



LPB - Low Back Pain

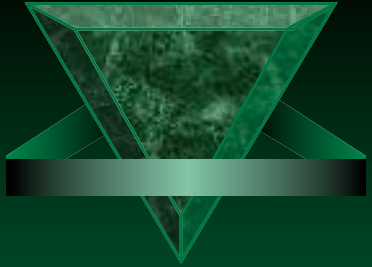
Martin Repko, Richard Chaloupka



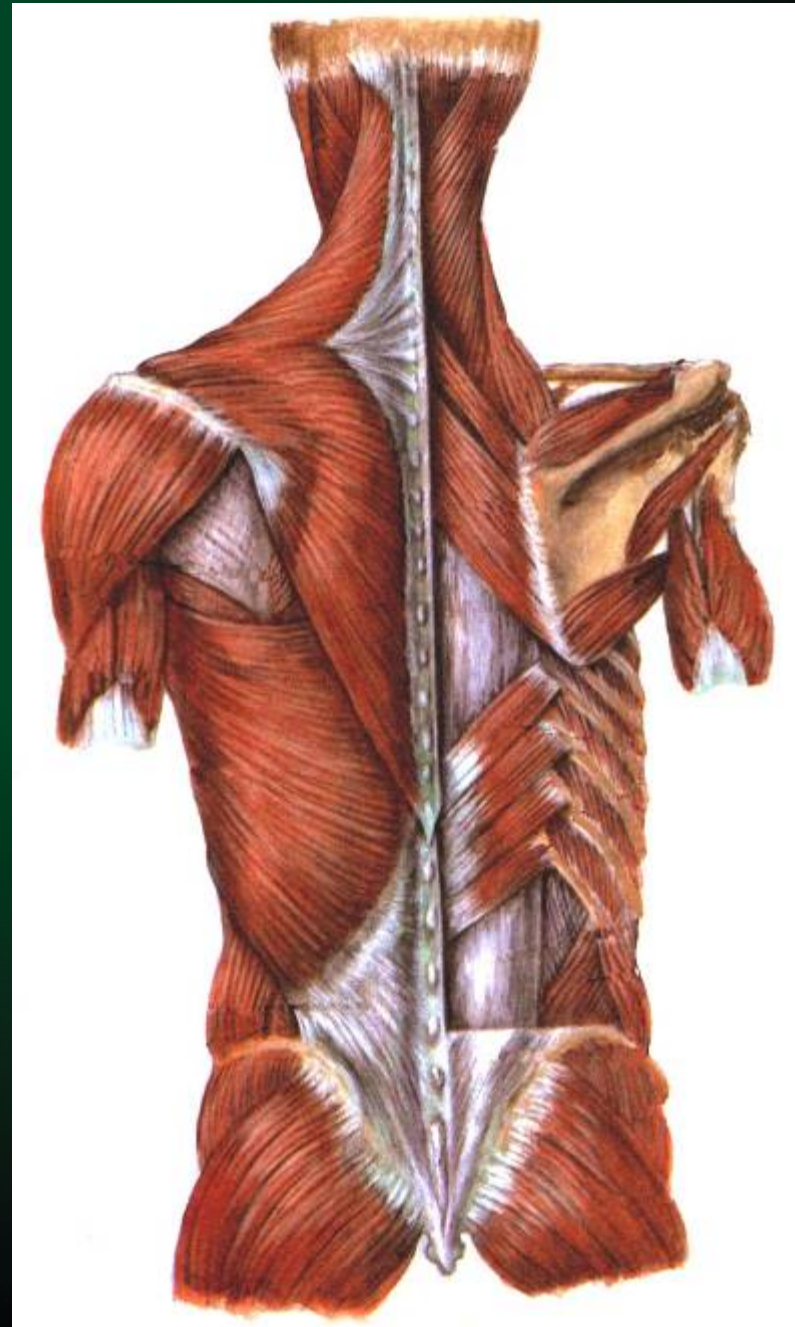
Definition:

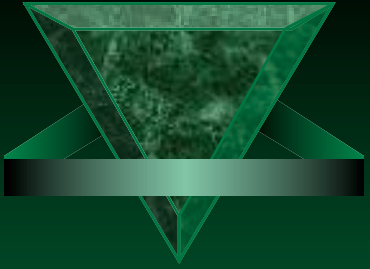
It is tiredness, dyscomfort or pain in lower part of back with or without irradiation do one or both lower extremities.

- ▼ **Acute 24hours - 3 month**
- ▼ **Chronical over 3 month**
- ▼ **Recidiv**



Anatomy





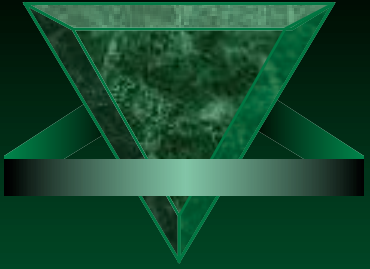
Pathogenesis

1. Primary functional



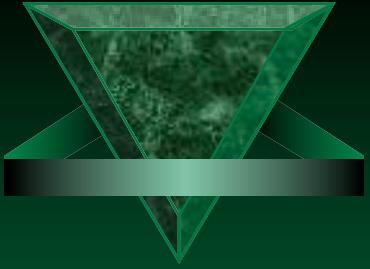
secondary structural

2. Primary structural



Pathogenesis

- ▼ **vertebrogenic**
- ▼ **discogenic**
- ▼ **neurogenic**
- ▼ **vasogenic**
- ▼ **myogenic**
- ▼ **viscerogenic**
- ▼ **psychogenic**



Pathogenesis

- ▼ degeneration
- ▼ inflammation
- ▼ tumours
- ▼ fractures
- ▼ Congenital deformities
- ▼ Metabolic diseases



Inflammations

▼ *specific*

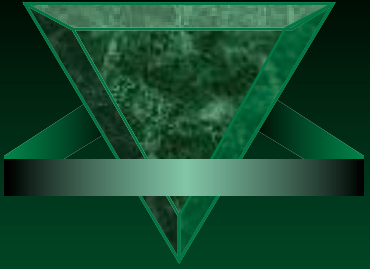
-tbc spondylitis

▼ *non-specific*

-spondylogenic osteomyelitis

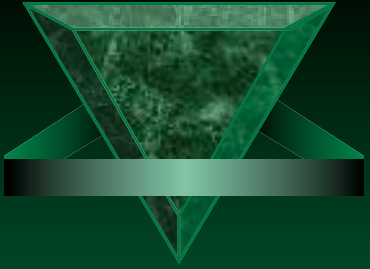
▼ *revmatic*

-M.Bechtereev



Tbc spondylitis

- ▼ **Spondylitis ant.**
 - profunda
 - superficialis
- ▼ **Spondylitis posterior**



X-ray stages of tbc spondylitis

▼ **inicial**

porosis and decreasing of iv spaces

▼ **florid**

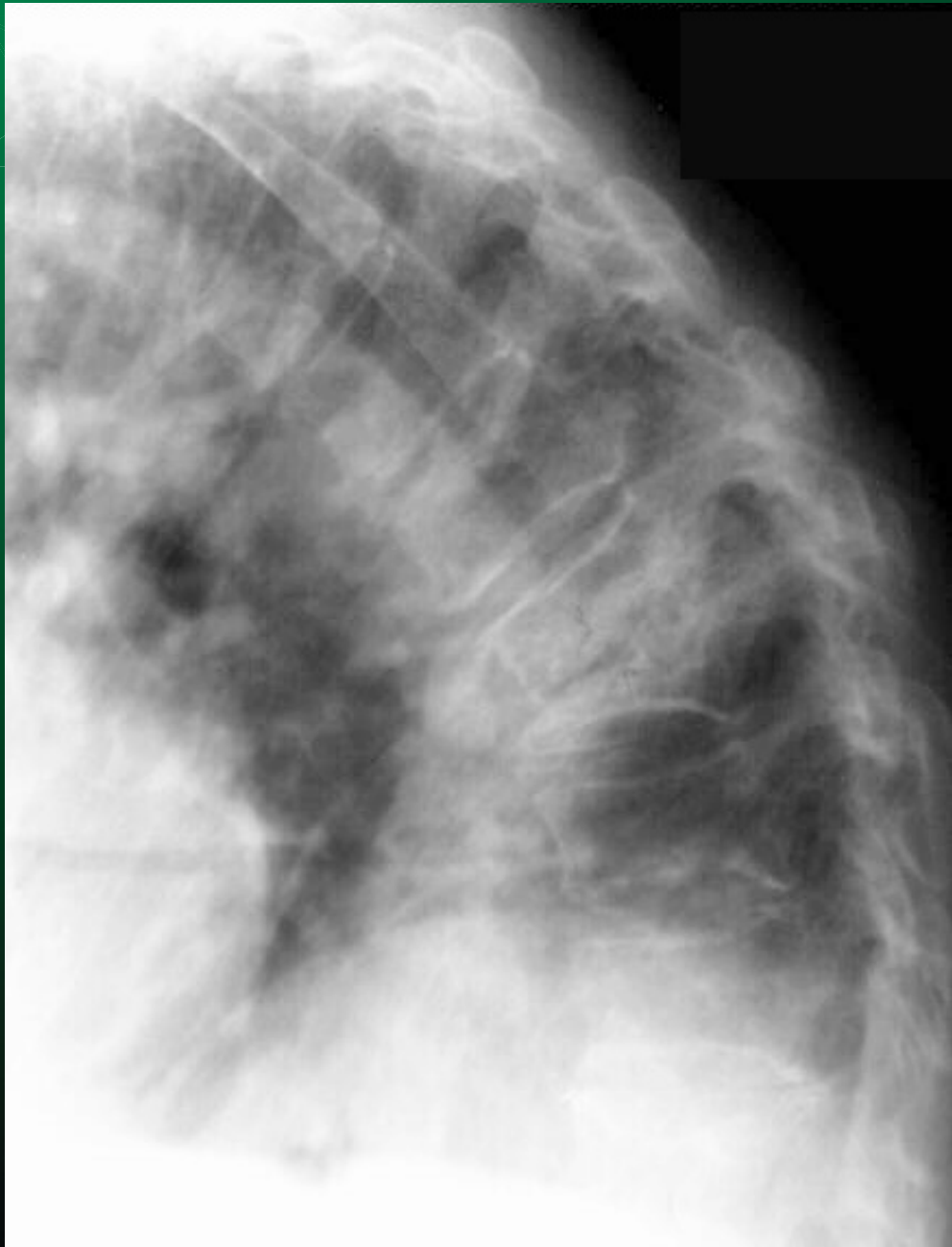
destruction and vertebral sekvestration

▼ **reparative**

sklerotisation and loosening of iv spaces

▼ **definitive**

synostosis



KOPRESE TH8-9 5/ 4/96
 29 55 10 12:29:38

Sieder.F.

D#13761
 I#8

ROI - 1
 A= 3
 M= 435.7
 D= 17.4
 ROI - 2
 A= 4
 M= 467.9
 D= 26.0
 ROI - 3
 A= 38
 M= 338.0
 D= 79.5
 ROI - 4
 A= 12
 M= -245.3
 D= 76.3
 X= 4
 Y= 26
 R= 2

Level
 280
 Width
 1000



KOPRESE TH8-9 5/ 4/96
 29 55 10 12:29:23

Sieder.F.

D#13761
 I#7

ROI - 1
 A= 4
 M= 412.0
 D= 28.3
 ROI - 2
 A= 23
 S: M= 265.8
 T: D= 46.1
 ROI - 3
 A= 4
 M= 372.2
 D= 18.5

X= 8
 Y= -3
 R= 1

Level
 300
 Width
 1000



S#4
 TL-4
 +348

SIEDEROVA F. -M.
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F/67
466303.0
D. 04
Sieder.F.

No. = 1
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No. = 2
o= 3.9
No. = 3
o= 3.7
No. = 4
o= 6.1

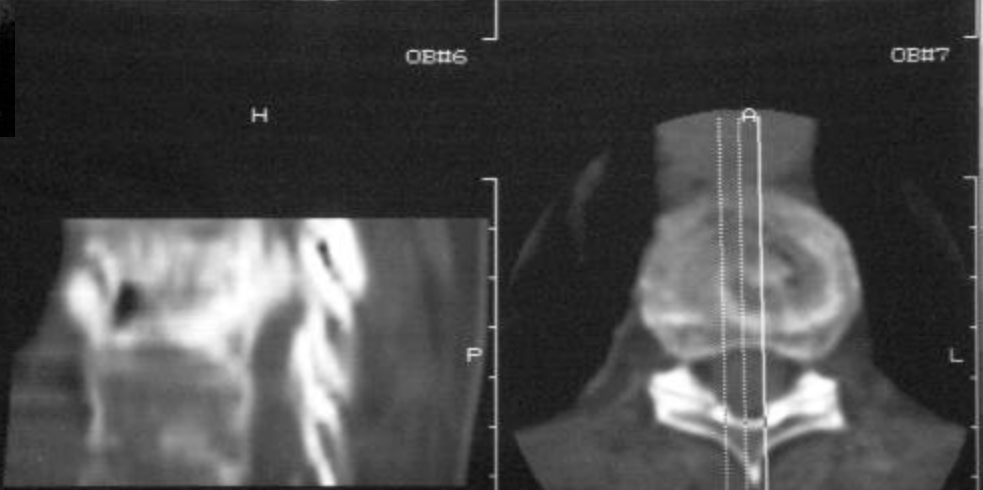
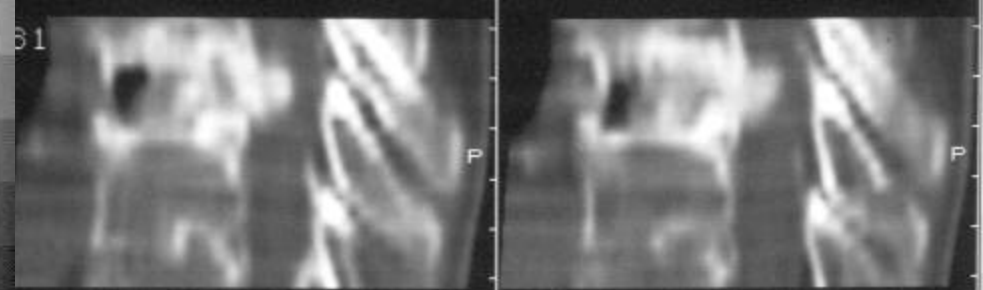
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VITKOVICE HOSPITAL
OSTEOPOROZA
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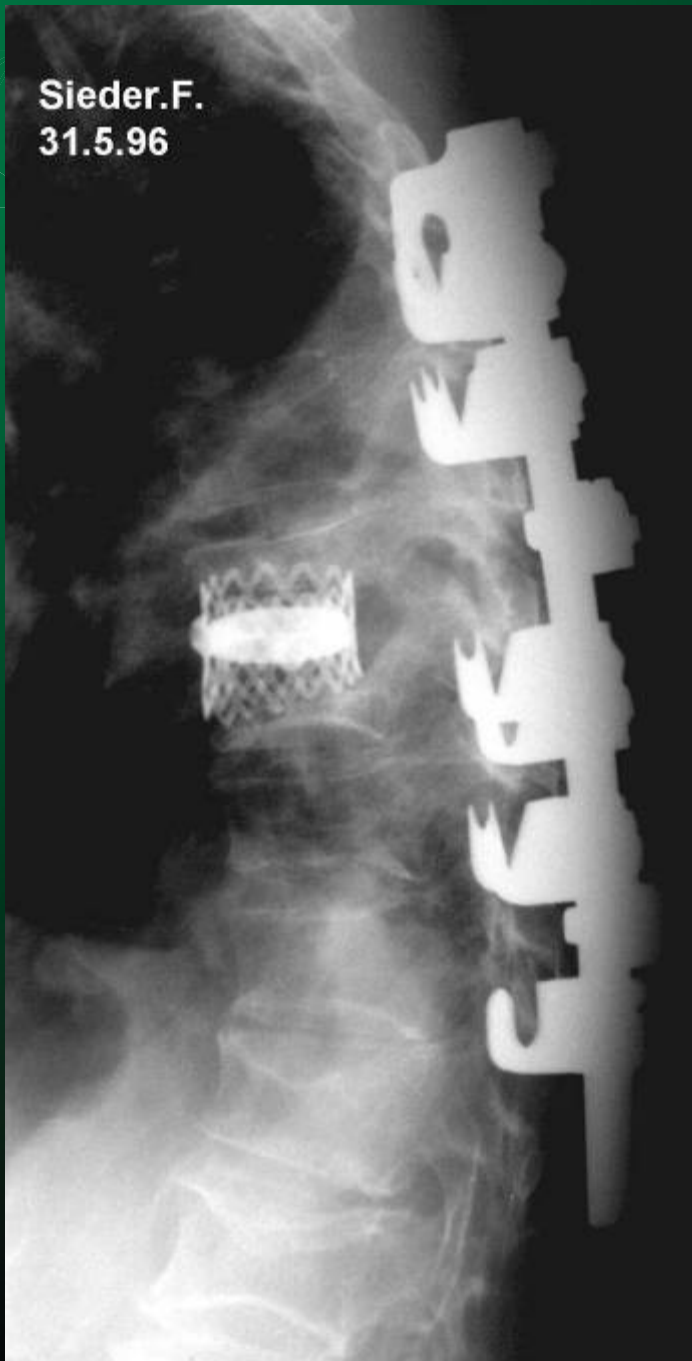
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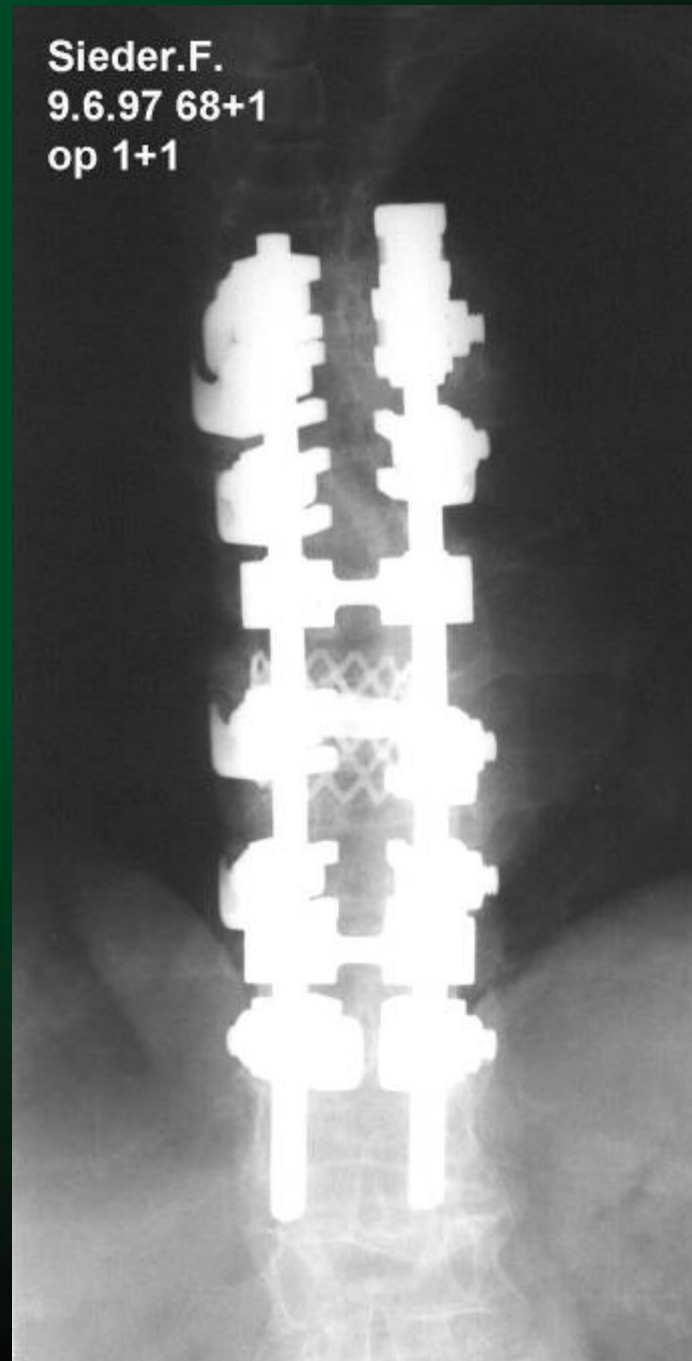
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SH17
TI -4

Sieder.F.
31.5.96



Sieder.F.
9.6.97 68+1
op 1+1





Complications of tbc spondylitis

- ▼ absces
- ▼ kyphosis
- ▼ paraplegia

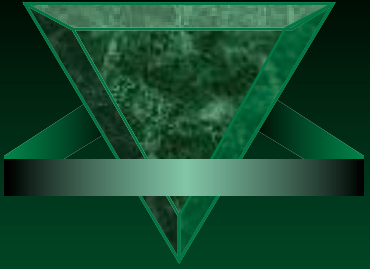
Therapy of tbc spondylitis

- antituberculotics (9-12 month)
- external fixation (brace, orthosis)
- surgical therapy



Diff.dg. of tbc spondylitis

- ▼ **spondylogenic osteomyelitis**
- ▼ **typhoid and paratyphoid spondylitis**
- ▼ **Bang's spondylitis**
- ▼ **M.Bechterev**
- ▼ **systematic bone illnesses**
- ▼ **spondylitis brucellosis**
- ▼ **Mb.Paget**
- ▼ **posttraumatical spinal deformities**
- ▼ **tumours and metastases**
- ▼ **spinal gumma**



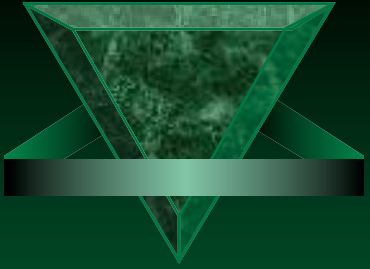
Differential diagnosis

Tbc spondylitis

- ▼ Slow progression
- ▼ No pain in quiet position
- ▼ Extensive osteoporosis
- ▼ extensive destruction
- ▼ Big paravertebral absces
- ▼ No osteoplastic reaction

Osteomyelitis

- ▼ Heavy and rapid progression
- ▼ Pain in quiet position
- ▼ Border osteoprosis only
- ▼ Minimal destruction
- ▼ Minimal absces
- ▼ Heavy osteoplastic reaction



Spinal osteomyelitis

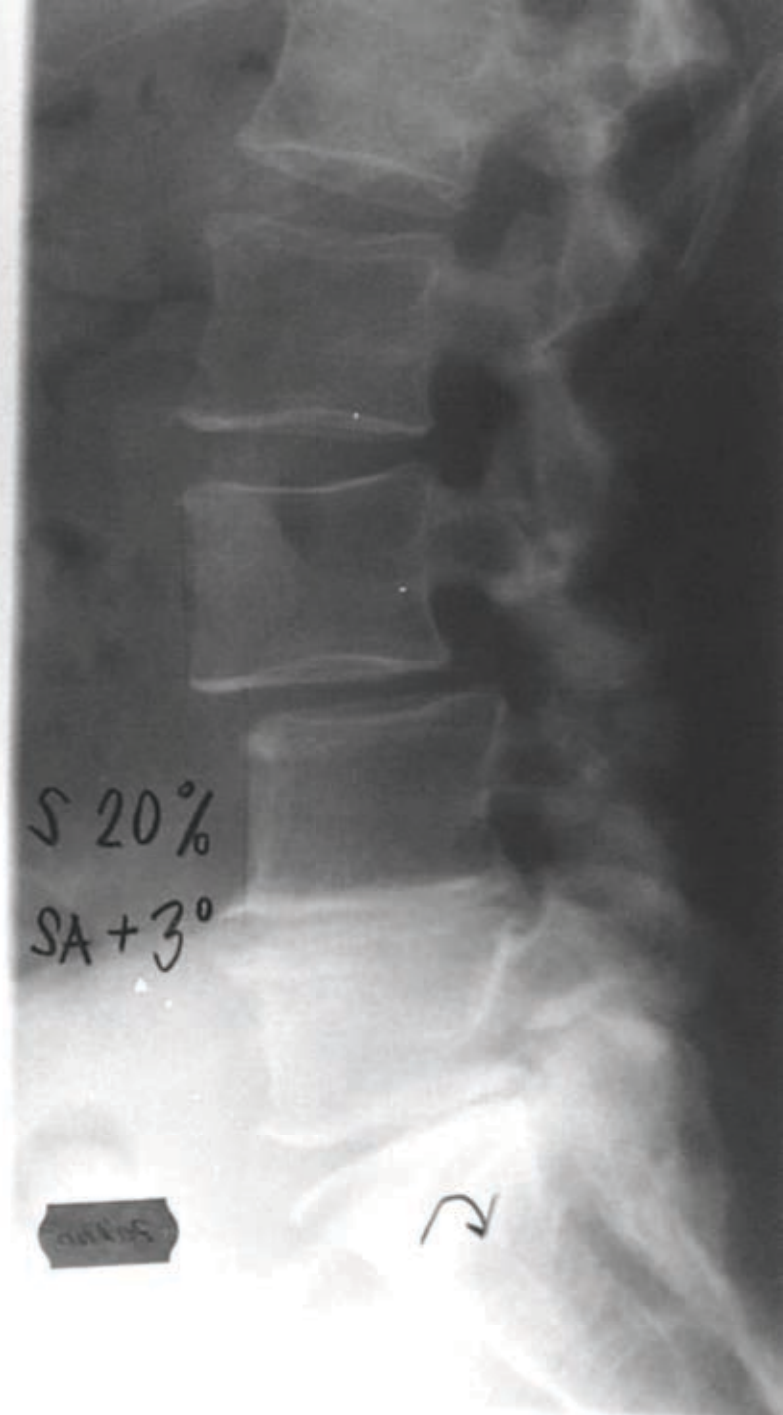
Clinical signs:

- ▼ rapid start
- ▼ fever
- ▼ neurological signs

Evaluation:

- ▼ laboratory (BP, FW, CRP)
- ▼ cultivation
- ▼ X-ray, bone scan, CT, MRI

osteomyelitis L4/5

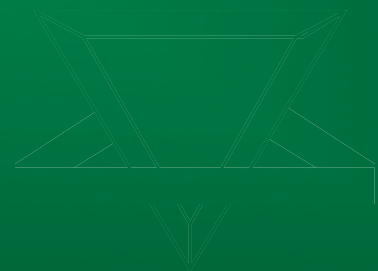




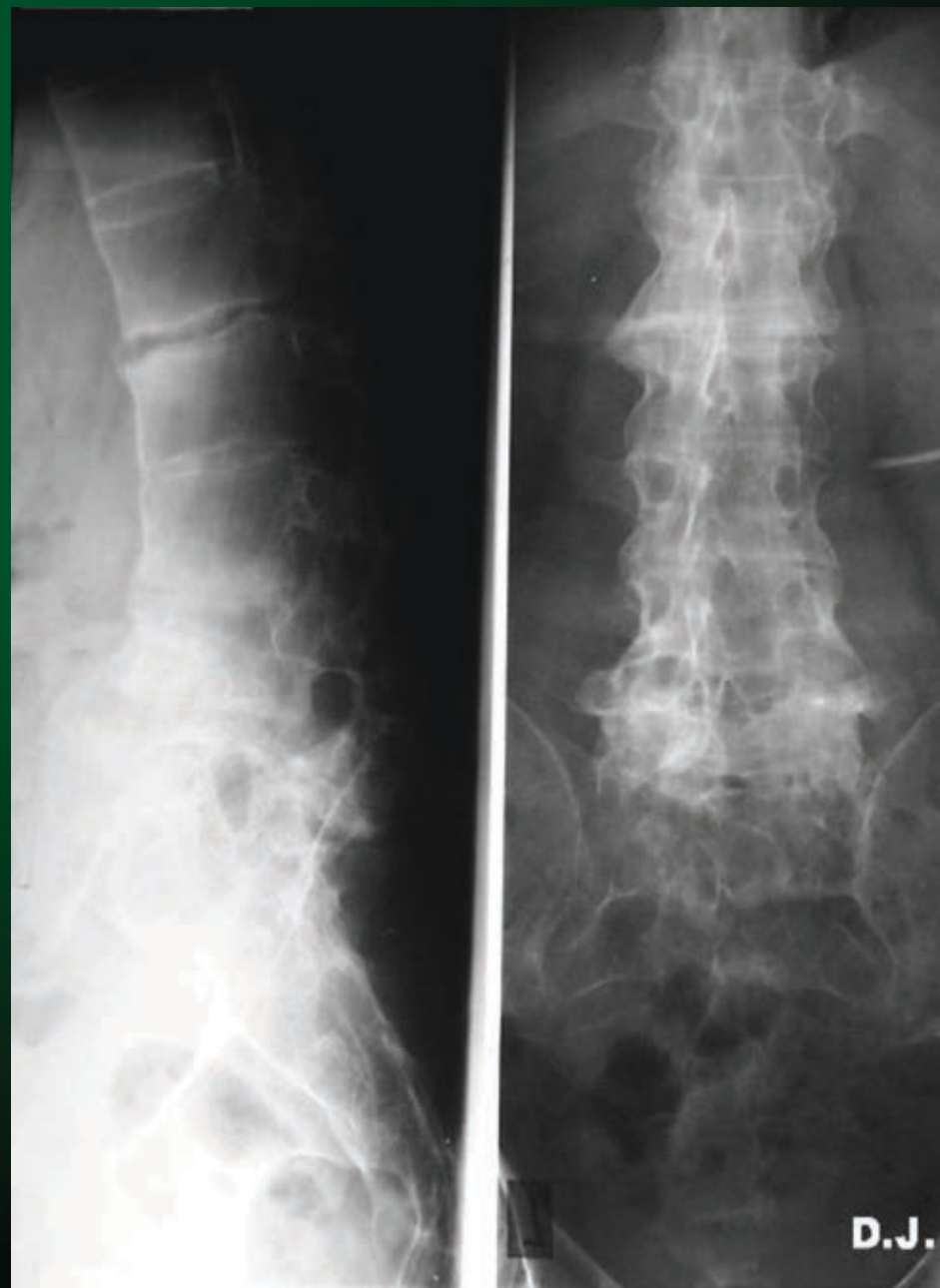


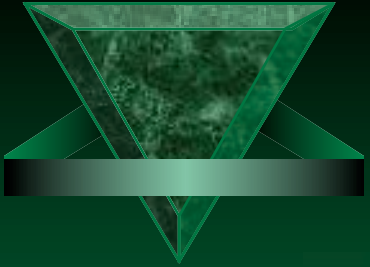
Therapy of spondylogenic osteomyelitis

- ▼ **atb – double or multiple combination**
(initially intravenous aplic.)
(long-term-several month)
- ▼ **Bed rest**
- ▼ **External fixation (brace)**
- ▼ **Biopsy:** -craig needle disc. aspiration
-open (CT econtroled)
- ▼ **Surgical treatment**



Mb. Bechterev





Spinal tumours

▼ ***primary***

- **spinal:**
 - extradural
 - intradural
- **vertebral:**
 - benign (osteoid osteoma, hemangioma)
 - malignant (myeloma)

▼ ***metastatic***

- **osteoblastic** (prostatic)
- **osteolytic** (lungs, breast, Grawitz, thyroid)



Spinal tumours

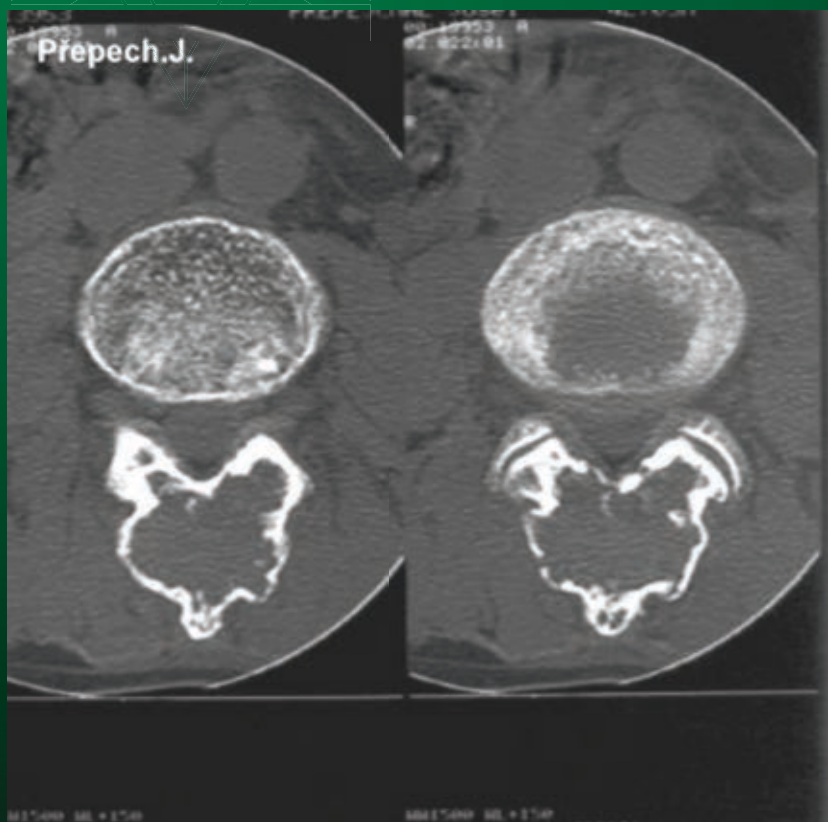
-evaluation methods

▼ Imaging methods

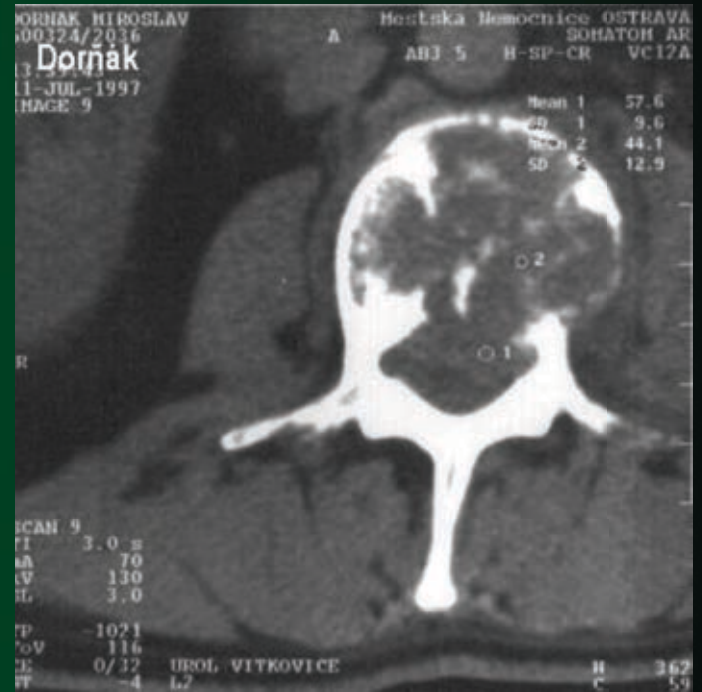
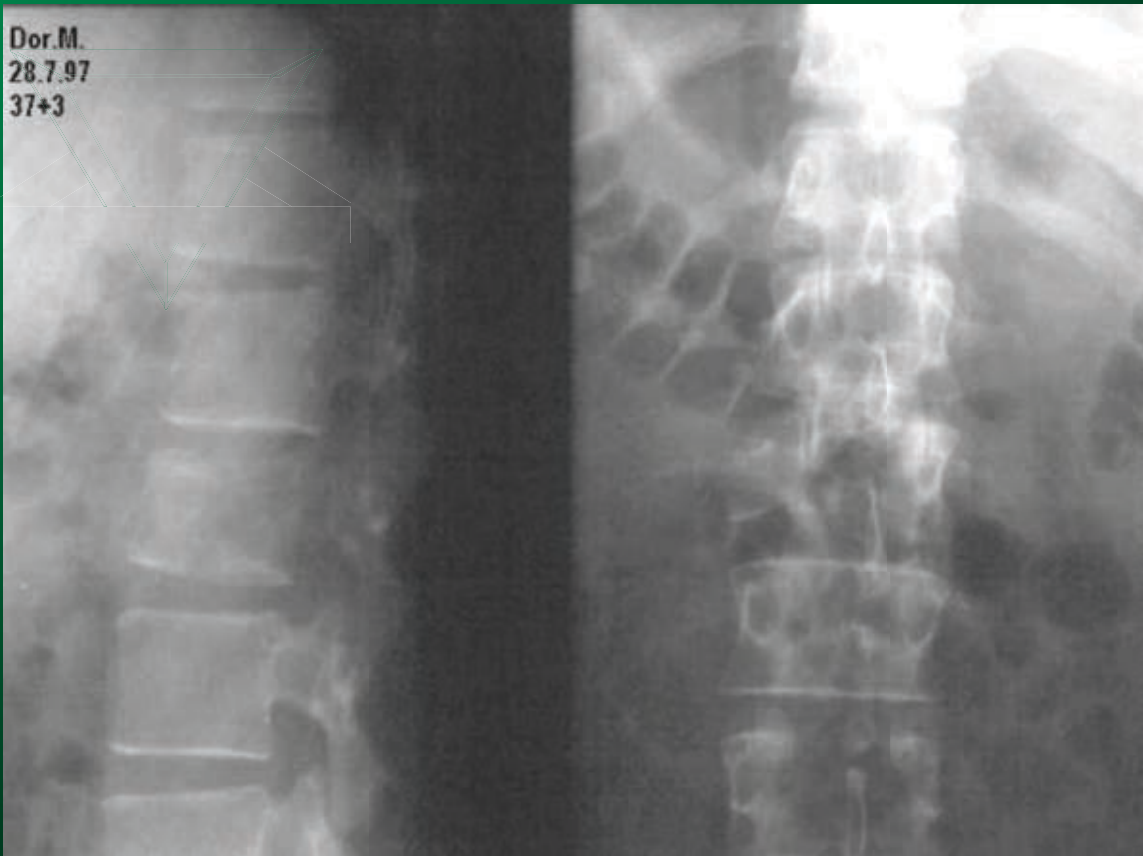
- X-ray
- CT, MRI
- bone scan
- Contrast-PMG

▼ Laboratory

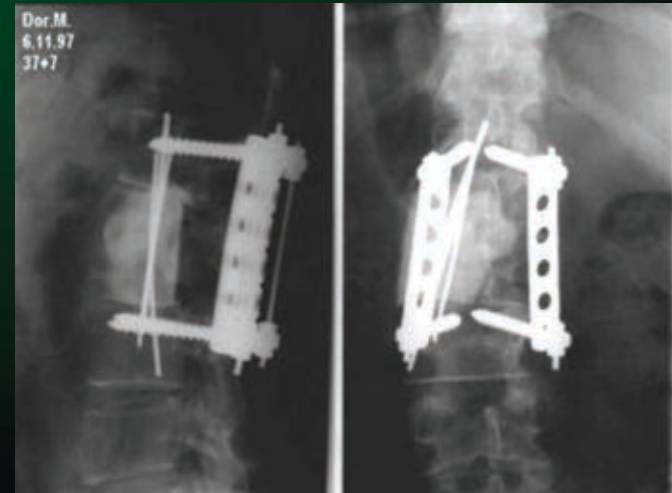
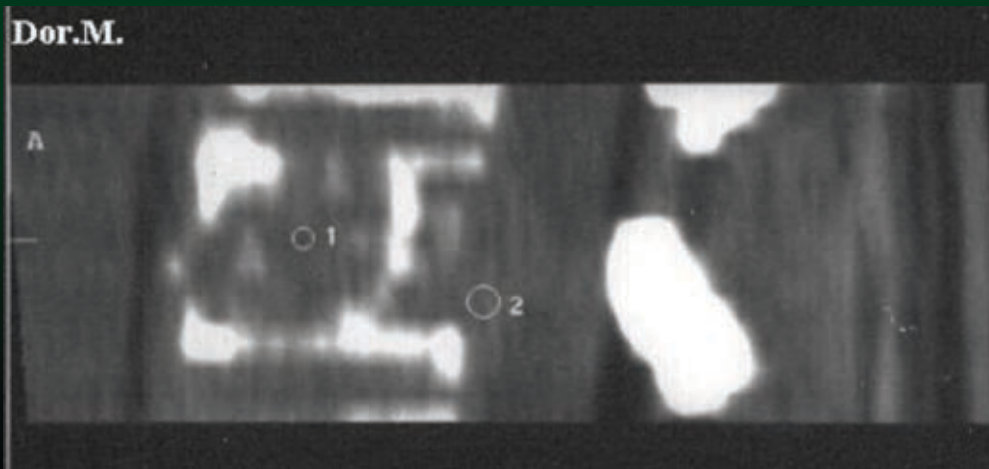
- FW, CRP, BP
- PSA, Bence-Jones, ALP



Dor.M.
28.7.97
37+3

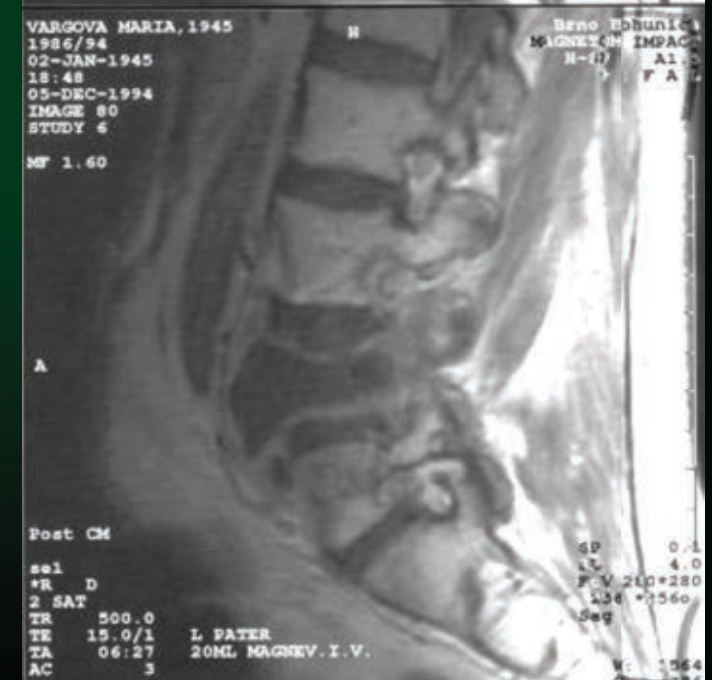
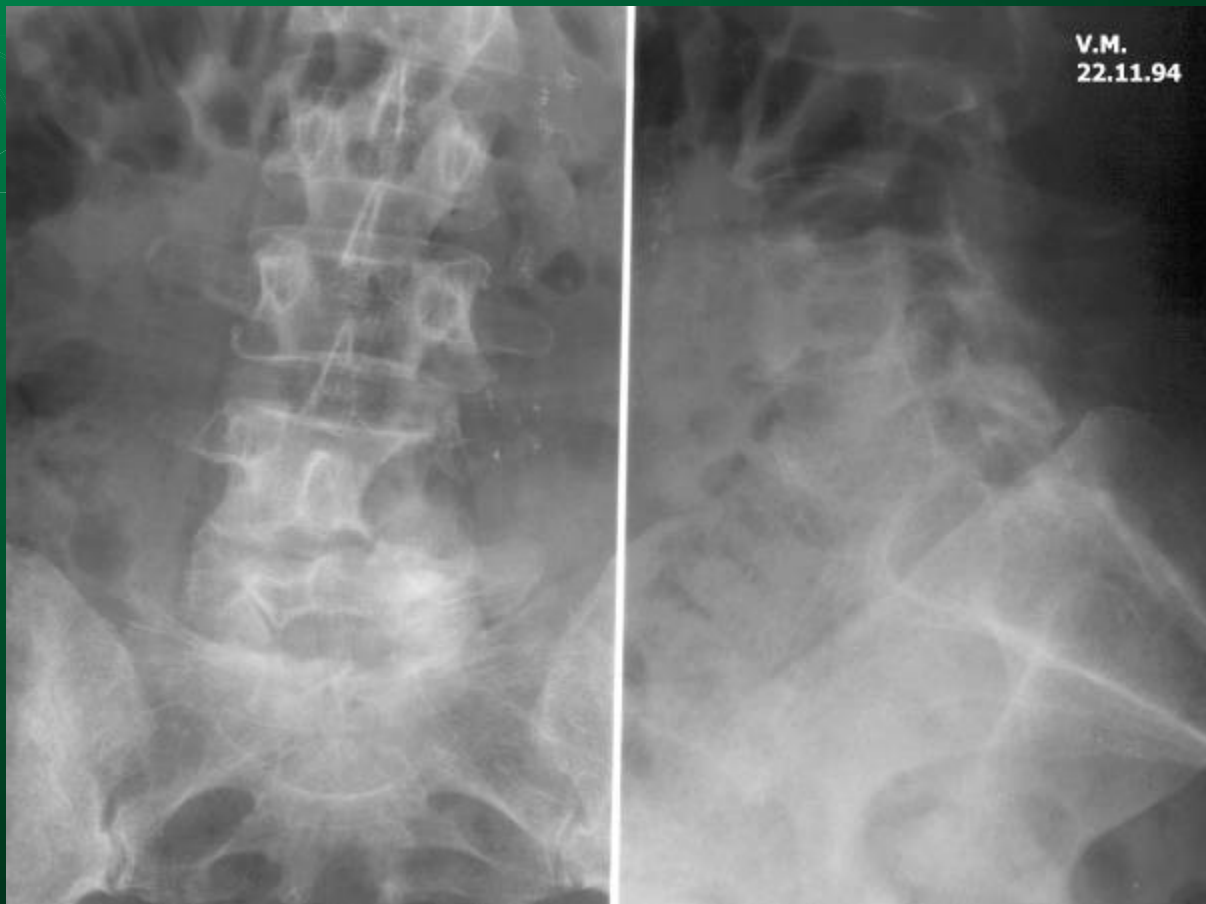


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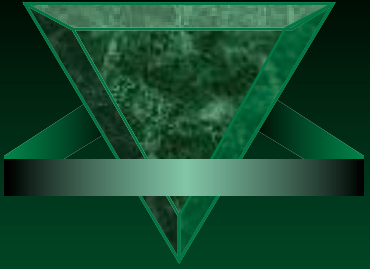




Metastasis of teratoma testis



Metastasis of ca cervicis uteri



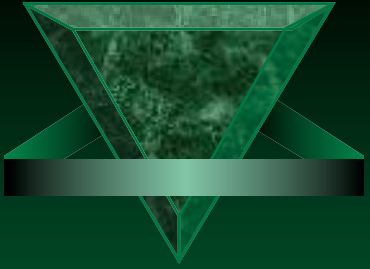
Therapy of spinal tumours

▼ Paliative

- surgical decompression
- chemo- and radiotherapy

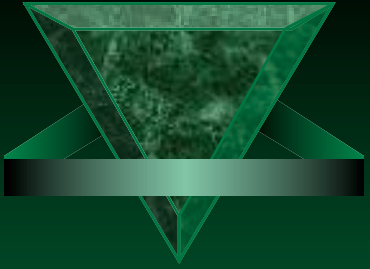
▼ Causal

- surgical resection and stabilisation
- sanation of primary tumours in metastasis



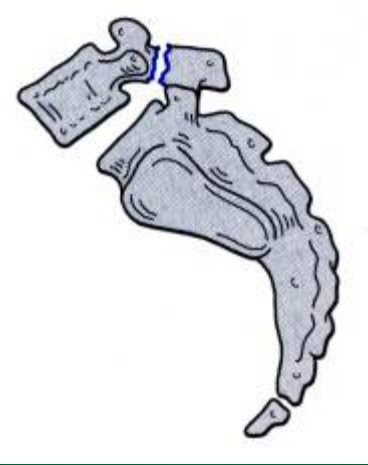
Congenital diseases

- ▼ **lumbalisation of S1**
- ▼ **sacralisation of L5**
- ▼ **Bertolotti's syndrome**

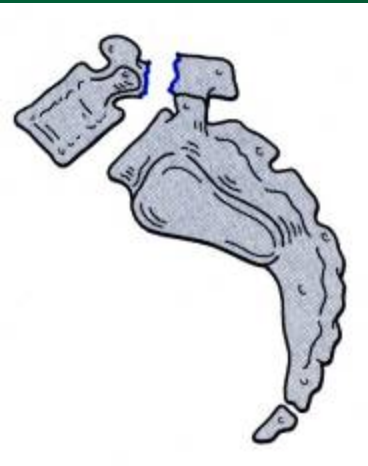


Spondylolisthesis

- ▼ **spondylolysis**
= interruption of arcus in pars interarticularis
- ▼ **spondylolisthesis**
= bilateral spondylolysis and vertebral body slipping
- ▼ **spondyloptosis**
= slip over 100%
- ▼ **pseudoolisthesis**
= dislocation of whole vertebral body without spondylolysis



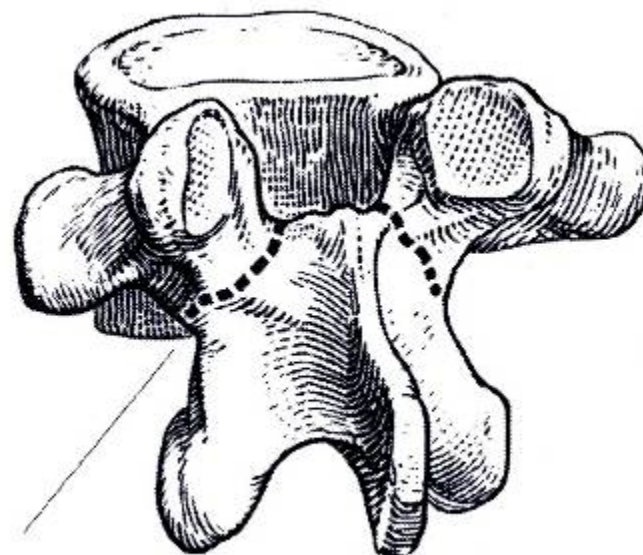
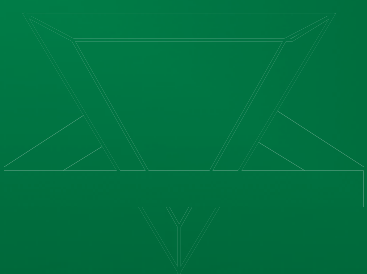
Spondylolysis



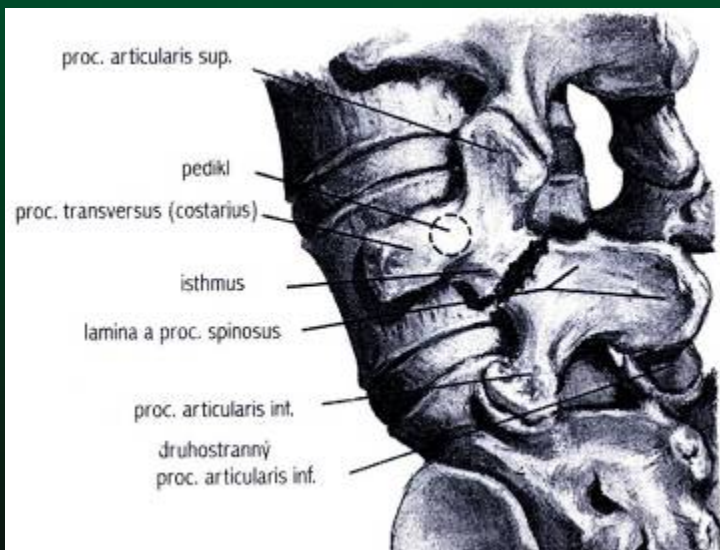
Spondylolisthesis



Spondyloptosis



Isthmus (pars interarticularis)





Spondylolisthesis classification

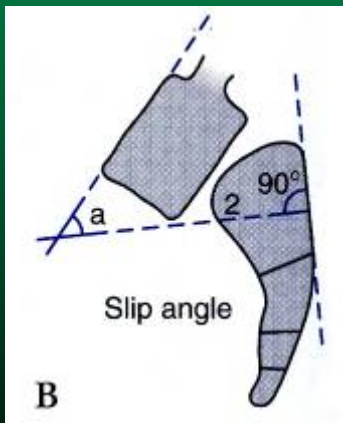
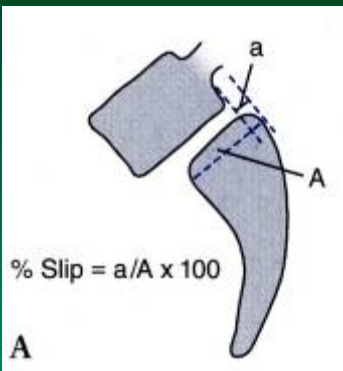
1. Etiological (Wiltse+Newman+MacNab)

- dysplastic
- istmic
- degenerative
- traumatic
- pathological

2. According to X-ray measurement (Meyerding)

- I.gr. Slip to 25%
- II.gr. Slip 25 - 50%
- III.gr. Slip 50 - 75%
- IV.gr. Slip 75 - 100%

X-ray evaluation



▼ Slip

-percentage of slip

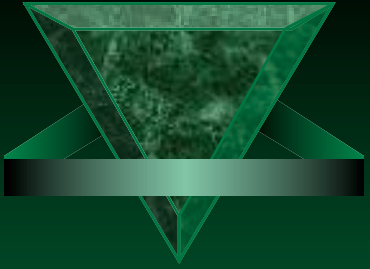
grades according to Meyerding:

1. 0-25%
2. 25-50%
3. 50-75%
4. 75-100%
5. more than 100% =

spondyloptosis

▼ Slip angle





Evaluation of spondylolisthesis

▼ clinical + neurological

▼ imaging

1.X-ray (AP, lateral, oblique, bending)

2.bone scan

3.SPECT

4.CT (native, revers, contrast)

5.MRI

6.Contrast - PMG

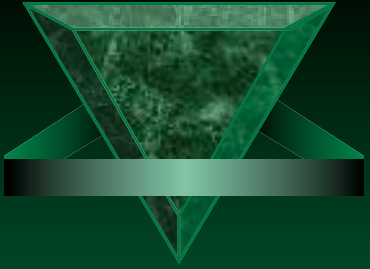


Conservative treatment

Indication:

- low pain
- low slip
- no neurological signs

- ▼ Bed rest
- ▼ Brace
- ▼ physiotherapy
- ▼ NSAID



Indications for surgical therapy

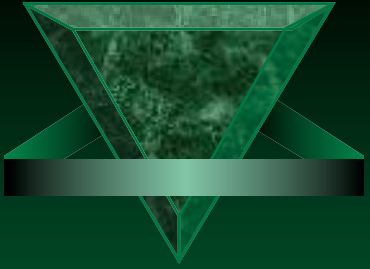
1. Heavy slip
2. Progressive slip
3. Serious pain
4. Neurological signs



Traumatology of lumbar spine

▼ Mostly in TL junction





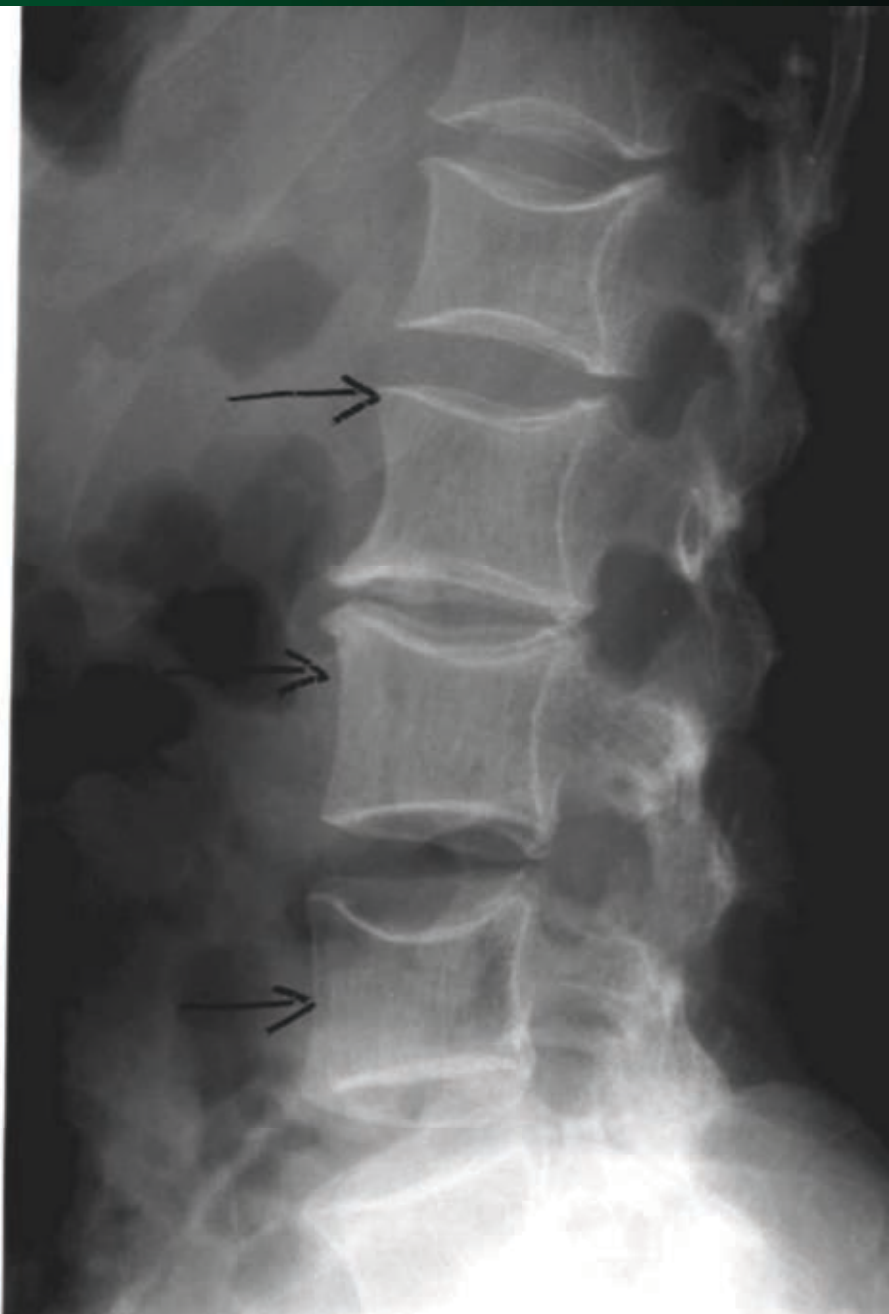
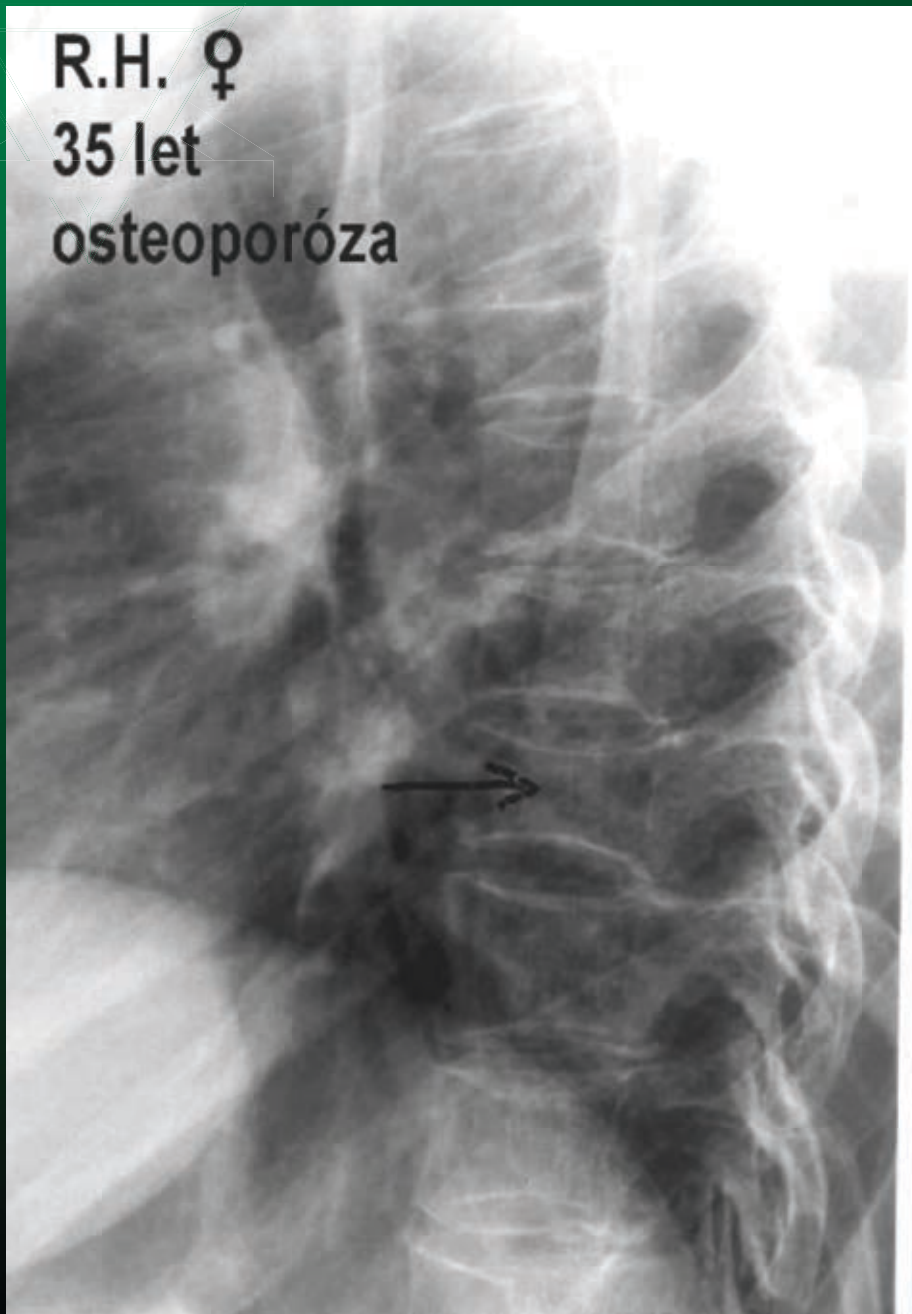
Osteoporosis

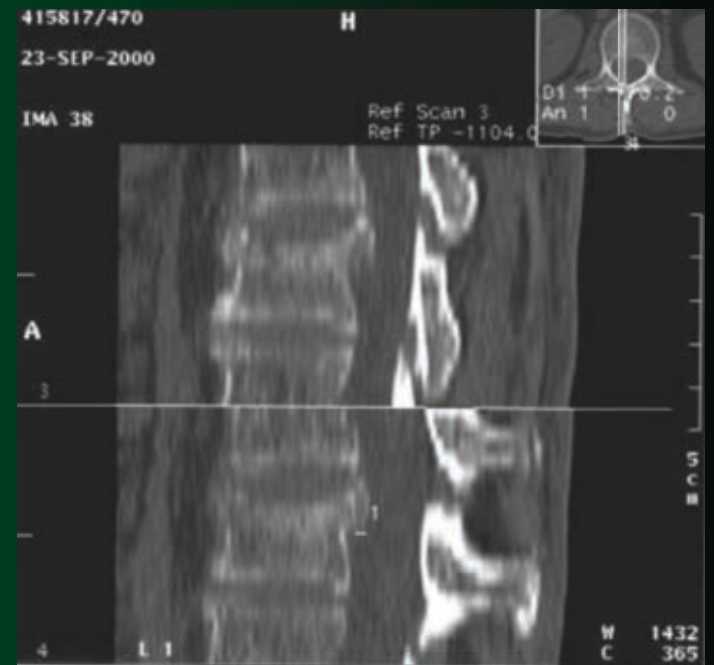
- ▼ **typ I - postmenopausal**
- ▼ **typ II - senile**

Most common causes:

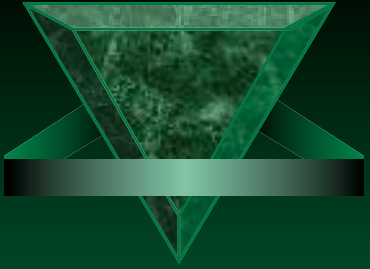
- long-term immobilisation**
- diets + abus**
- medicaments (glukocorticoids)**

R.H. ♀
35 let
osteoporóza





Fr. L1 burst (A type) v.s.
osteoporosis



Degenerative spinal diseases

▼ **Acute lumbago**

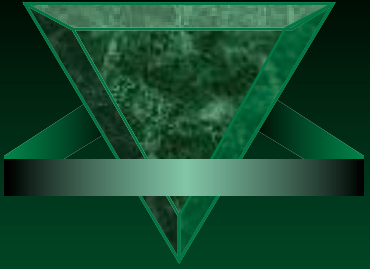
- herniation of discus
- blocage of intervertebral joint

▼ **Chronical lumbalgia**

- paravertebral spasmus
- irritation of proprioceptors

▼ **Lumboischialgia**

- compression of n.ischiadicus roots

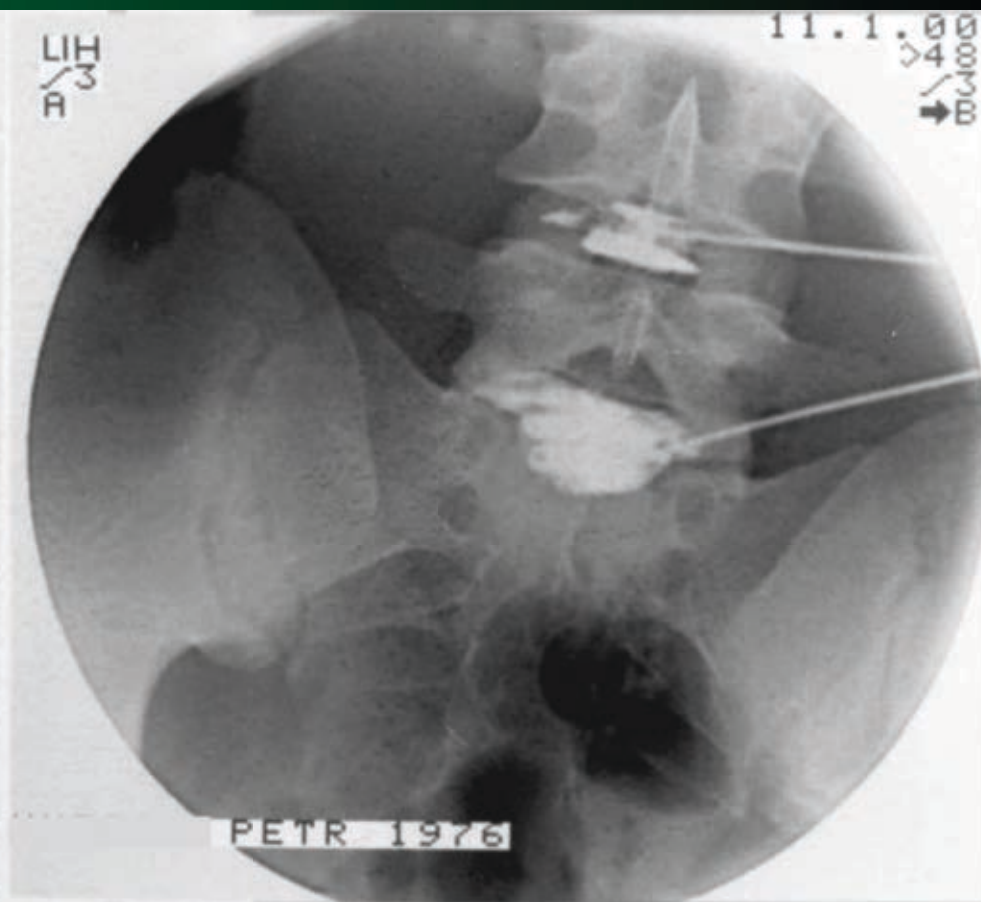
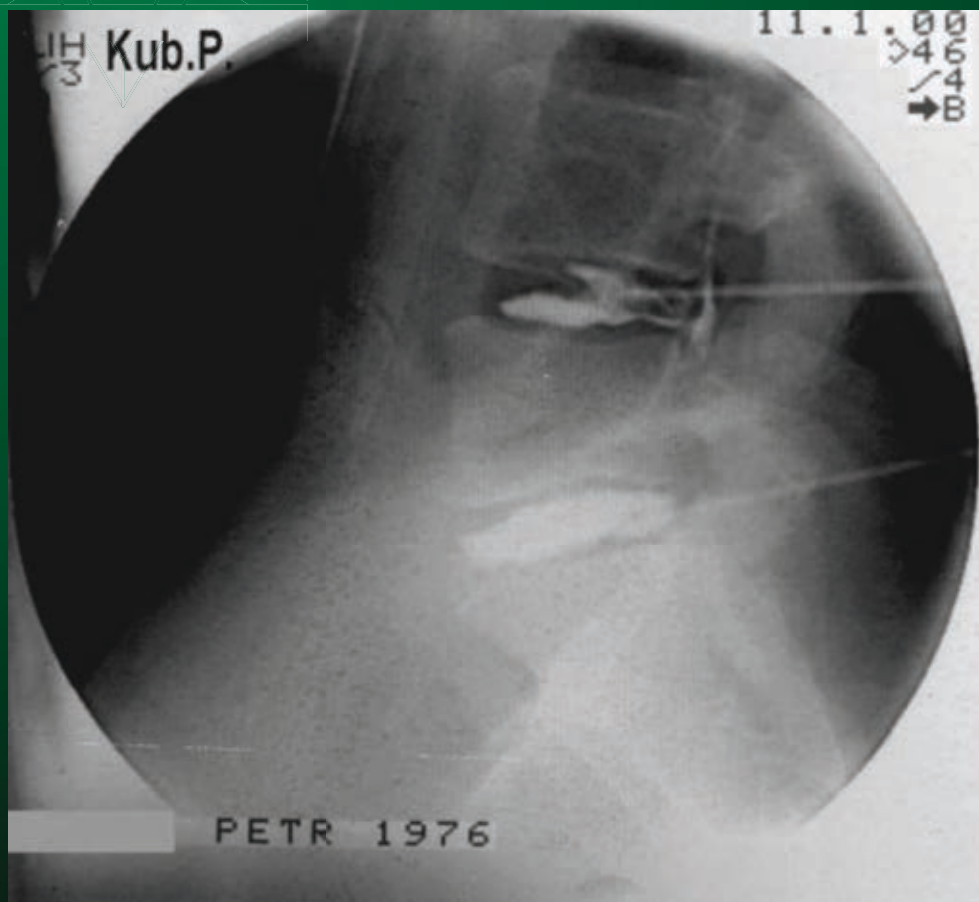


Degenerative spinal diseases

- ▼ **discus chondrosis**
- ▼ **osteocondrosis**
- ▼ **spondylosis**
- ▼ **spondylarthrosis**
- ▼ **discus hernia**
- ▼ **spinal instability**









Spinal stenosis

- ▼ **Primary (congenital)**
- ▼ **Secondary**
 - **lateral (root compression)**
-CT+MRI
 - **central (canal compression)**
-CT+C-PMG



KROUSTEK Ladislav

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STUDY 4

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STUDY 4

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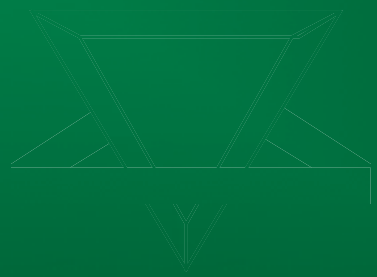
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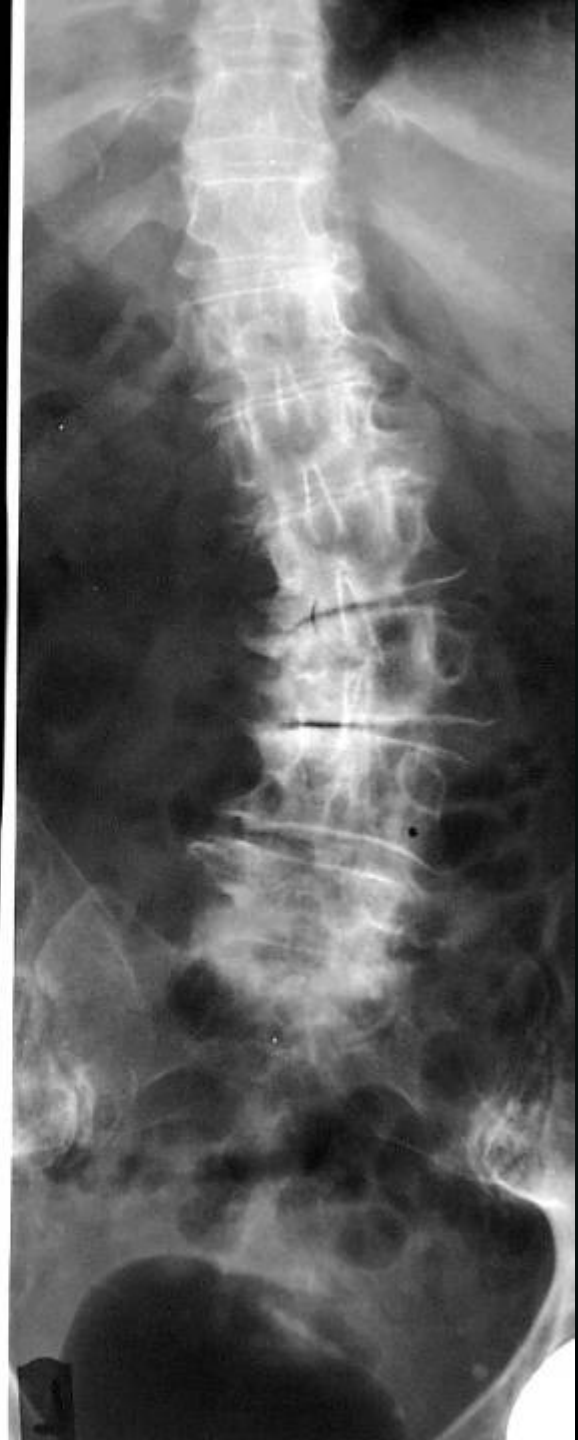
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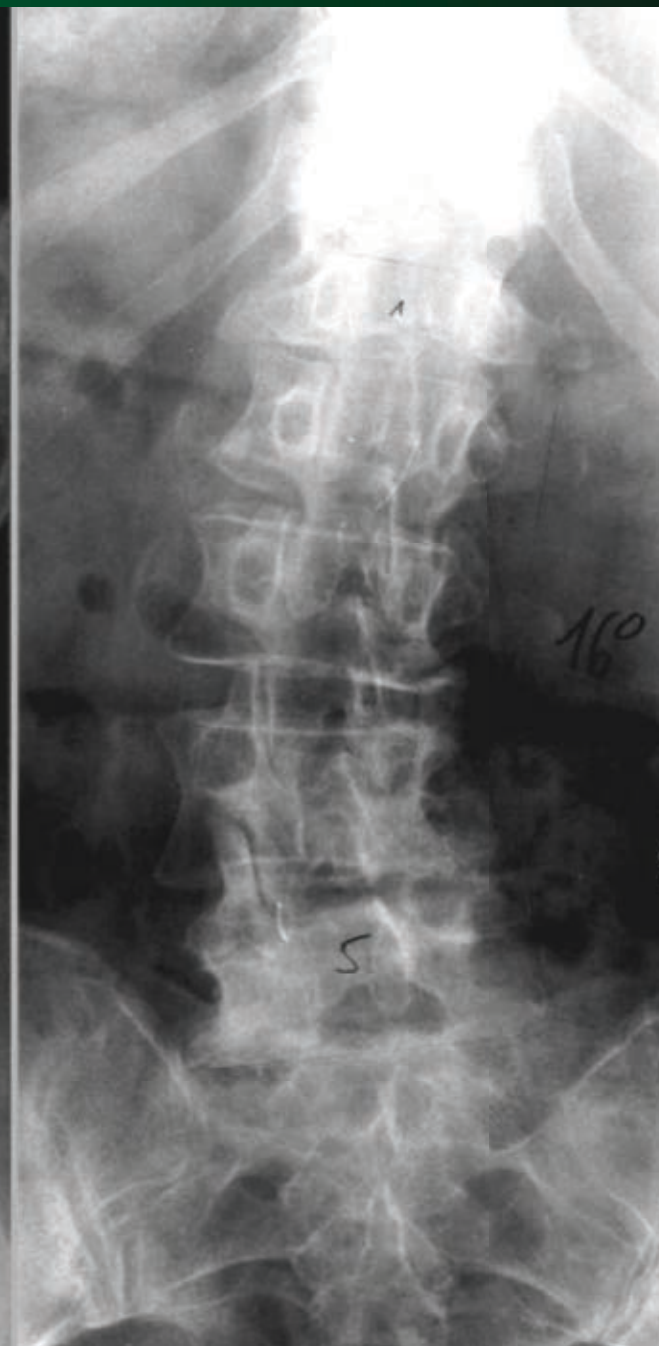
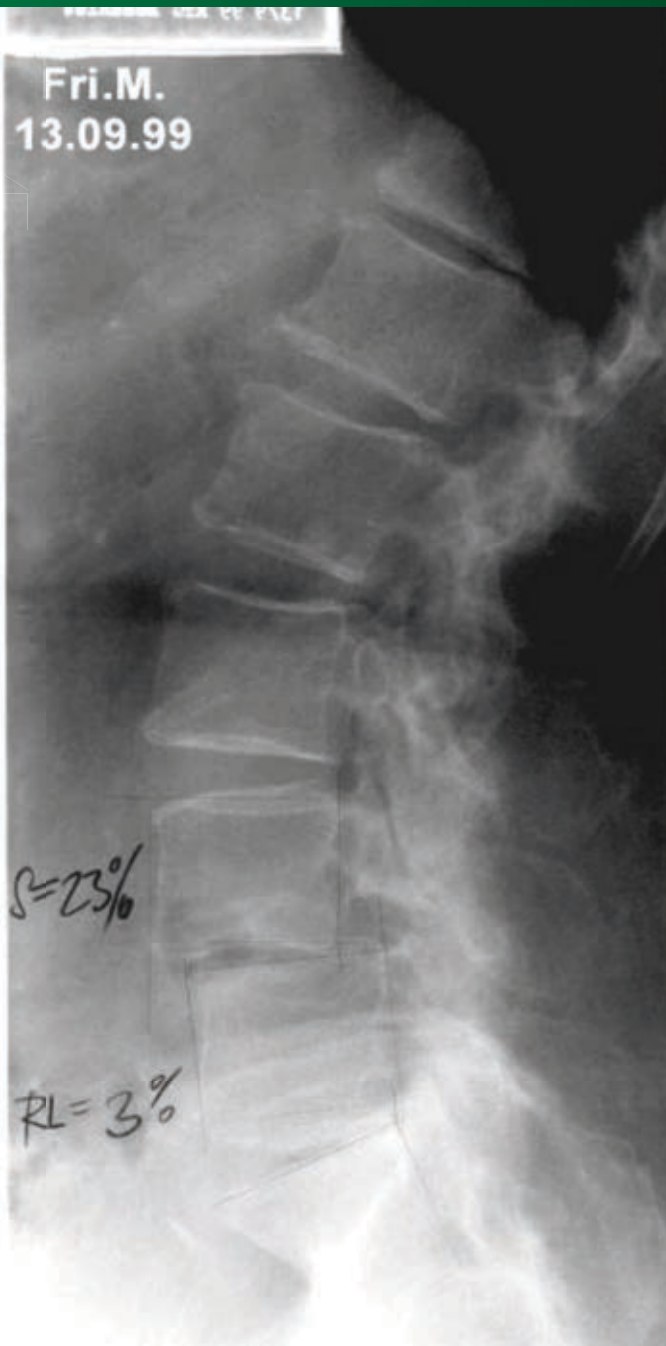
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Trej.A.
03.01.00

degenerative scoliosis

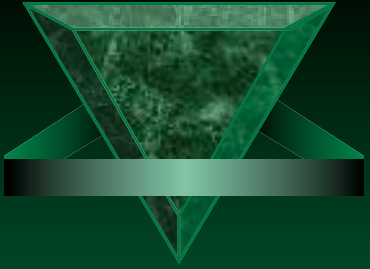






Degenerative spine evaluation

- ▼ **anamnesis**
- ▼ **Clinical examination**
- ▼ **imaging metods** (X-ray, bending films, CPMG, CT, MRI, bone scan, discography)



Conservative treatment

- ▼ **Bed rest**
- ▼ **Medicaments**
 - peroral
 - infusions
 - local
- ▼ **Physiotherapy**
- ▼ **Back school**

Treatment algoritmus

PAIN

static



neurological signs

