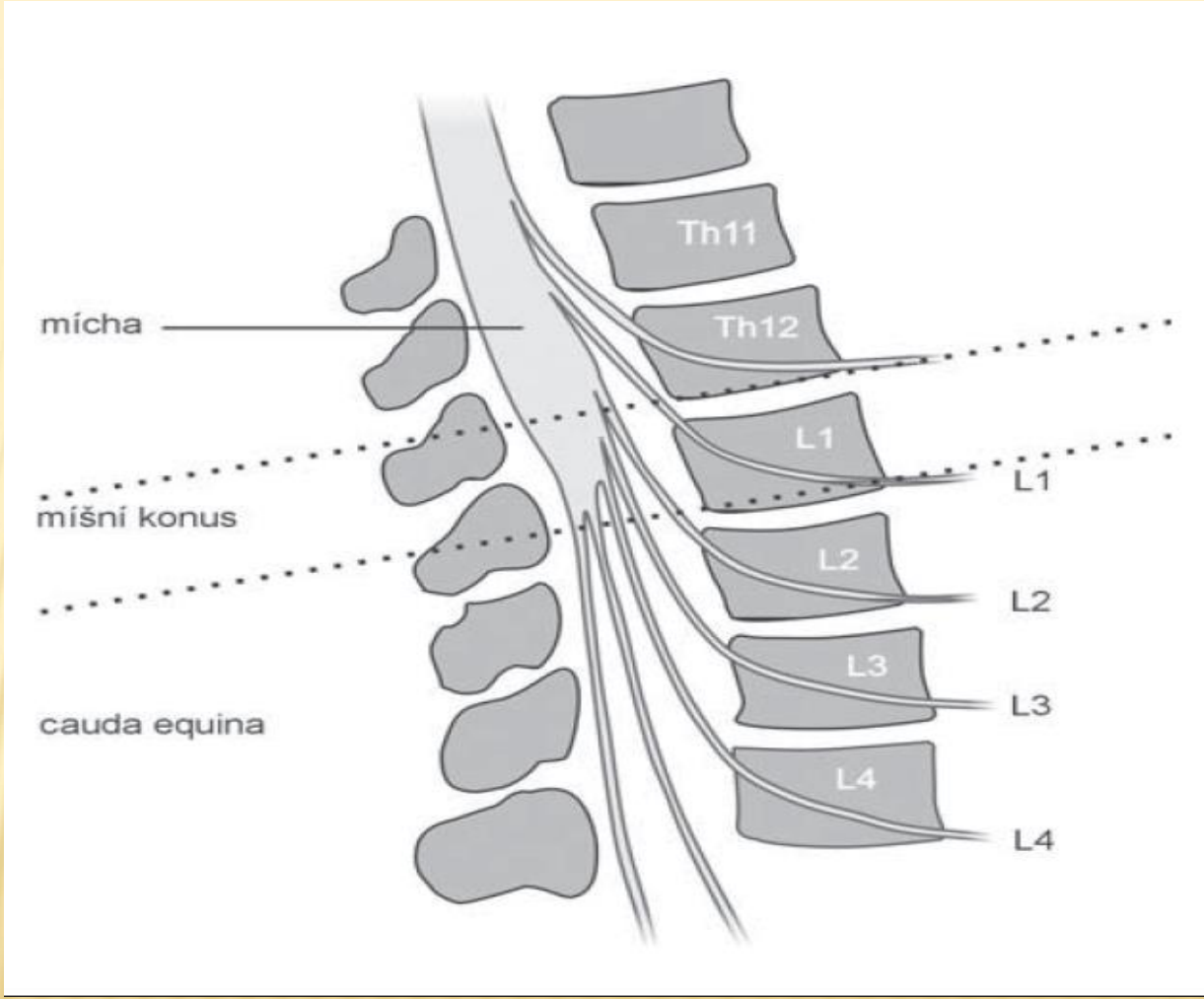
# VERTEBROMEDULLAR TOPOGRAPHY

| Vertebrae | Medullar segments and roots |
|---|---|
| C1-7 | C1-8 (+1) |
| Th1-6 | Th1-6 (+2) |
| Th7-10 | Th7-12 (+3) |
| Th 11 | L5 |
| Th 12 | S2 |
| L1-2 | S3-5 (conus medullaris) |



# VERTEBROMEDULLAR TOPOGRAPHY

| Vertebrae | Medullar segments and roots |
|---|---|
| C1-7 | C1-8 (+1) |
| Th1-6 | Th1-6 (+2) |
| Th7-10 | Th7-12 (+3) |
| Th 11 | L5 |
| Th 12 | S2 |
| L1-2 | S3-5 (conus medullaris) |

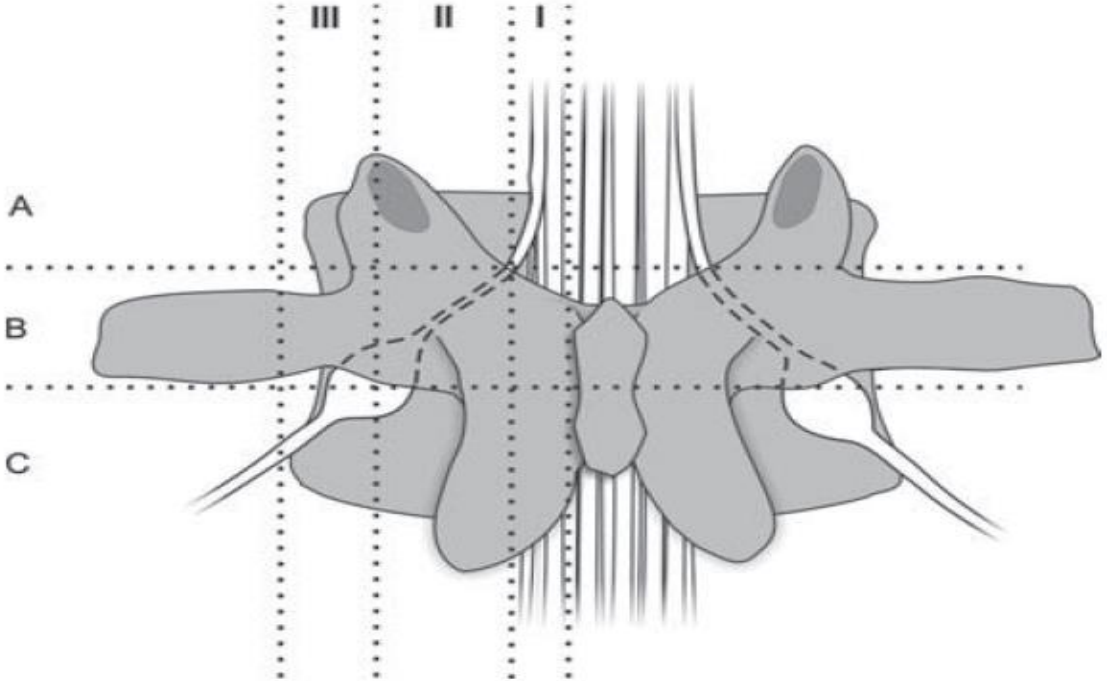


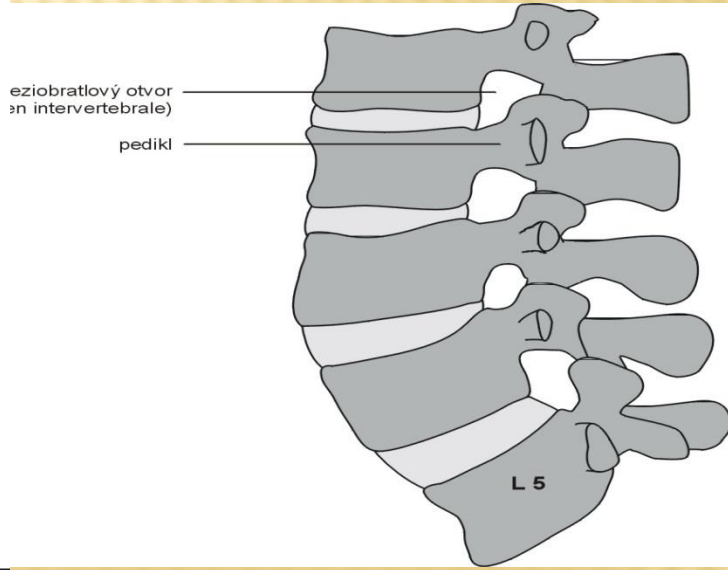
# LUMBAR ROOT CANAL

Úseky kořenového kanálu ve frontální rovině

Mediolaterální aspekt
I zóna laterálního recesu
II zóna foraminální
III zóna extraforaminální

Kraniokaudální aspekt
A parapedikulární úroveň
B foraminální úroveň
C extraforaminální úroveň



# CAUSES OF RADICULOPATHIES

## A. Compressive radiculopathies

1. Degenerative

   Discopathy: herniations (+fragments)

   Osteophytes - mostly uncovertebral (anterior part of the upper recessus articularis)

   Disc collapse

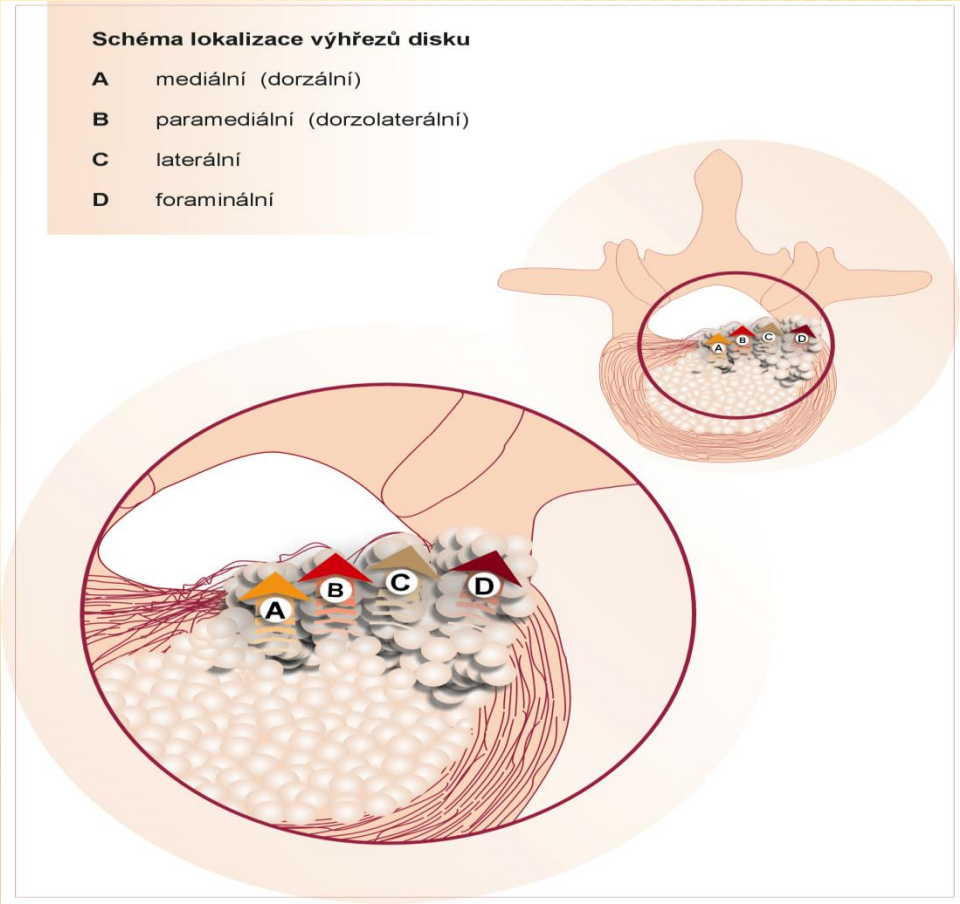
2. Non-degenerative: tumors, trauma, osteoporosis, developmental…

## B. Non-compressive radiculopathies:

herpes zoster, borreliosis, diabetes mellitus

# LUMBAR RADICULOPATHY

A. Medial herniation
B. Mediolateral herniation
C. Lateral herniation
D. Foraminal herniation
E. Extraforaminal herniation

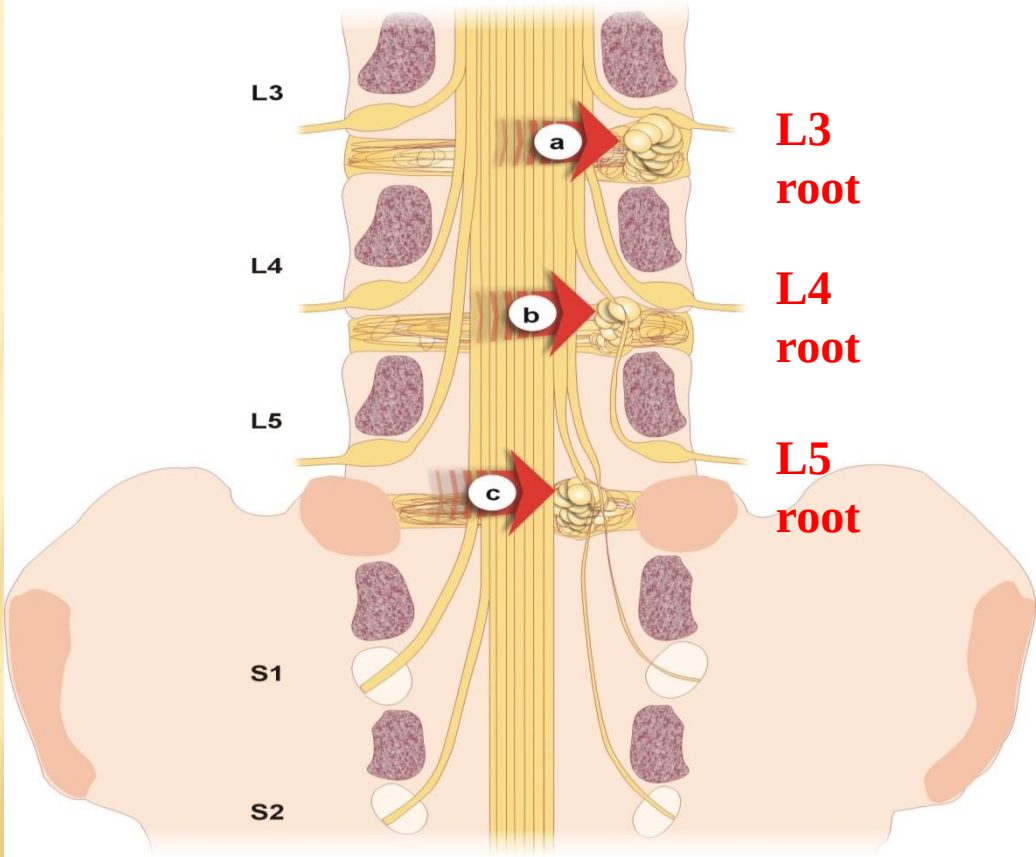


# TOPOGRAPHY OF DISC HERNIATIONS AND INJURED ROOTS

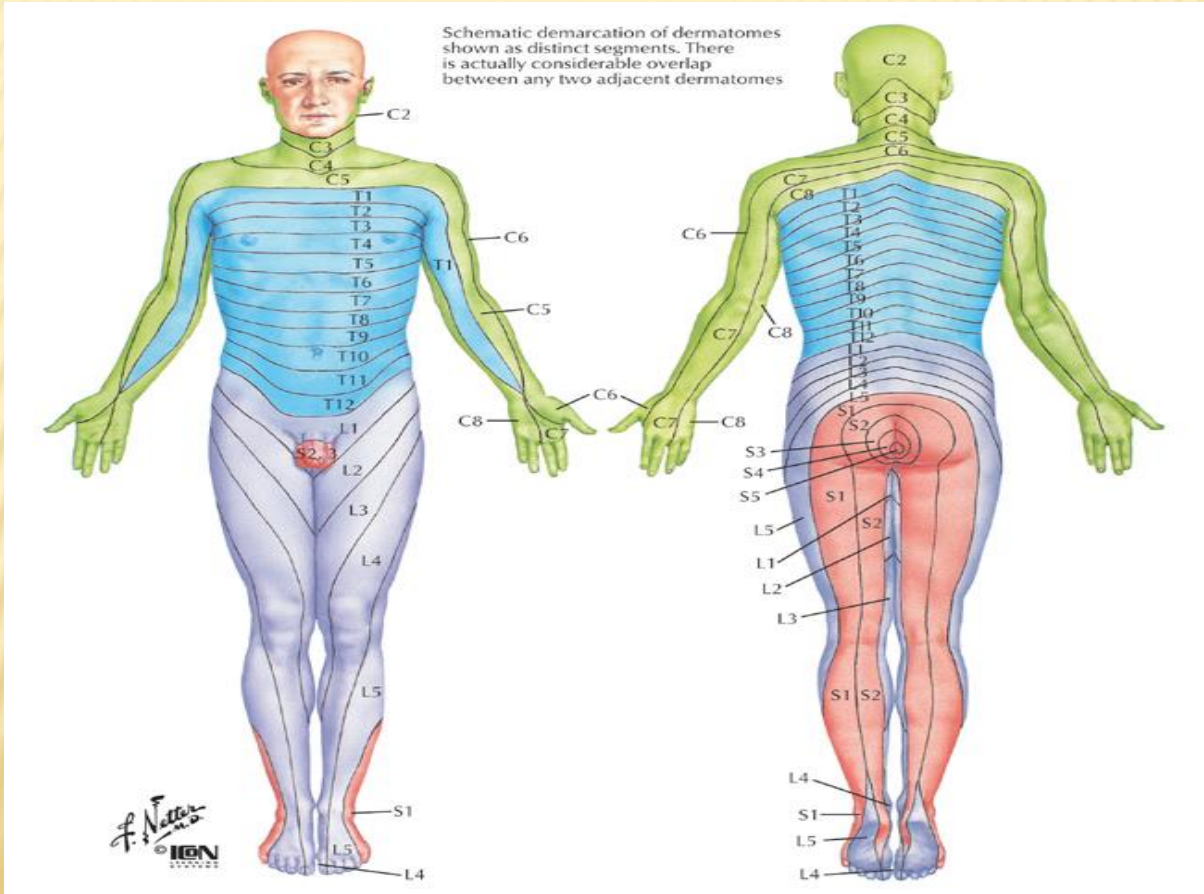
**a** foraminální výhřez disku L3 / 4 s kompresí kořene L3

**b** laterální výhřez disku L4 / 5 s kompresí kořene L5

**c** paramediální výhřez disku L5 / S1 s kompresí kořenů S1 a S2

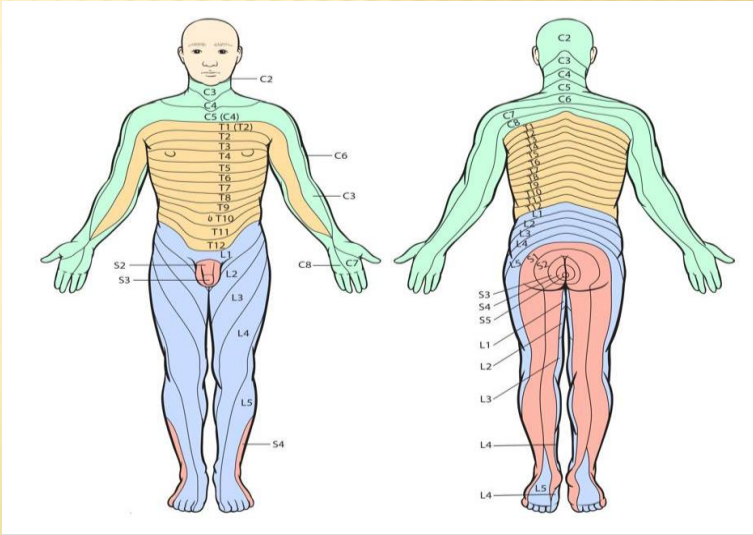


# Dermatomes (areae radiculares)



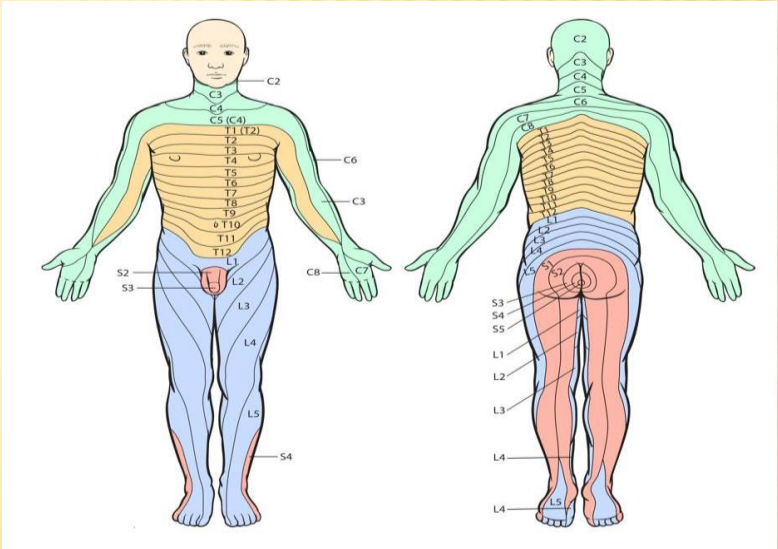
# RADICULOPATHY C5

- PAIN - neck, shoulder
- SENSATION – shoulder
- STRENGTH – weakened arm abduction and forearm flexion
- REFLEXES: unelicited bicipital reflex



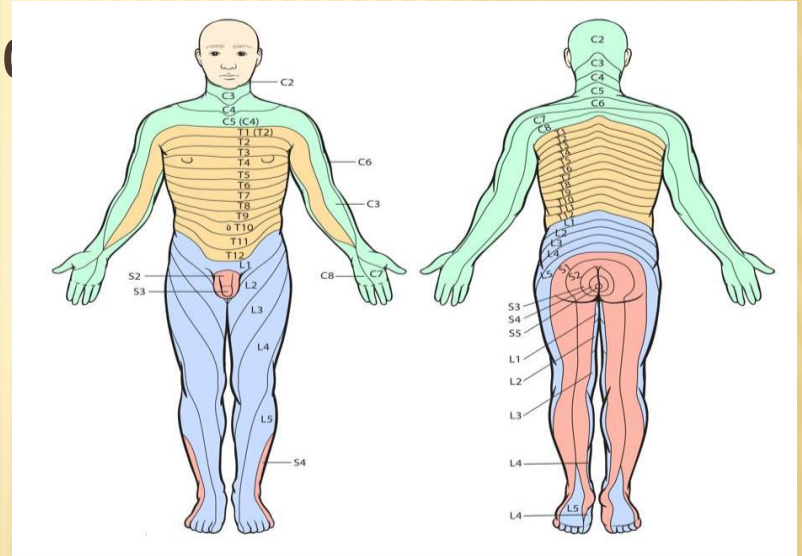
# RADICULOPATHY C6

- PAIN, SENSATION: shoulder, lateral arm, forearm, thumb
- STRENGTH – weakened forearm flexion
- REFLEXES: unelicited bicipital reflex



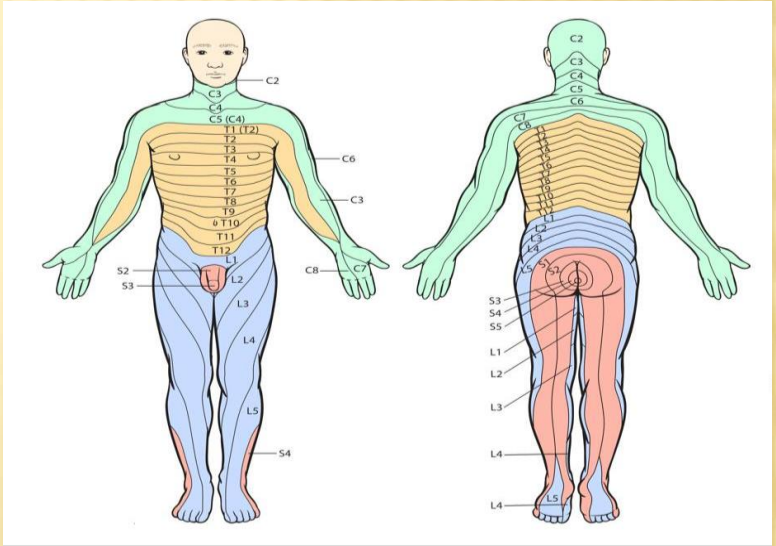
# RADICULOPATHY C7

- PAIN, SENSATION - dorsal aspect of arm, forearm, hand dorsum, digit II-IV.
- STRENGTH – weakened forearm extension
- REFLEXES: unelicited triceps reflex



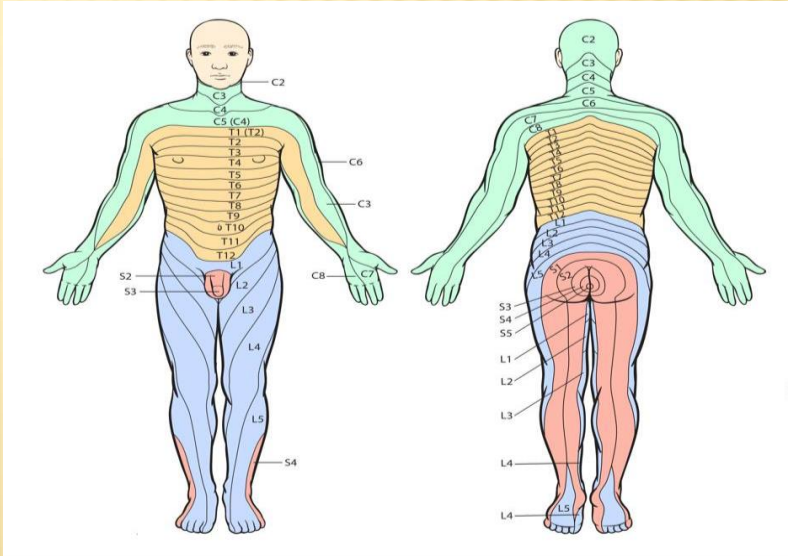
# RADICULOPATHY C8

- PAIN, SENSATION – medial aspect of arm, forearm, digit IV-V.
- STRENGTH – weakened hand muscles
- REFLEXES: unelicited flexor digitorum reflex



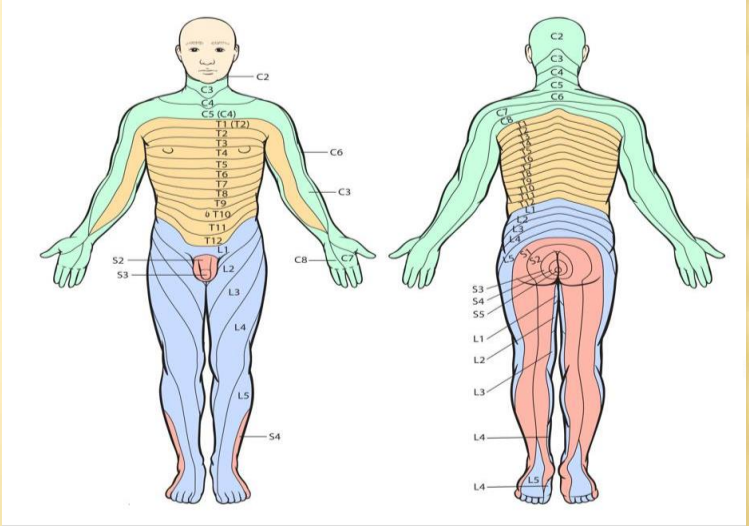
# RADICULOPATHY L4

- PAIN, SENSATION – anterior aspect of thigh, medial aspect of leg
- STRENGTH – weakened knee extension
- REFLEXES: unelicited patellar (knee) reflex



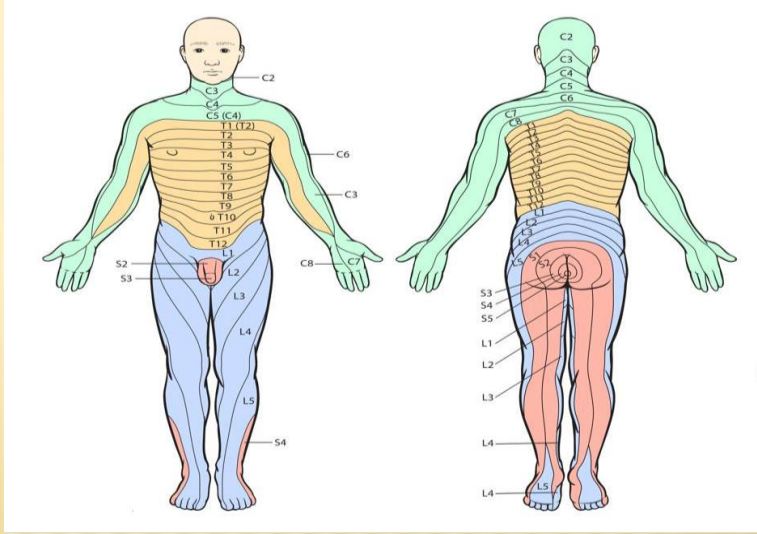
# RADICULOPATHY L5

- PAIN, SENSATION – lateral aspect of thigh, anterolateral aspect of leg, dorsum of hand, big toe
- STRENGTH – weakened foot dorsiflexion
- REFLEXES: 0



# RADICULOPATHY S1

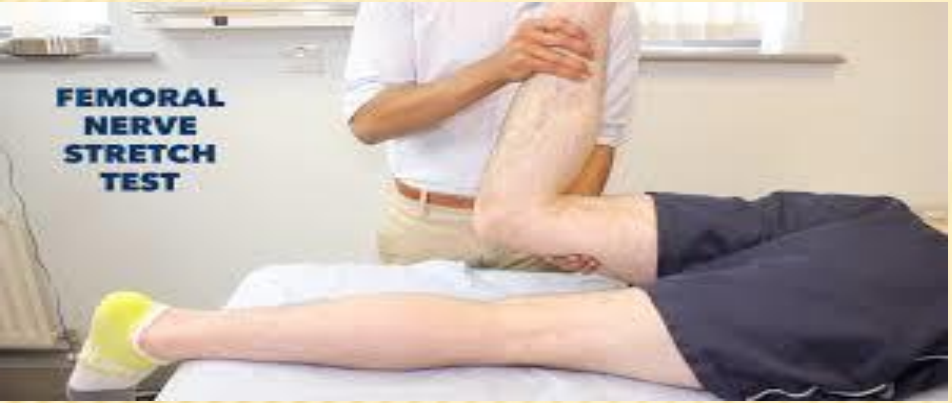
- PAIN, SENSATION – gluteal region, dorsal aspect of thigh, leg, lateral aspect of foot, digit. II-V
- STRENGTH – weakened flexion of foot
- REFLEXES: unelicited Achilles tendon reflex



# DIAGNOSTIC WORKUP

- Clinical examination: pain characteristics and topography, strength, sensation, reflexes, compressive maneuvers
- Radiograms (AP, lateral, oblique projections, dynamic scans)
- MRI
- CT
- Myelography, myelo/CT
- Electrophysiological exams (EMG, SEP, MEP)

# COMPRESSIVE ROOT TESTS





**L4**

**L5, S1**

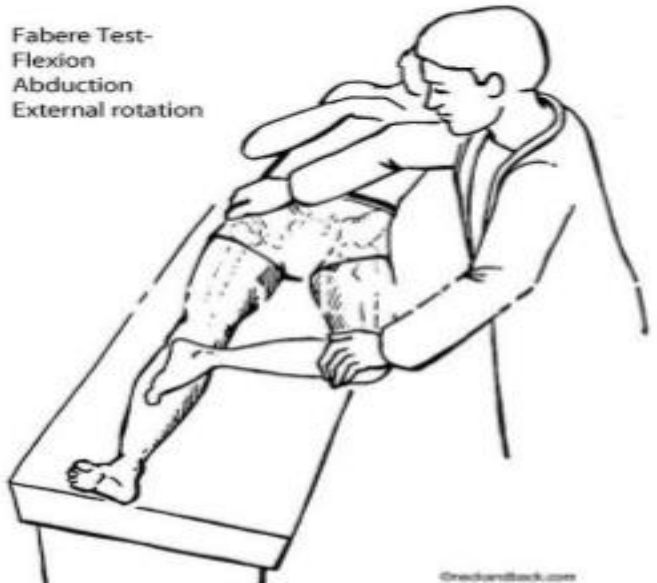
# PATRICK' TEST

## Patrick's test

If pain is elicited on the ipsilateral + anteriorly = hip joint disorder on the same side

If pain is elicited on the contralateral + posteriorly = SIJ disorder.

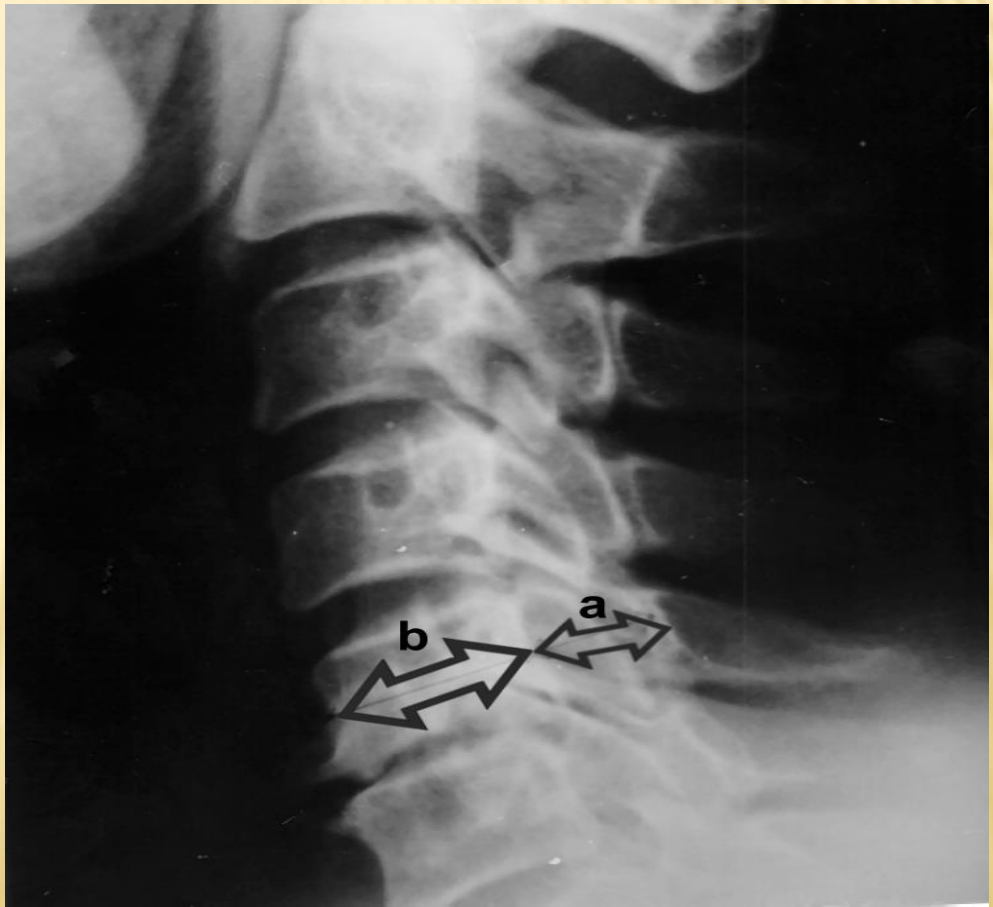
The sensitivity of this test in predicting response from SI injection is 57% and almost 100% specific



# RTG

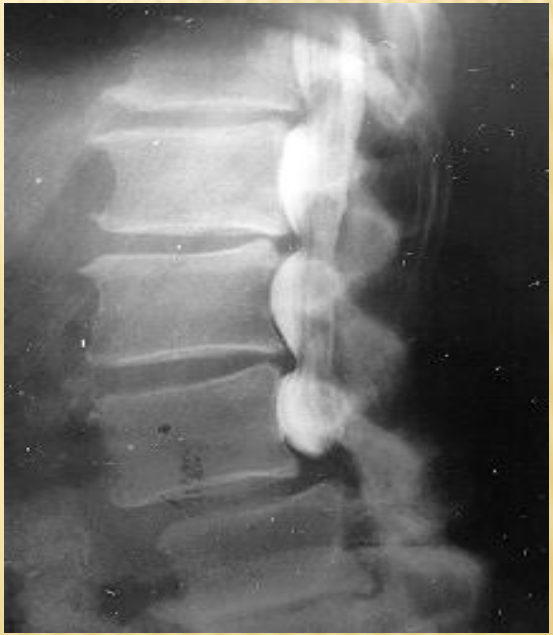
TORG-PAVLOV INDEX = A/B (C5)

TA INDEX < 0,82 = CONGENITAL STENOSIS

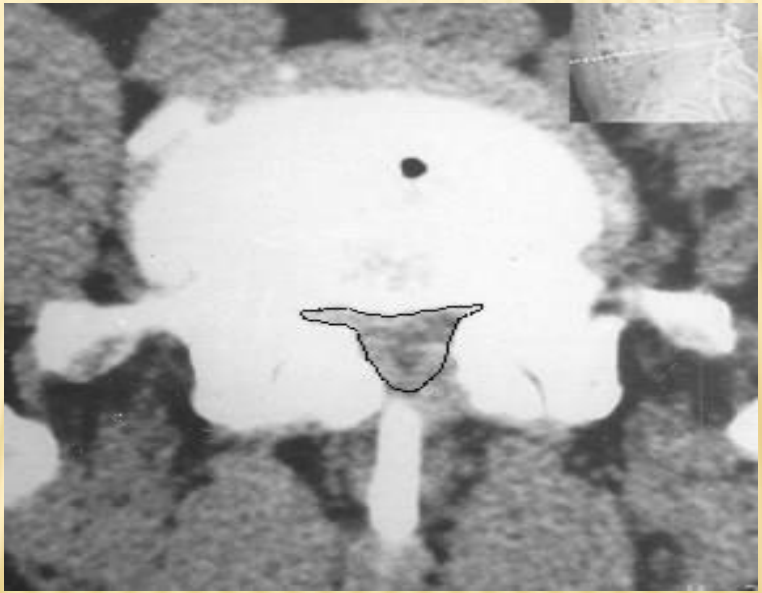


# LSS - MYELOGRAPHY (RADICULOSACOGRAPHY)

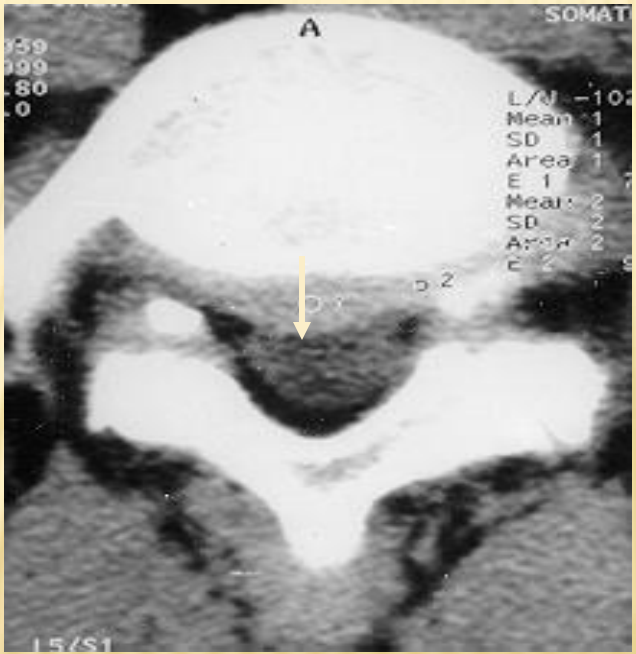
- „Gold standard“
- Quantification of dural sac compression (Porter 1992)



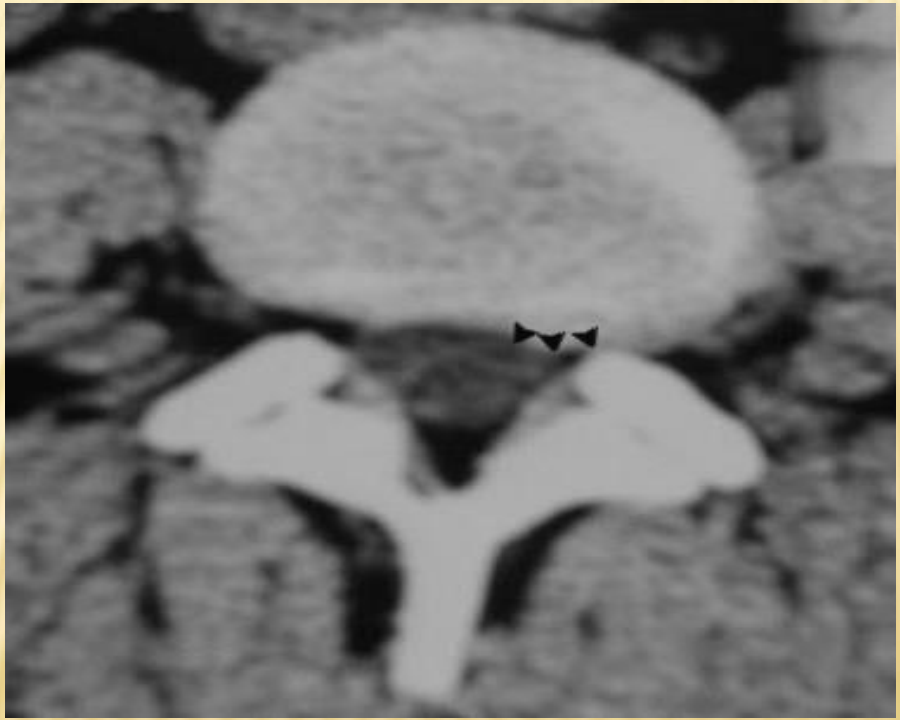
# CT EXAM
# DEGENERATIVE LUMBAR STENOSIS



# CT EXAM: MEDIAL DISC HERNIATION L5/S1 (AXIAL SCAN)

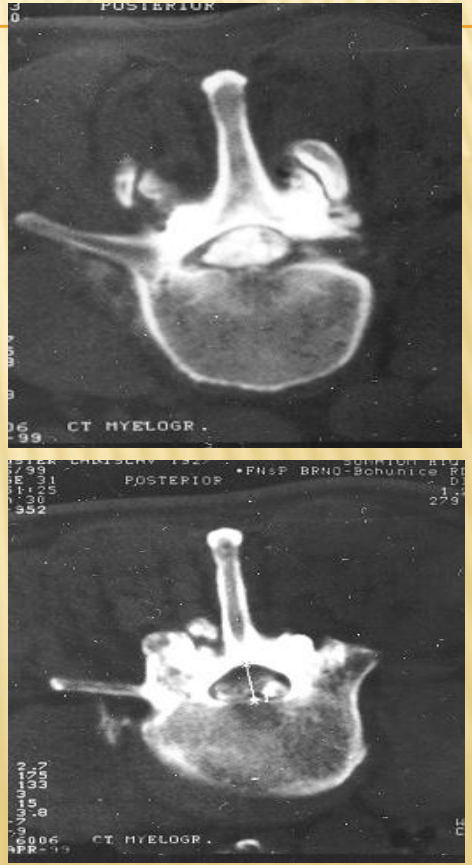


# CT EXAM: LATERAL DISC HERNIATION L5/S1 (AXIAL SCAN)

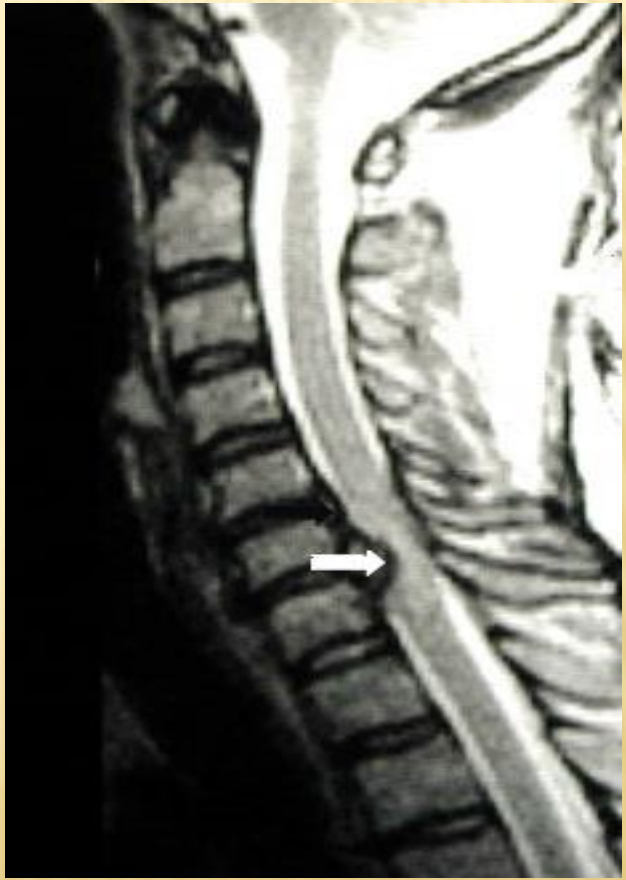


# MYELO CT

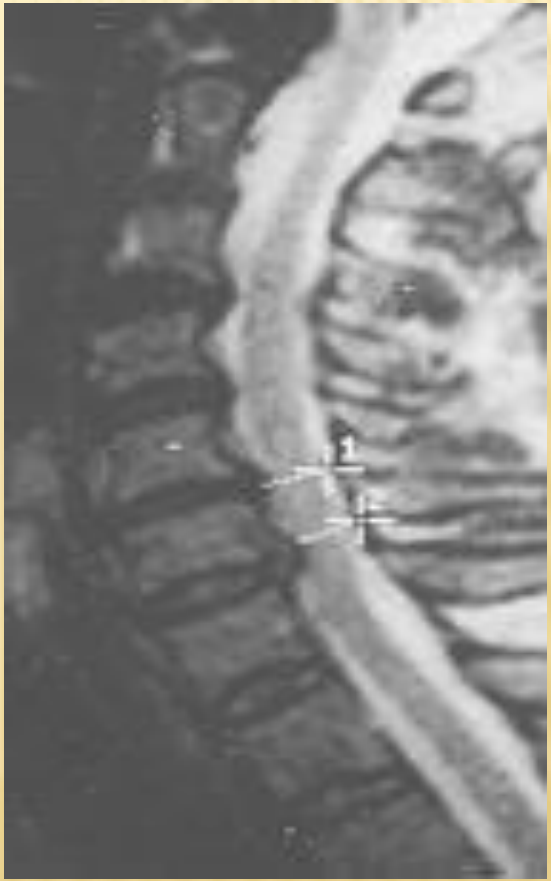
**Axial CT scan above and below block**



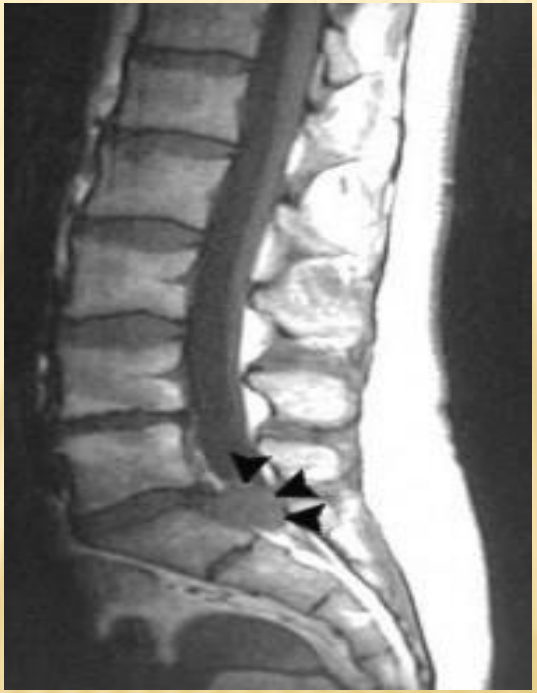
# MAGNETIC RESONANCE IMAGING: MEDIAL HERNIATION C6/7 WITH CERVICAL CORD COMPRESSION (MR SAGGITAL SCAN, T2W IMAGE)



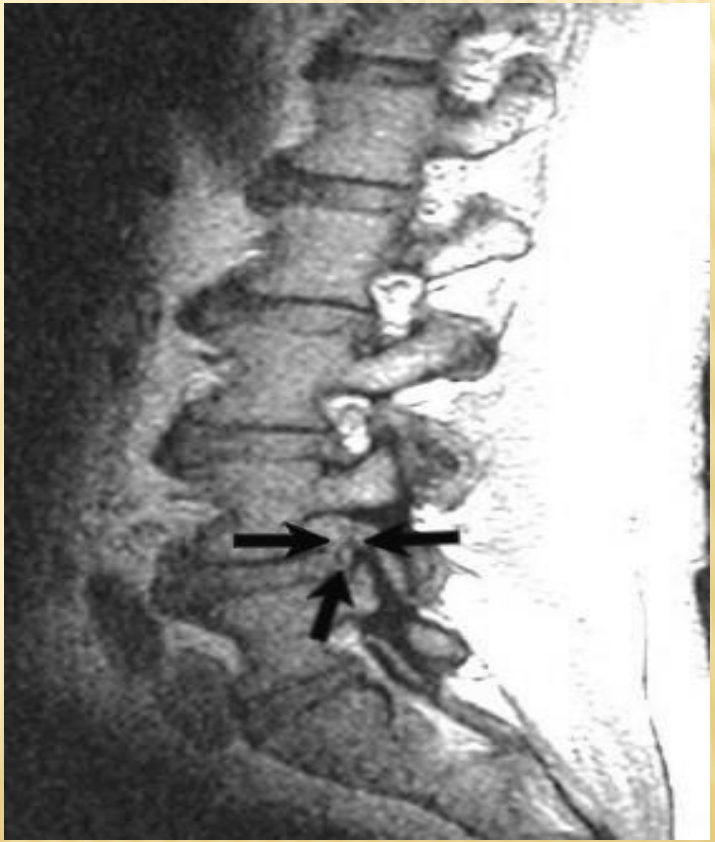
# MAGNETIC RESONANCE IMAGING: CERVICAL CORD COMPRESSION BY DORSA OSTEOPHYTES AT C5/6 AND C6/7 LEVEL (MR SAGGITAL SCAN, T2W IMAGE)



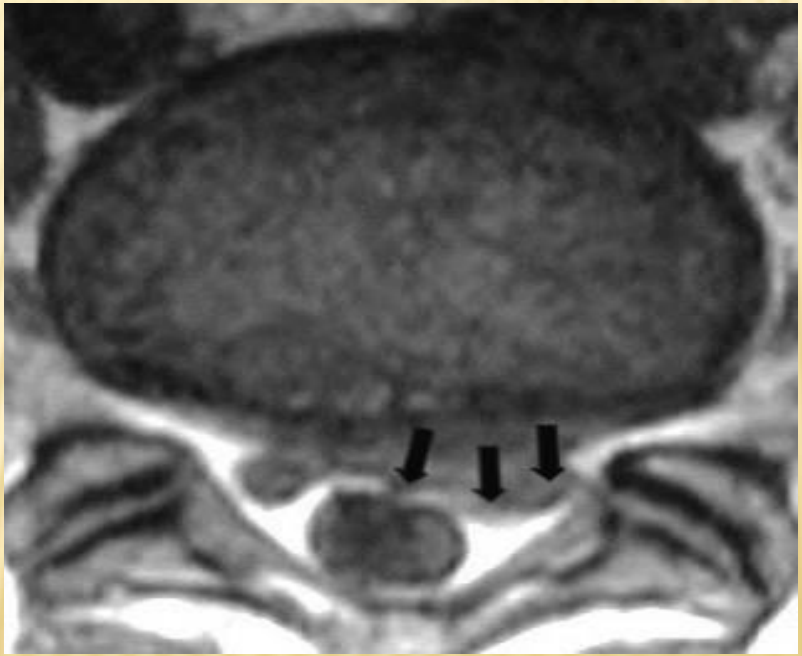
# MRI: PARAMEDIAL SEQUESTRATED L5/S1 DISC HERNIATION (MR SAGGITAL SCAN, T1W IMAGE)



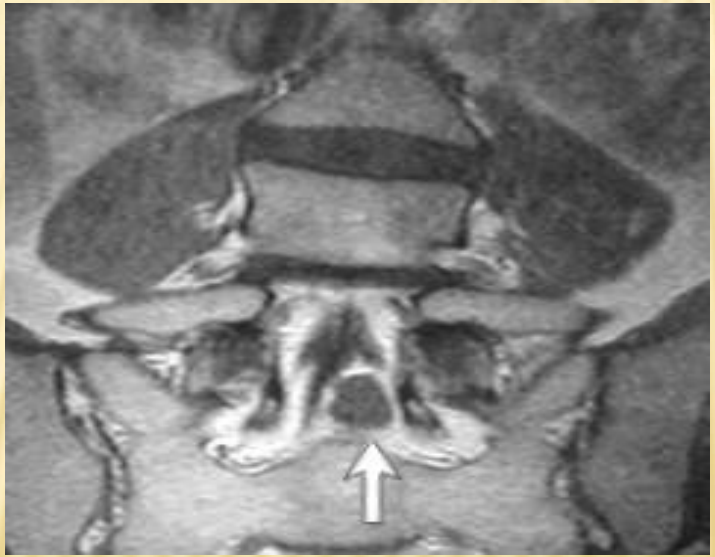
# MRI: FORAMINAL L4/5 DISC HERNIATION (SAGGITAL SCAN, T1W IMAGE)



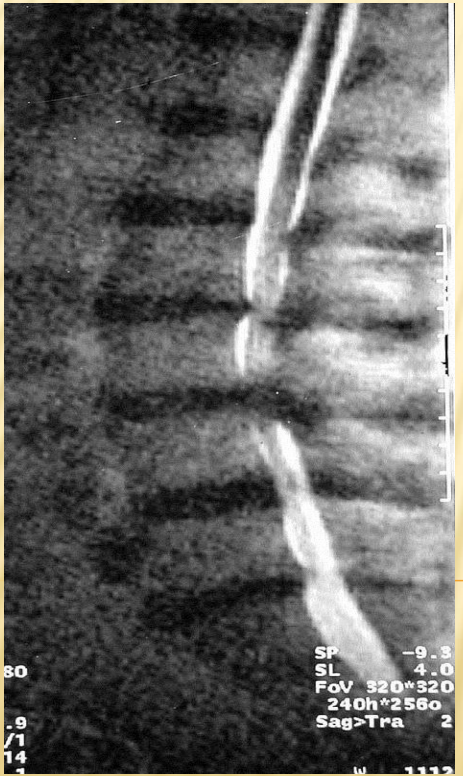
# MRI: PARAMEDIAL L5/S1 DISC HERNIATION ON THE LEFT SIDE (T1W IMAGE, AXIAL SCAN)

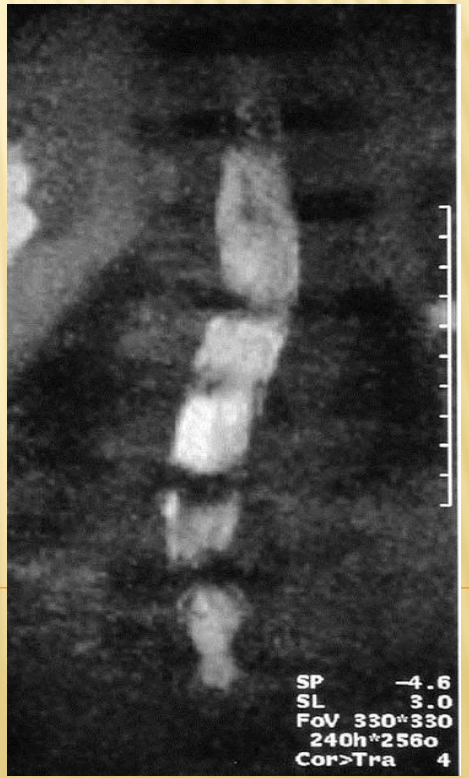


# MRI: LEFT-SIDED PARAMEDIA L5/S1 DISC HERNIATION (TW1 IMAGE, FRONTAL SCAN)



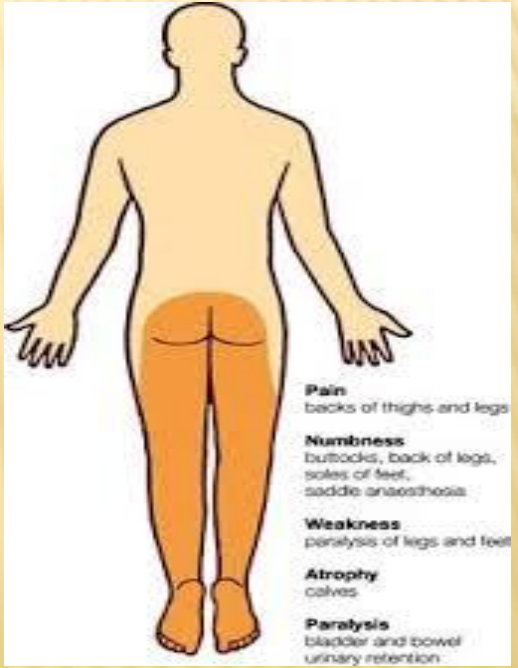
# MRI MYELOGRAPHY: MULTISEGMENTAL DEGENERATIVE LUMBAR STENOSIS



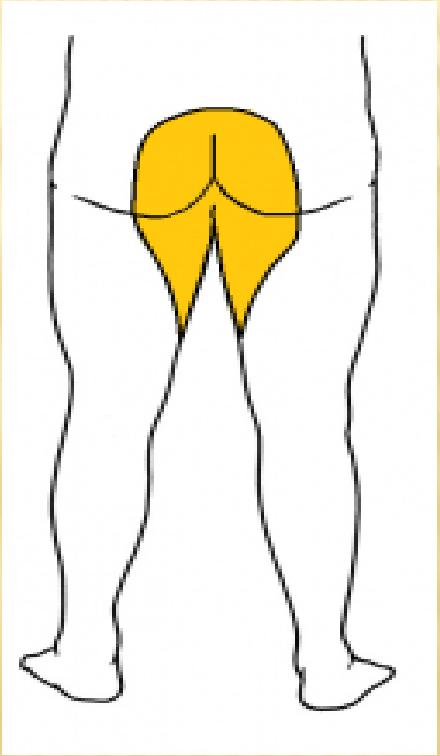
# CAUDA EQUINA SYNDROME

- Sphincter dysfunction
- Sensation, pain: Saddle hypo/anaesthesia + more proximal dermatomes
- Possible asymetry
- Flaccid paraparesis
- Positive compressive tests (Lassegue)



# CONUS MEDULLARIS SYNDROME

- Sensation: saddle hypo/anaesthesia, no pain
- Sphincter disturbances

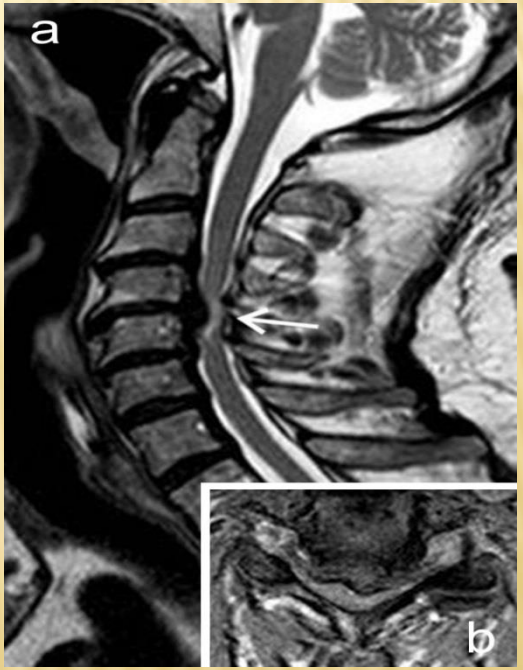


# DEGENERATIVE (SPONDYLOTIC) CERVICAL MYELOPATHY (DCM)

**Epidemiology**: the most frequent cause of lower paraparesis above the age of 55 years

**Pathophysiology**:

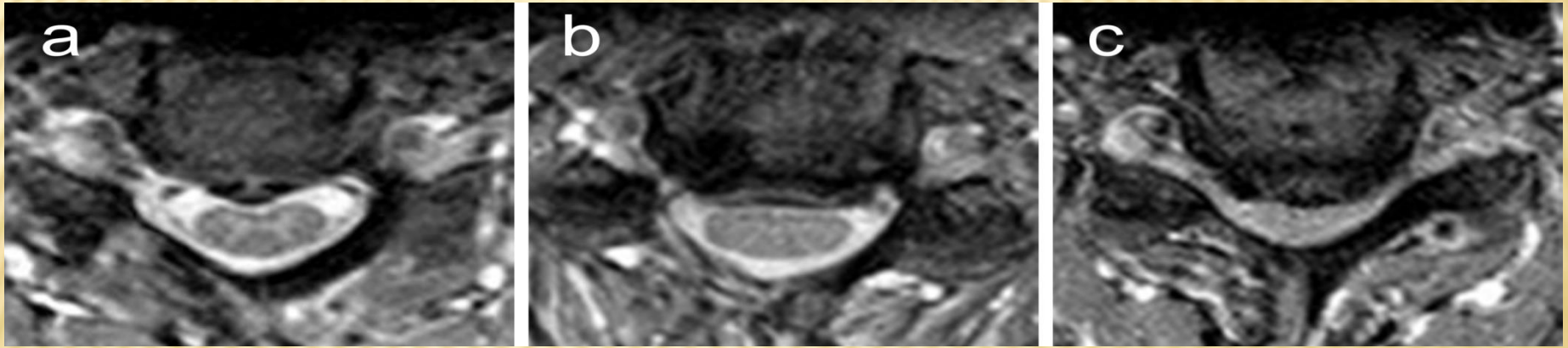
- Cervical cord mechanical compression (static, dynamic)
- Vascular factor



# MOST FREQUENT CLINICAL SYMPTOMS AND SIGNS OF DCM

- Clumsy hands
- Disturbance of gait
- Cervical pain, radicular cervical pain
- Paretic signs
- Sensory signs
- Sphincter disturbance

# MRI: DEGENERATIVE CERVICAL CORD COMPRESSION (T1W IMAGE, AXIAL SCANS)



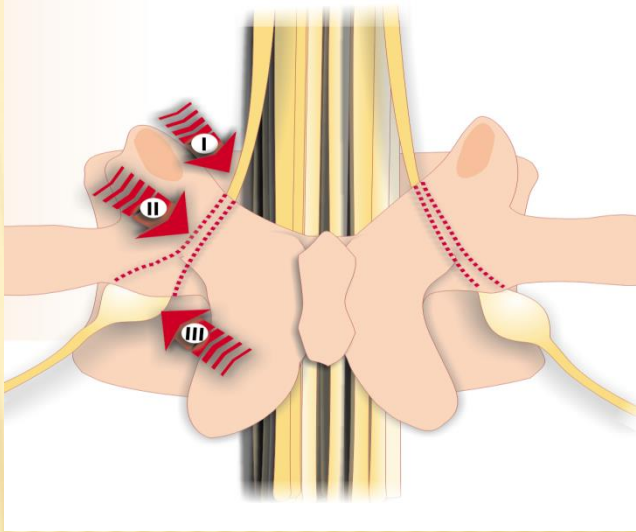
# LUMBAR STENOSIS – ANATOMICAL CLASSIFICATION

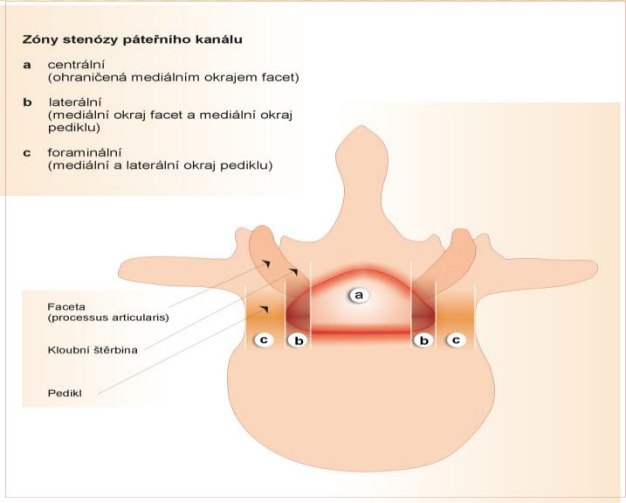
1. Central stenosis
    1. 1.1. Anteroposterior (usually congenital
    2. 1.2. Transversal (rarely congenital)
2. Lateral stenosis (root canal stenosis)- degenerative

2.1. Stenosis of lateral recessus (medially to pedicle)

2.2. Foraminal stenosis (caudally to pedicle

2.3. Extraforaminal stenosis (laterally to pedicle)



# LSS – ETIOLOGICAL CLASSIFICATION

1. Congenital (developmental)
2. Acquired

2.1. Degenerative

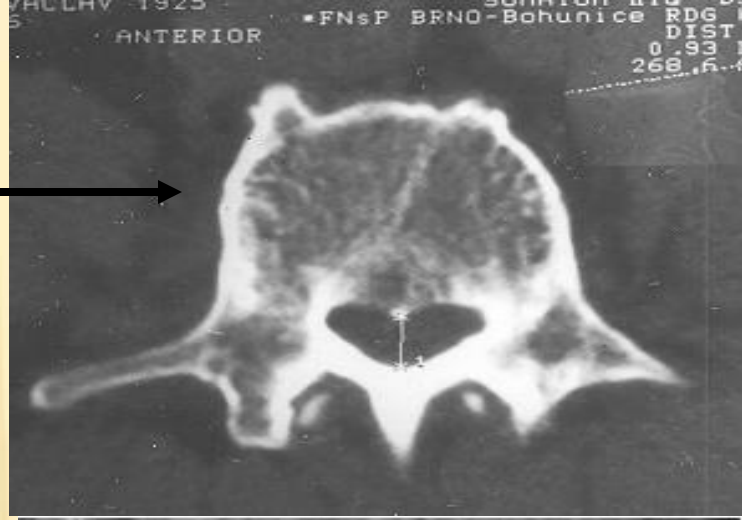
2.2. Combined congenital and degenerative

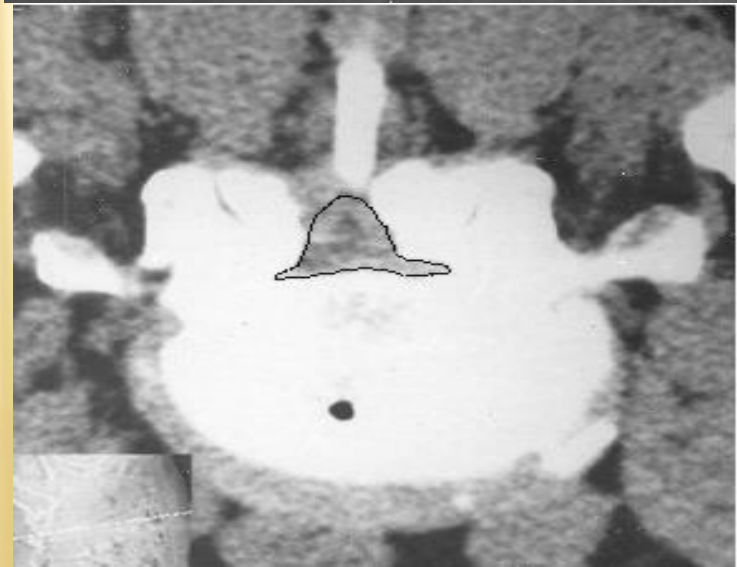
2.3. Iatrogennic (postlaminektomic)

2.4. Spondylolythic

2.5. Posttraumatic

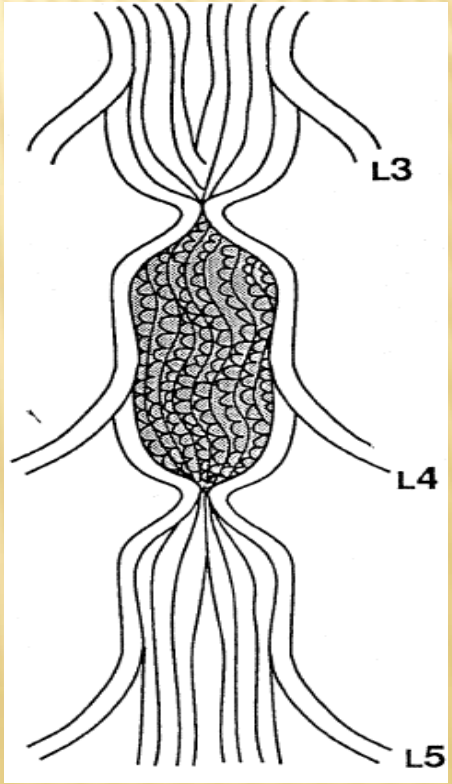
2.6. Various (Paget disease)



# SYMPTOMATIC LUMBAR SPINAL STENOSIS

- Neurogenic claudication
- Chronic cauda equina syndrome



# DIAGNOSIS OF CLAUDICATION

| Clinical Spectrum of Claudication | | |
|---|---|---|
| **Intermittent**<br><br>**(Atherosclerosis)** | **Neurogenic**<br><br>**(Lumbar Spinal Stenosis)** | **Venous**<br><br>**(Deep Vein Thrombosis)** |
| • Pain is in the muscle of the calf, thigh or buttock<br>• Unilateral in femoropopliteal disease<br>• Bilateral in aorto-iliac disease<br>• Gradual onset after walking "claudication distance"<br>• Pain is relieved by rest<br>• Absent/reduced pulses<br><br>NB. The Claudication distance is a constant distance the patient was able to walk before the onset of symptoms. | • Pain is in whole leg can be associated with tingling and numbness<br>• Bilateral (Can also be less commonly unilateral)<br>• Comes on suddenly on standing up or walking<br>• Relieved by sitting down, bending over and stopping walking<br>• Unable to straighten legs | • Involvement of whole leg.<br>• Pt may describe feeling their "leg is going to burst"<br>• Most commonly unilateral<br>• Gradual onset after beginning to walk<br>• Relief on elevating the leg<br>• Cyanosed<br>• Varicose Veins<br>• Oedematous |

# COCHRANOVA DATABÁZE: FARMAKOTERAPIE BOLESTÍ ZAD

| Typ léčby | Cílová skupina | Aktuali-zace | Průkaz efektu |
|---|---|---|---|
| **NSA** | LBP | 2008 | ANO: **krátkodobý efekt u akutní LBP bez kořenové symptomatiky,** síla efektu je malá.<br>NE: větší účinnost jednoho typu NSAID oproti jinému. COX-2 inhibitory mají méně nežádoucích účinků oproti klasickým NSAID, ale vyšší kardiovaskulární toxicitu |
| **NSA** | Neuropatická bolest u LBP | 2015 | NE: efekt na snížení bolesti |
| **NSA** | Chronická LBP | 2016 | ANO: **průkaz nízké kvality efektu oproti placebu na bolest a mírného efektu na disabilitu**<br>NE: rozdíl v účinnosti i bezpečnosti jednotlivých NSA |
| **NSA** | Ischias | 2016 | ANO: **průkaz nízké kvality na celkové zlepšení**<br>NE: průkaz efektu na bolest |
| **Myorela-xancia** | Nespecifické LBP | 2004 | ANO: **efekt u akutní LBP** (ne-benzodiazepinová myorelaxancia)<br>NE: efekt u chronické LBP; větší účinnost oproti NSA či jiným analgetikům |
| **Antidepre-siva** | Nespecifické LBP | 2008 | NE: efekt u chronické LBP |
| **Opioidy** | Chronická LBP | 2013 | ANO: **průkaz nízké až střední kvality krátkodobého efektu na bolest a funkci**<br>NE: rozdíl v efektu oproti NSA nebo antidepresivům |
| **Paracetamol** | LBP | 2016 | NE: lepší efekt než placebo u akutní i chronické LBP v monoterapii |
| **Tapentadol** | Chronická muskuloskeletální bolest | 2015 | ANO: **efekt na redukci bolesti oproti placebu a oxykodonu**; klinický význam je nejistý; lepší bezpečnostní profil oproti oxykodonu |