Rygkirurgi

Diagnostik og behandlingsprincipper

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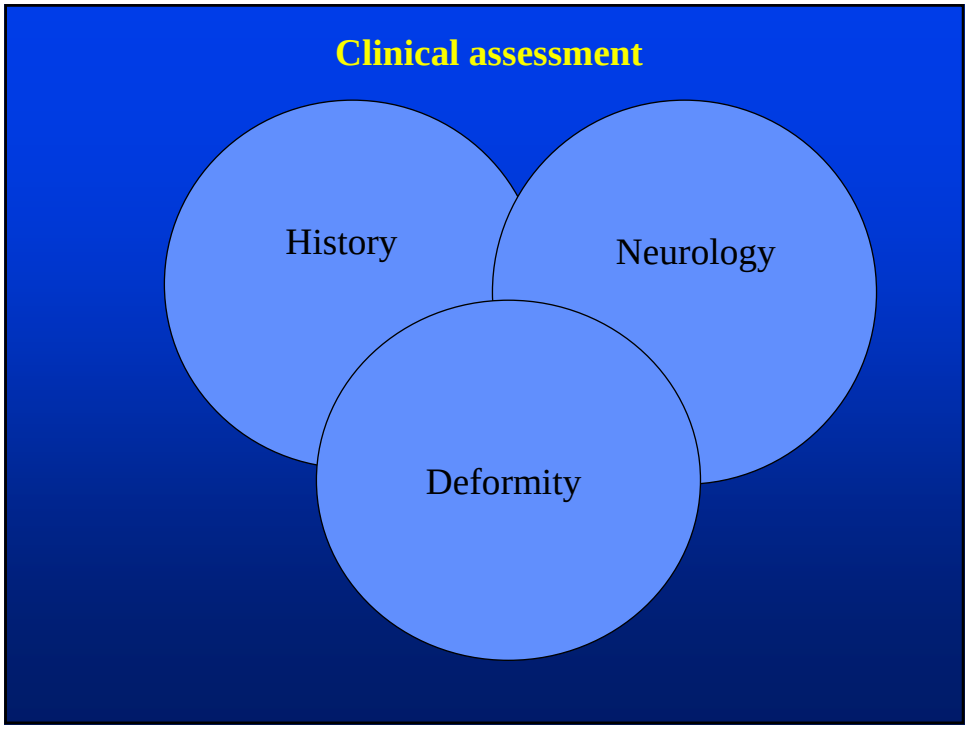
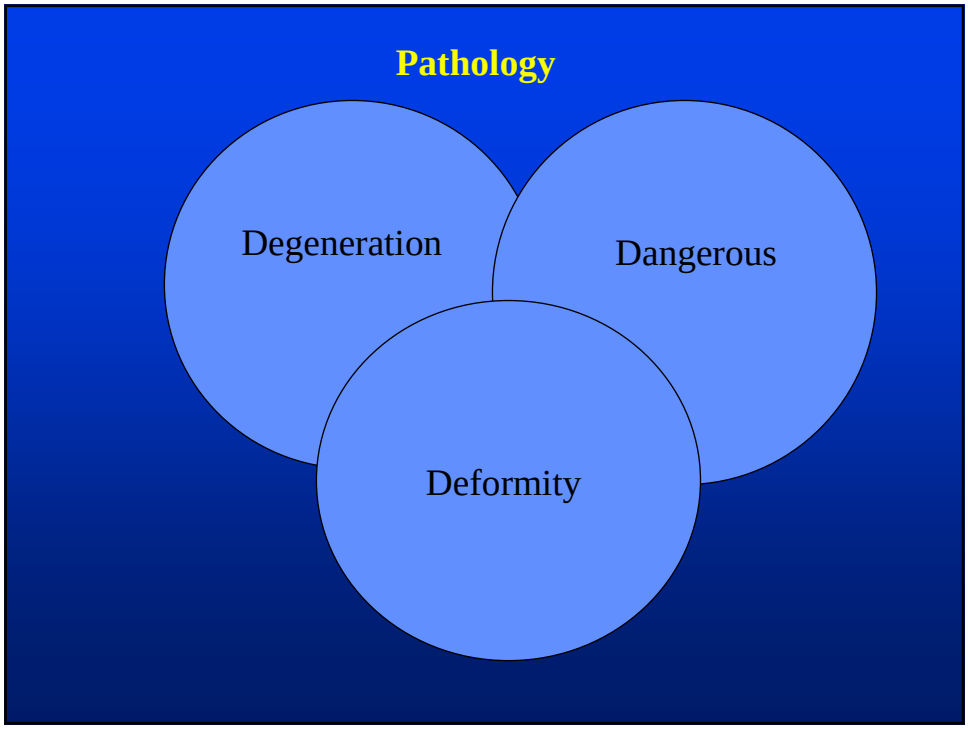
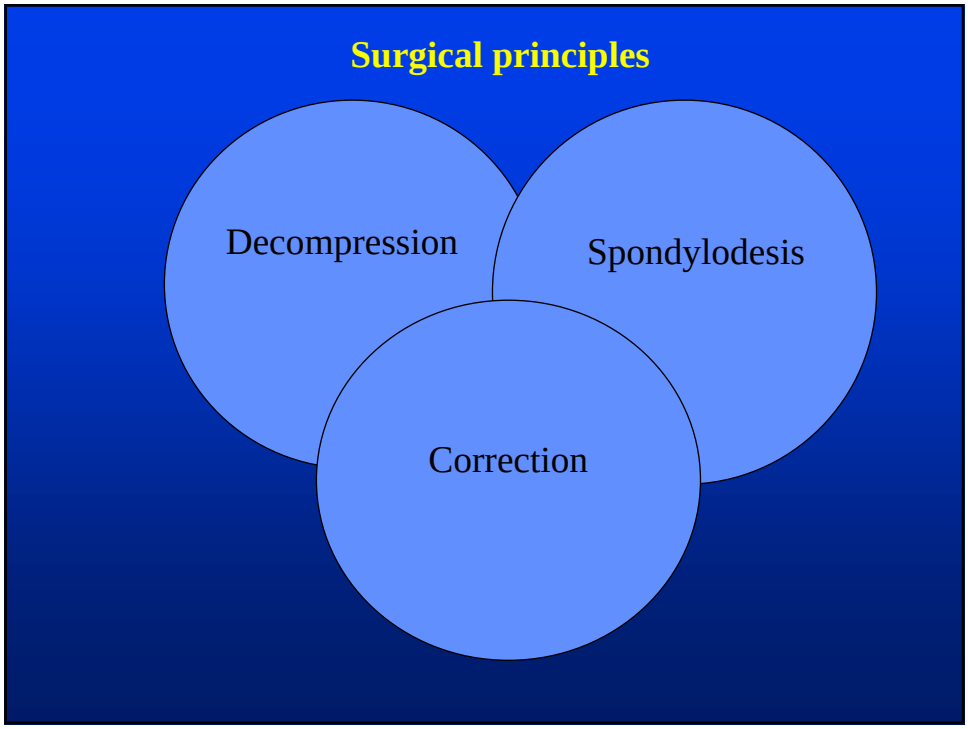
Rygsektionen
Ortopædkirurgisk afdeling U
Rigshospitalet

Formål

- Patofysiologi
- Diagnostiske grupper
- Klinisk vurdering
- Billeddiagnostik
- Indikationer og komplikationer
- Kirurgiske metoder
- Vurdering af outcome


Clinical assessment
History
Neurology
Deformity


Pathology
Degeneration
Dangerous
Deformity

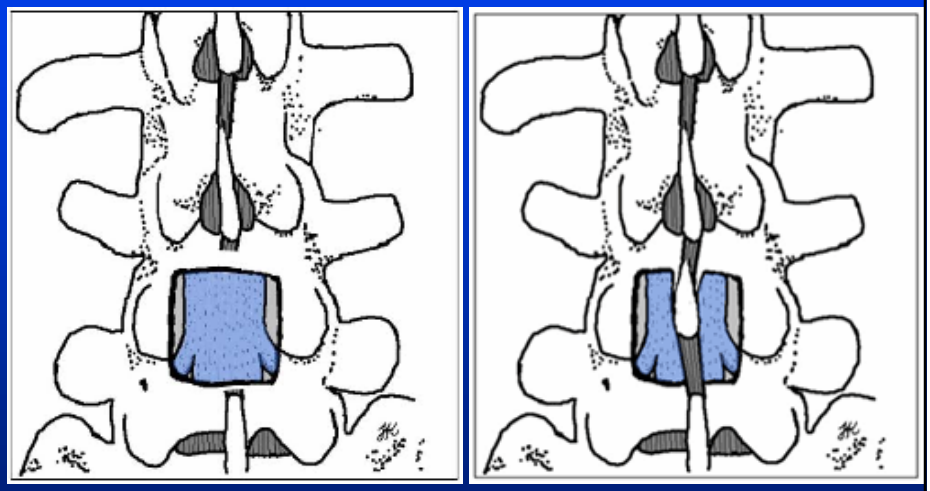


History

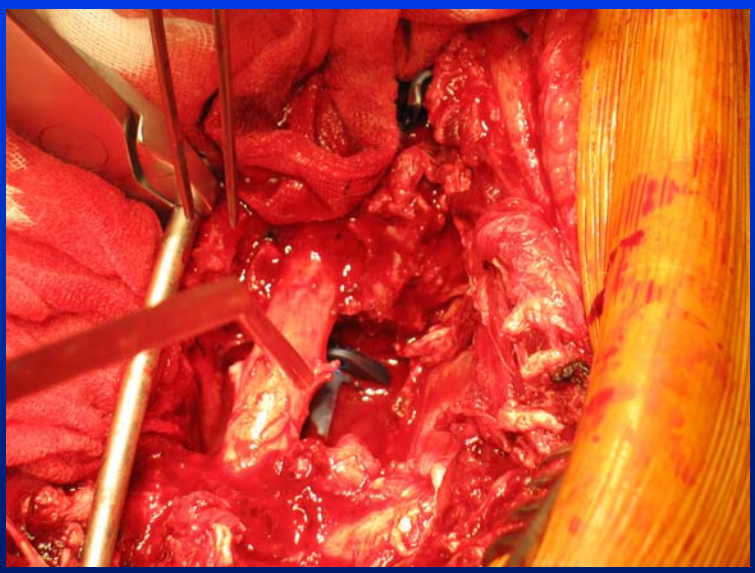
- Acute vs. slow on-set
- Back vs. leg symptoms
- Generalized symptoms
- History of malignancy
- Case pending
- Previous spine surgery
- Non-surgical treatment
- Previous radiology

Surgical principles

- Decompression
  - laminectomy → corporectomy
- Fusion
  - posterolateral → intercorporal+posterolateral
- Spinal instrumentation
  - pedicle scews → corporal cages
- Correction
  - lordosis → osteotomy
- Motion preservation
  - dynamic stabilization → disc prosthesis



Vertebrectomy



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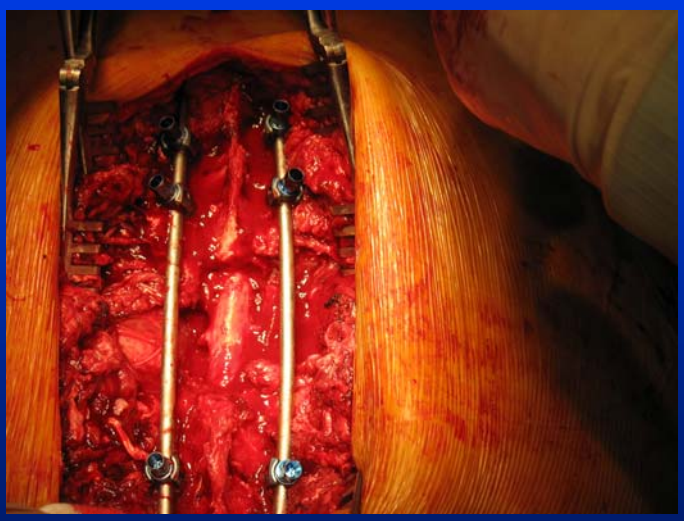

Vertebrectomy

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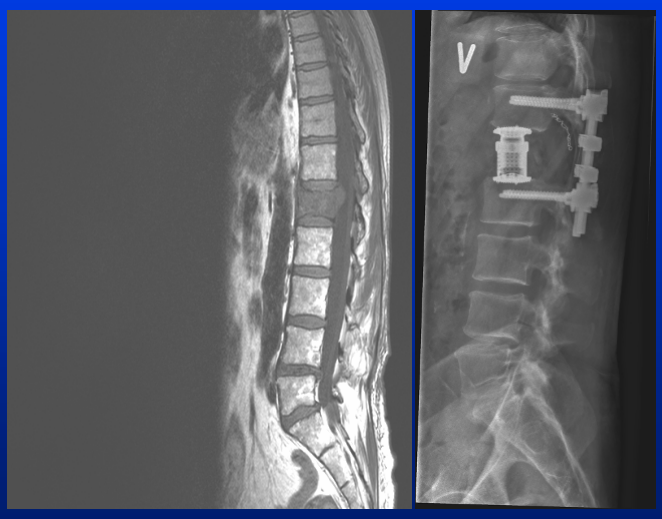
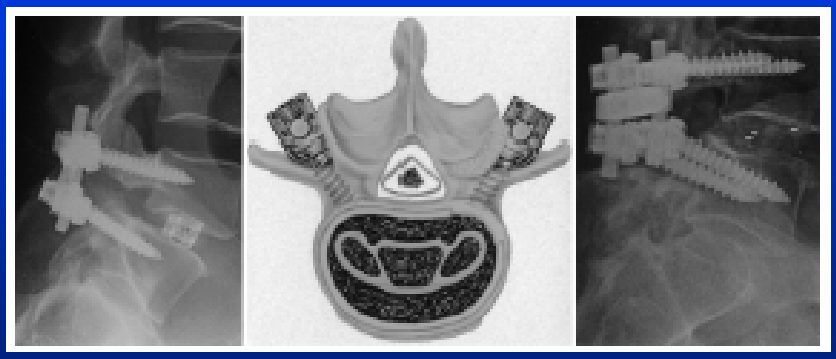
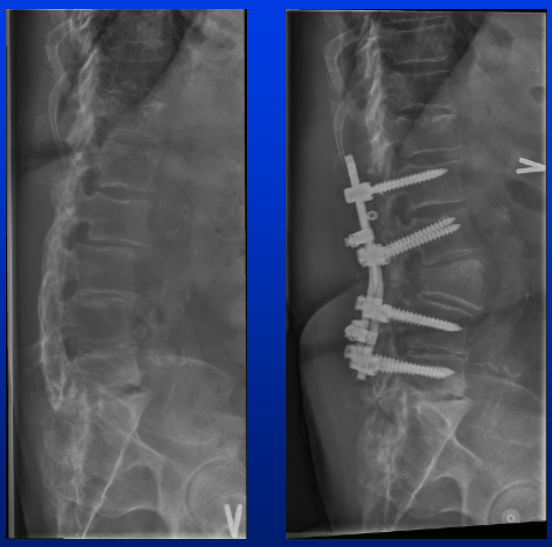


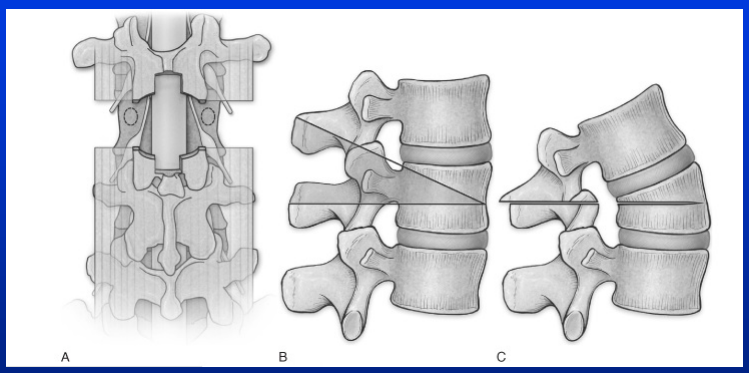
Fusion

Fusion

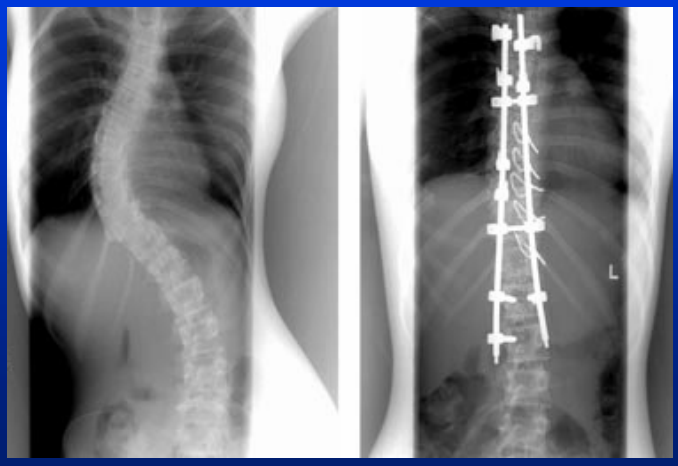


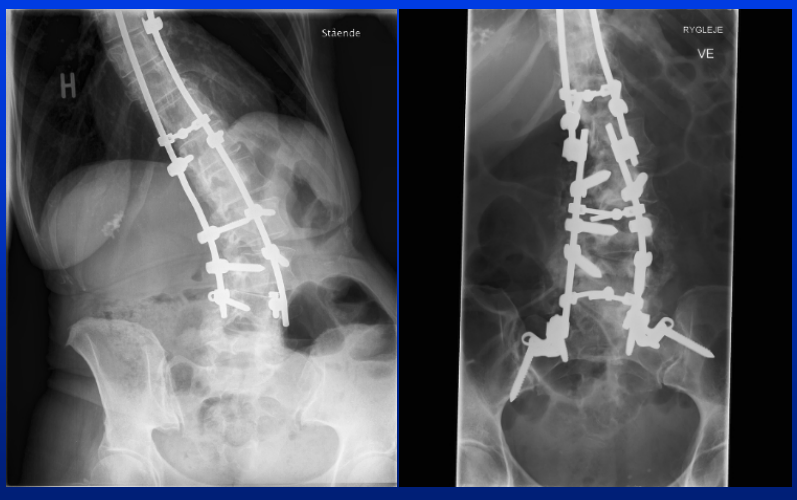
Correction

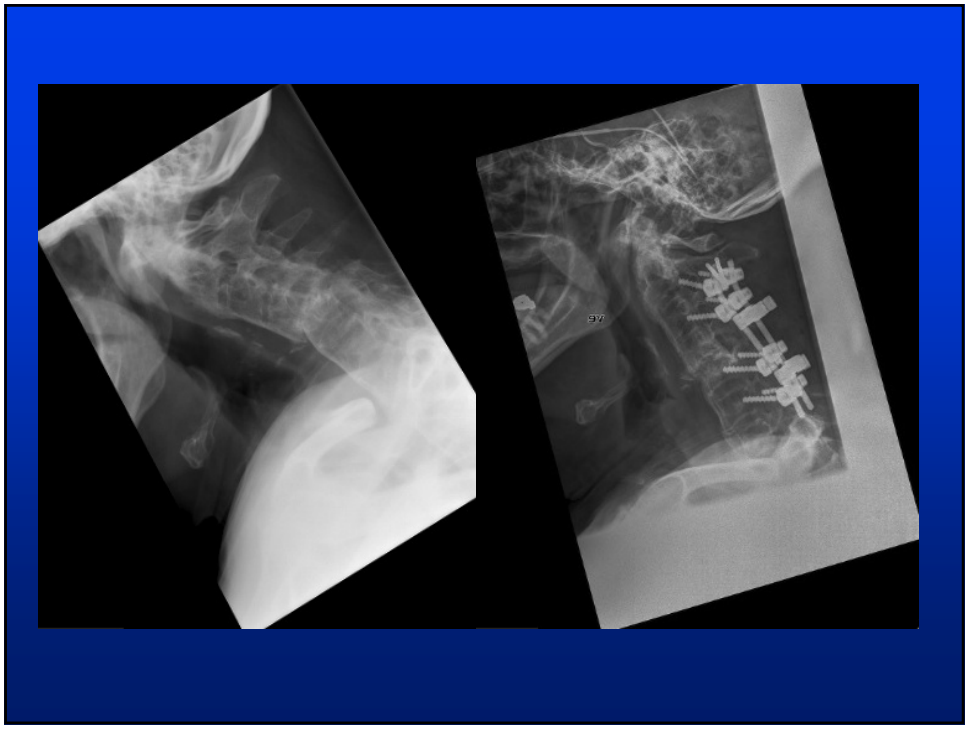


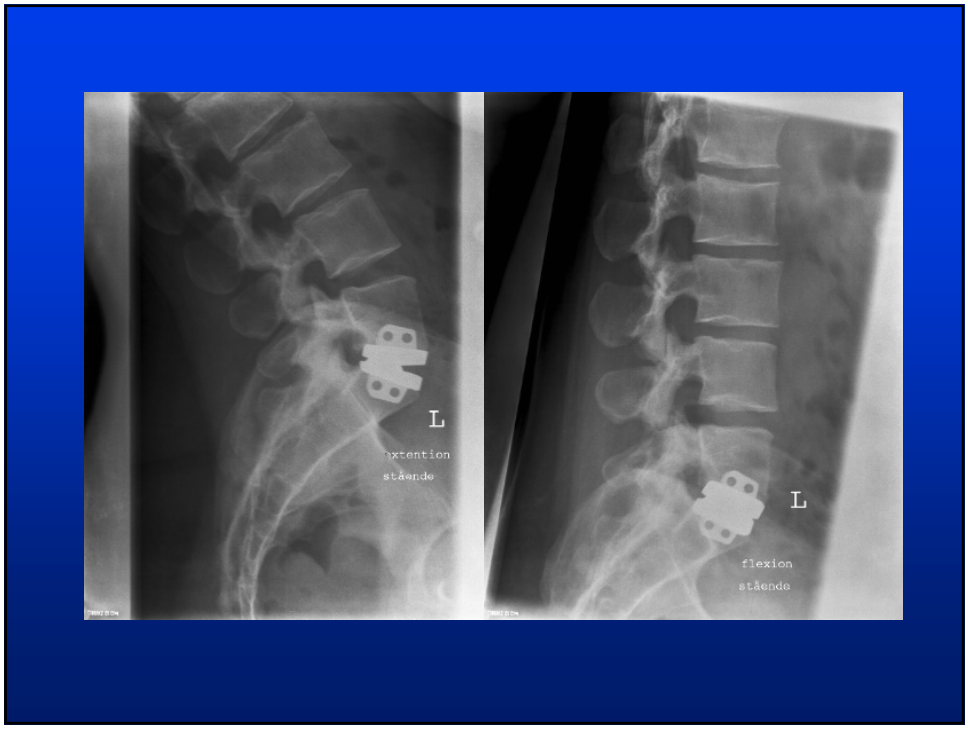

A
B
C

Scoliose





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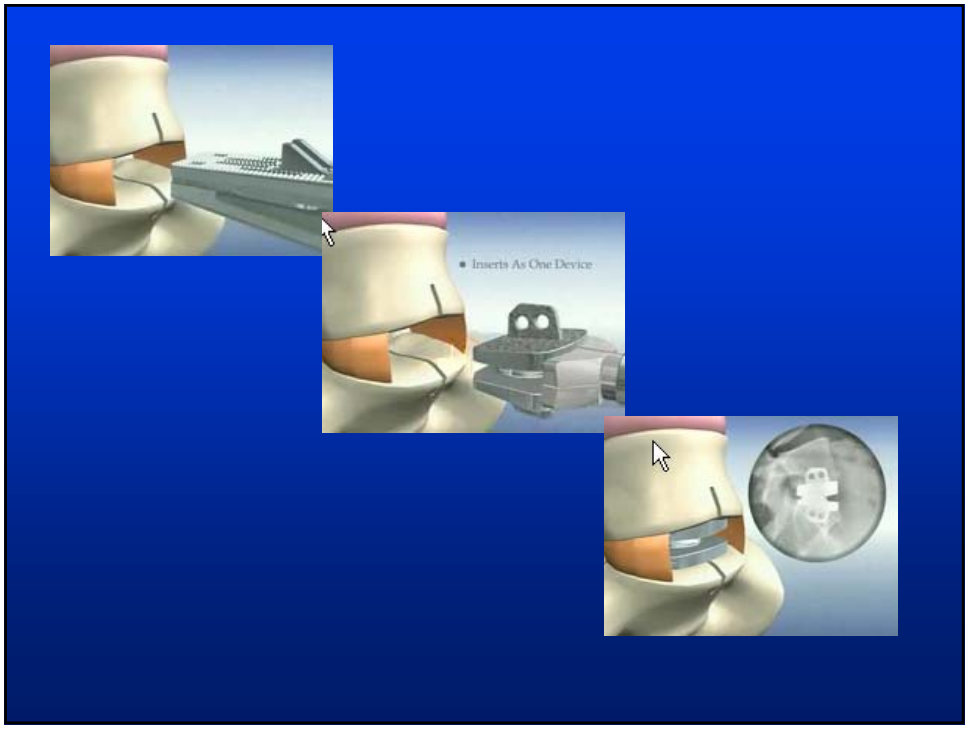
extention
stående
L
flexion
stående



Degeneration of the spine

- Disc
- Facet joints
- Ligaments
- End-plate edema
- Fat infiltration
- Cytokines
- Genotype
- Biomechanical factors
- ?????

What to do?

- Nothing
- Conservative treatment
- Surgery

Success criteria?

Modic et al. R*adiology* 1988;166:194–9.

- Modic 1 (T1 hypointense and T2 hyperintense)
- Modic 2 (T1 hyperintese and T2 hyperintense)
- Modic 3 (T1 hypointense and T2 hypointense)

- Lang et al. *Spine* 1990;15: 581– 8.
- Toyone et al. *J Bone Joint Surg* [Br] 1994;76:757–64.
- Chataigner et al. *Rev Chir Orthop* 1998;84:583–9.

Surgery for degenerative lumbar spondylosis

- Gibson JNA & Waddell G
- Cochrane Database of Systematic Reviews 2005, Issue 2
- 31 published RCT´s

Valg af kirurgisk metode

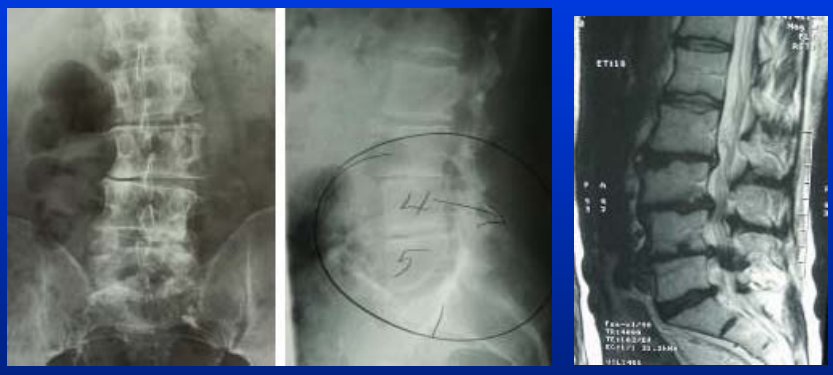
- Prolaps
  - Diskektomi/dekompression
- Spinal stenose (-rygsmerter/- listhese)
  - Dekompression
- Spinal stenose (+ rygsmerter/+ listhese)
  - Dekompression og spondylodese
- Lænderygsmerter
  - Discusprotese, spondylodese +/- implantat

Responsiveness and minimal clinically important difference for pain and disability instruments in low back pain patients

- **Lauridsen et al. BMC Musculoskeletal Disorders 2006, 7:82**
  - The Oswestry Disability Index (ODI)
  - Roland Morris Disability
  - Questionnaire (RMQ)
  - The Low Back Pain Rating Scale (LBPRS)
  - SF36
  - Back and/or leg pain
  - Patients' global retrospective assessment of treatment effect

Fremtiden

- Konservativ behandling
  - nomenklatur
- Outcome
- Behandlingsindikationer
- Patofysiologi



Surgical aspects on lateral spinal stenosis*)

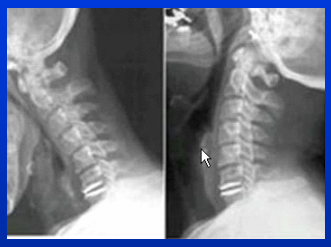
- When to fuse?
  - Preoperative instability
  - Removal of > 2/3 of one facet joint
  - Removal of > 50% of a facet pair
  - Removal of > 50% of successive facets

*)Andersson,GBJ. Acta Orthop Scand 1993;64 (suppl 251):74-75.

Fusion vs. no fusion

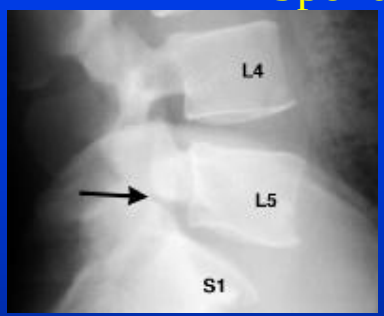
- Back pain
- Instability (degenerative spondylolisthesis)
- Extensive decompression

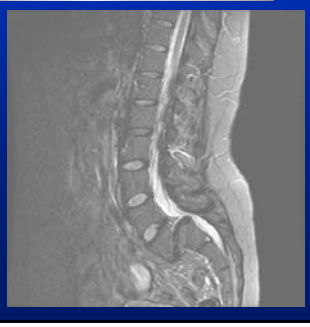
Fusion vs. diskusproteser



- Blumenthal et al. A prospective, randomized, multicenter Food and Drug Administration investigational device exemptions study of lumbar total disc replacement with the CHARITE artificial disc versus lumbar fusion: part I: evaluation of clinical outcomes. Spine 2005;30:1565-1575.

Spondylolisthesis





Resnick et al. J Neurosurg Spine. 2005 Jun;2(6):679-85.

” The majority of evidence from other studies comparing outcomes after decompression alone or decompression combined with PLF in patients with stenosis and spondylolisthesis also favors the performance of PLF.

” The precise definition of instability or kyphosis has varied among researchers and requires further study.

Outcome

- Rygspecifik:
  - Oswestry eller Roland-Morris
  - Pain drawing
- Generelt helbred:
  - SF-36

Postoperative Management Protocol for Incidental Dural Tears During Degenerative Lumbar Spine Surgery

- **Khan et al. Spine 2006;31:2609–2613**
- **N =** 3,183