

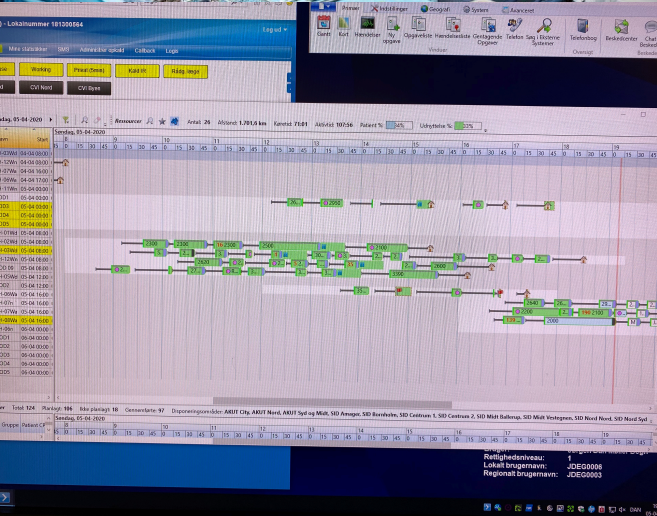
Degenerative rygsygdomme

RLB-CV MAR24

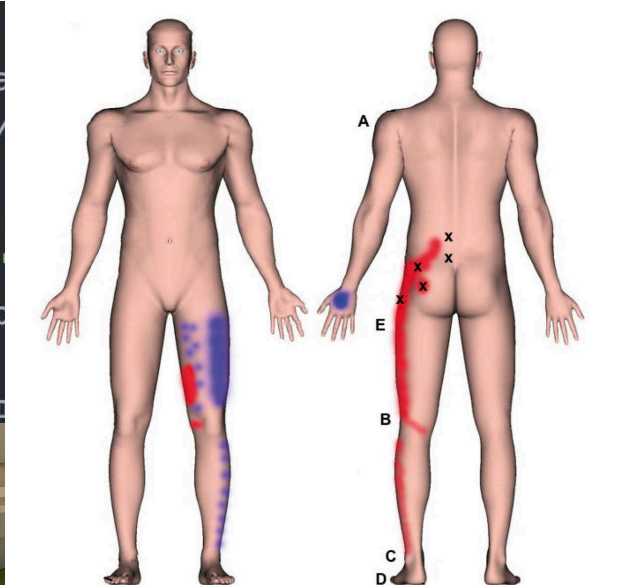
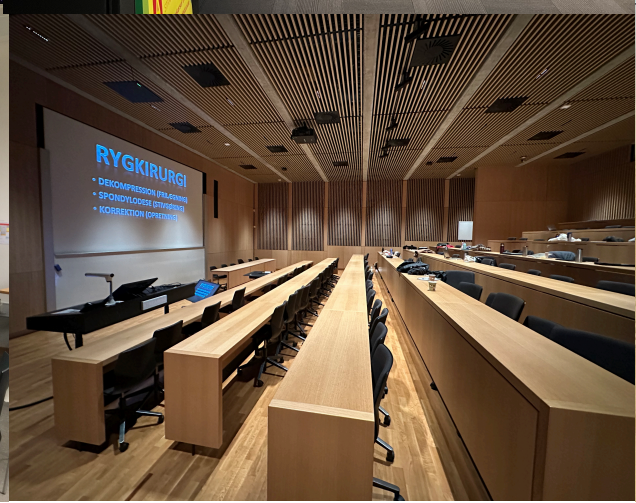
UAO Jørgen Degn

Rigshospitalet-Glostrup





549 </p><p class="tekst1"> </p>
 550 <p class="tekst1">Повествова
 551 </p><p class="tekst1">Видени
 552 </p><p class="tekst1">Иисус
 553 </p><p class="tekst1">Слова
 • приходило <span class="bred"
 554 </p><p class="tekst1">С того
 • Него вопросе. Твердость Его
 • в конце концов видел лишь од



Jeres motivation & forventninger





Rygkirurgi

Degenerative sygdomme i hals- og lænderyg samt den kirurgiske behandling heraf.

Den rykirurgiske uddannelse indenfor specialet neurokirurgi.

Jørgen Degn

Uddannelsesansvarlig overlæge i neurokirurgi

Rigshospitalet-Glostrup 2021

Forord

- 1 RLB
- 2 Rygseminariet
- 3 Uddannelsen til neurokirurg
- 4 Ortopædkirurger på fokuseret ophold
- 5 Degenerative rygsygdomme
- 6 Diskusprolaps
- 7 Spinalstenose
- 8 Cervikalt Tværsnitssyndrom
- 9 Spondylolistese
- 10 Akut rykirurgi
- 11 Medicinske problemstillinger
- 12 Rygundersøgelsen
- 13 MR-skanning
- 14 Differentialdiagnoser
- 15 Procedurer
- 16 Sundhedsplatformen
- 17 Ryggens anatomi



E-bog



Forside

Web-encyklopædi om kirurgisk behandling af rygsygdomme

Alle
sider

Intro-
duktion

Lumbal
spinal-
stenose

Lumbal
diskus-
prolaps

Lumbal
diskus-
degeneration

Cauda
equina
syndrom

Parese

Cervikal
diskus-
prolaps

Cervikal
spinal-
stenose

Fokuseret
klinisk
ophold

E-learning

Under-
visning

Ryg-
under-
søgelsen

Forskning

Artikler

Smerte-
diagram

Patient-
information

Forunder-
søgelsen

Vagt-
skema



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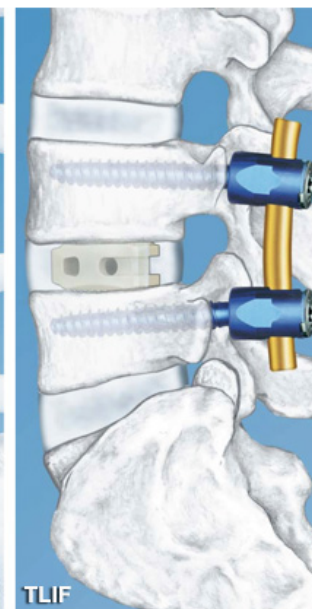
søg

værktøjer

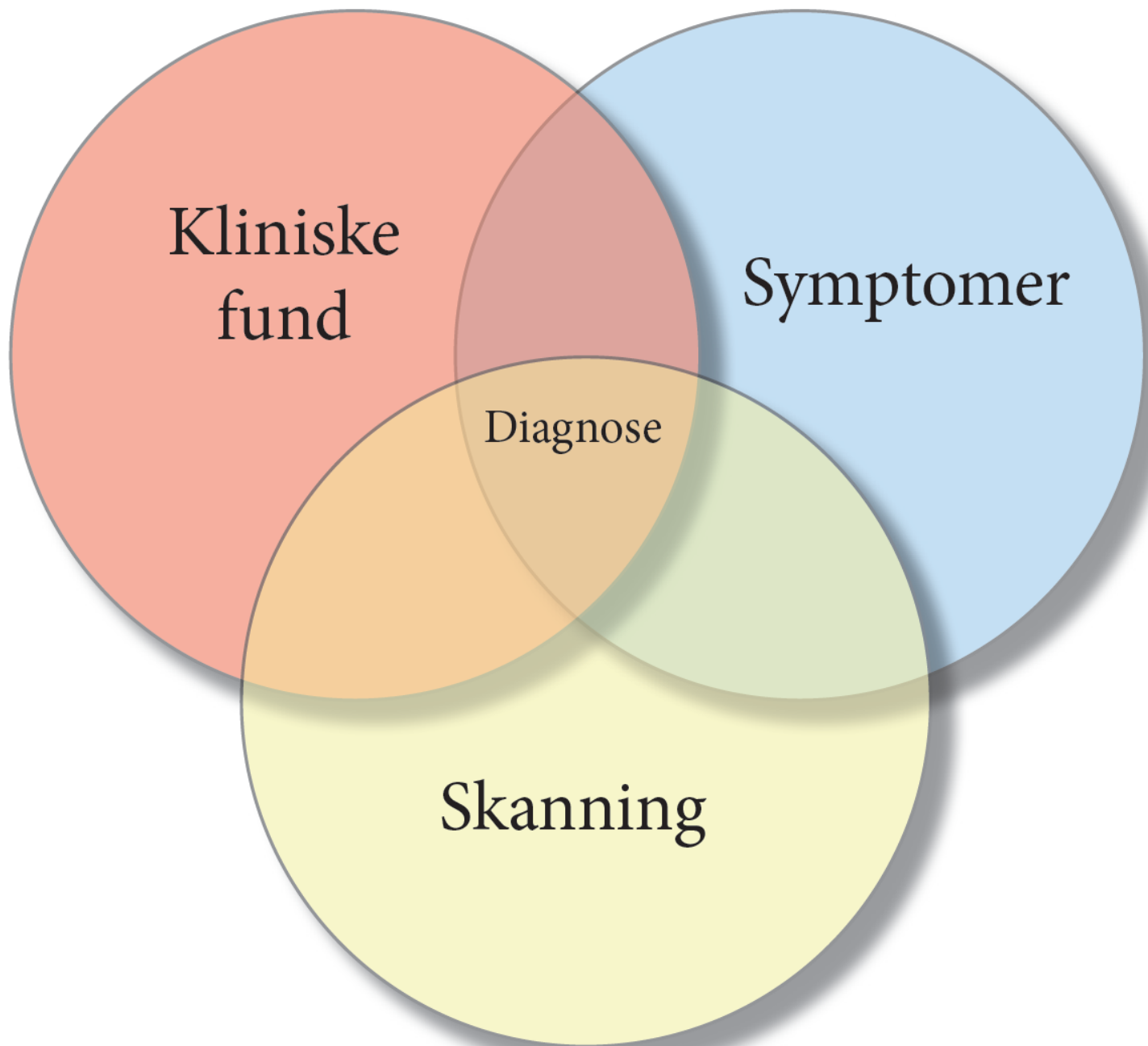
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ALIF



TLIF



DEN KLINISKE DIAGNOSE

- Hvad fejler patienten?
- Hvad er smertegeneratoren?
- Hvor sidder læsionen i nervesystemet? Rod? Perifer nerve?
- Sygehistorien
- Den objektive (neurologiske) undersøgelse
- Signifikant radiologisk rodpåvirkning?

Differentialdiagnoser

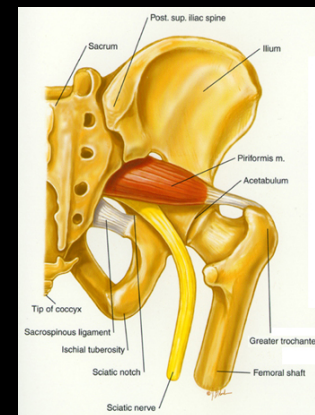
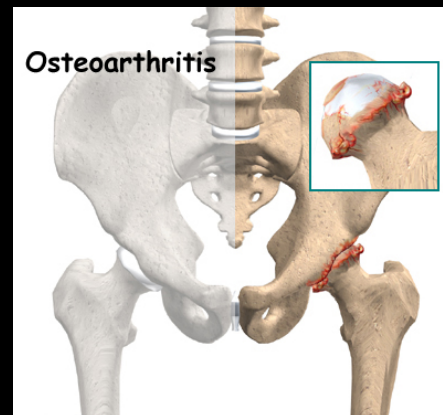
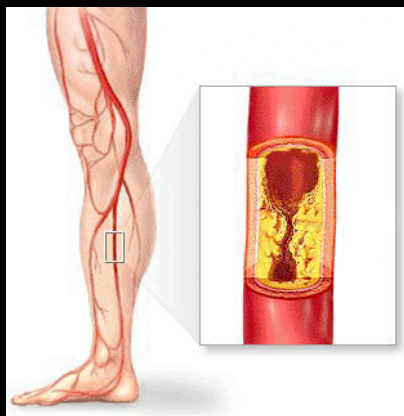
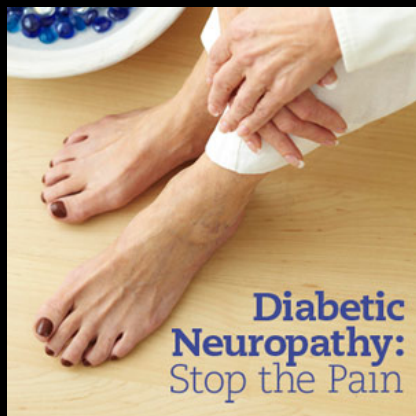
- Polyneuropati
- Vaskulær claudicatio
- Hofteartrose
- Myoser (fx piriformis)

Neurofysiologisk us.

DBT/A-grafi

Indadrotation

Palpation/Fys



Red flags

Tværsnits-
syndrom

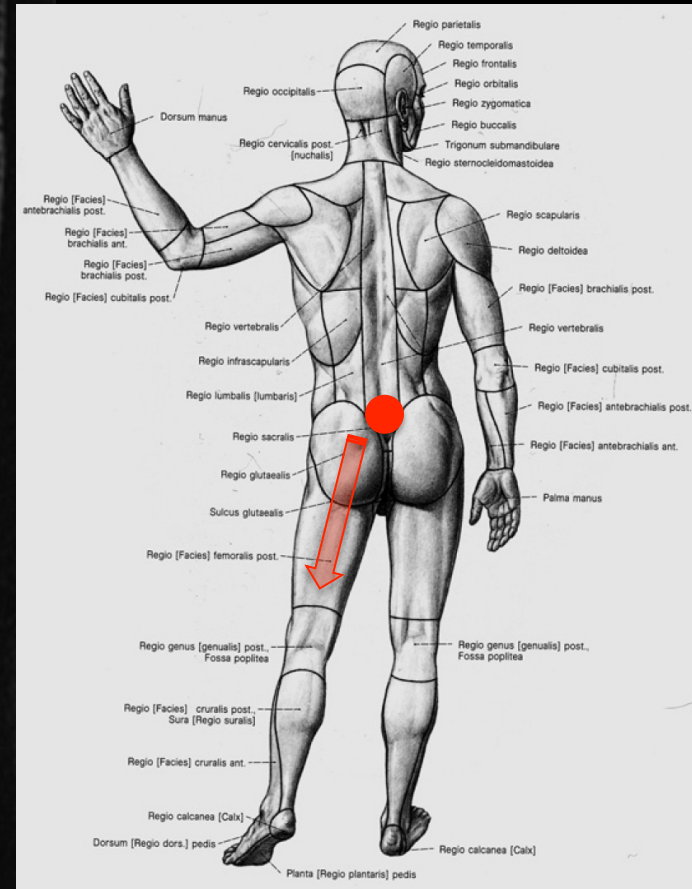
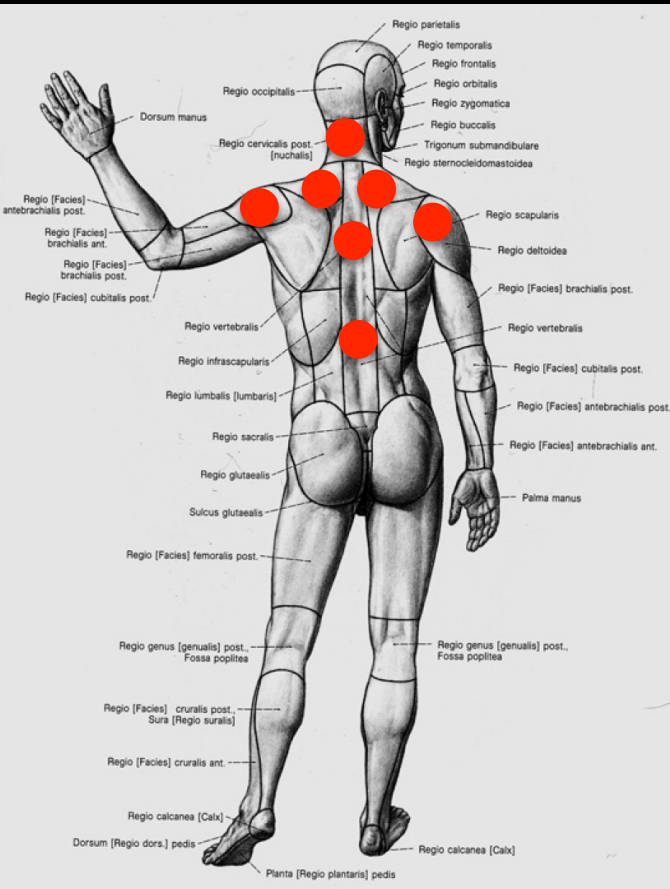
Cauda
equina
syndrom

Prog.
svær
parese

Intraktable
smerter

Hvilken smertegenerator?

Diskus? Facetledsartrose? Rodtryk? Myoser? Gigt?





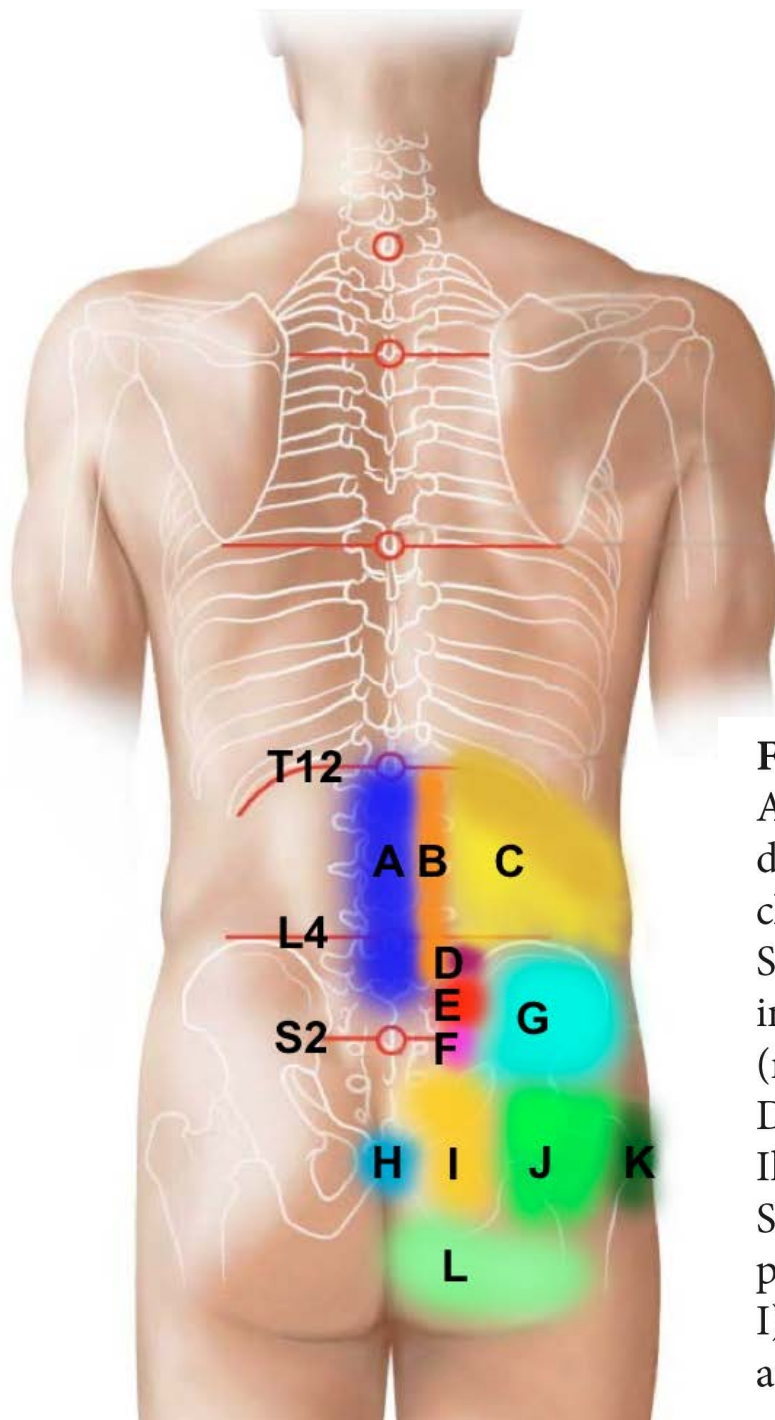


Figure 1: Lumbar pain zones seen with different generators:

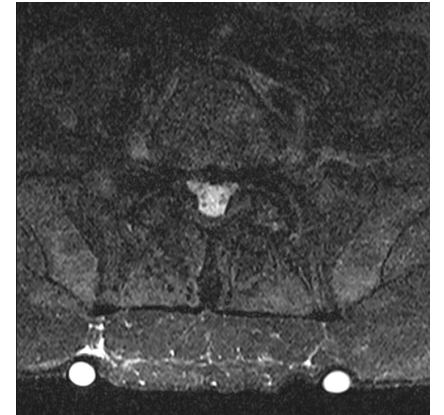
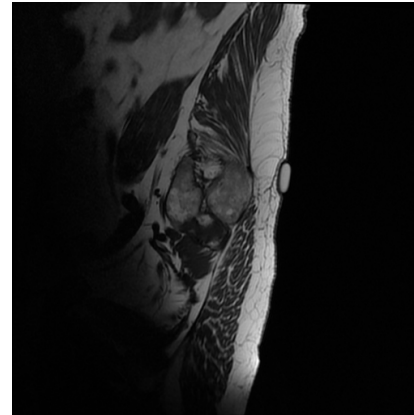
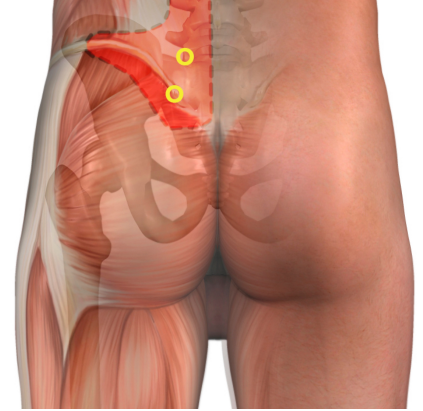
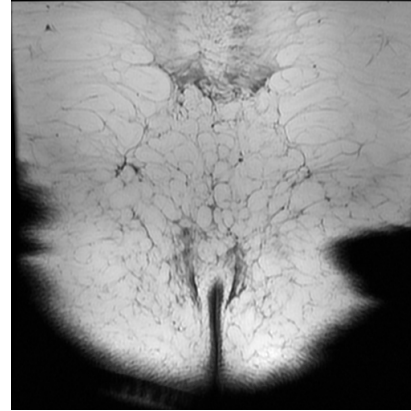
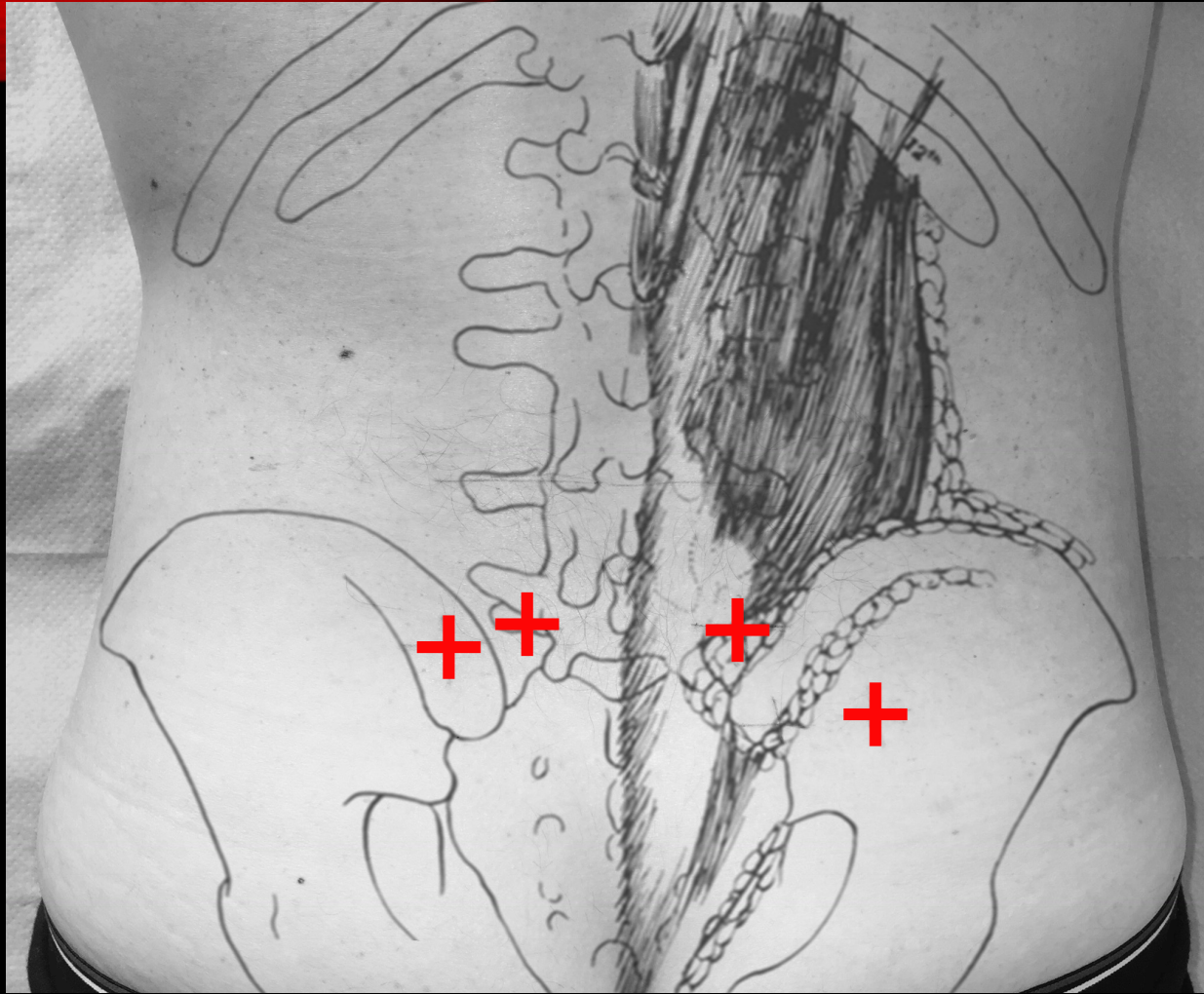
A) Axial (discs, vertebrae, facets, endplates, spinous processes — degenerative changes e.g. disc degeneration, -herniation, Modic changes, HIZ, Schmorl's node, spondylolisthesis, scoliosis and Scheuermann's disease. Also tumor, fracture, inflammation and infection). B) Paraspinal (secondary myofascial pain). C) Flank (muscles, referred pain from kidney/ureter, endometriosis). D) Fused transverse process (Bertolotti's syndrome). E) Spina Iliaca Posterior Superior (SIPS — Back Mouse Syndrome). F) Sacroiliac joint (dysfunction). G) Gluteal region (muscles, superior cluneal nerve, fibromyalgia). H) Coccygeal (coccydynia). I) Piriformis syndrome, middle cluneal nerve. J) Hip joint (coxarthrosis). K) Trochanter (bursitis). L) Inferior cluneal nerve.

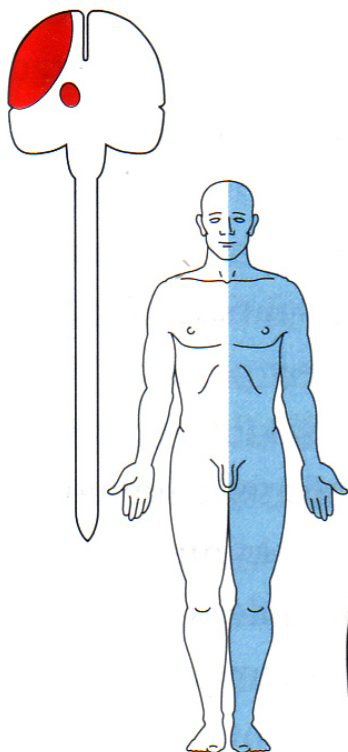
Den kliniske diagnose & smertegeneratoren

- Smerte i huden
- Muskelsmerter (myoser)
- Diskogene smerter (DDD)
- HIZ-læsion
- Neuropatiske smerter
- Nerverodssmerter (radikulopati)
- Facetledssmerter (ægte led)
- Hvirvelbrud (fraktur)
- Meddelt smerte fra andet organ
- Instabilitet (spondylolistese)
- Infektion (spondylodiskitis)
- Skvatryg (Kissing spine, Basstrup)
- Somatisering
- SI-led
- Hofteartrose
- Tumor, cyste
- Scheuermann
- Axial artrit
- Simvastatin
- Vasc. claudicatio



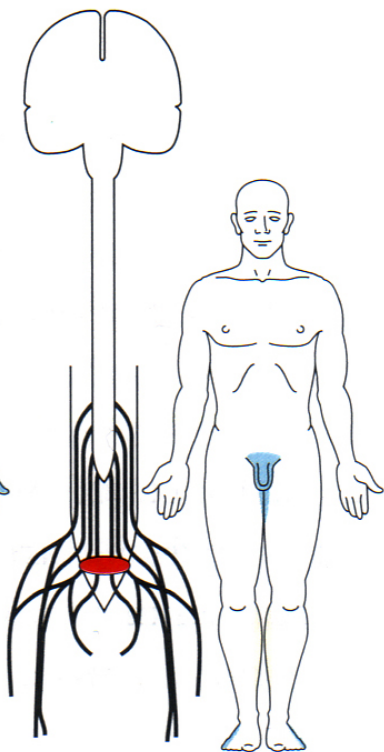
RYGMUS





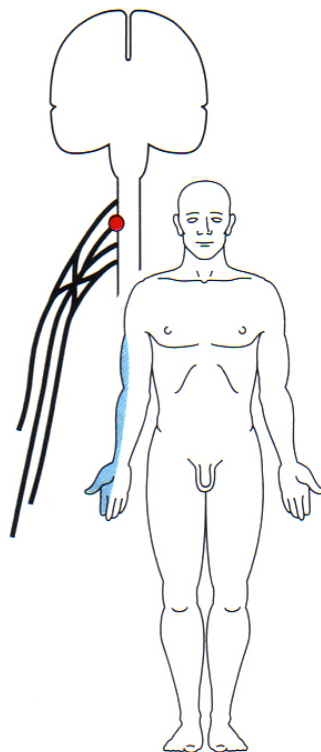
Sensorisk cortex eller thalamus

(fx apopleksi) Modsidigt hemiformt føletab. For sensorisk cortex desuden astereognose og sensorisk inattention.



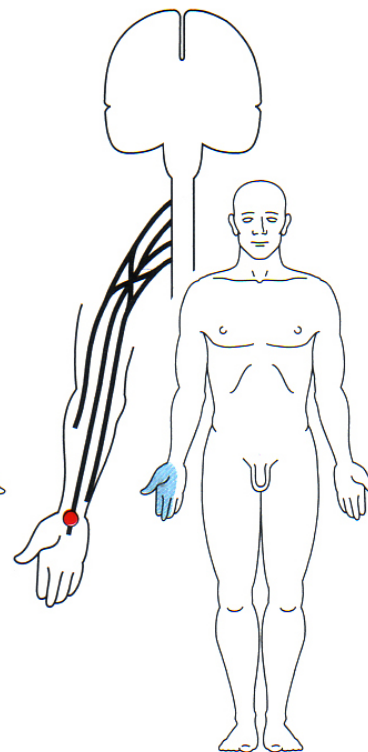
Cauda equina syndrom

(fx sakrale nerverødder S1-S5 ved stor L5 prolaps) Sensorisk tab i ridebukseområdet og S1-dermatomer.



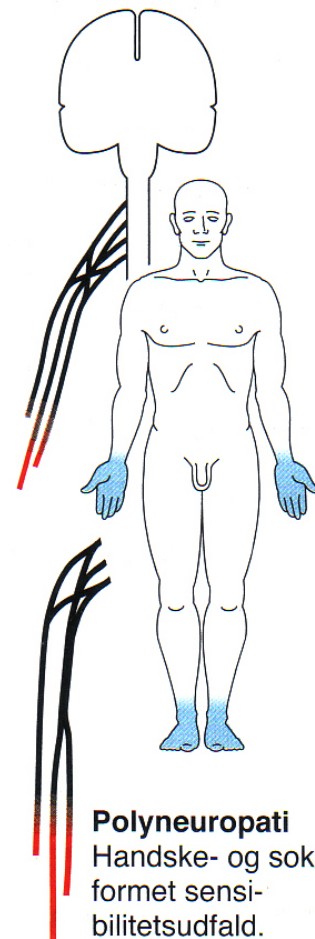
Radikulopati

(fx 6. cervikale nerverod (ved cervical diskusprolaps C5/6)) Sensibilitetstab i det pågældende dermatom.



Mononeuropati

(fx n. medianus ved carpaltunnelsyndrom) Sensibilitetstab sv.t. den pågældende perifer nerve distalt for læsionsstedet.

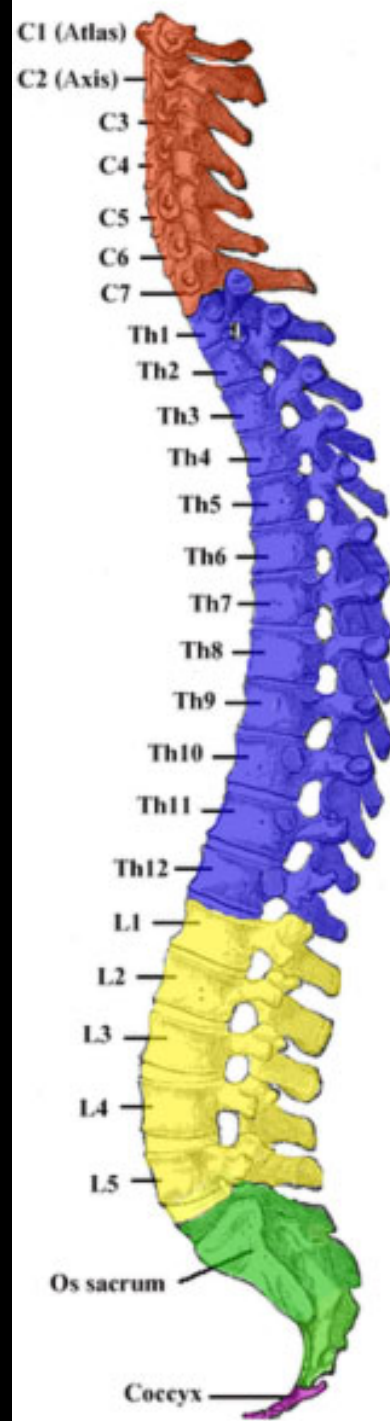
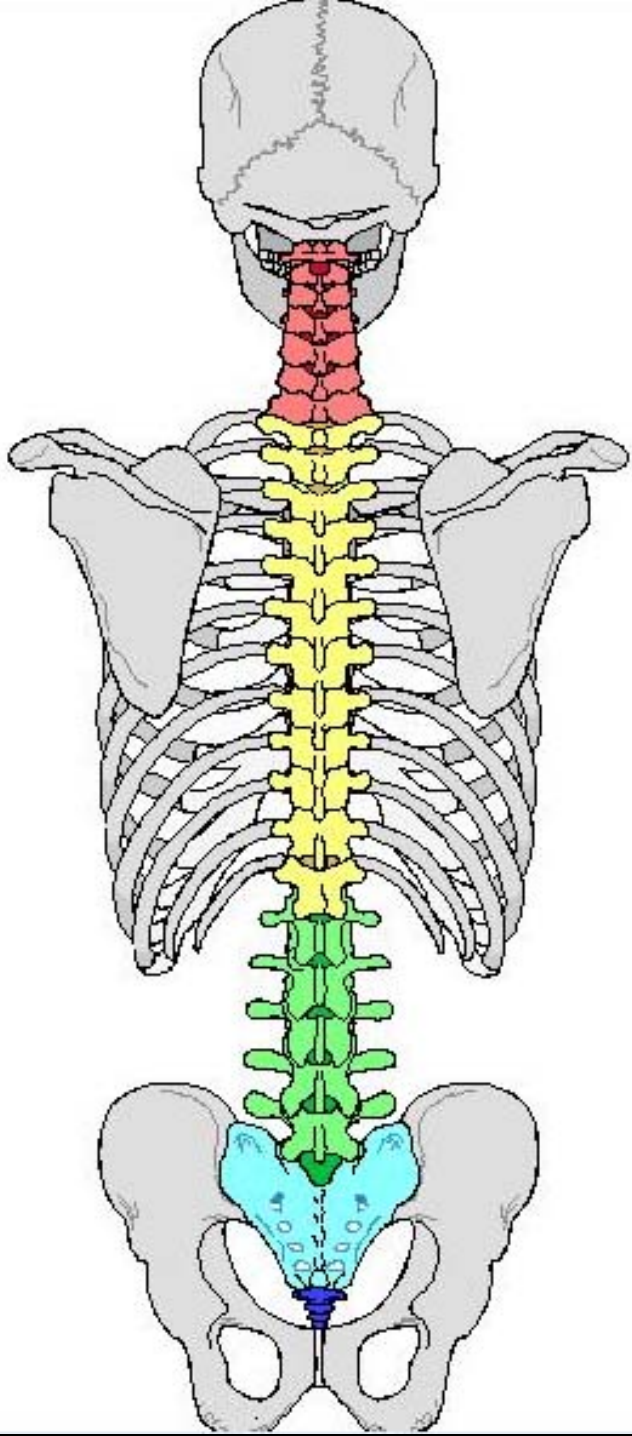


Polyneuropati

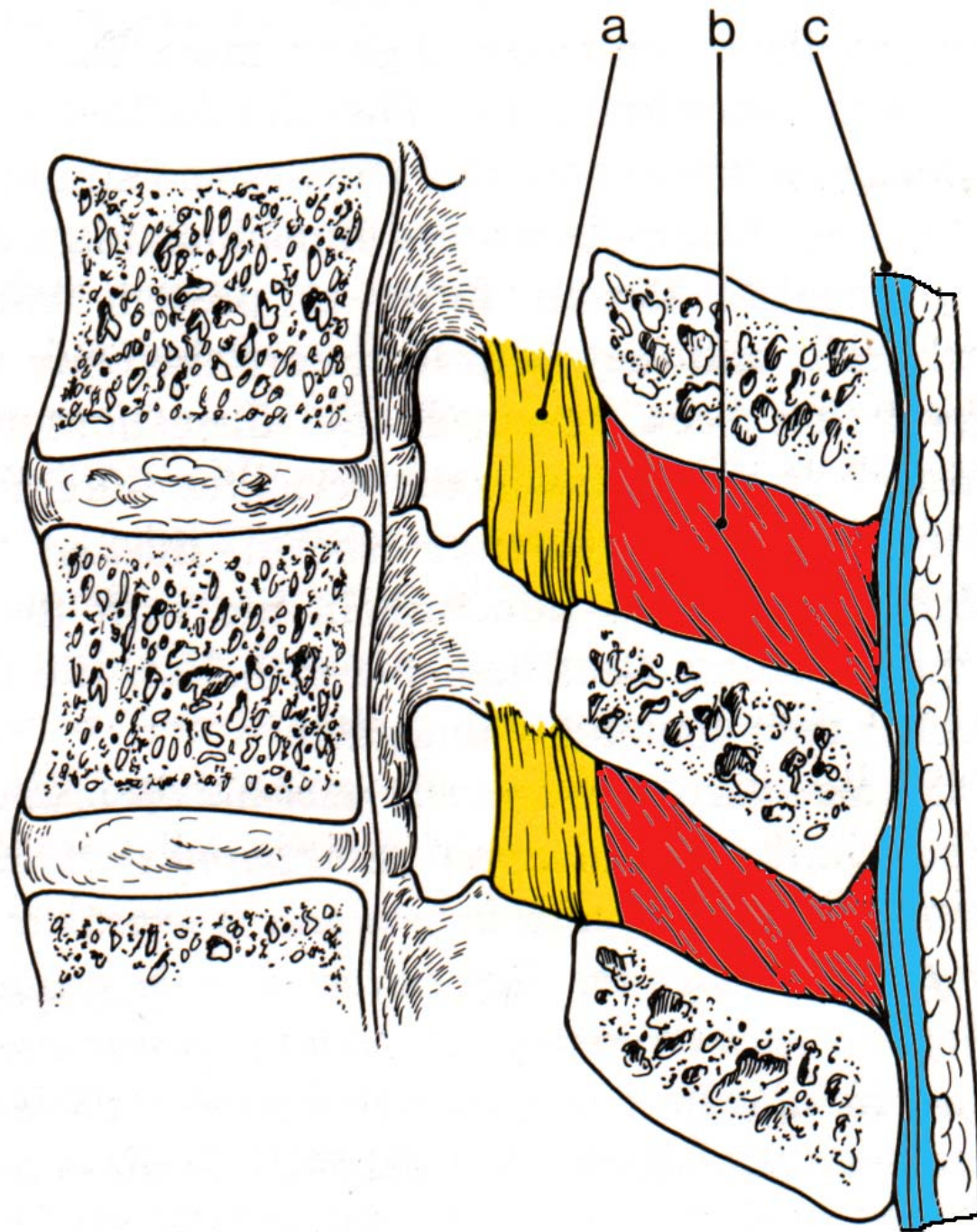
Handske- og sokformet sensibilitetsudfald.

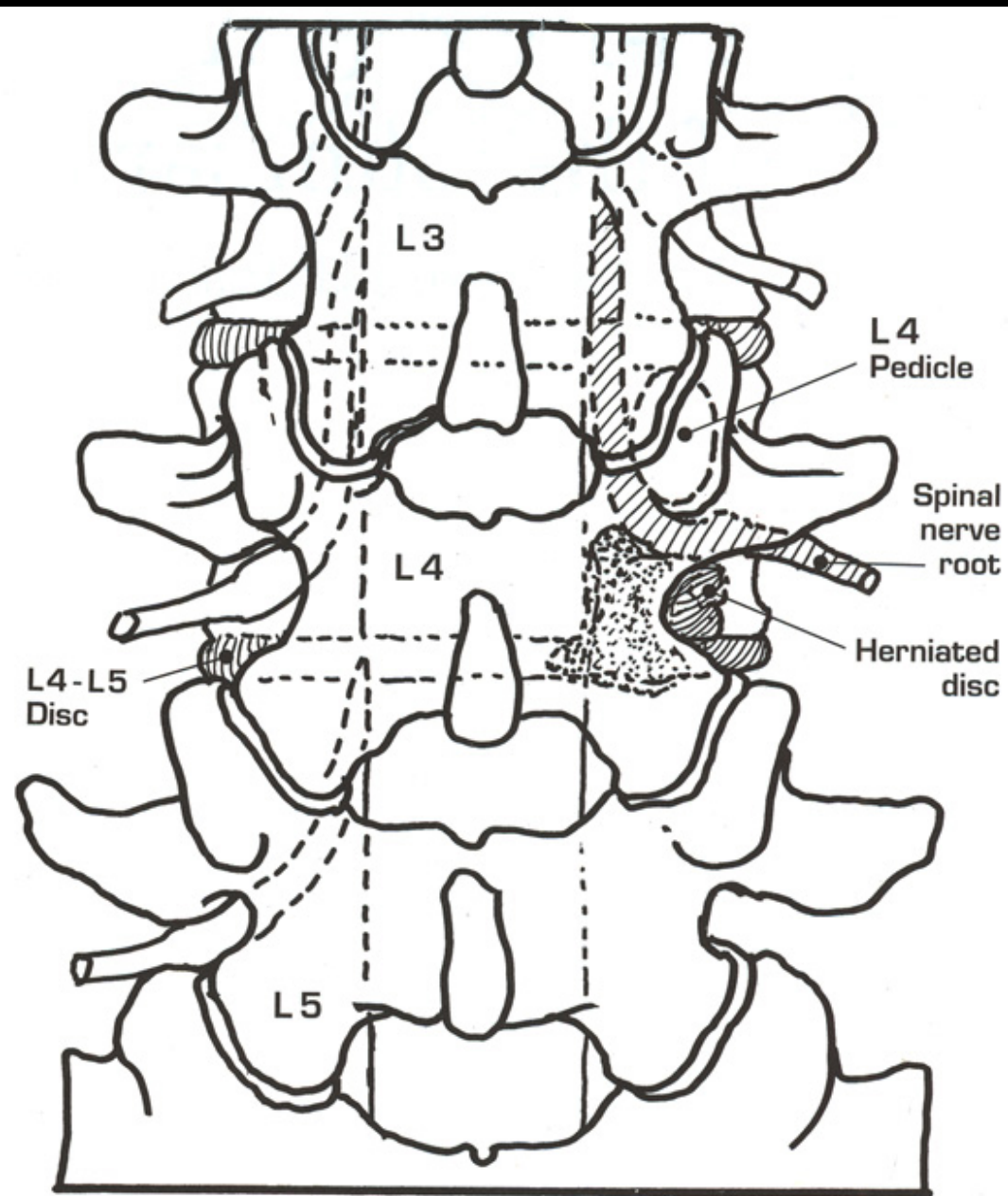
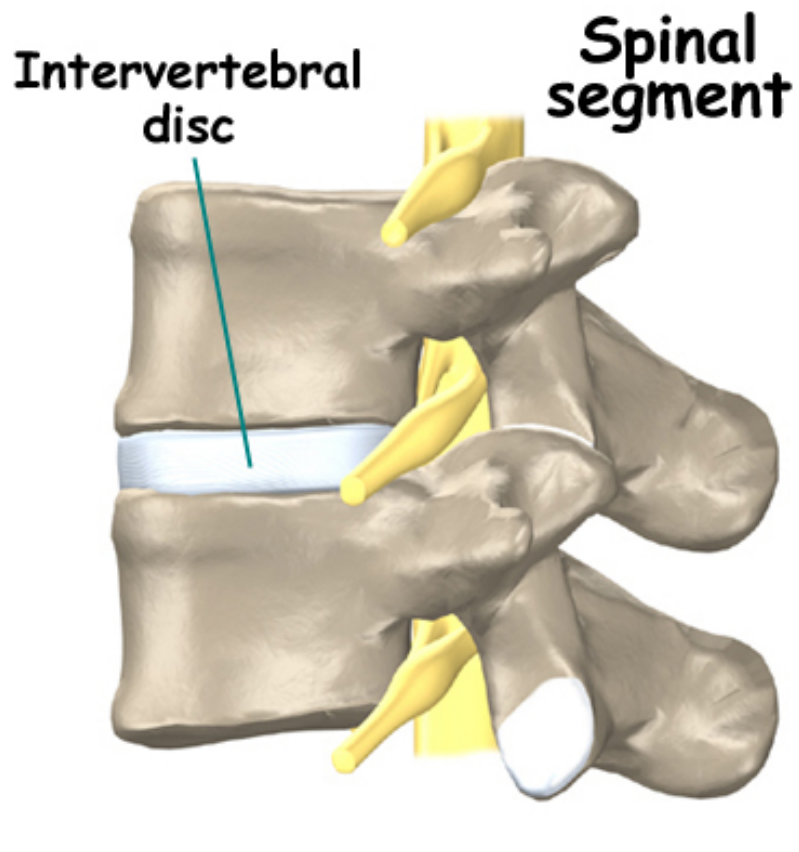
Anatomi





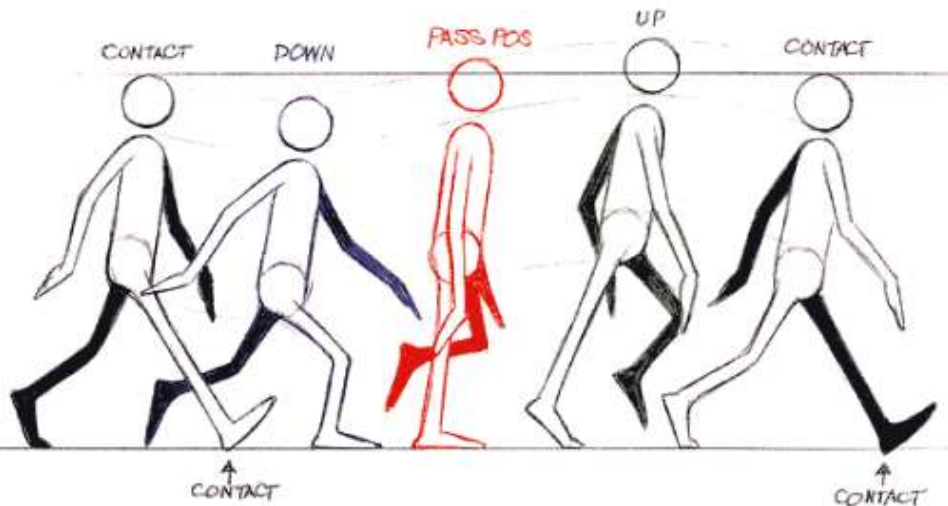
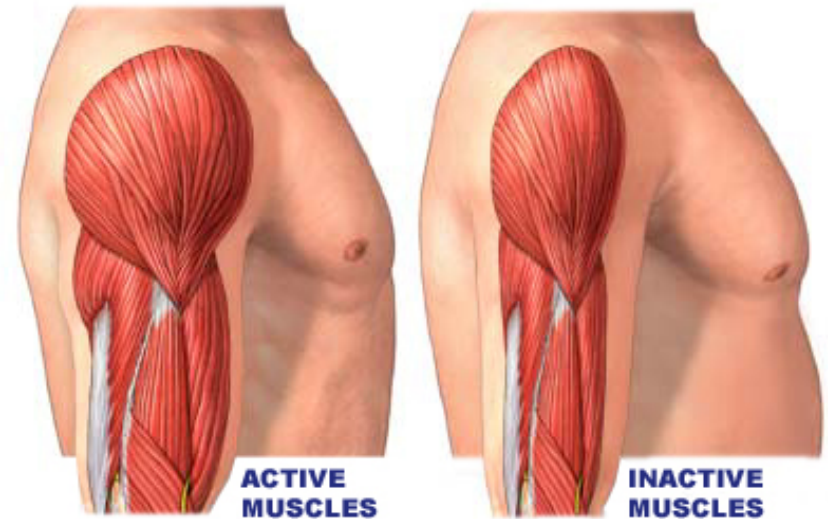
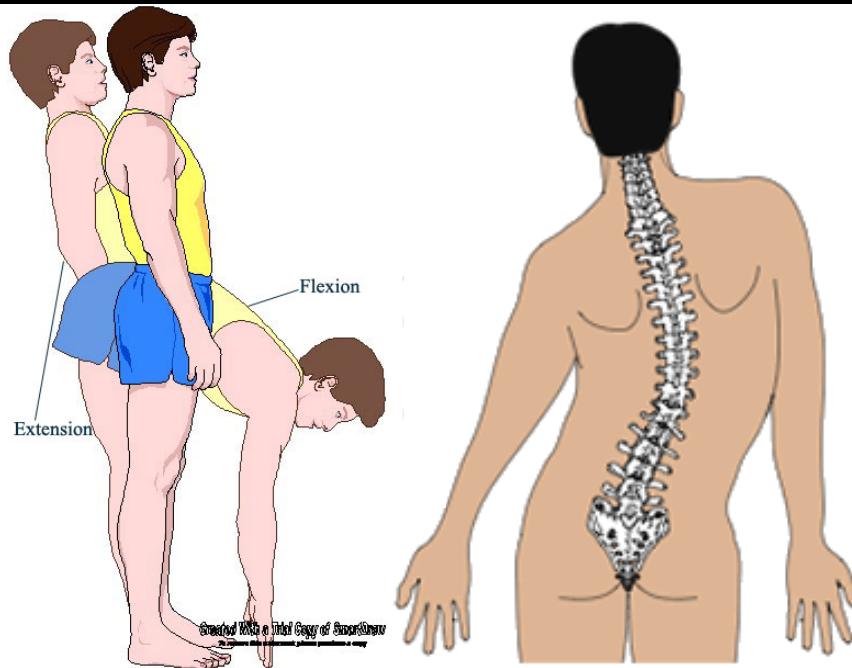


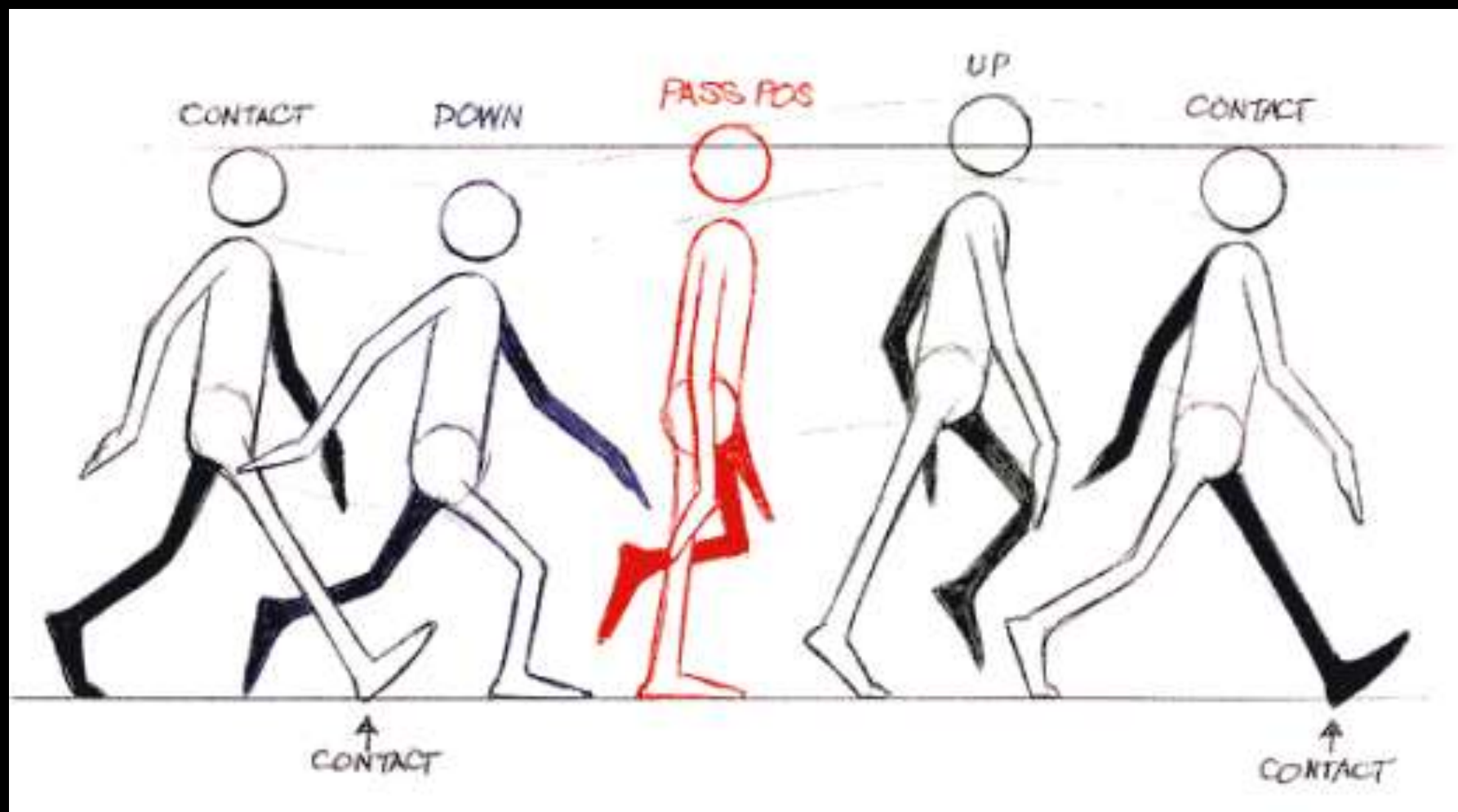




Rygundersøgelsen

Inspektion

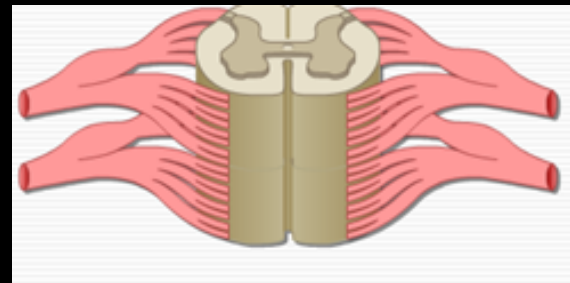




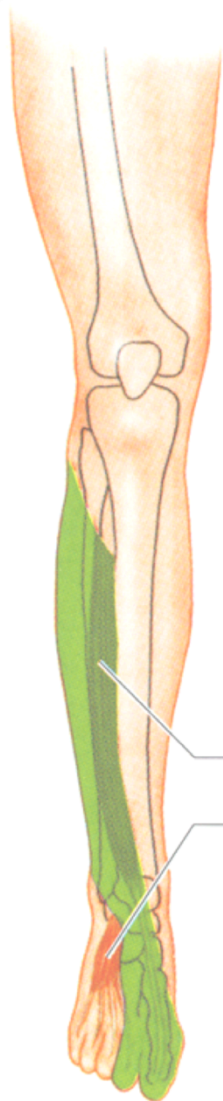
Infra/nukleær læsion

Lower Motor Neuron syndrome, PNS,
Perifer nervepåvirkning, "2. neurons påvirkning"

- Hyporefleksi
- Slap parese
- Svær muskelatrofi
- Fascikulationer
- Dermatomaafgrænsning



Eksempler: Neurogen claudicatio med påvirkning af de lumbosacrale nerverødder ved central lumbal spinalkanalstenose - giver bensmerter ved gang. **Cauda equina syndromet** med sfinkterpåvirkning herunder urinretention. Monoradikulopati ved prolaps eller rodkanalstenose, giver smerteudbredning i relevante dermatom. Evt. svær, progredierende parese (kraft grad 0-3) ved **rodinkarceration**

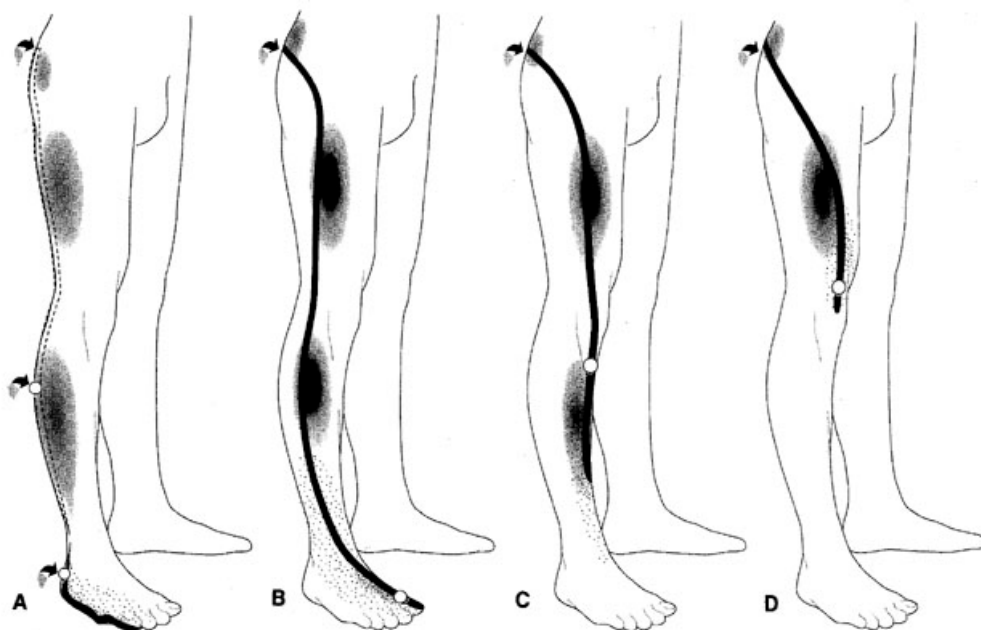


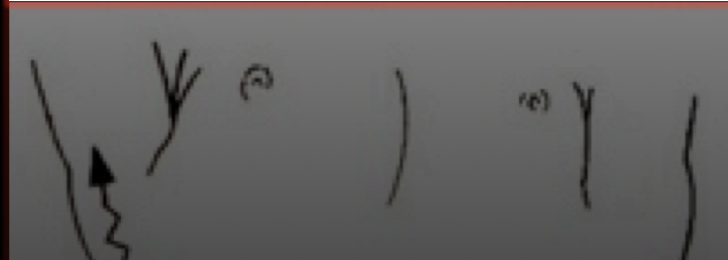
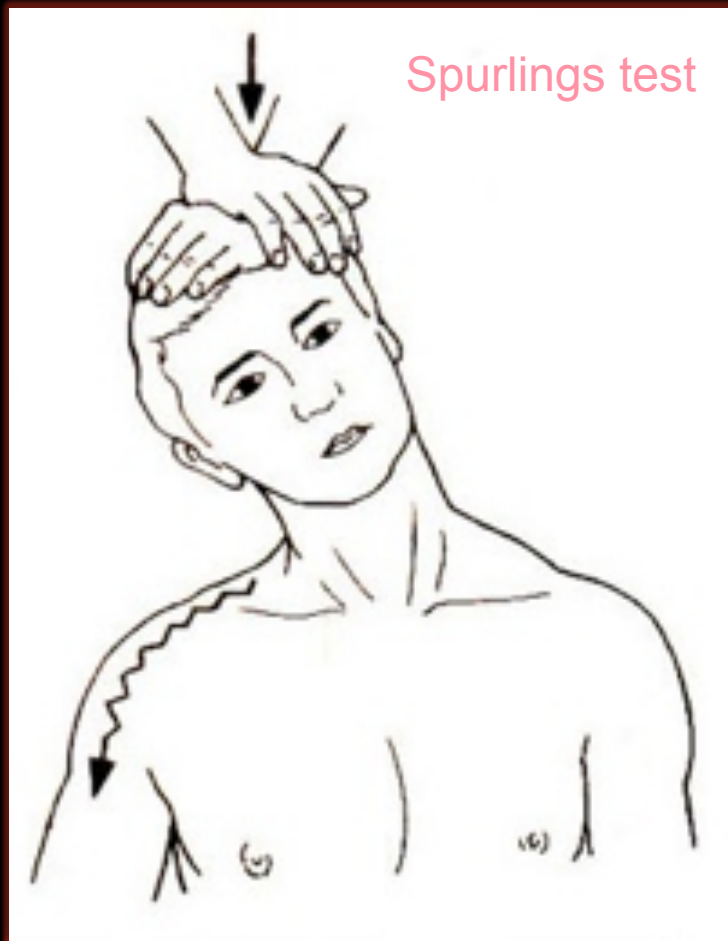
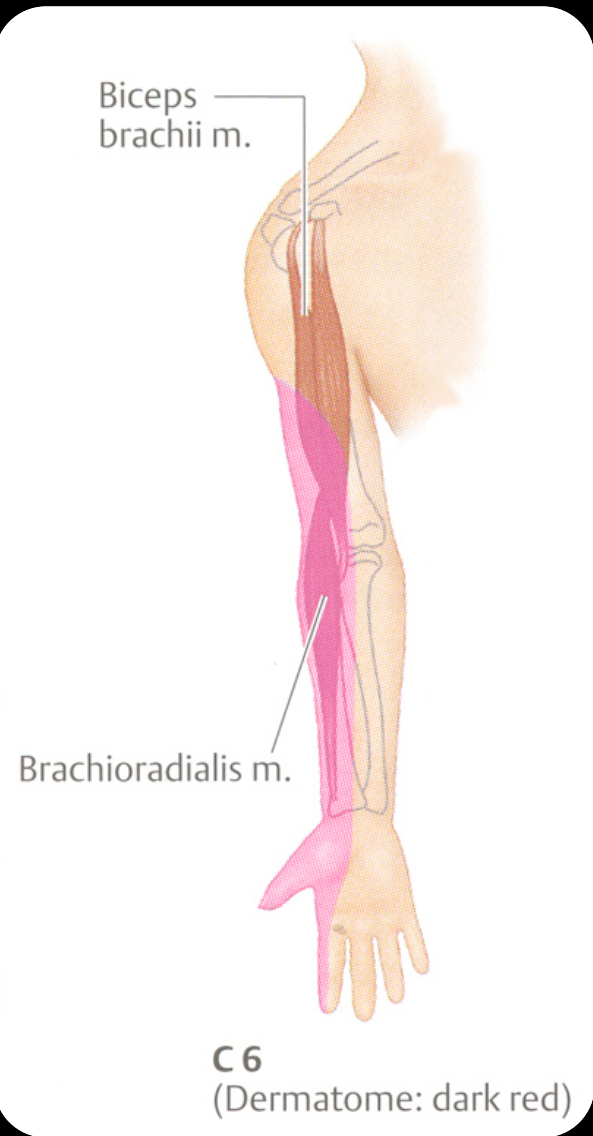
L5

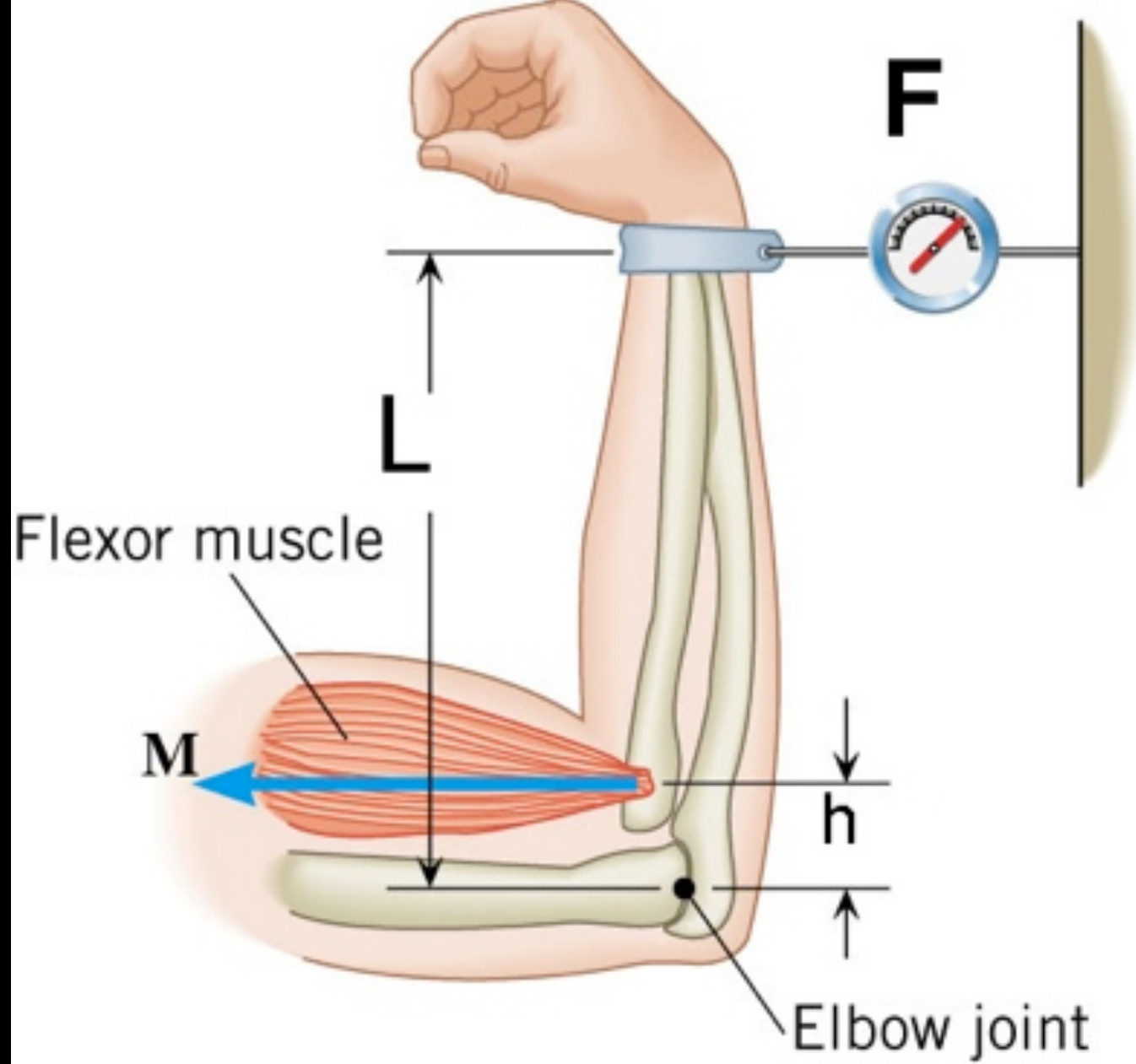
(Dermatome: green; gluteus medius m. not shown)

Extensor hallucis longus m.

Extensor digitorum brevis m.







Moderat parese/normal muskelstyrke

5: Normal muskelkraft (100% kraft)

4+: Submaximal, overvinder stærk modstand med næsten normal kraft (75% kraft)

4: Moderat kraft, overvinder moderat modstand med halvdelen af den normale styrke (50% kraft)

4-: Svag kraft, overvinder kun let modstand (25% kraft)

Svær parese

3: Ekstremiteten kan overvinde **tyngdekraften**, men **IKKE modstand appliceret af undersøgeren (svær parese)**. Skal kunne bevæge hele bevægebanen.

2: Ekst. bevæges kun hvis tyngdekraften er ophævet

1: Synlig muskelkontraktion men **INGEN** bevægelse

0: Ingen reaktioner (= paralyse)

Tips

Sørg for at pt. er tilstrækkeligt smertedækket i forbindelse med undersøgelsen – OVERTAL!

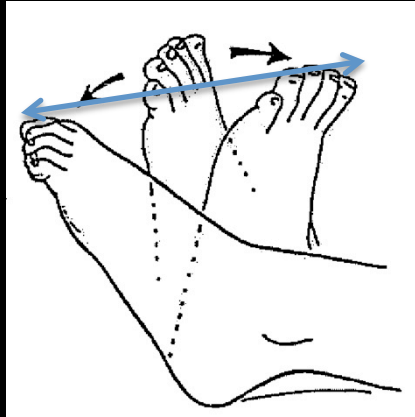
Parsen omtales f.eks. som "kraft grad 3"

Hvor længe har parsen været til stede?

Ved en svær, nyopstået parese kan det være en god ide at lade patienten faste - indtil sagen er afklaret



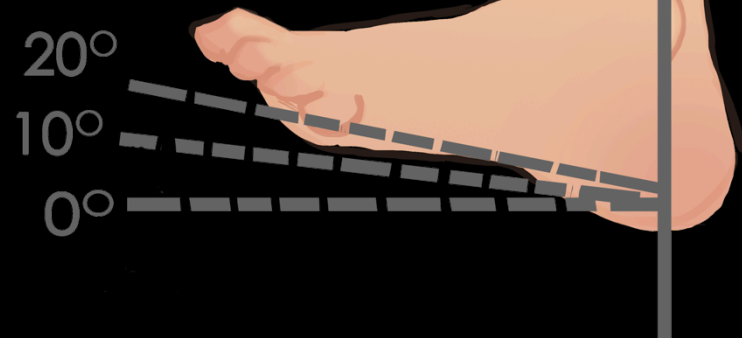
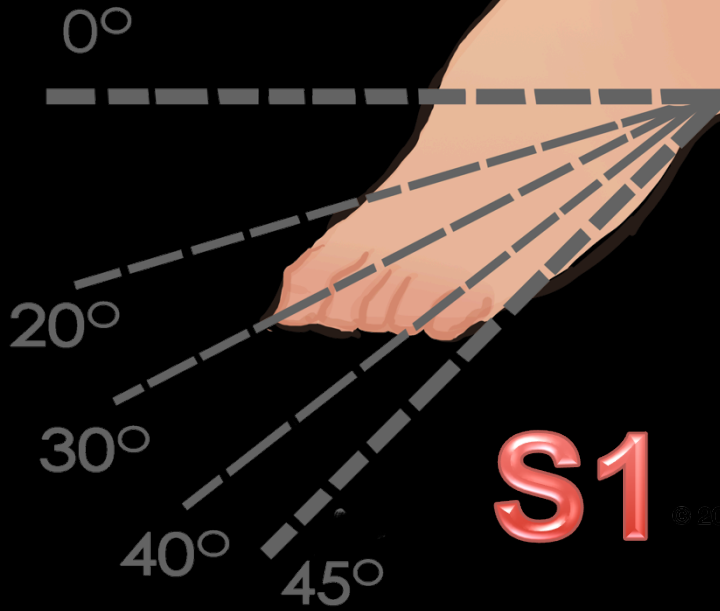
Plantar Flexion



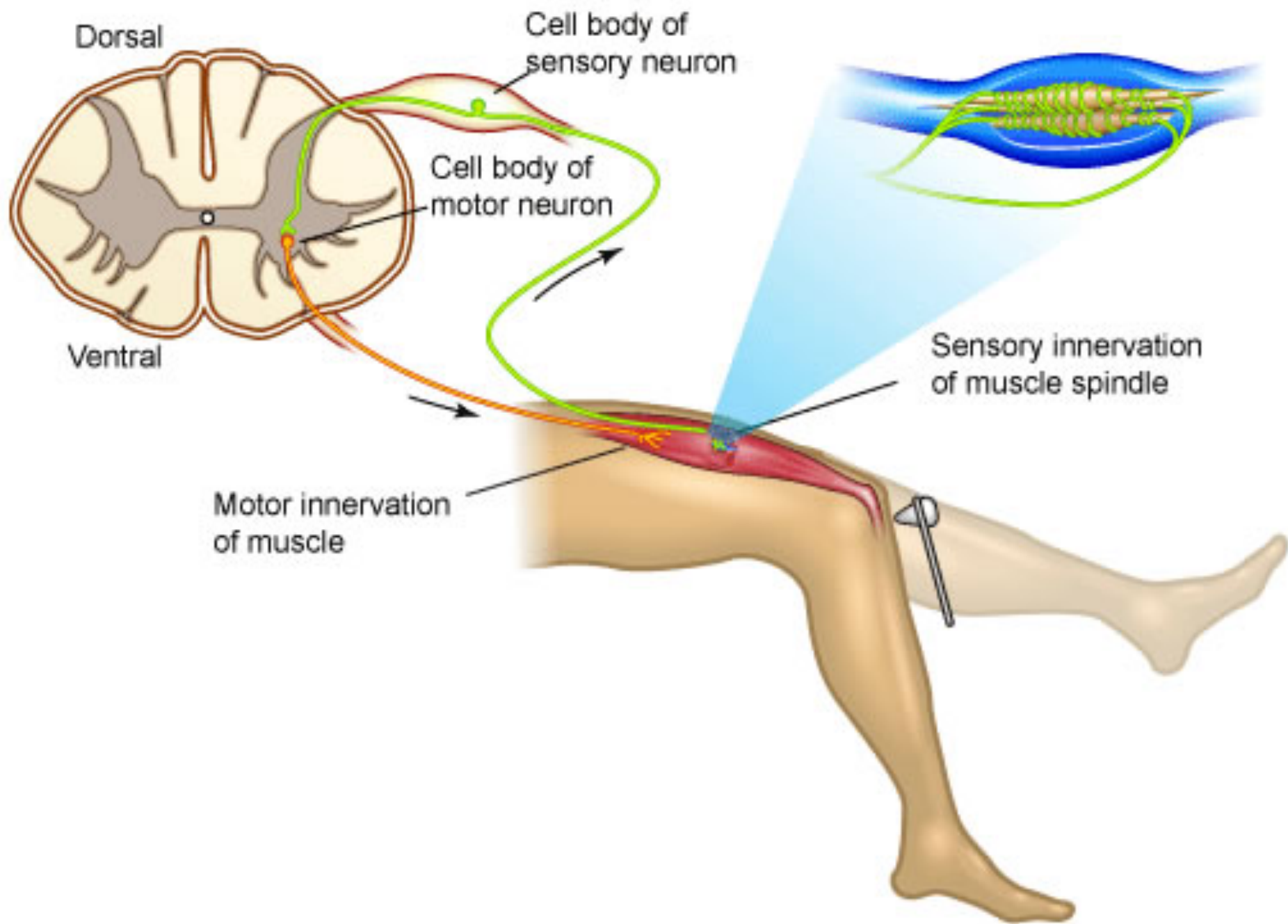
DROPFOD

Dorsiflexion

L5



© 2013 pmp Smertedæk – Overtal – Varighed?



Supranukleær læsion

Upper Motor Neuron syndrome, CNS,
"Pyramidebanelæsion", "1. neurons påvirkning",

- Hyperrefleksi
- Fodklonus
- Spastisk tonusøgning
- Babinskis tåfænomen
- Hoffman's refleks
- Sensibilitetsgrænse
- Para/tetraparese
- Blæreparalyse
- Evt. let atrofi

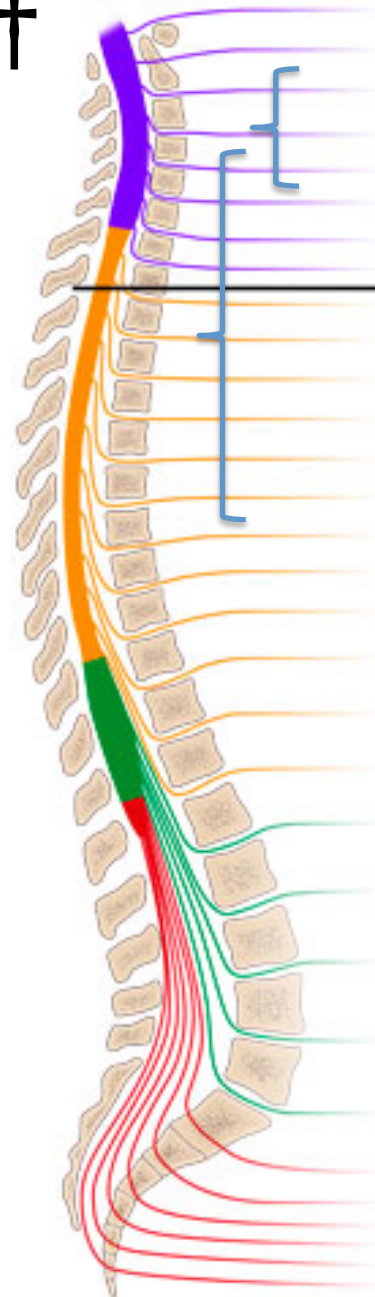
Eksempler: Cervikal eller thorakal myelopati. Akut medullært tværsnitssyndrom, evt. af inkomplet type: Brown-Séquard, centralt, anteriort, posteriot.

OBS: tidsfaktor for udvikling af de klassiske supranukleære tegn: Spinalt shock initialt med slap parese, manglende senereflekser og atonisk blæreparalyse.

Acute Spinal Cord Injury

Ophævet spontan resp.
Diafragma (n. Phrenicus: C3-C5)

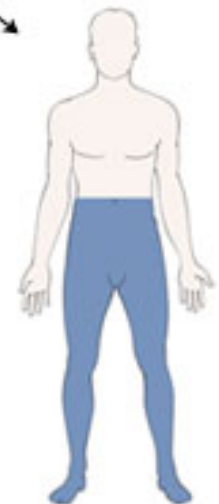
Paradox respiration
med inspiratoriske
indtrækninger (ses ved
rygmarvslæsion mellem
C5-Th6)



Quadriplegia
(loss of movement
and sensation
in all four limbs)

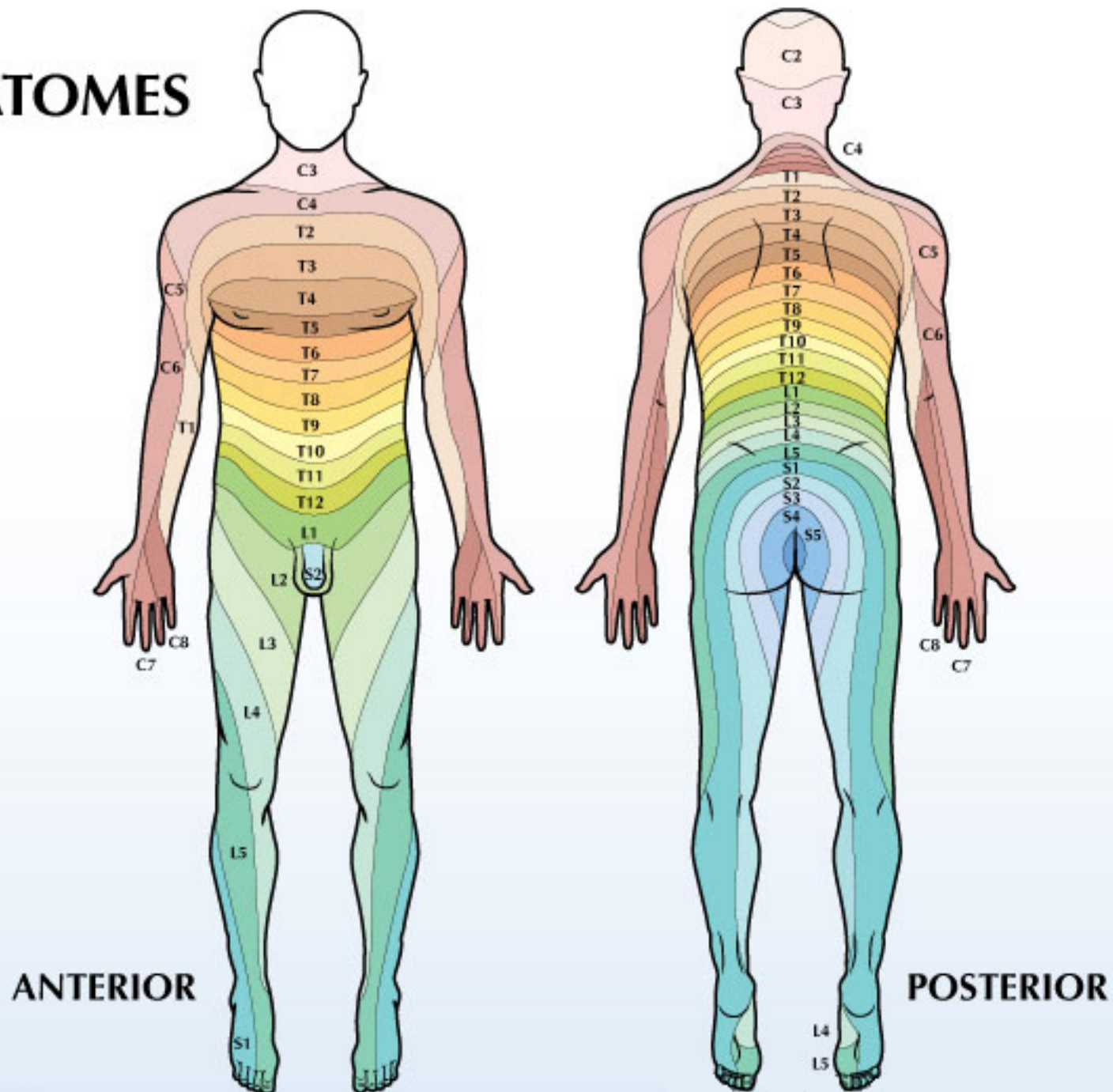


Paraplegia
(loss of movement
and sensation
in the lower half
of the body)



Respiratoriske symptomer

DERMATOMES



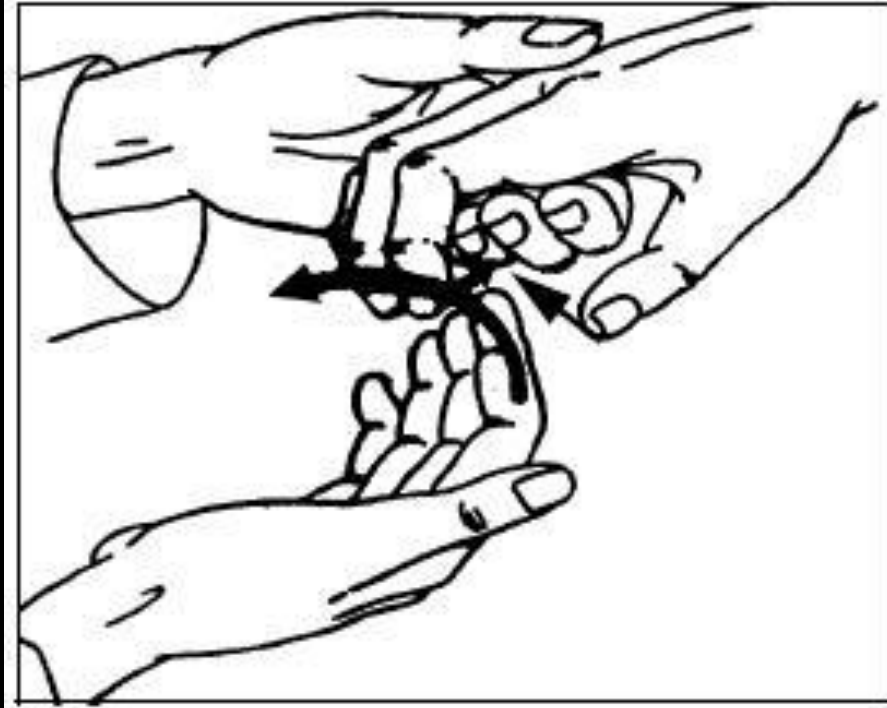
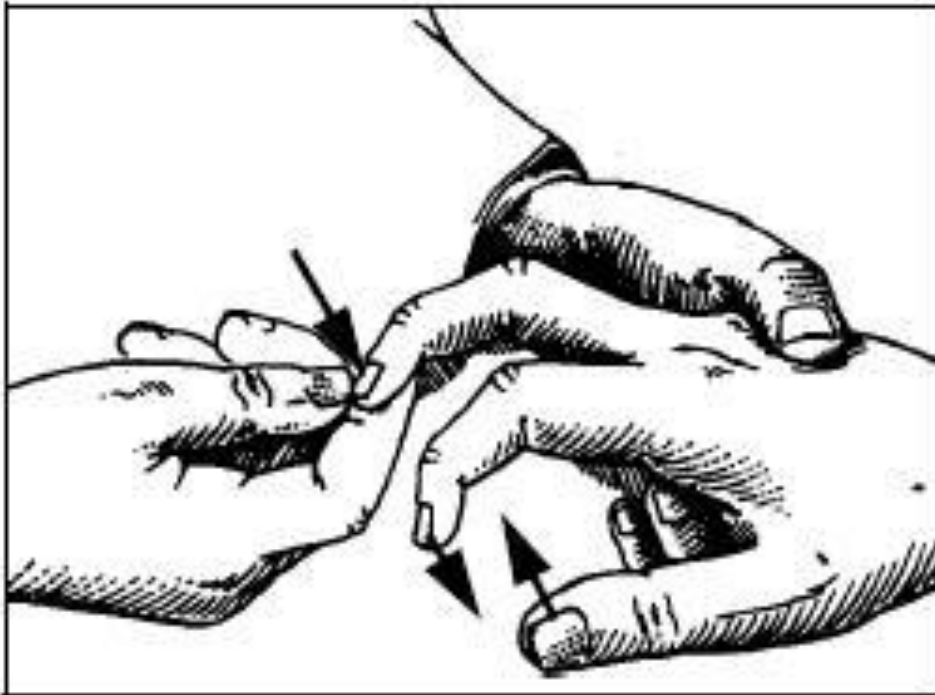
Ankel-klonus



Babinski



Hoffman's reflex



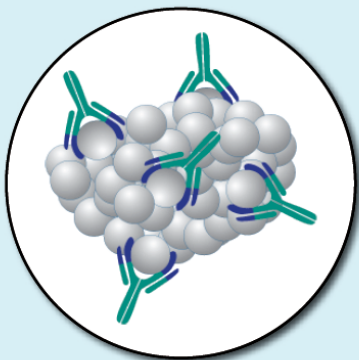
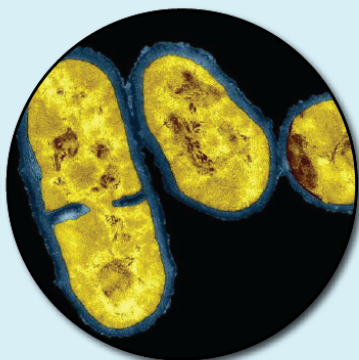
Myelopati med thenaratrofi



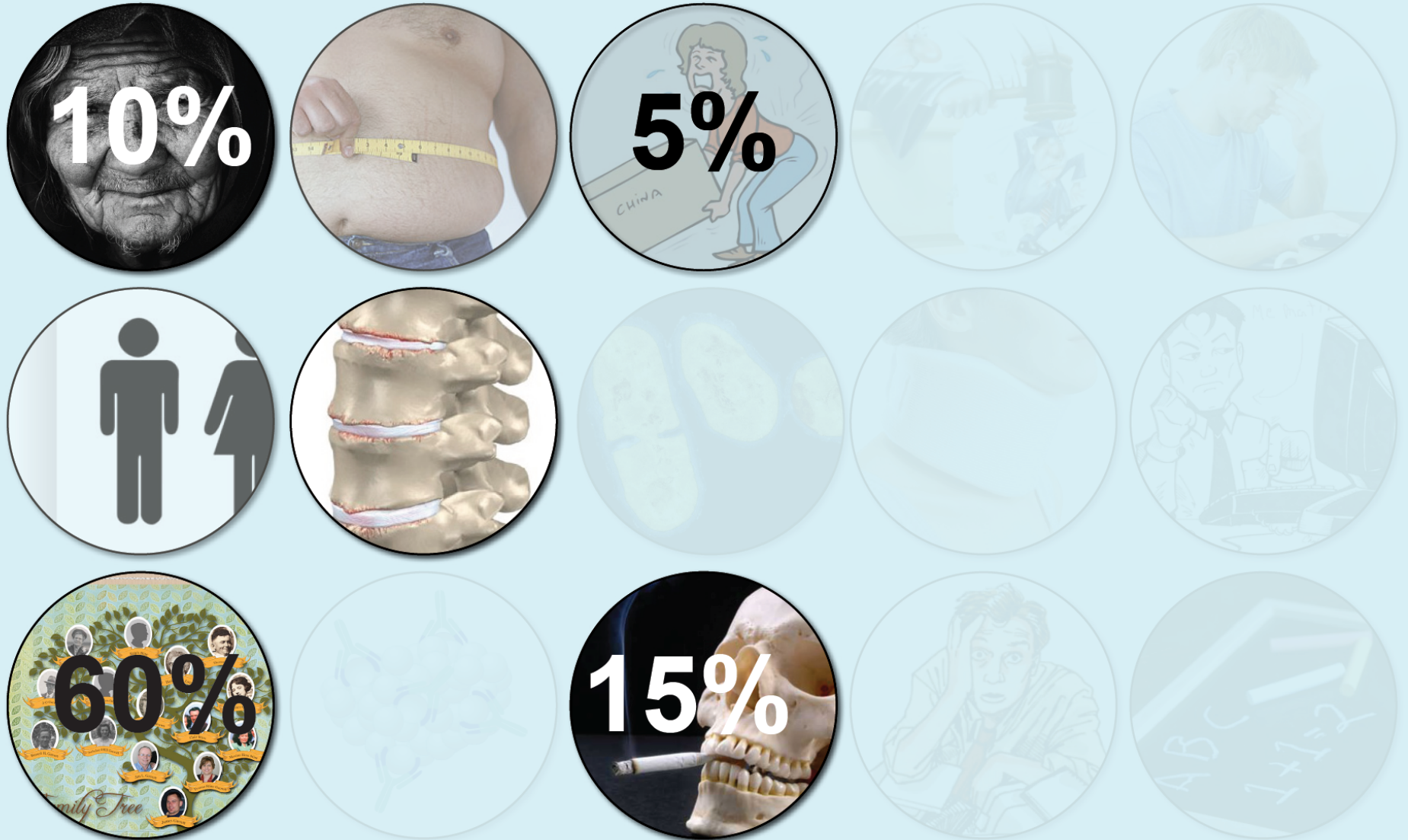
Hvordan
opstår
”slidgigt” i
ryggen?







Multifaktoriel kumulativ model



Modic forandringer

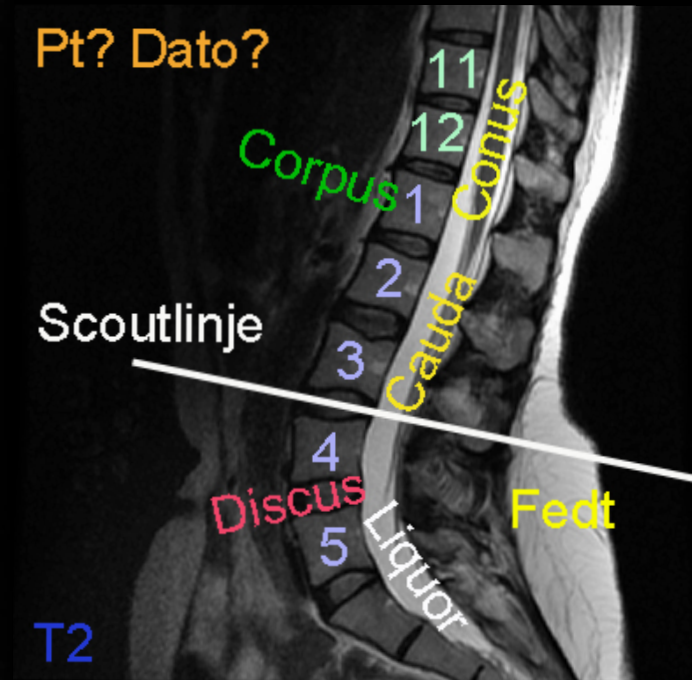
Type 1 (L4/L5)

Associeret med prolaps og lændesmerter

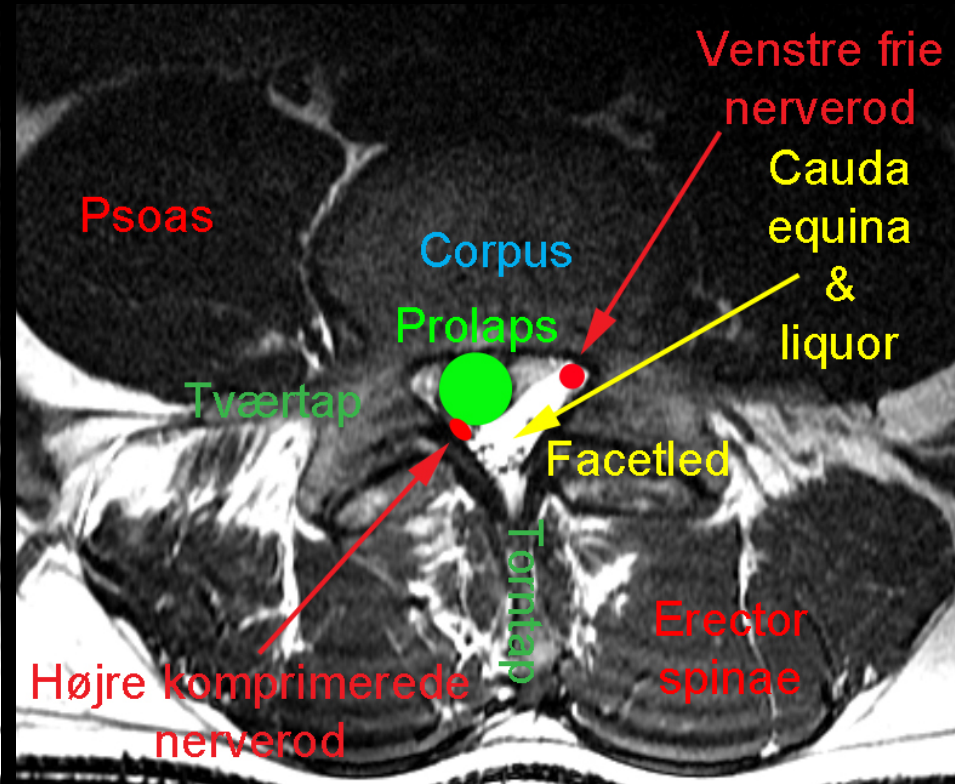
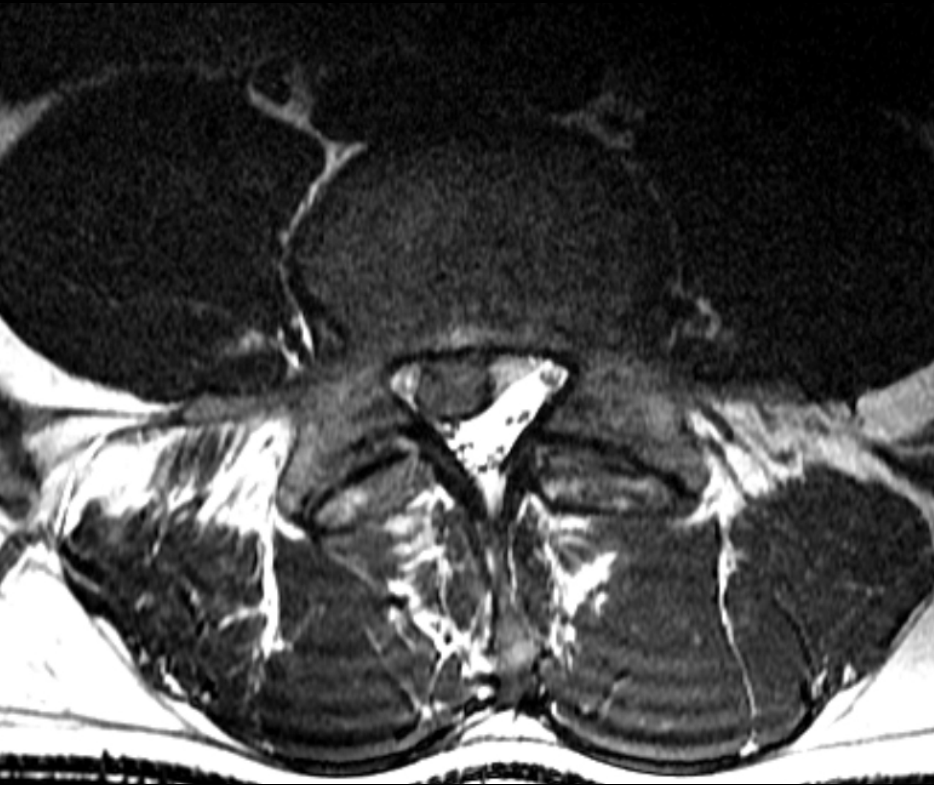
Type 2 (L5/S1)

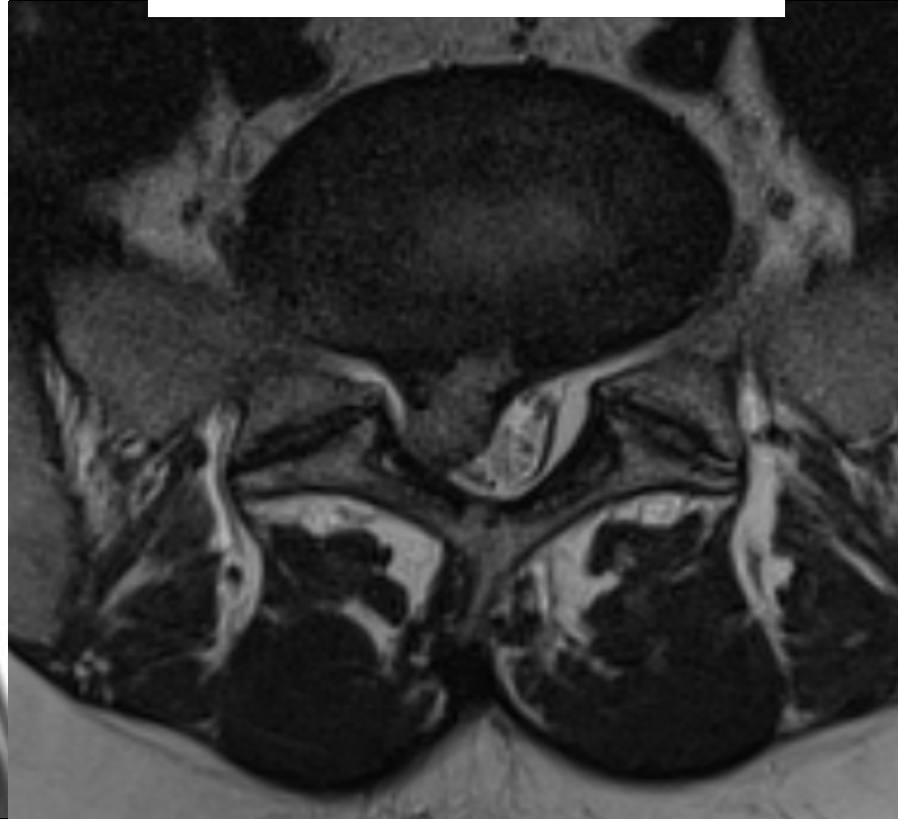
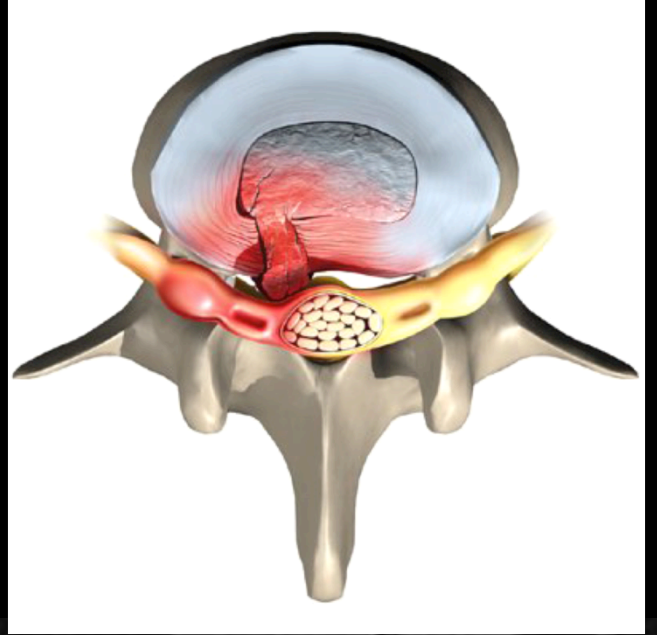


MR-skanning (Sag T2)



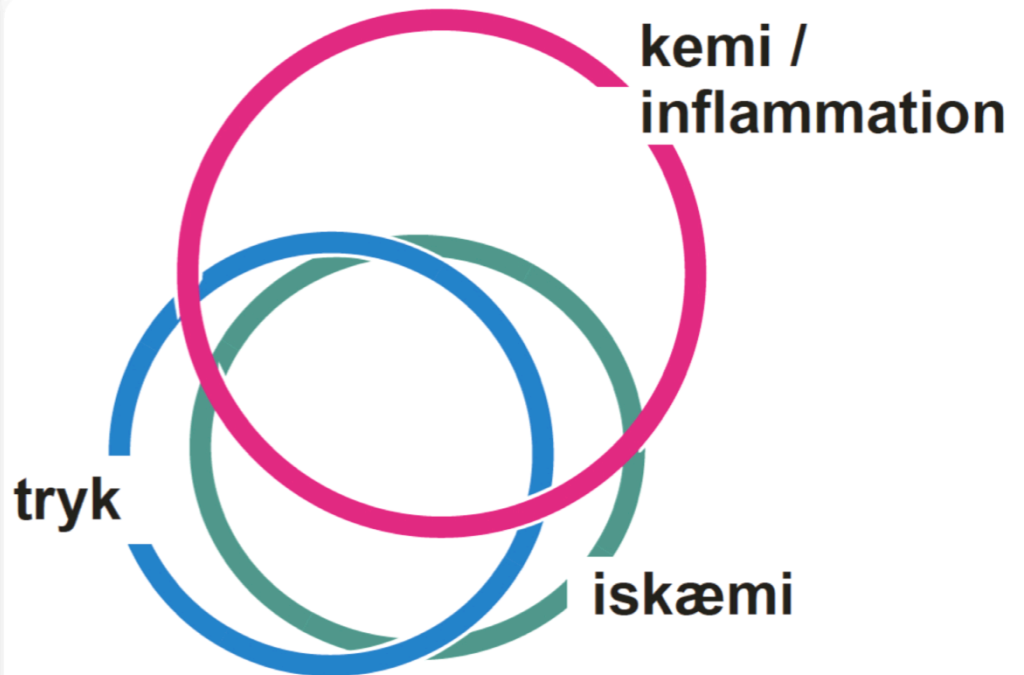
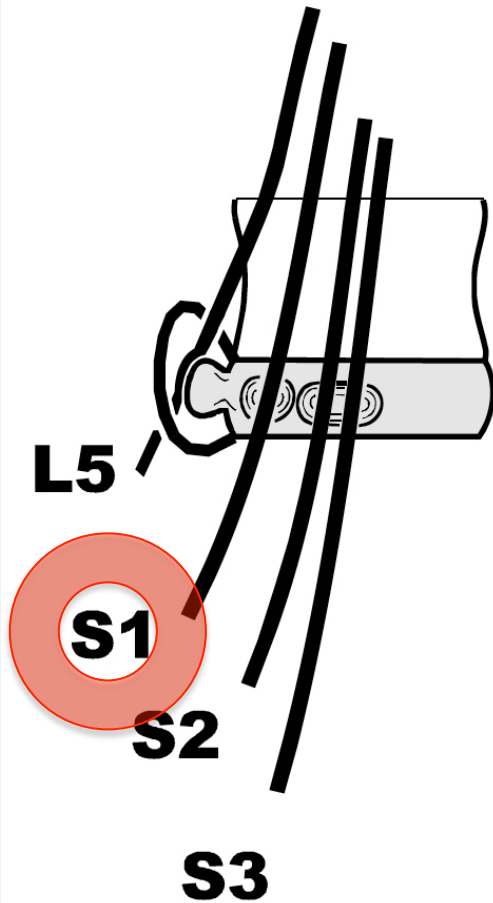
MR-skanning (Hor T2)



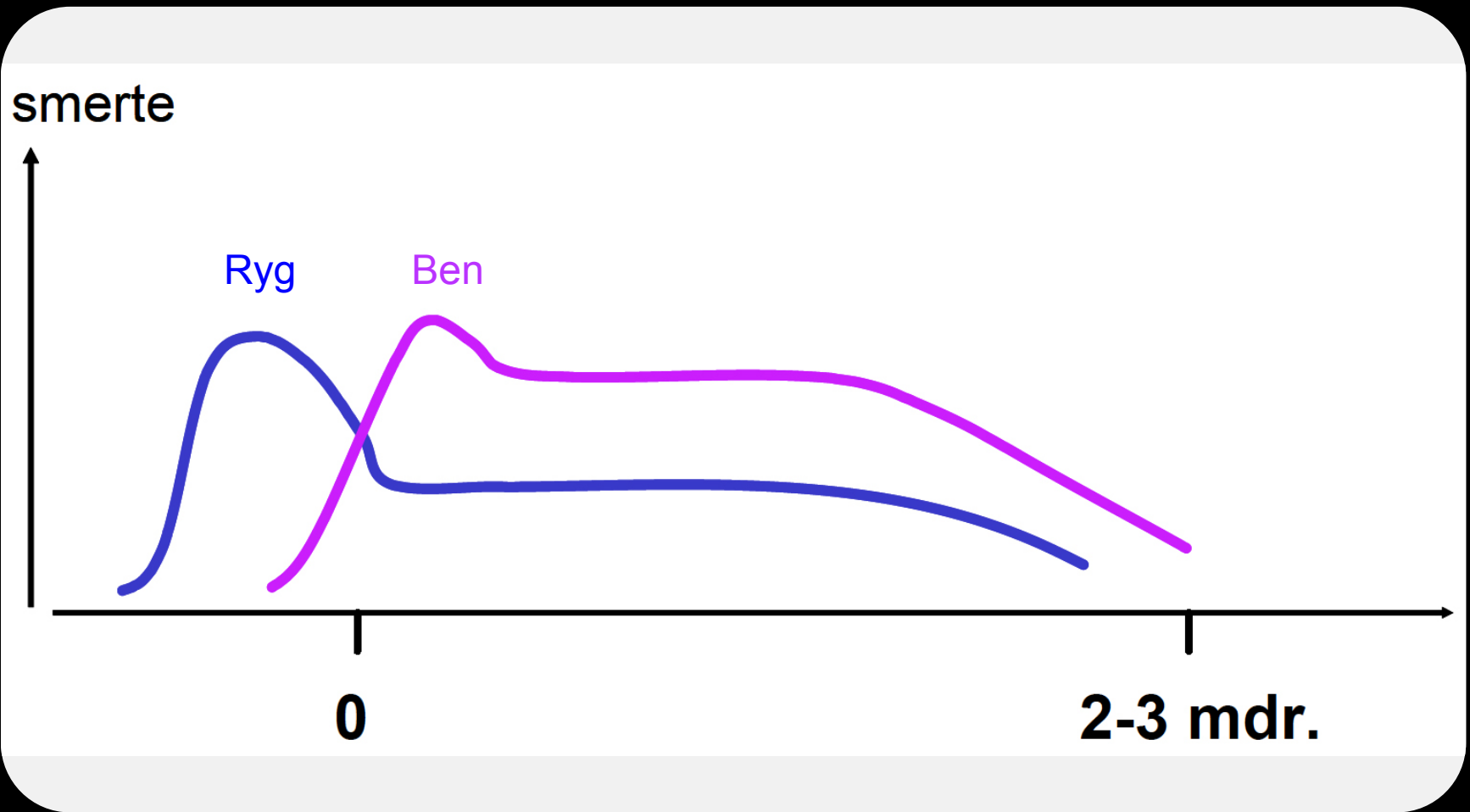


Discusniveau L5/S1

Sensibilisering



Naturforløbet ved discusprolaps



0

2-3 mdr.



Behandling af diskusprolaps

- De fleste bedres på konservativ behandling:
kortvarigt sengeleje, smertestillende medicin,
rygøvelser, information
- Elektiv operation:
 - Ved manglende effekt efter 6-8 uger
- Akut operation:
 - Cauda equina syndrom
 - Hurtigt udviklende svær parese
 - Morfikaresistente smerter

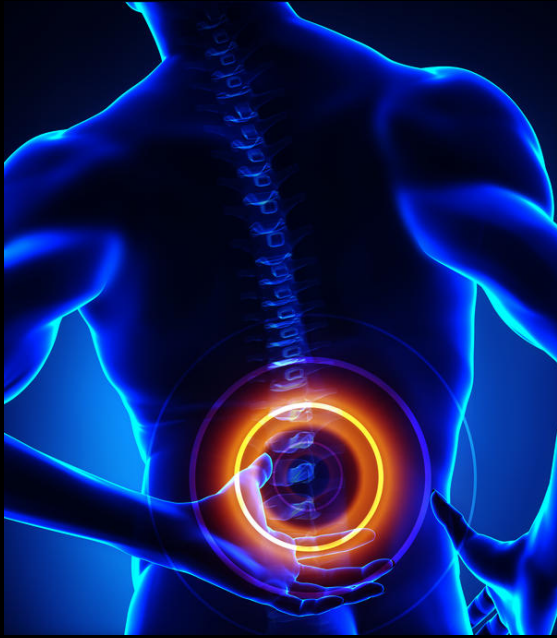
Glødejernet?
Sygemelding?
Pension?



Kirurgi eller konservativ behandling?

- De fleste bedres på konservativ behandling: kortvarigt sengeleje, smertestillende medicin, rygøvelser, information
- Elektiv operation:
 - Ved manglende effekt
 - efter 6-12 uger
- Akut operation:
 - Cauda equina syndrom
 - Svær parese
 - Morfikaresistente smerter





INDGREBSTYPER OG INDIKATIONER

RYGKIRURGI

- DEKOMPRESSION (FRILÆGNING)
- SPONDYLODESE (STIVGØRING)
- KORREKTION (OPRETNING)

Komplikationer

Indgrebstype	Anterior adgang	Posterior adgang (lam.)
Cervikalt niveau:	Vejrtrækningsproblemer (ACIF)	Tværsnitssyndromet
Lumbalt niveau:	Shock (ALIF)	Cauda Equina Syndromet 

Effekten af operation

- Diskusprolaps: 8/10
- Stivgørende operation i lænden: 2/3



Danespine

Landsdækkende
rygkirurgisk
PRO-database

[OM DANESPINE](#)[INDBERETNING](#)[SPØRGESKEMAER](#)[NYHEDER](#)[KONTAKT](#)

OM DANESPINE

[Kontaktpersoner](#)[Registerstyregruppen](#)[Årsrapporter](#)[Vedtægter](#)

DRKS DaneSpine > Om DaneSpine

Om DaneSpine

DaneSpine er en landsdækkende klinisk kvalitetsdatabase, som indeholder data for rygopererede patienter og er baseret på et frivilligt samarbejde mellem landets rygopererende afdelinger og klinikker.

Dansk Rygkirurgisk Selskab har siden 2009 ejet og drevet databasen. Der er etableret et nationalt sekretariat, der aktuelt er placeret på Sektor for Rygkirurgi og Forskning, Middelfart Sygehus, der understøtter den daglige drift. I 2012 er der indberettet til DaneSpine fra 15 forskellige klinikker fordelt over hele landet - af disse er 5 privatklinikker og 10 er offentlige klinikker.

Ambitionen er at skabe en landsdækkende database, der systematisk indsamler data om rygkirurgiske patienter, operative procedurer og resultater. Herved er det muligt at kvalitetsvurdere og ved behov forbedre forløb og behandling for patienter, der opereres for lænde- og rygproblemer i Danmark.

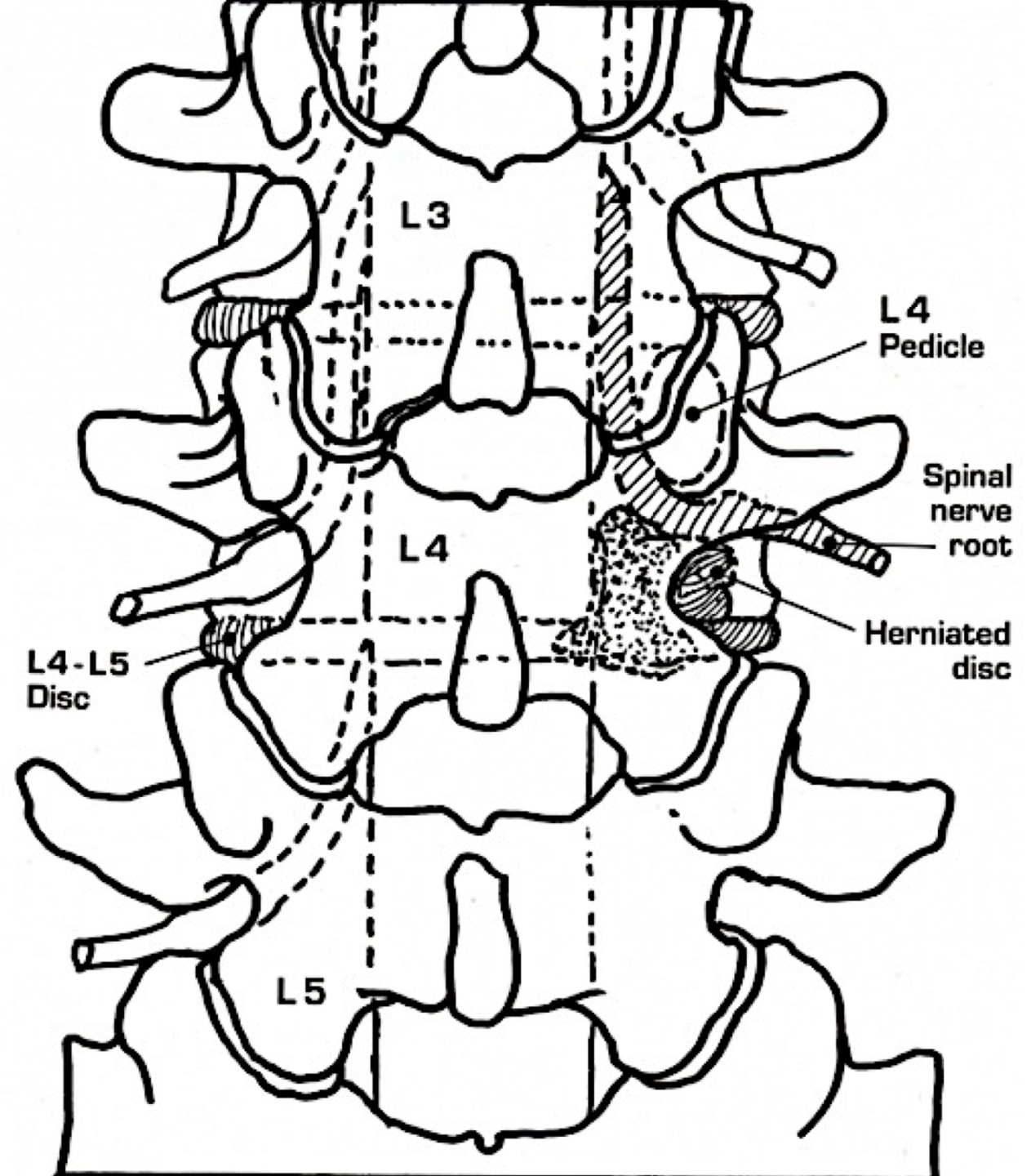
I menuen til venstre kan du finde flere oplysninger om bl.a. vedtægter, organisering og årsrapporter...

Senest opdateret 18-04-2016.

Kontakt: **DaneSpine**

ANATOMI

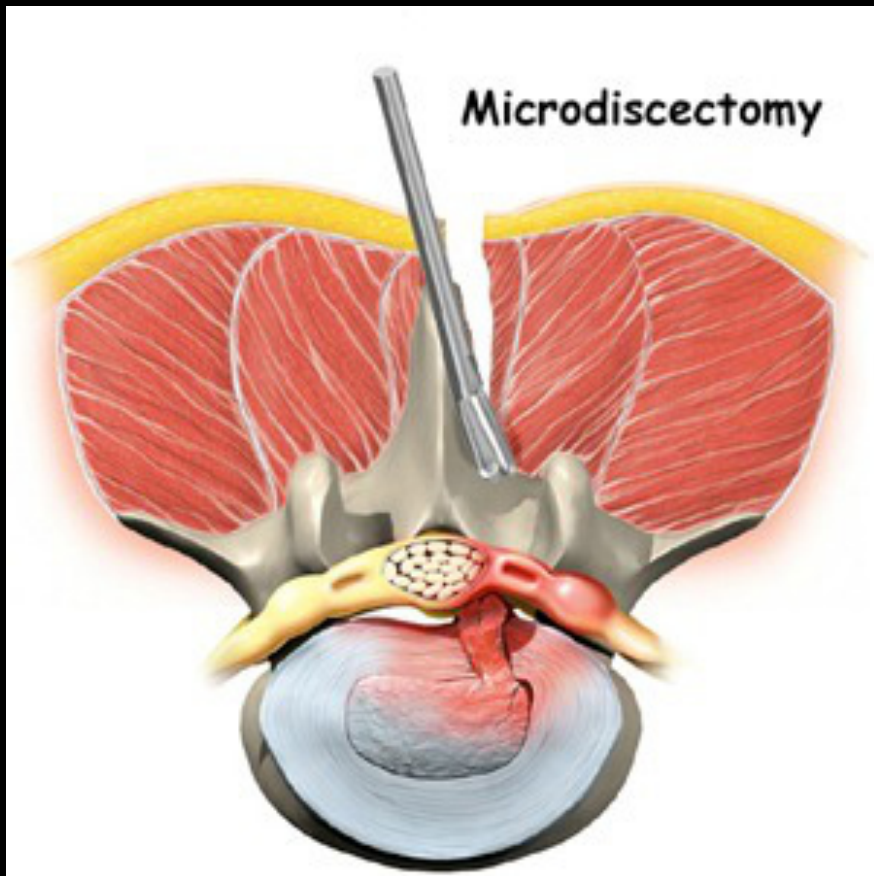
- Klinisk diagnose
- Paramedian eller foraminær /lateral



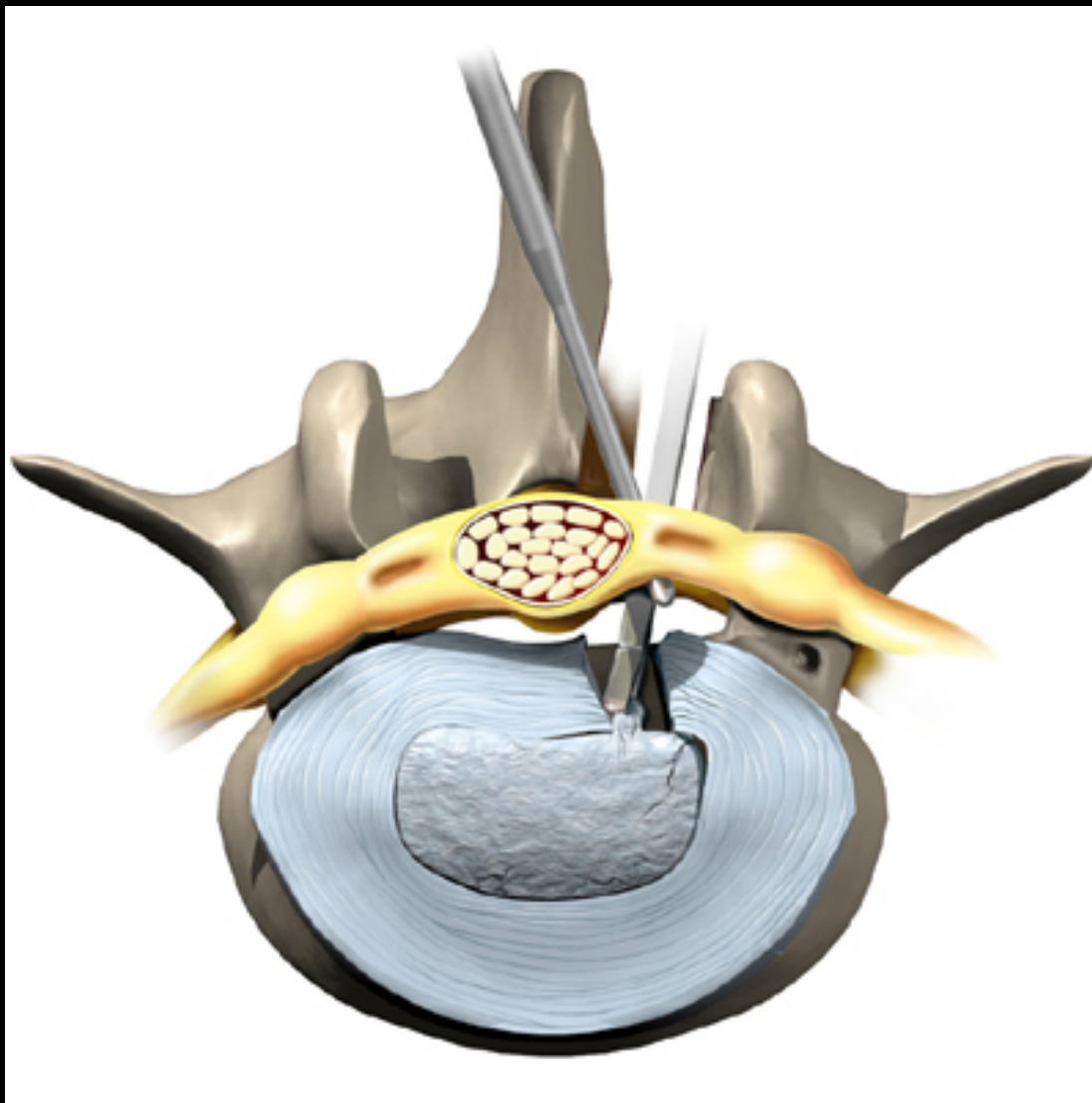
PARTIEL HEMILAMINEKTOMI - LP

- Bensmerter (monoradikulopati)
- Hæmatom, recidiv, restprolaps, durarift, nerveskade

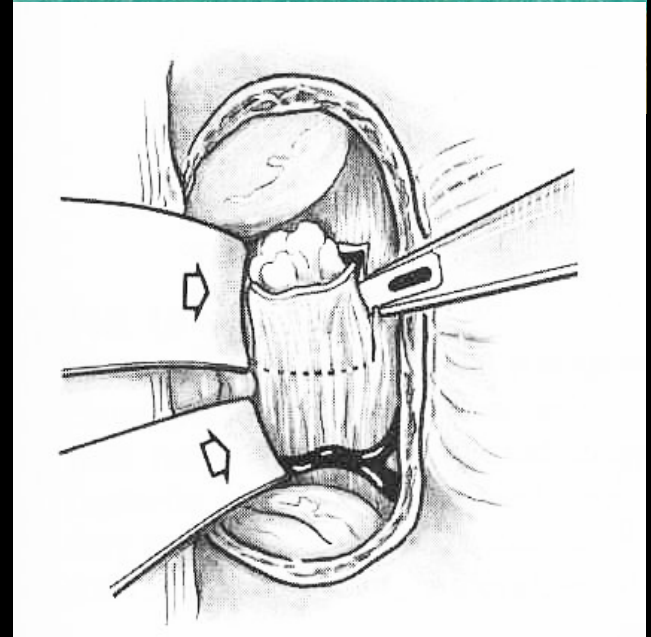
MIKROKIRURGISK INDGŘEB



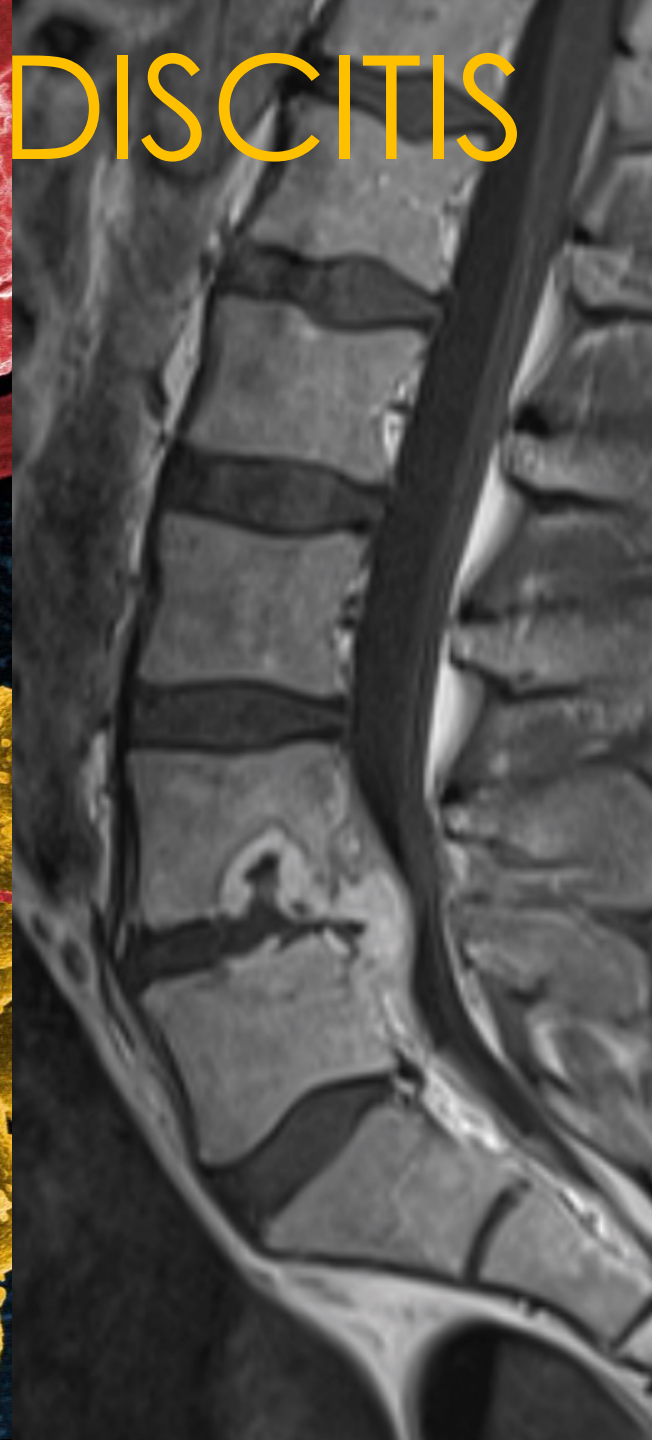
Partiel hemilaminektomi



- Klassisk diskektomi
- Mikroskop v/ recidiv
- Evt. dese



SPONDYLODISCITIS





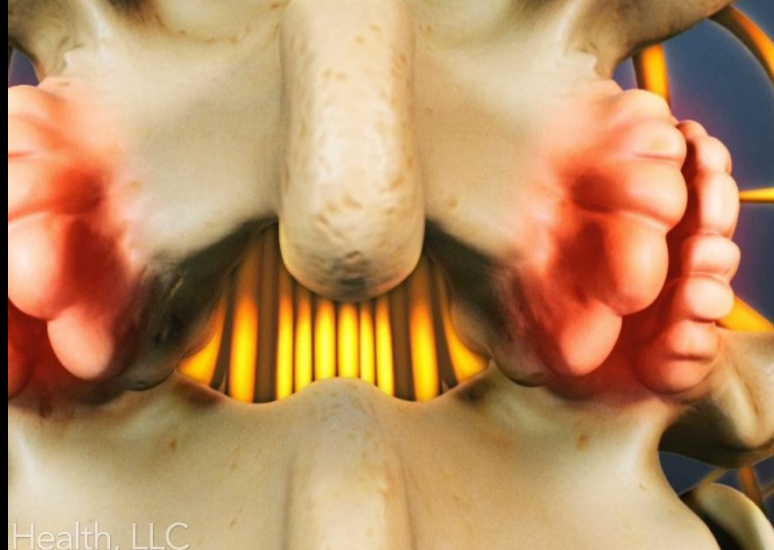
FORVENTNING

Tiden?
Sygemelding?
Pension?

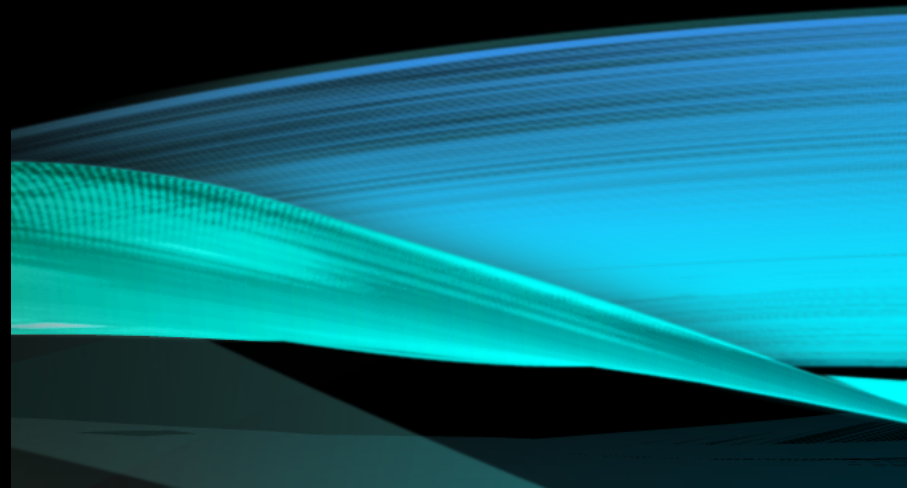
Tabel 7.2. Risikofaktorer for forekomst og kronicitet af lænderygmerter.

	Forekomst	Kronicitet
<i>Individuelle faktorer</i>	- Alder - Fysisk form - Arvelighed - Nedsat udholdenhed af rygmuskulatur - Rygning - Dårligt helbred - Lavt uddannelsesniveau - Lav socialgruppe	- Overvægt - Kraftig smerte og funktionsnedsættelse - Ischias smerter - Langvarig sygemelding
<i>Psykosociale faktorer</i>	- Stress - Bekymring - Dårlig kognitiv funktion - Lav jobtilfredshed	- Depression - Somatisering - Aggraverende (overdreven) sygdomsadfærd
<i>Arbejdsrelaterede faktorer</i>	- Dårligt arbejdsmiljø - Mange belastende vrid - Mange gentagne bevægelser - Mange helkropsvibrationer	- Arbejdsskadesag, erstatningssag eller pensionssag under behandling - Tungt arbejde / mange løft ved tilbagevenden til arbejde





LUMBAL ROD- FRILÆGNING





Spørgsmål?

LAMINEKTOMI

01

Neurogen
claudicatio ved
lumbal spinal
stenose

02

Cauda equina
syndromet -
AKUT

03

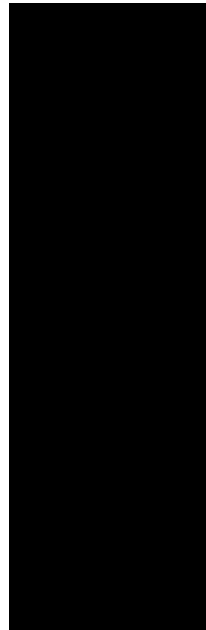
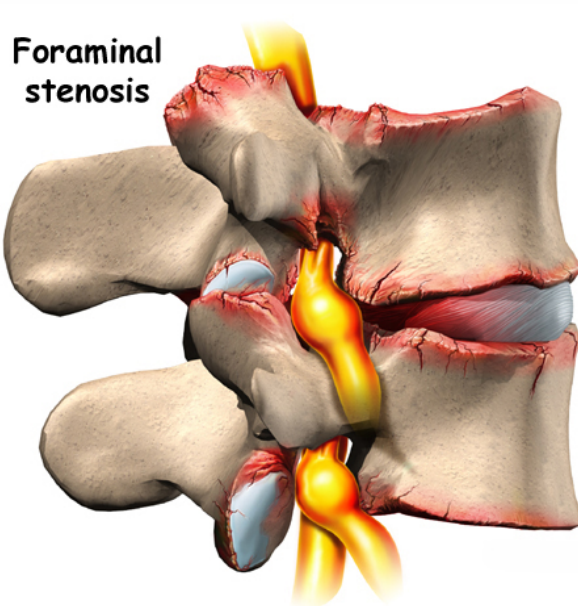
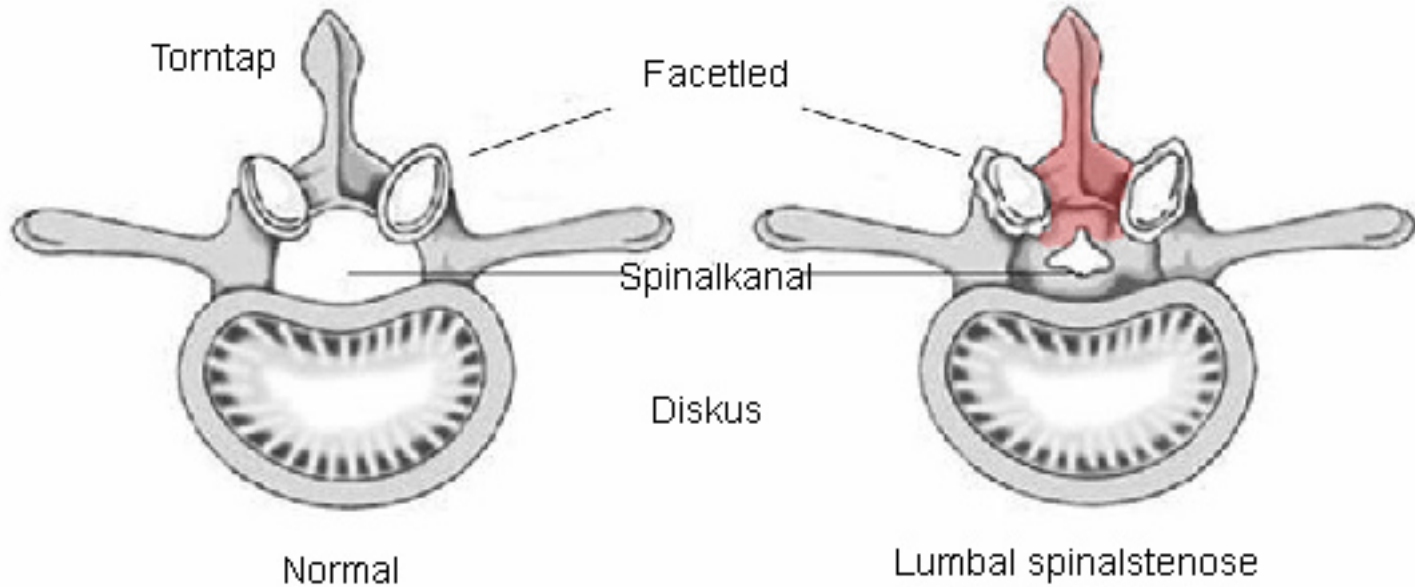
Rodfrilægning
ved lumbal dese

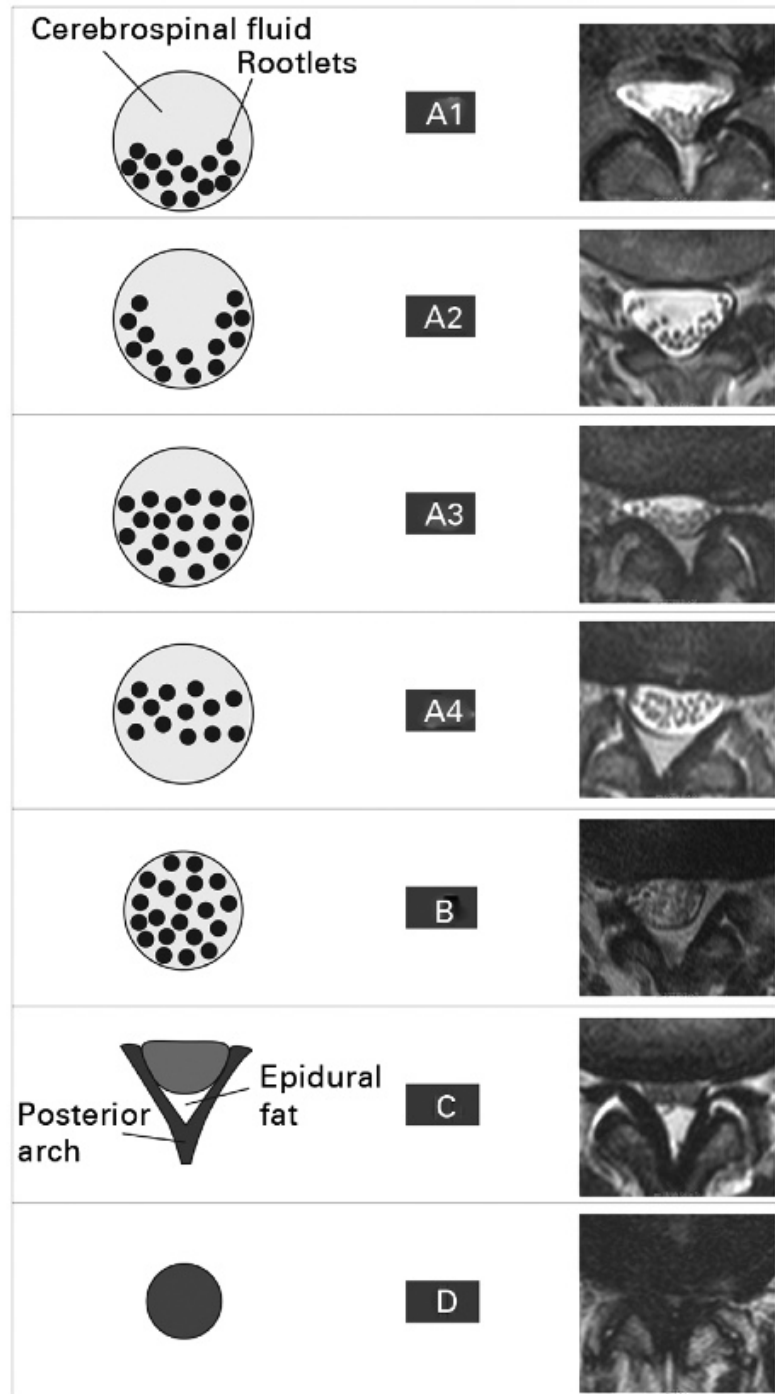
Lumbal spinalstenose

- Rygsmerter
- **Radikulære smerter** (oftest uden neuoudfald)
- **Neurogen claudicatio** ved gang: reduceret gangdistance – ingen problemer med at cykle
- Foroverbøjning lindrer – ekstension forværrer
- Progredierende og intermitterende symptomer – forværring ved aktivitet



Central eller foraminær type





No stenosis

Moderate

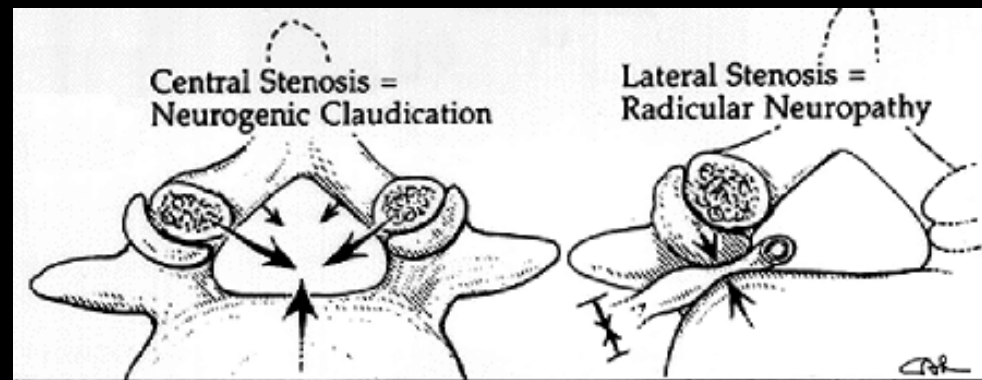
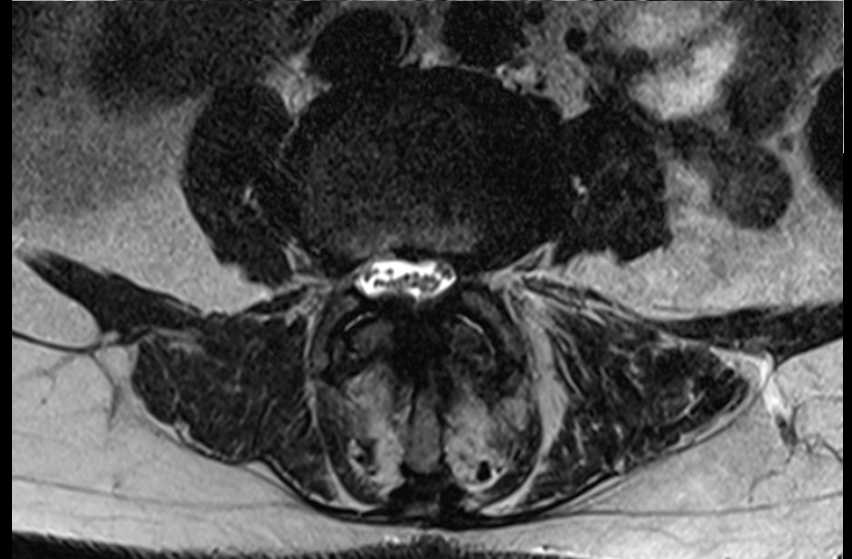
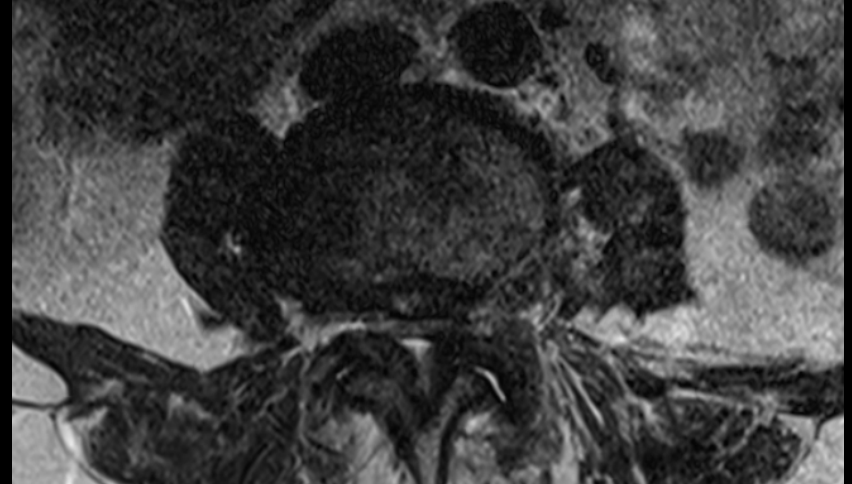
Severe

Extreme

Schizas-diagram til vurdering af radiologisk sværhedsgrad

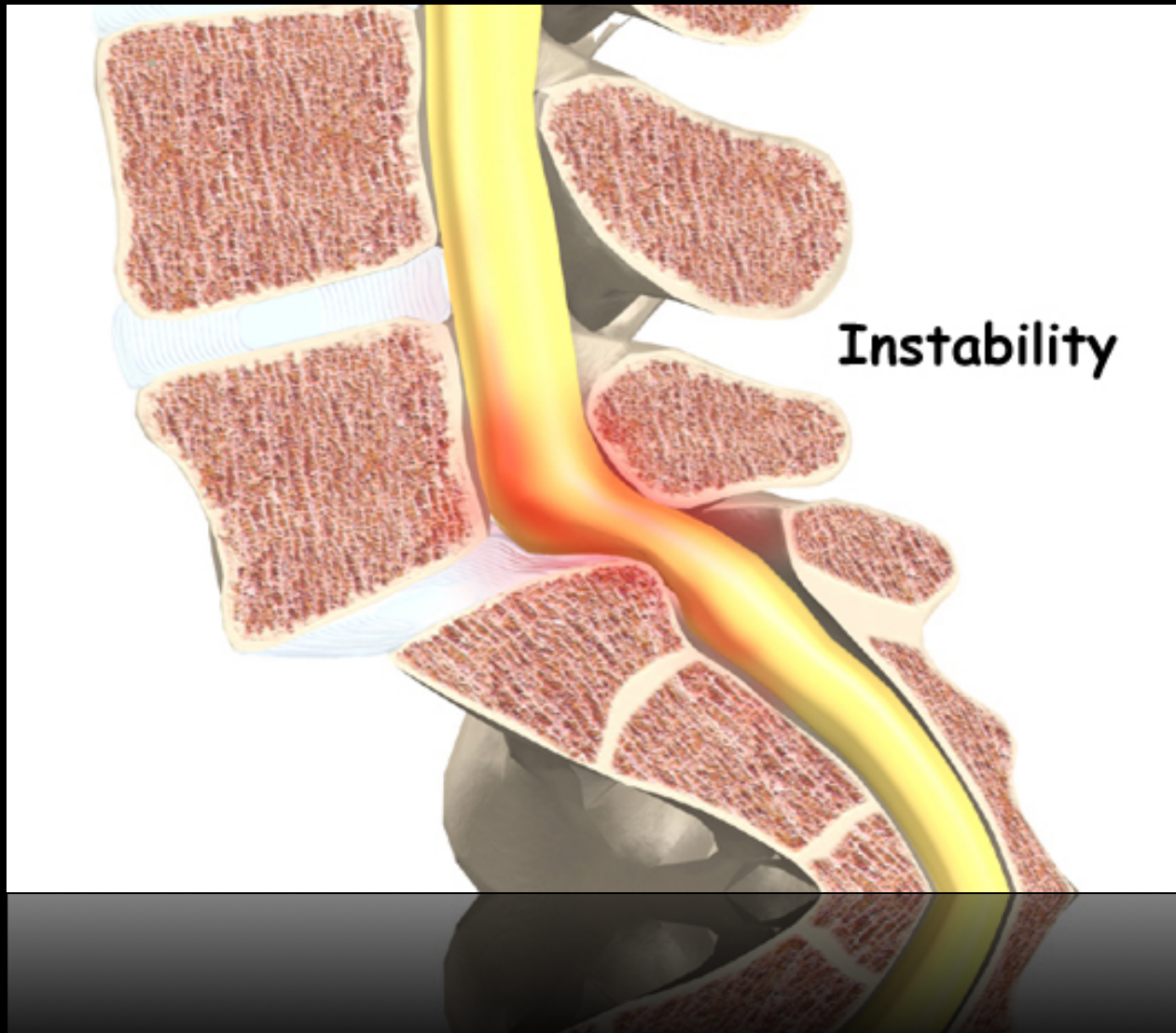
Hvis der samtidig er betydelig **neurogen claudicatio** og tilmed manglende effekt af måneders konservativ behandling, kan operation komme på tale – hvis pt. ønsker det og tåler det





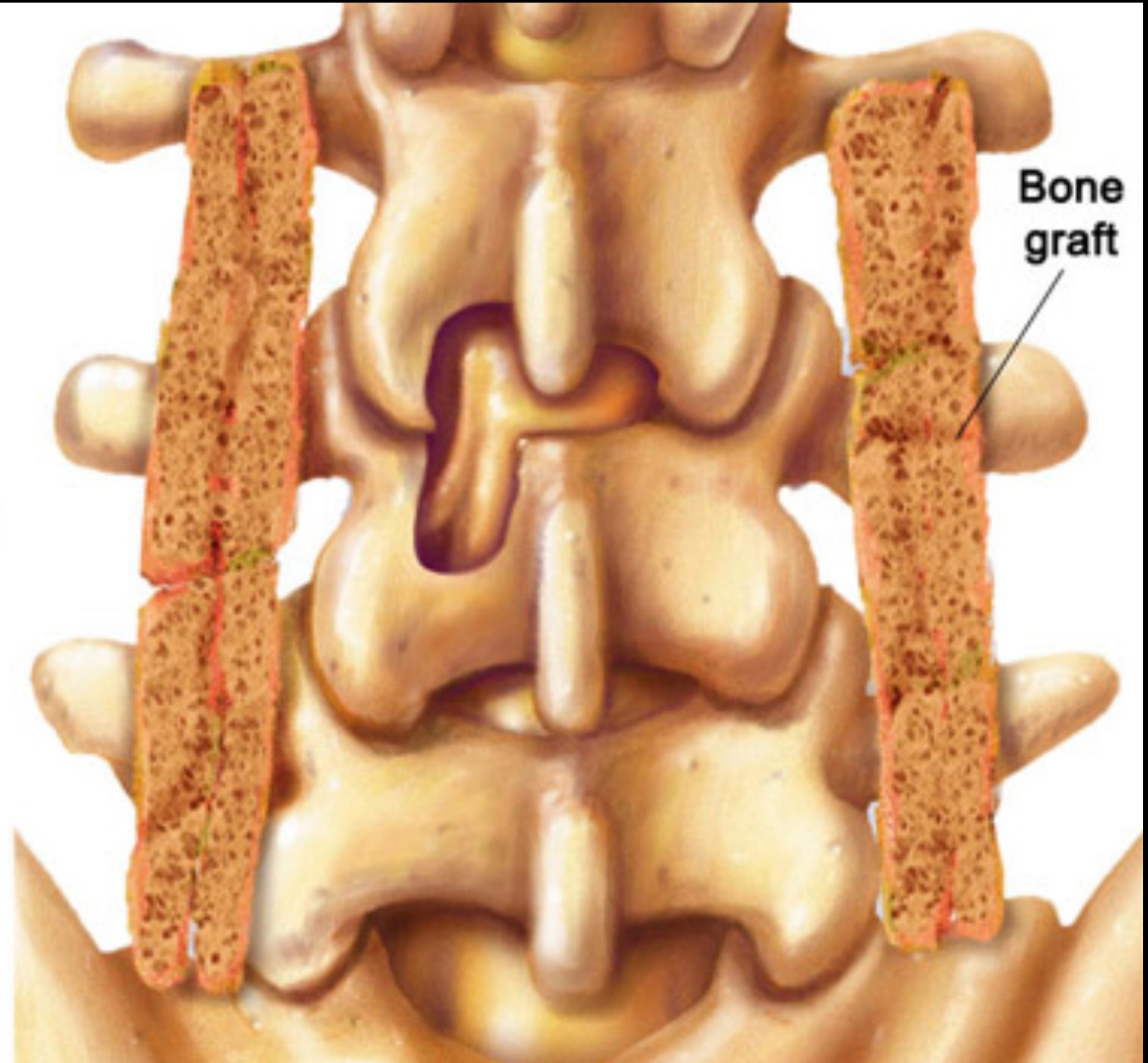
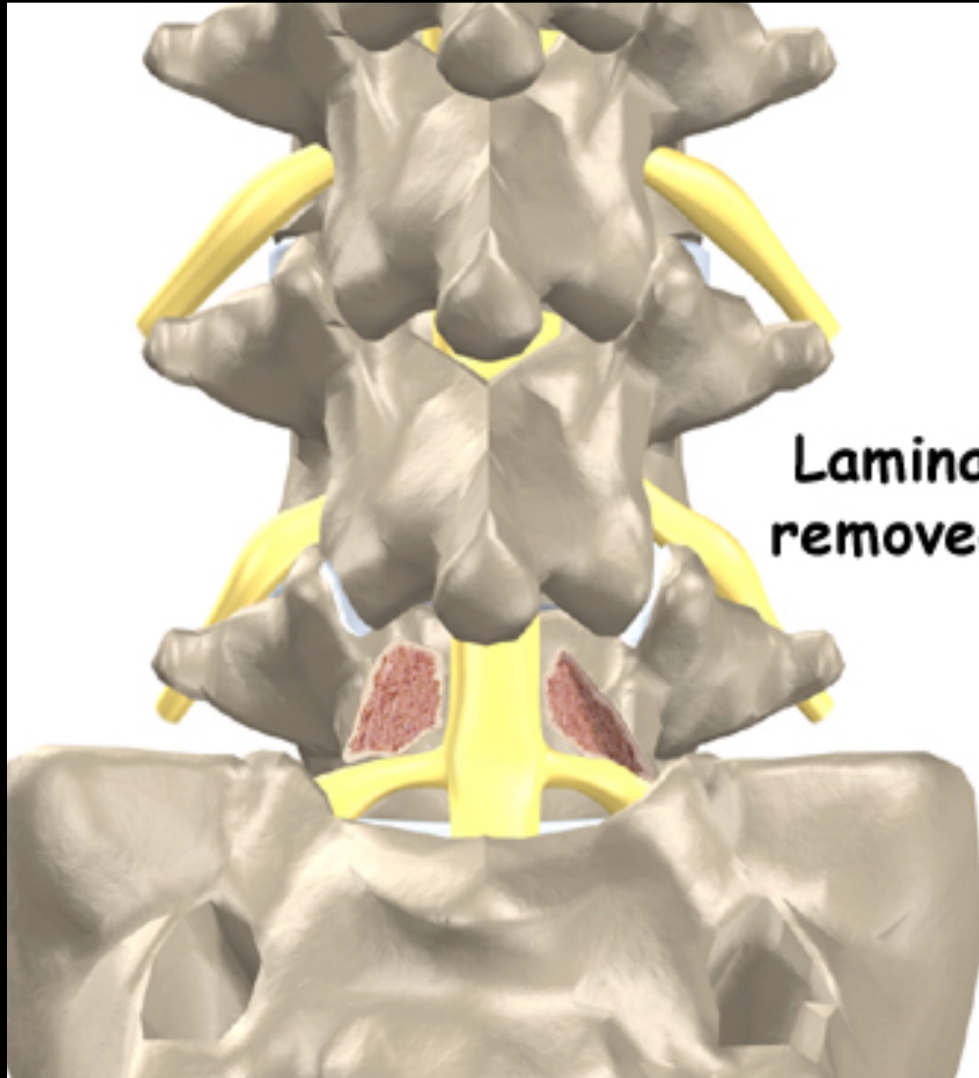
Evt. sammen med olistese (glidning)

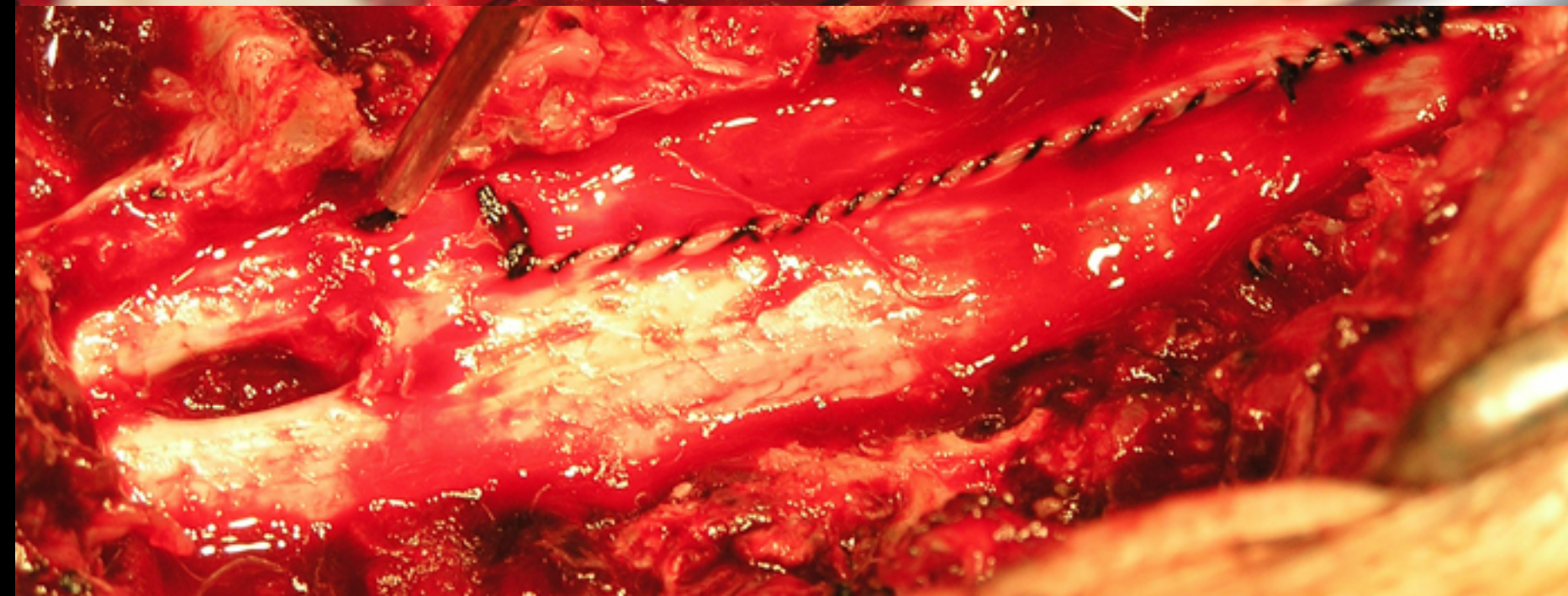
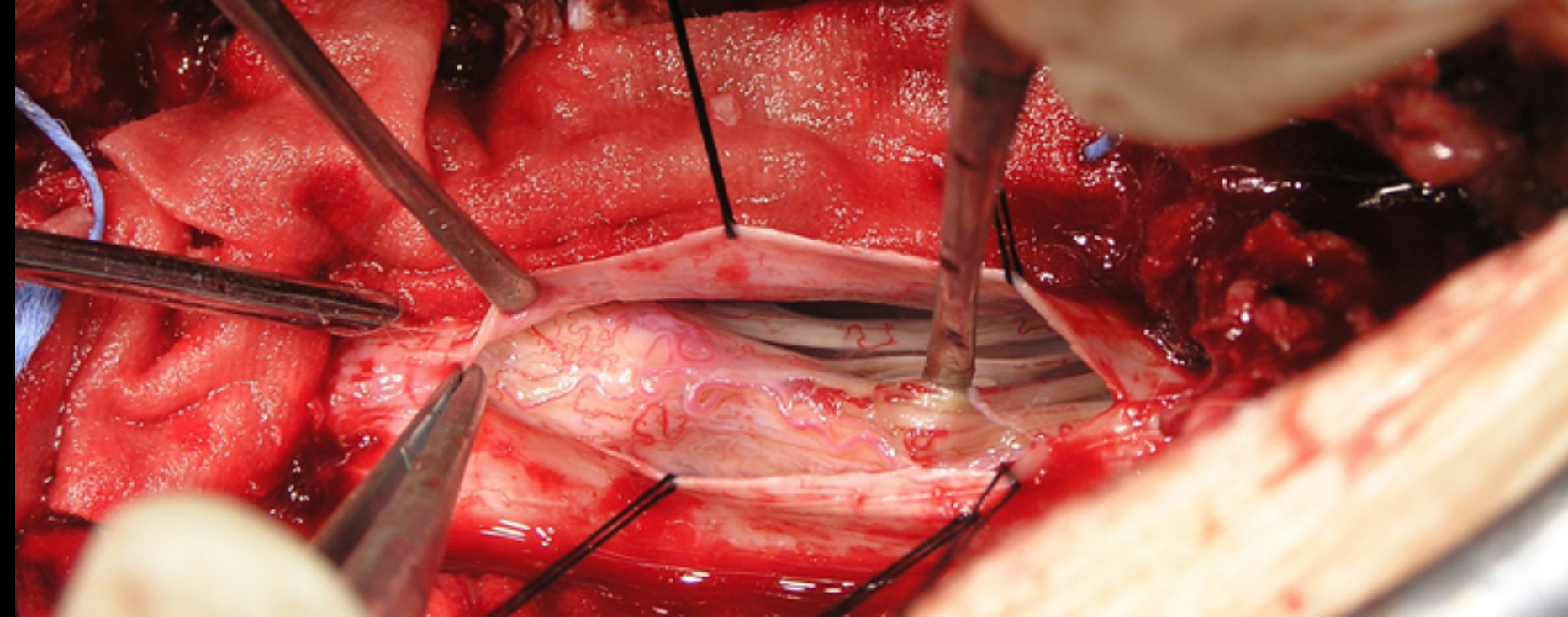
I givet fald udføres spondylodese (stivgørende operation)

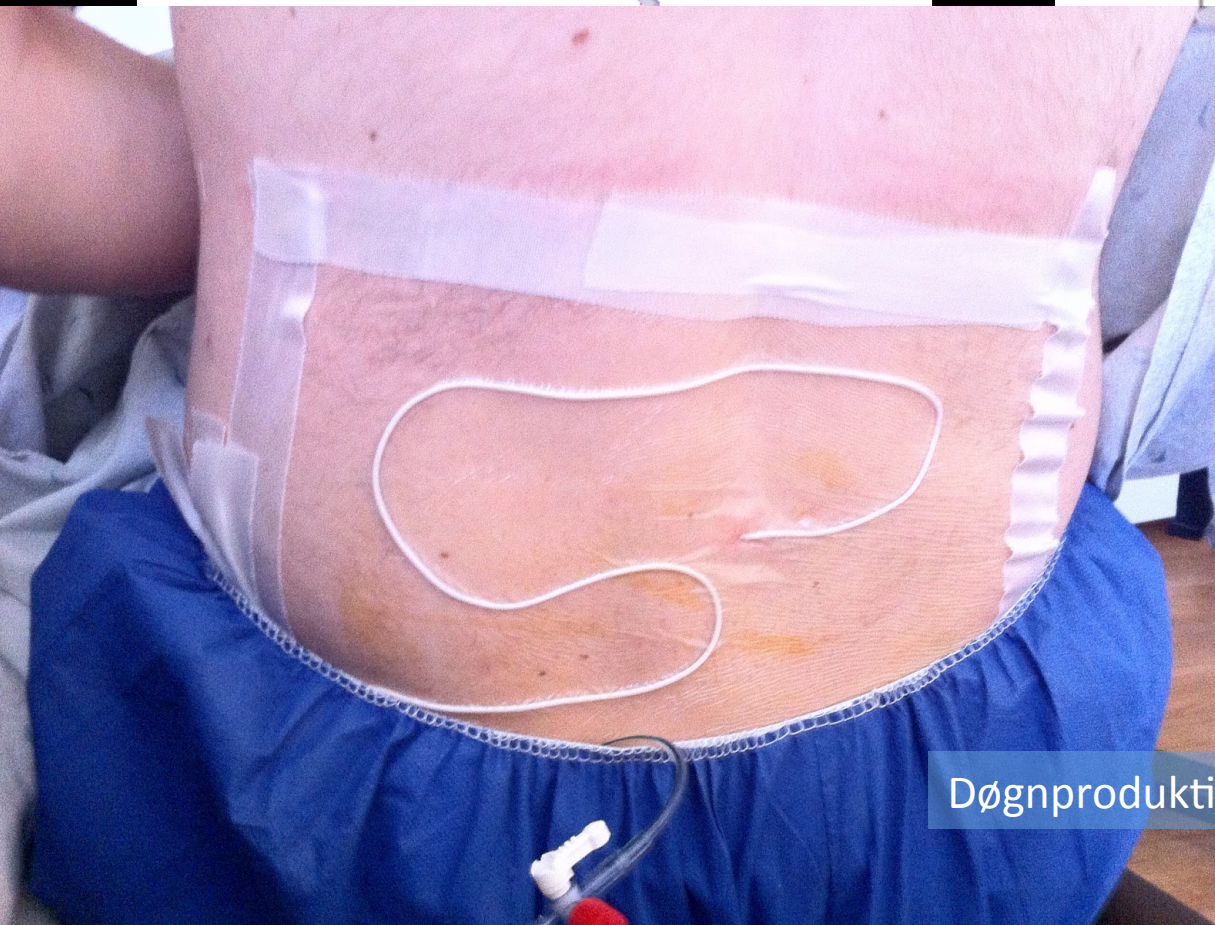
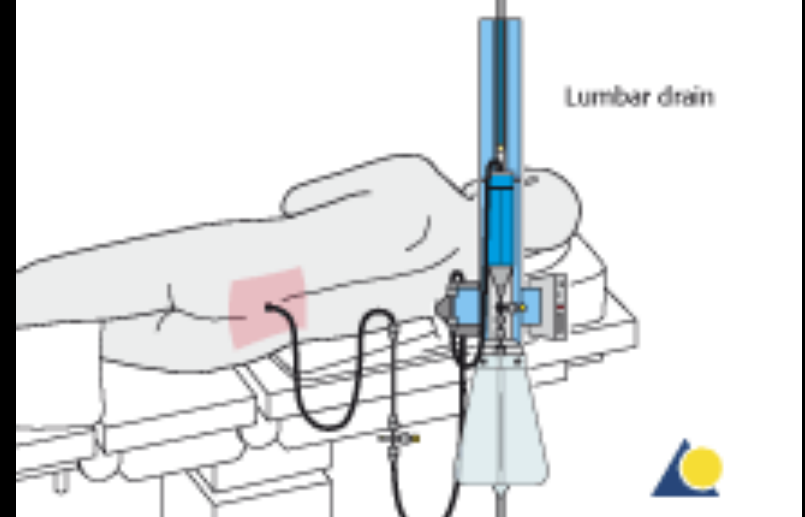
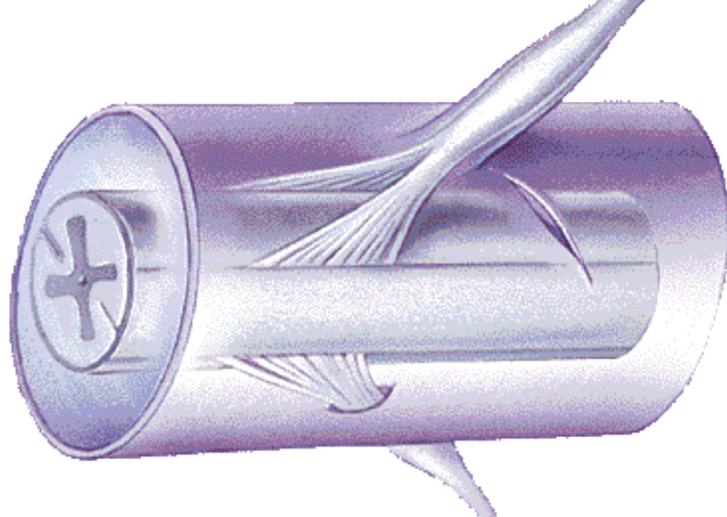


Laminektomi, rodfrilægning, NID

Facetleddet bevares – 4% udvikler instabilitet

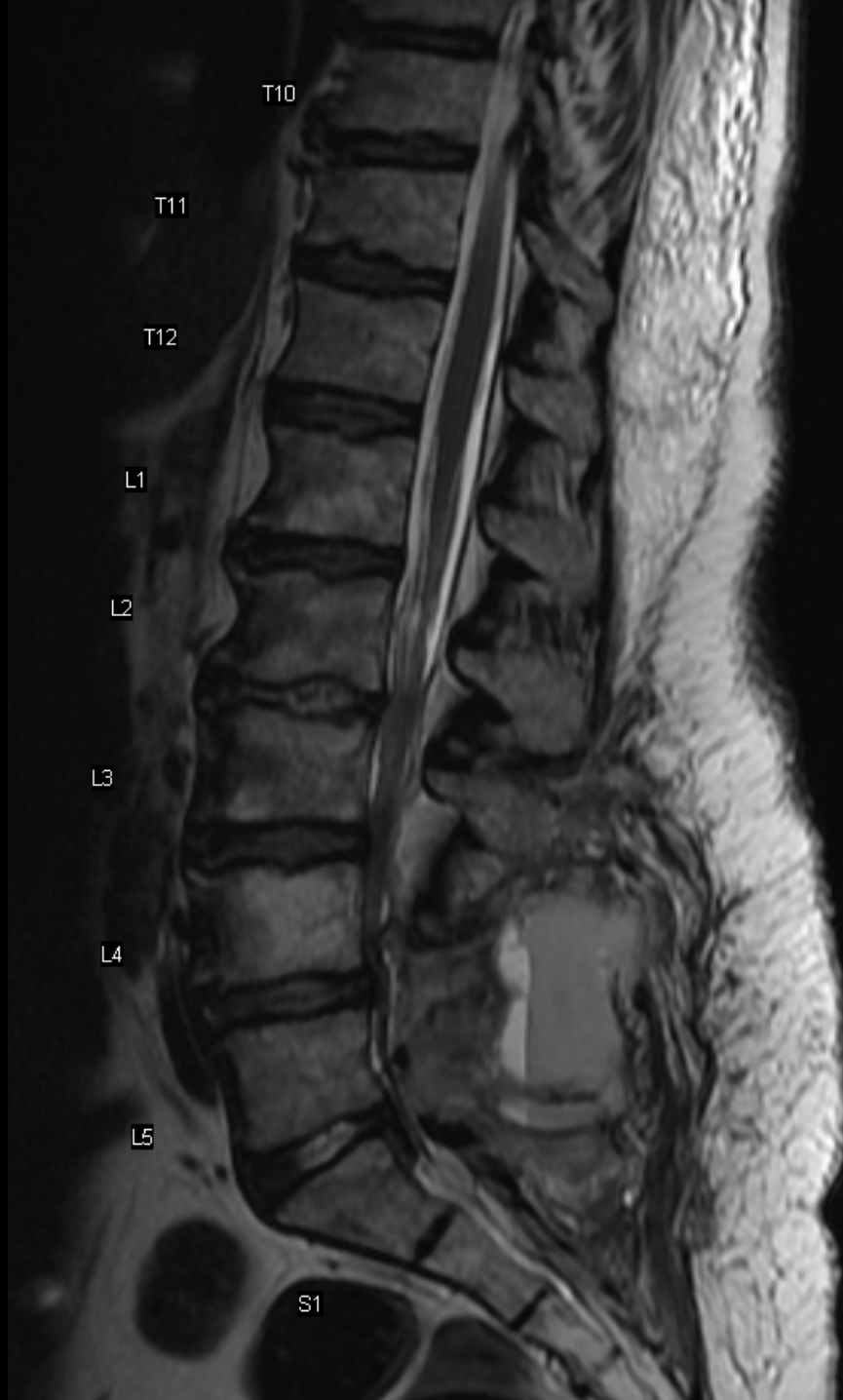






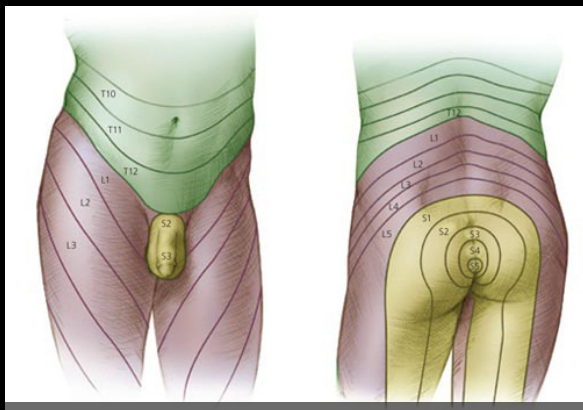
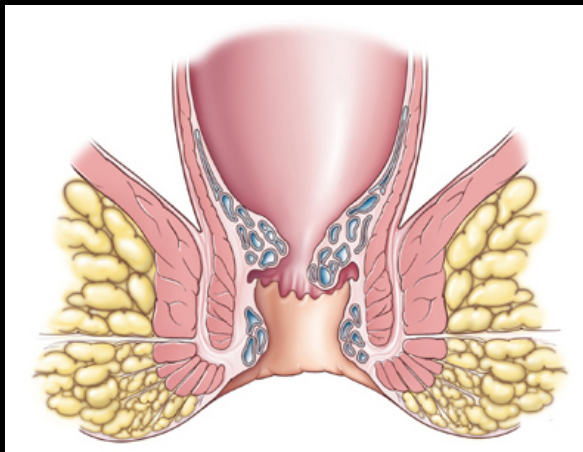
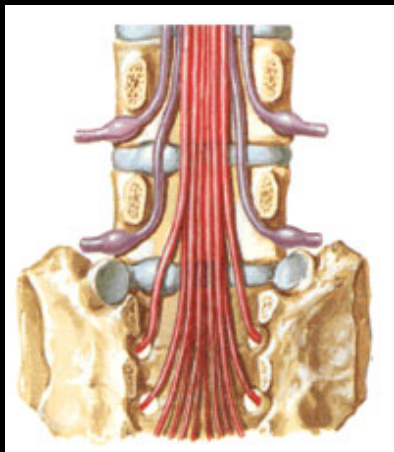
Døgproduktion: 500 ml





Cauda Equina Syndromet

Heldigvis utroligt sjældent men alvorligt – giver sfinkterpåvirkning med urinretention (ophævet fornemmelse af blærefyldning, evt. overløbsinkontinens) – slap sfinkter - nedsat perianal sensibilitet – bilat. symp. Akut behandling: Faste, blæreskanning (efter vandladning!), KAD, akut MR eller CT, evt. kontakt til rykirurg mhp. akut operation (inden 6-24-48 timer)



Klinisk diagnose



Ingen UR: risikoen for CES er 1/1.000 !!!

Andre årsager til UR:
Smerter, morfika, BPH

Real Life
Patient Case
Series



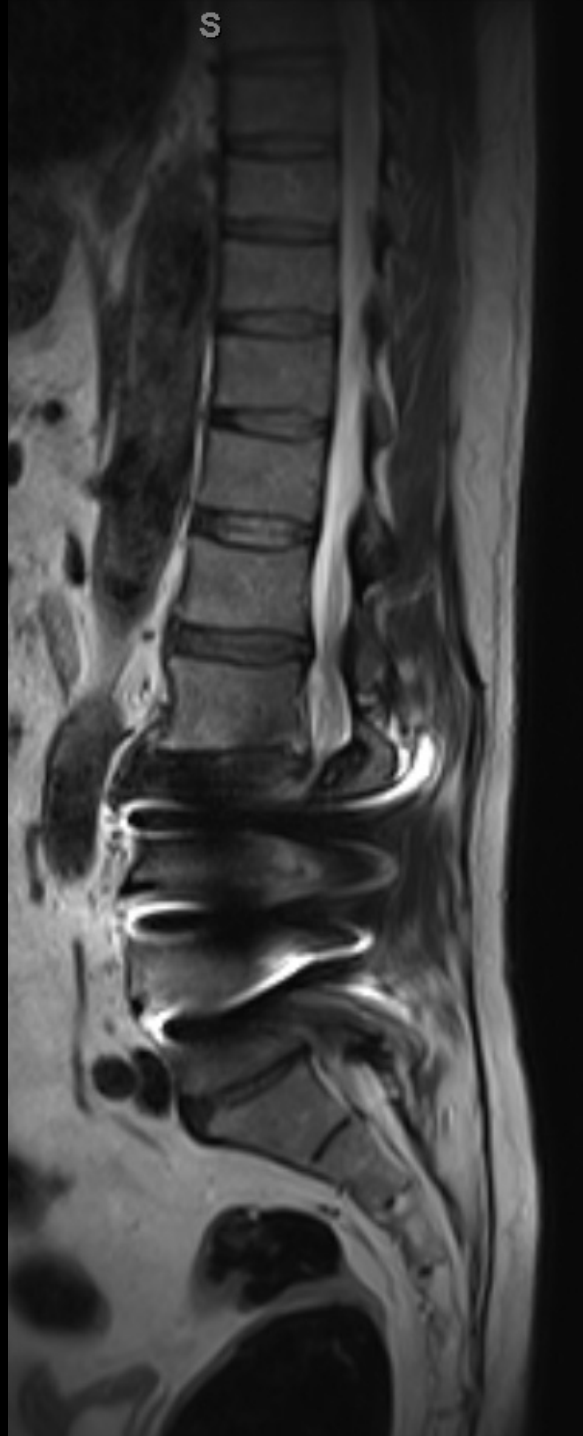
70-årig mand

- Lumbal dese L3-L5 i 1999
- Rygsmerter med udstråling til venstre ben
- Positiv strakt-ben-test
- Blæreskanning: 800 ml
- Svært nedsat perianal sensibilitet
- Ophørt voluntær sfinkterkontraktion
- Rimelig sfinktertonus
- Tidspunkt da du ser pt: 23:30

Diagnose?
Udredning?

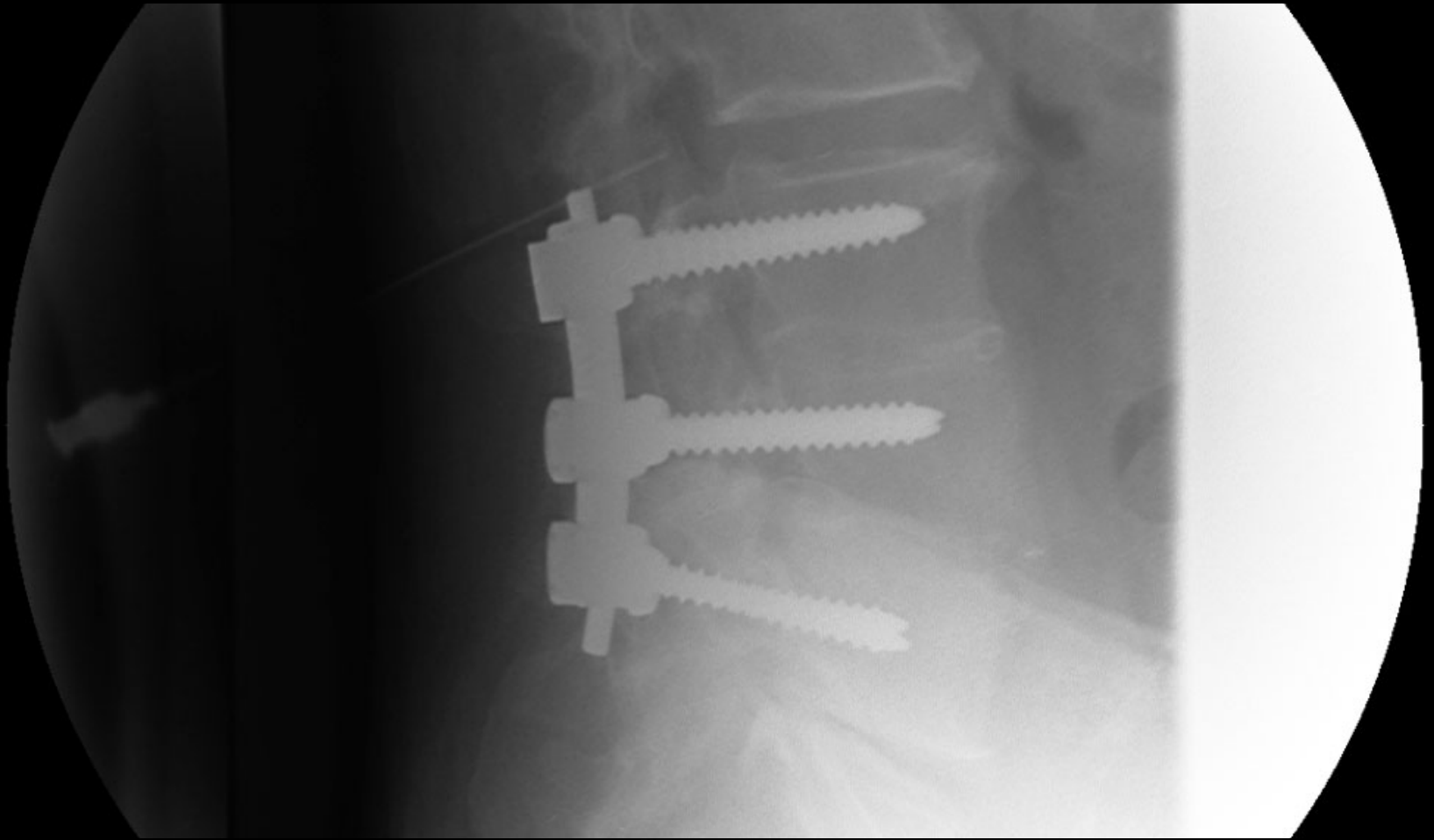
CT-skanning



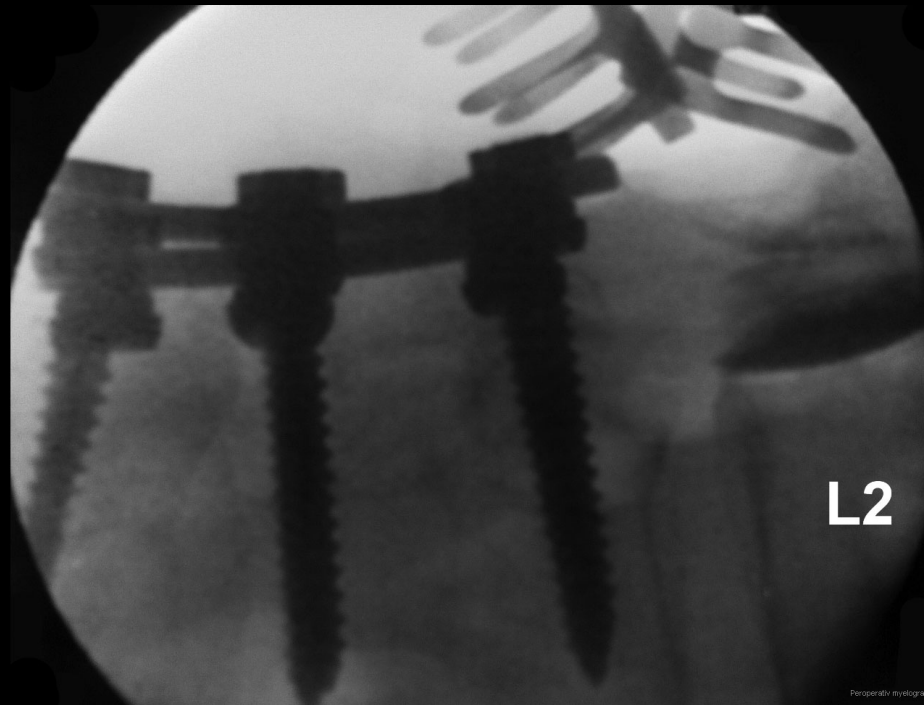


MR-skanning

Myelografi



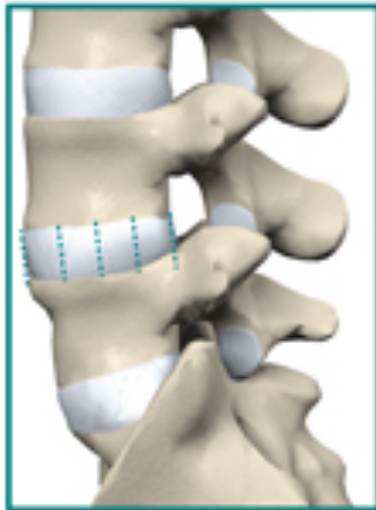
Peroperativ myelografi



**Discus-
degeneration,
lændesmerter
og stivgørende
operation**



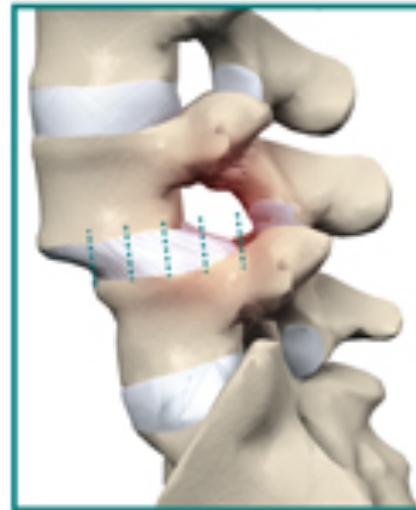
Grades of spondylolisthesis



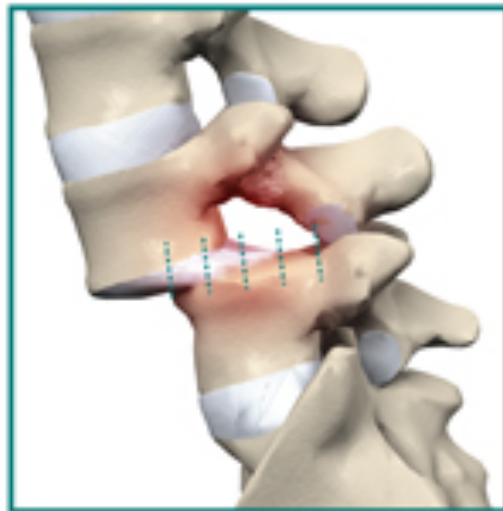
**Normal
spine**



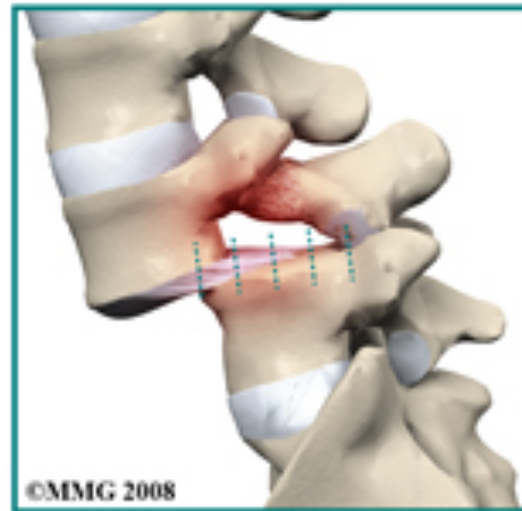
**Grade 1
<25% slippage**



**Grade 2
25-50% slippage**



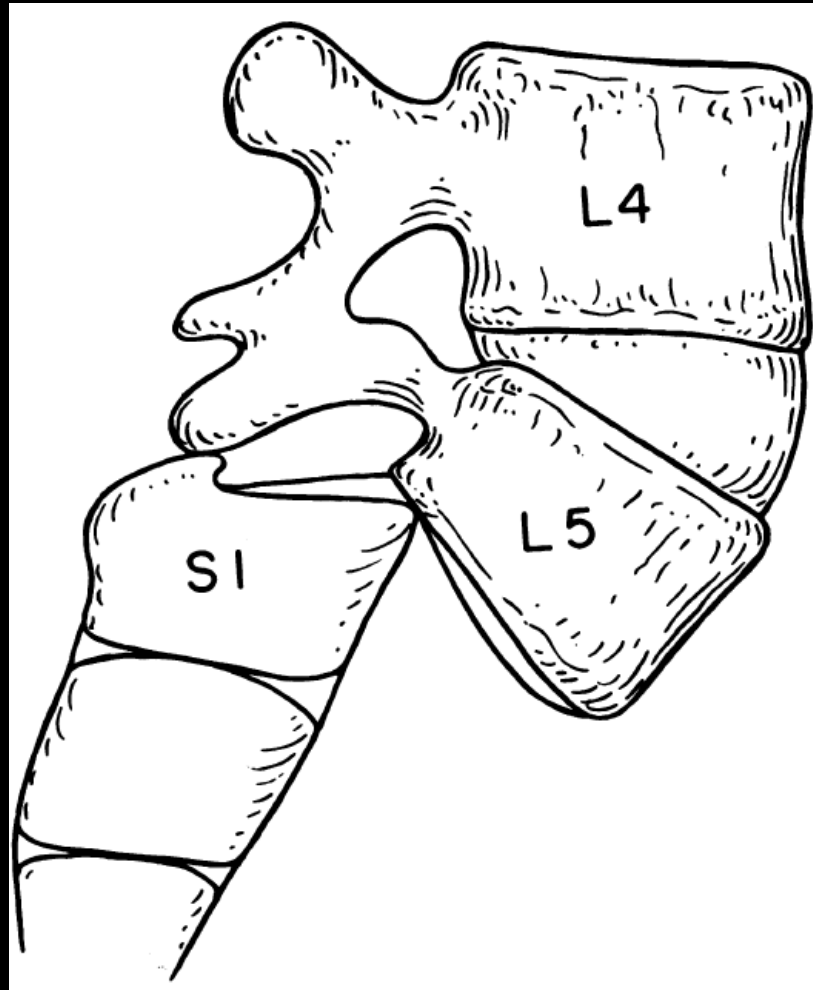
**Grade 3
50-75% slippage**



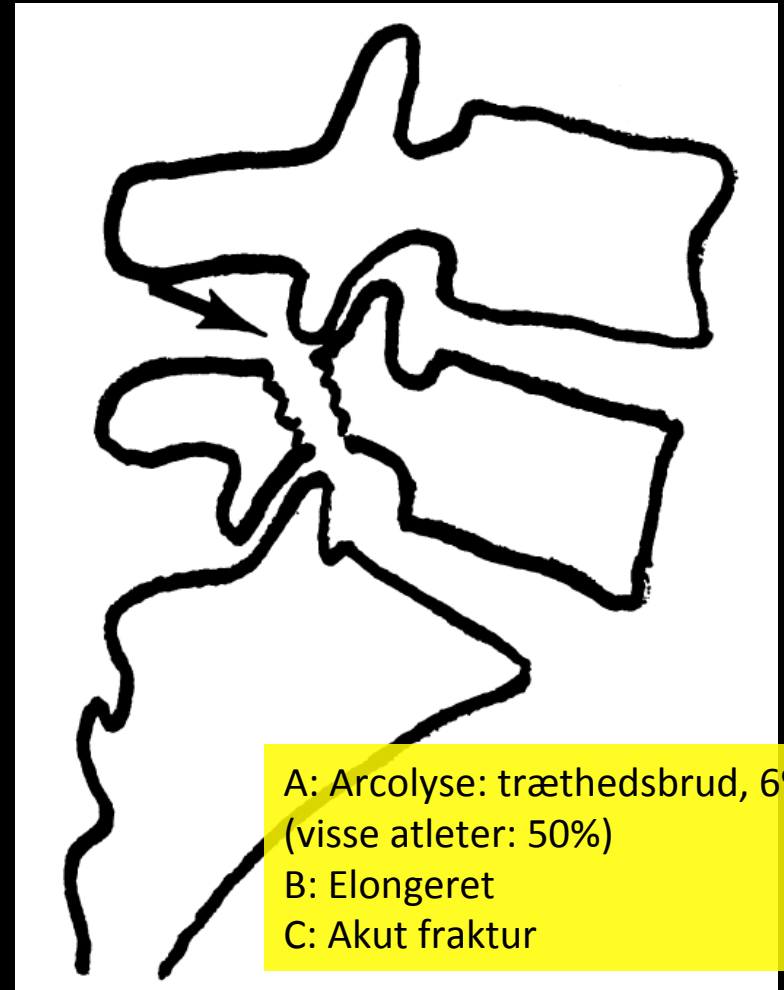
**Grade 4
>75% slippage**

Spondylolistese

Type 1: DYSPLASTISK (medfødt)



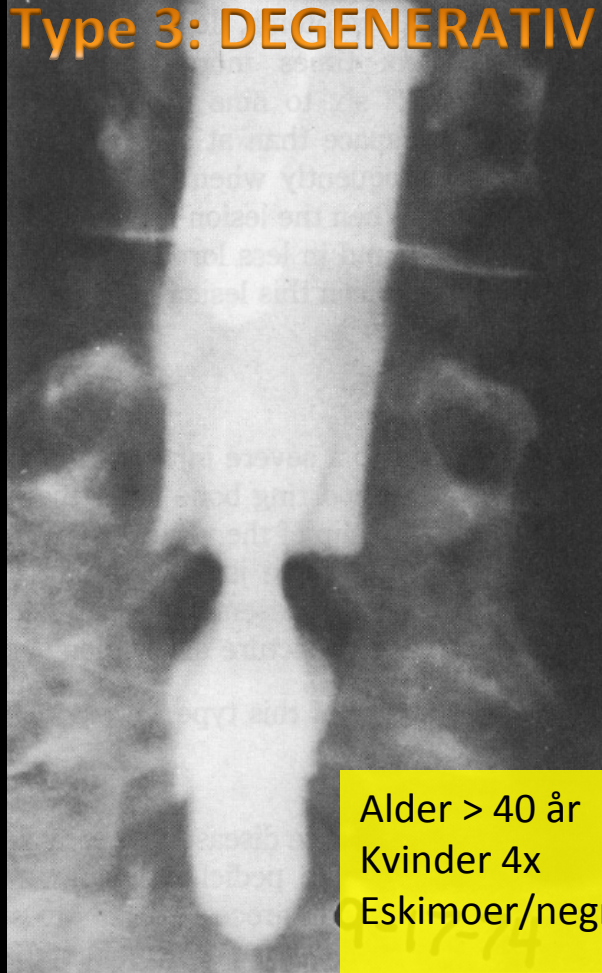
Type 2: ISTMISK



A: Arcolyse: træthedssbrud, 6%
(visse atleter: 50%)
B: Elongeret
C: Akut fraktur

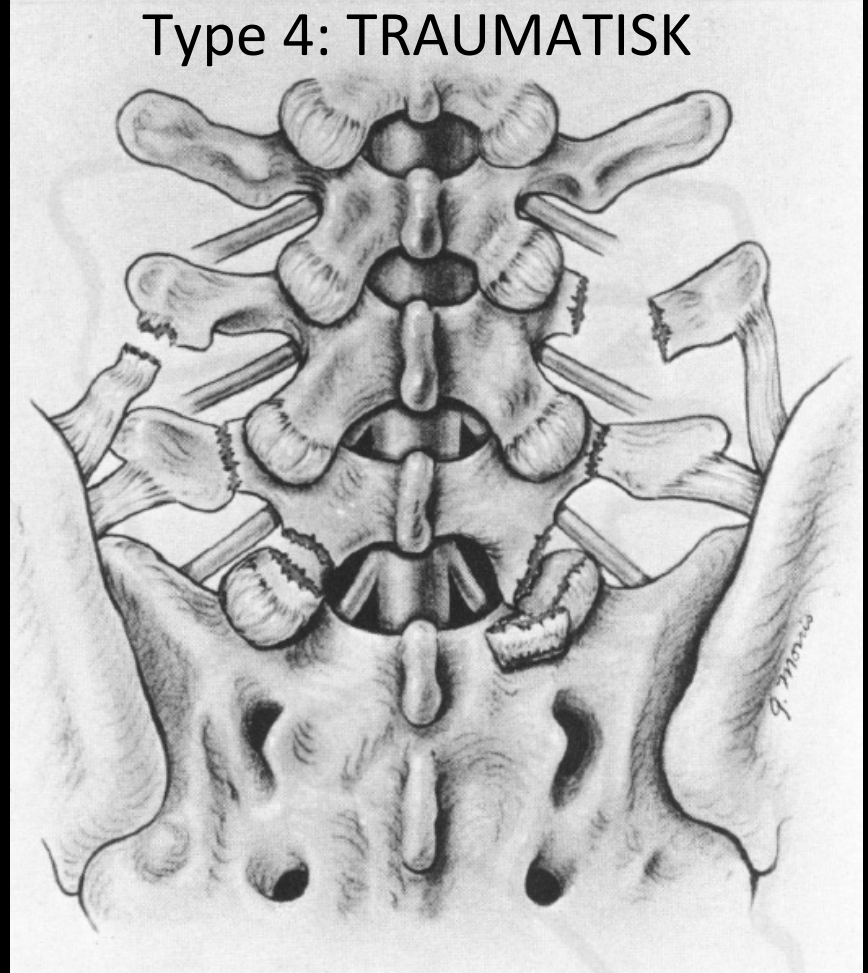
Spondylolistese

Type 3: DEGENERATIV



Alder > 40 år
Kvinder 4x
Eskimoer/negroide

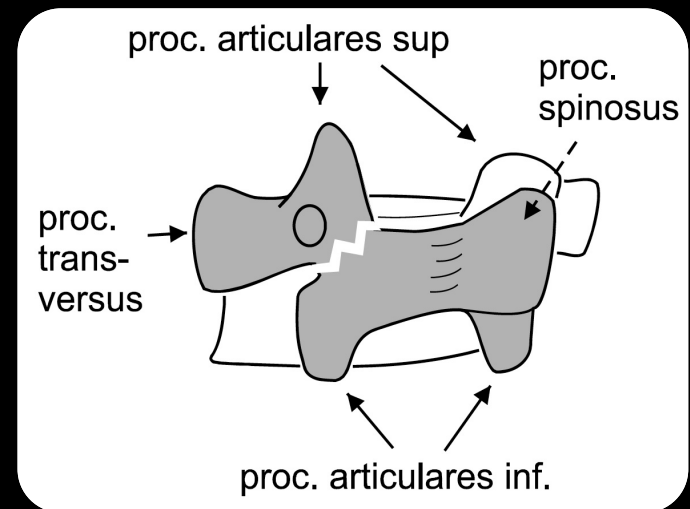
Type 4: TRAUMATISK



Type 5: PATOLOGISK

Type 6: IATROGEN

Arco lyse & spondylolistese

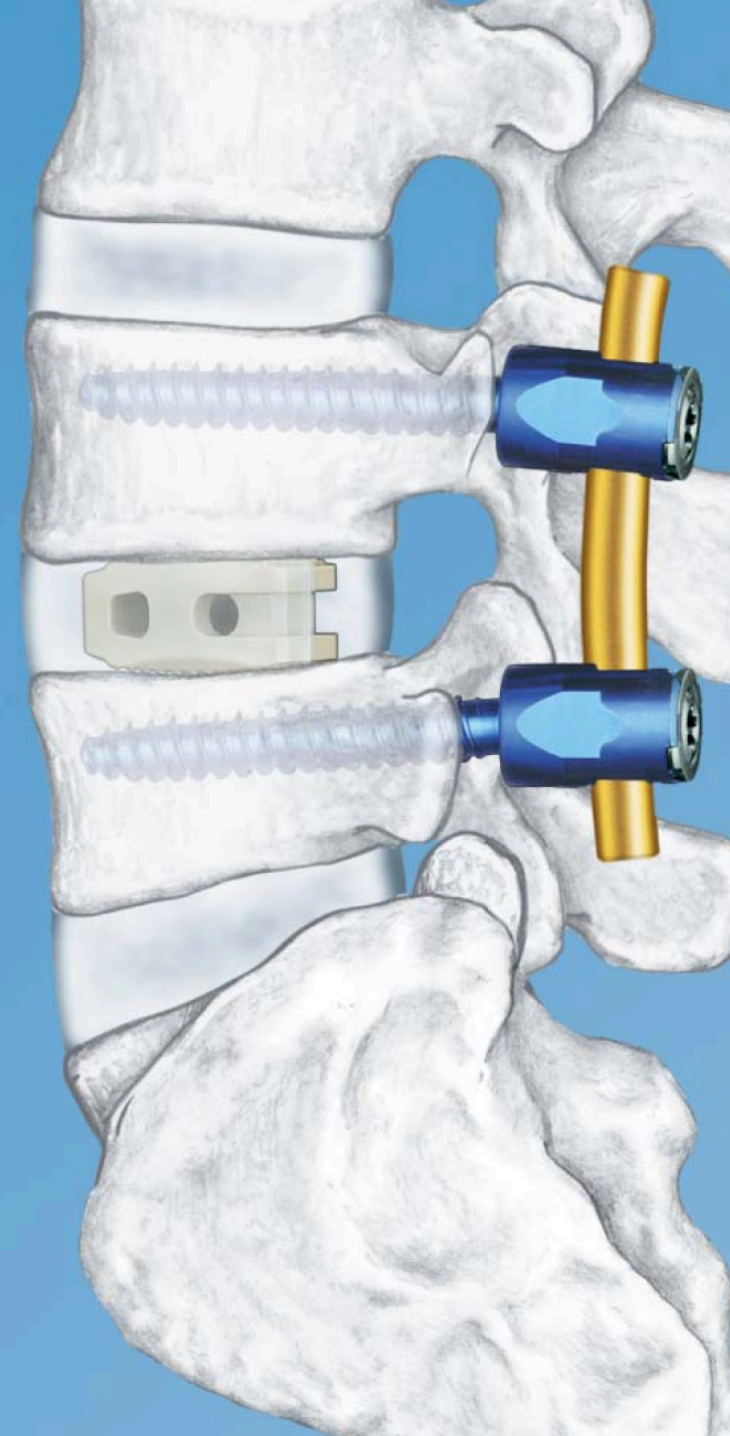


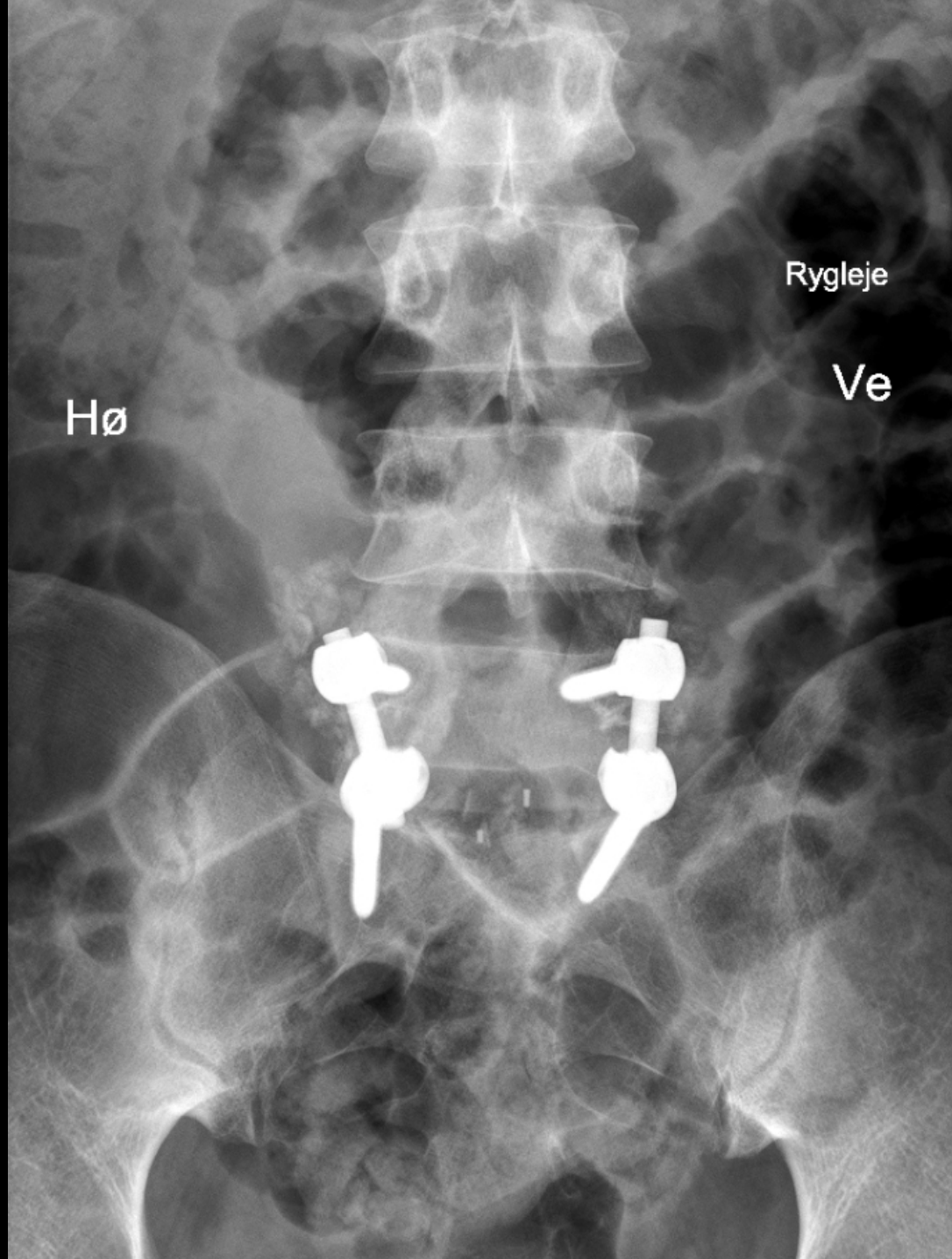
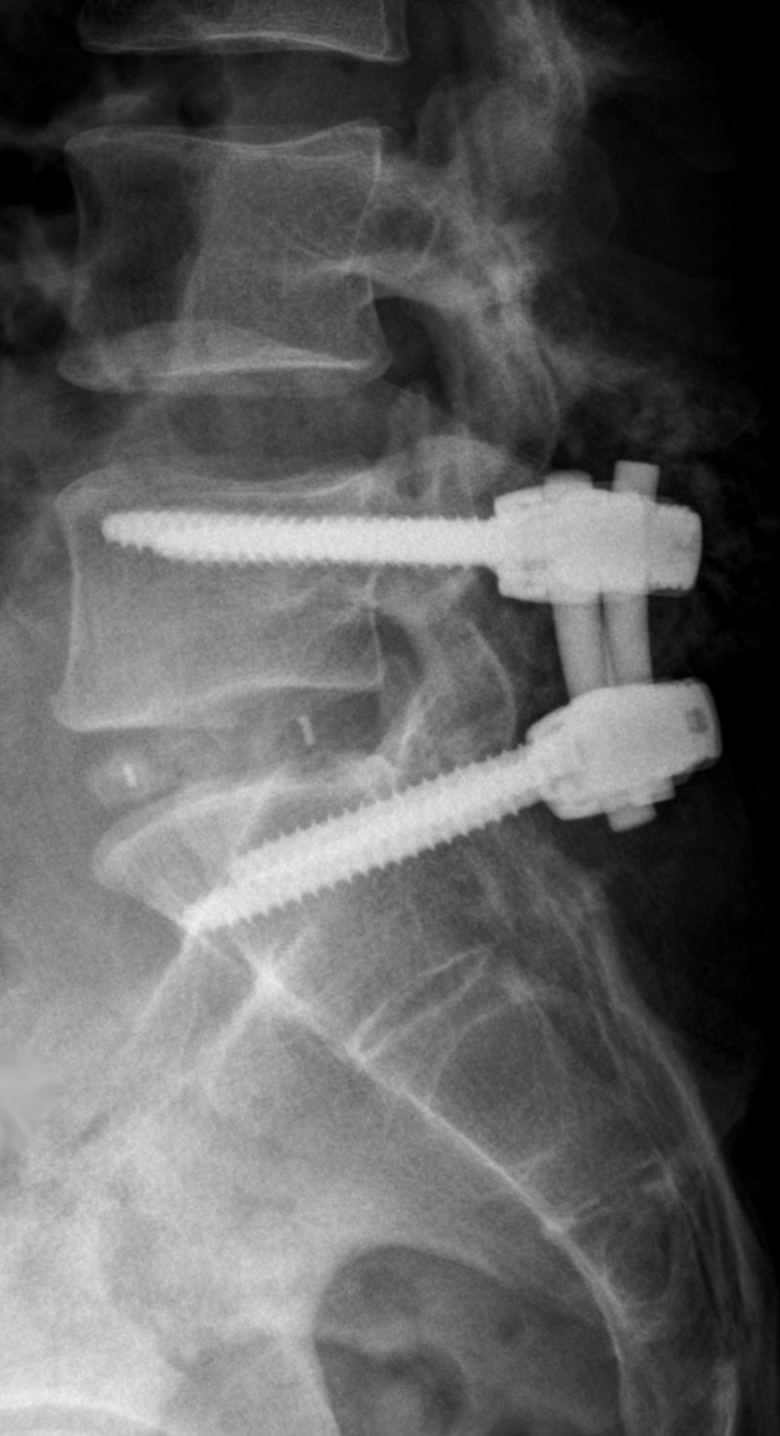
proc. articulares int.

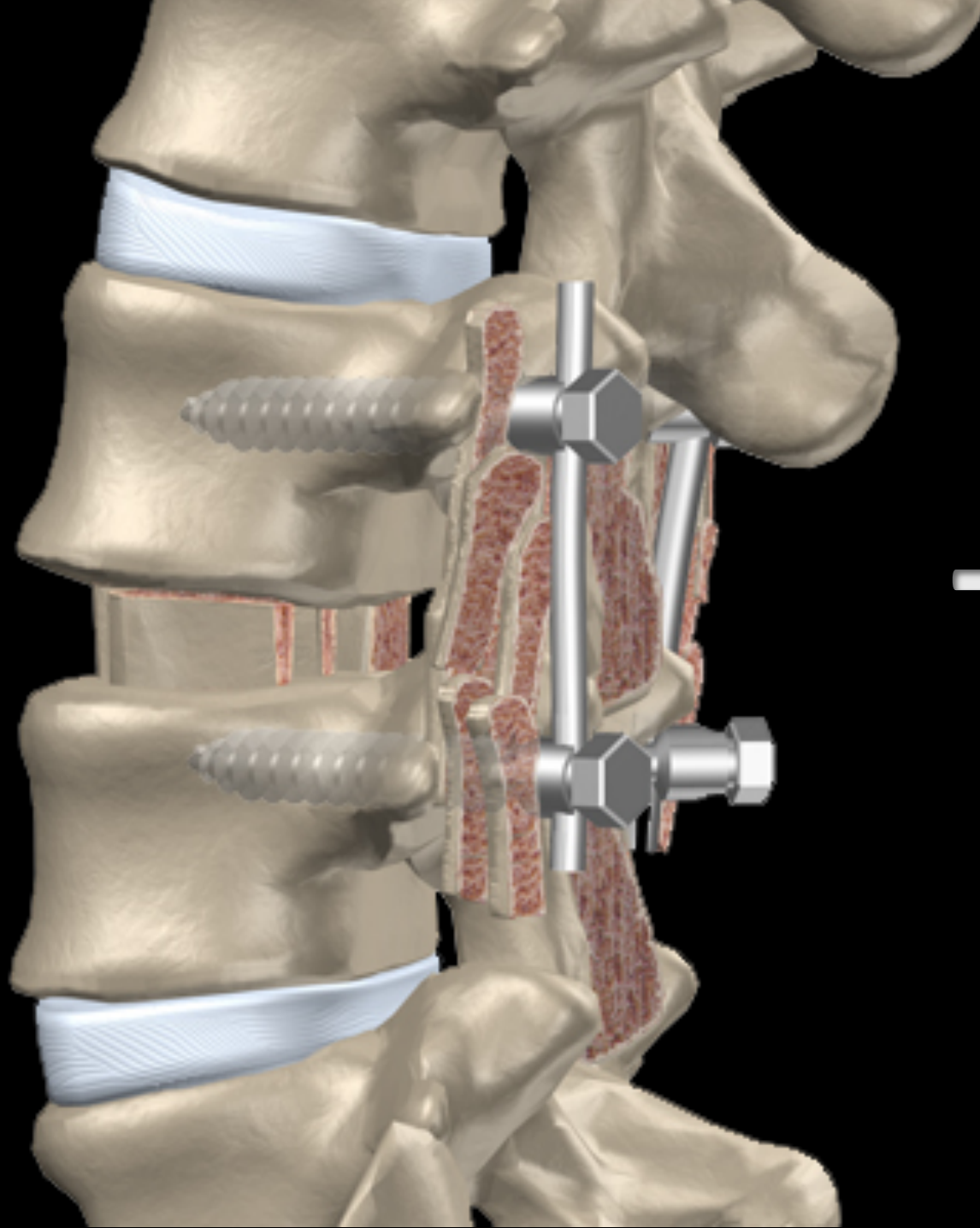
L4/L5-Dese

Transforaminal Lumbar Interbody Fusion

- Pedikelskruer
- Stave
- Diskectomi
- TLIF-Spacer (Opal)
- Knoglestykker evt. transplantat







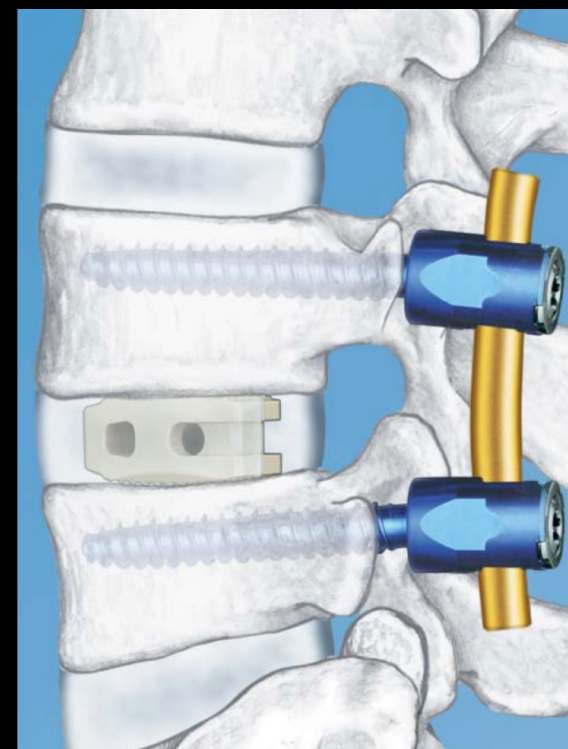
TLIF

- Lændesmerter
- Bensmerter
- Pedikelskruer
- Diskectomi
- Nerveskade
- Durarift

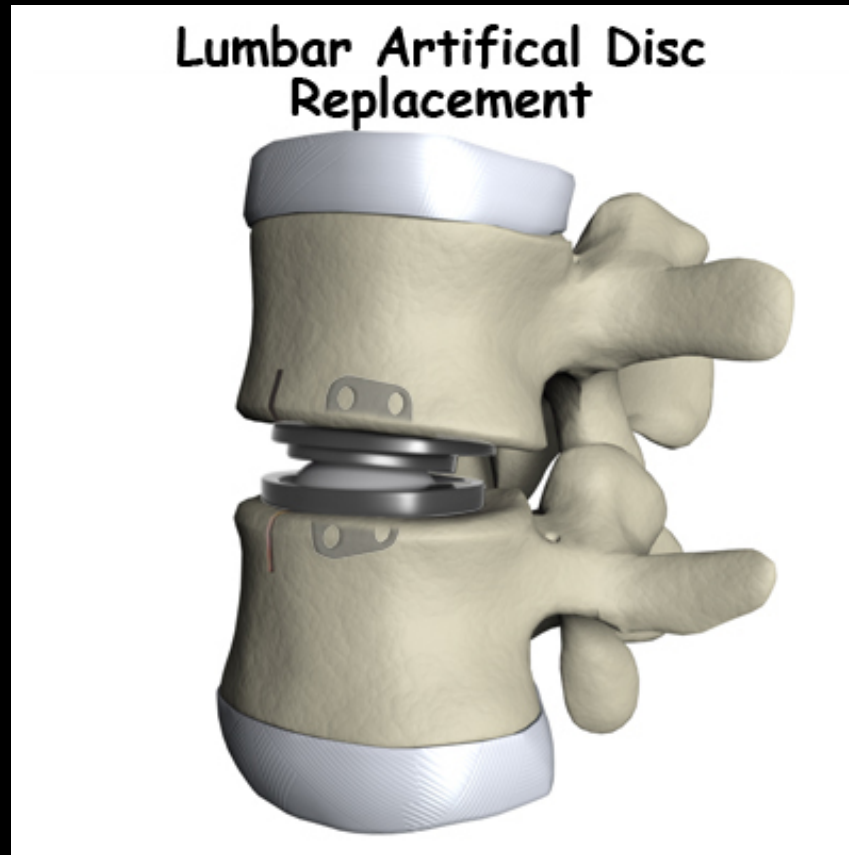


DESE

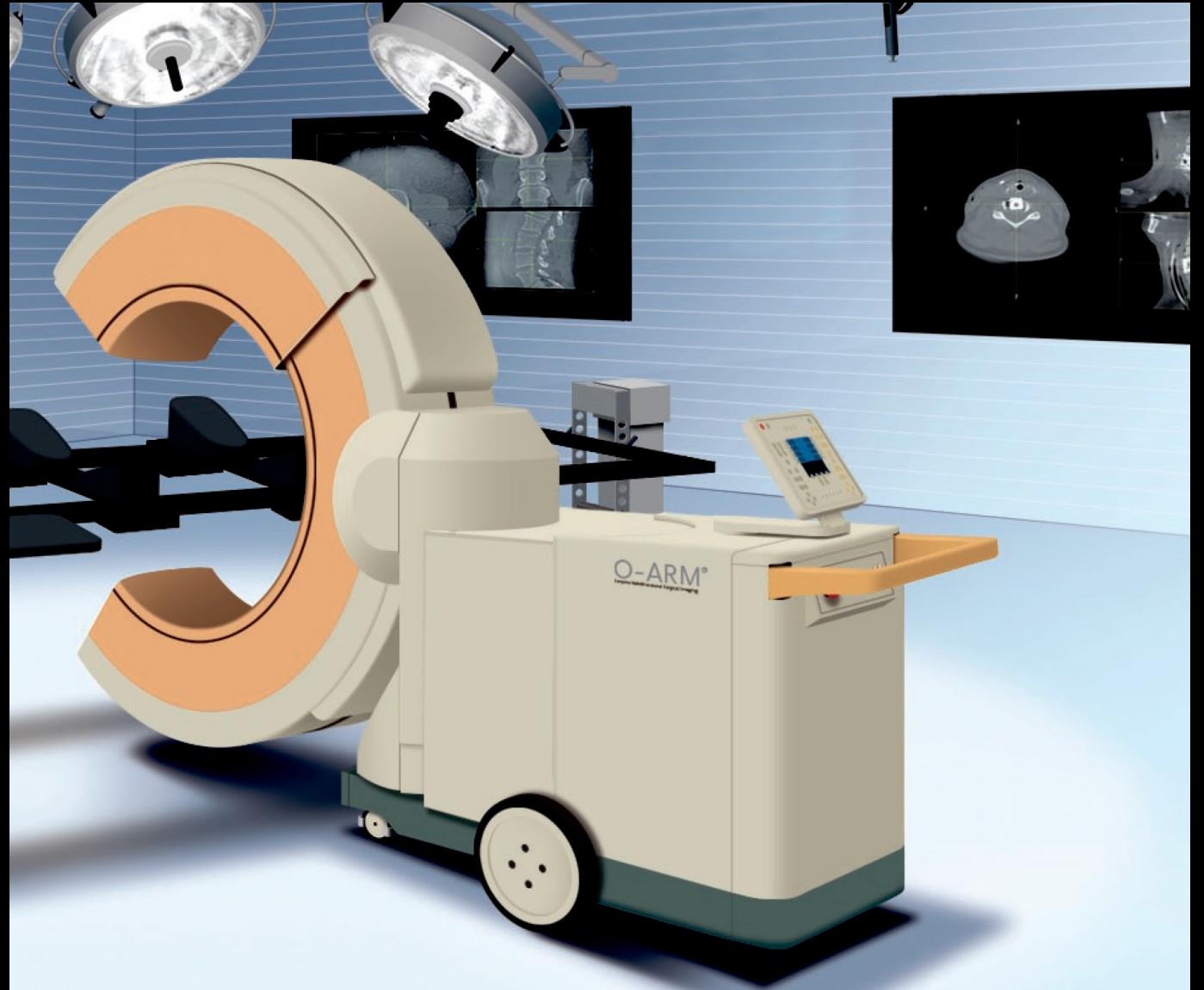
TLIF



Diskusprothese



MEDTRONIC



1

Overvejende
symptomfrit
aldringsfænomen
(40+)

2

Axiale
nakkesmerter
inkl. ømhed af
paraspinale
muskulatur

3

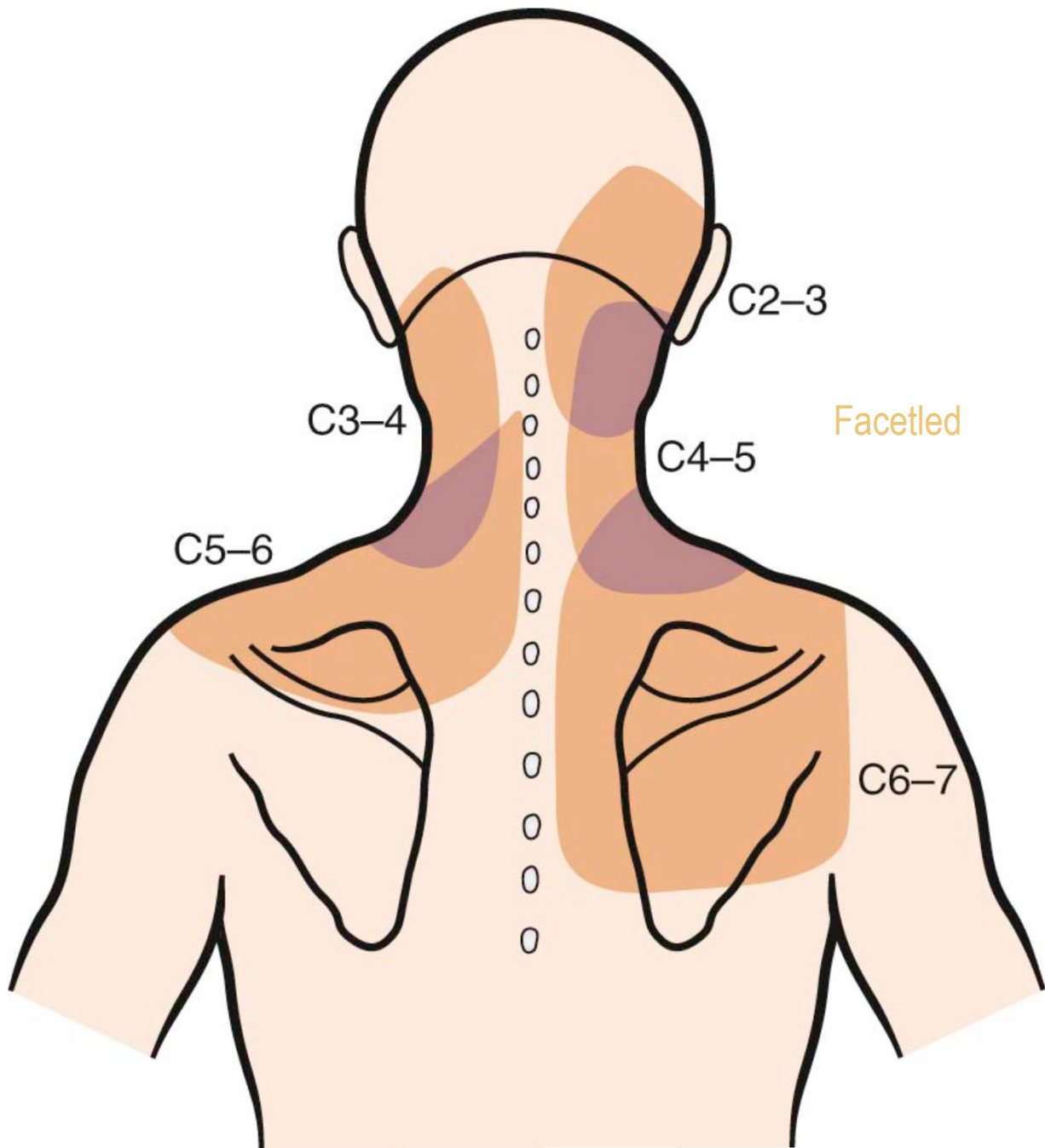
Armsmerter
(cervikal
radikulopati)

4

Cervikal
spondylodisk
myelopati

C-DEGENERATION (SPONDYLOSE)

AXIALE NAKKESMERTER





KLINISK DIAGNOSE

Symptomer

Kliniske fund

Skanning

INDIKATION

Smertefuldt
klinisk rodtryk

Diagnosen
verificeret ved
skanning

Manglende
effekt af
konservativ
behandling

Varighed under
2 år

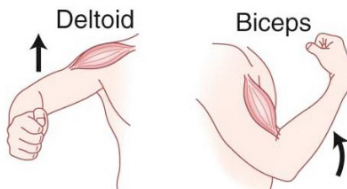
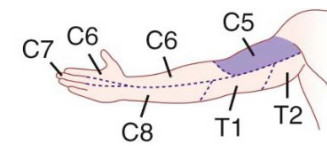
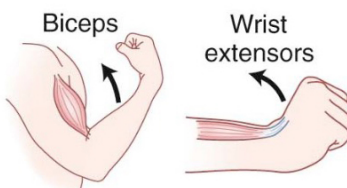
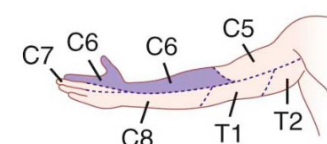
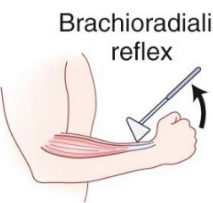
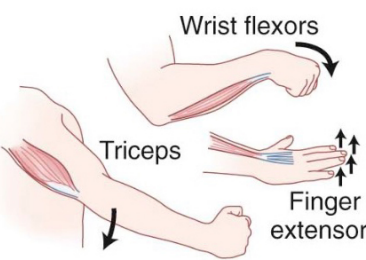
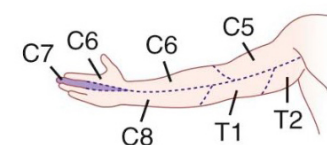
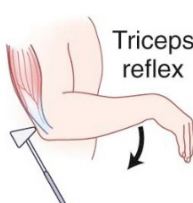
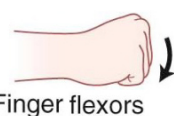
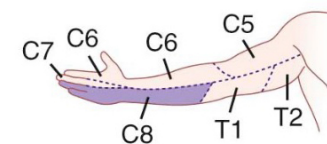
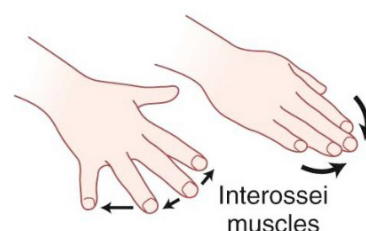
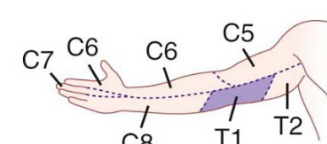
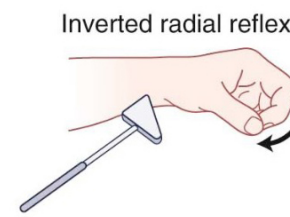
Operationsønske

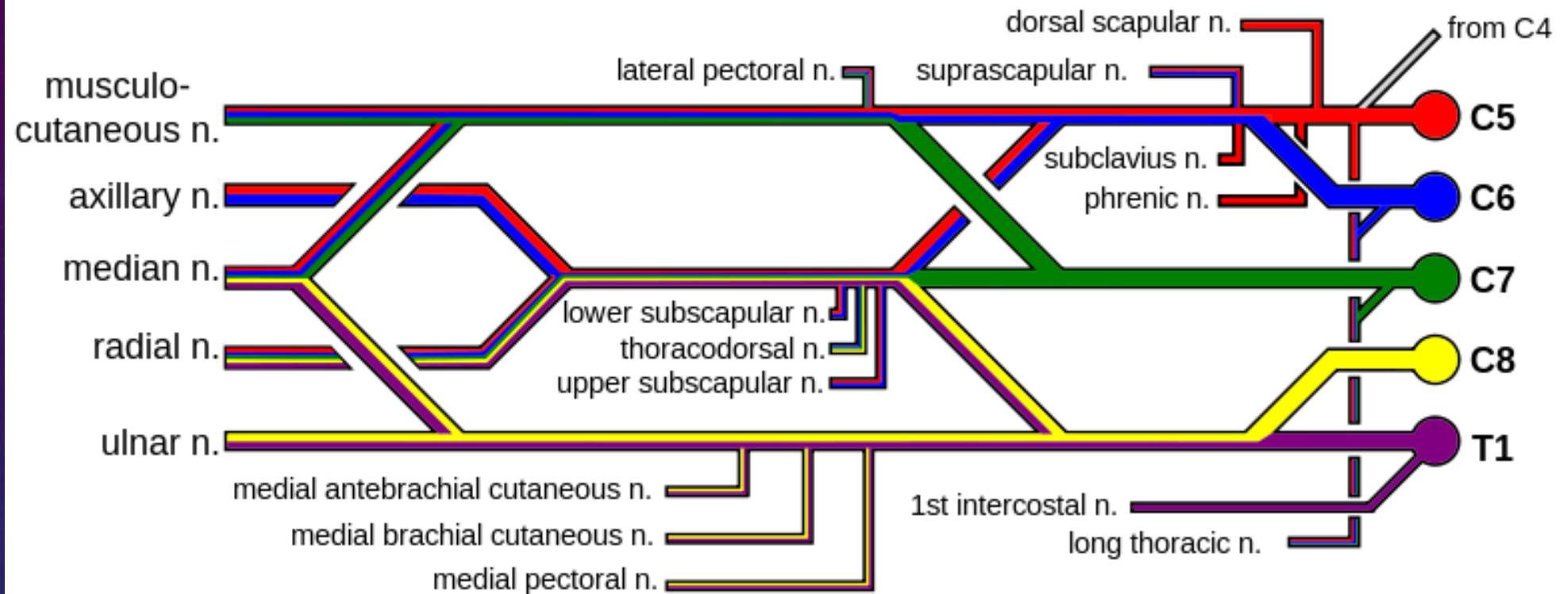
Lav komorbiditet

CERVIKAL RADICULOPATI

- Skulder-abduktionstest (hånd-på-hovedet) lindrer
- Spurling / foramen kompressions test (rotation mod syge side + extension) provokerer
- Ofte atypisk klinik
- C6-roden: tommel - obs CTS
- C7-roden: langefinger
- C8-roden: lille- og ringfinger - obs ulnaris

CERVIKAL RADIKULOPATI

	Motor evaluation	Sensory evaluation	Reflexes
C5	 Deltoid Biceps	 C7 C6 C6 C5 C8 T1 T2	 Biceps reflex
C6	 Biceps Wrist extensors	 C7 C6 C6 C5 C8 T1 T2	 Brachioradialis reflex
C7	 Wrist flexors Triceps Finger extensors	 C7 C6 C6 C5 C8 T1 T2	 Triceps reflex
C8	 Finger flexors	 C7 C6 C6 C5 C8 T1 T2	No reflex
T1	 Interossei muscles	 C7 C6 C6 C5 C8 T1 T2	No reflex
Abnormal reflexes in cervical myelopathy	 Extensor plantar response	 Hoffman's reflex	 Inverted radial reflex



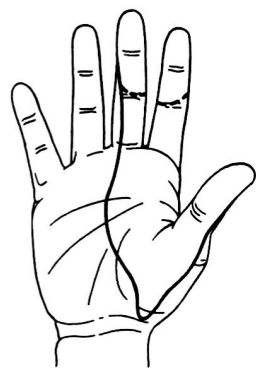
DIFFERENTIALDIAGNOSER

- Plexuspåvirkning
- Neuropati
- Motorneuron sygdom
- Skulderlidelse
- Perifer navelidelse
- Polymyalgi, myopati
- IHS
- Reflexdystrofi
- Herpes zoster
- Thoracic outletsyndrome
- Epidural absces
- Tumor, syrinx

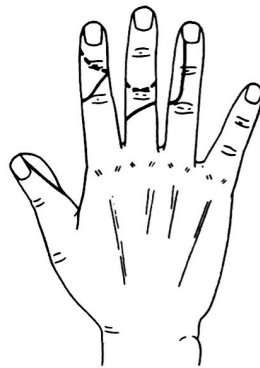
Differentialdiagnostiske overvejelser ved armsmerter

- Plexus brachialis: costa cervicalis, apikal lungetumor, plexusneuritis, stråleskade, neurofibrom
- Muskler: polymyalgi, myositis, metabolisk myalgi, tumor
- Knogle: osteomalaci, tumor, osteomyelit
- Sene: tenosynovitis
- Nerverod: prolaps, tumor, neurofibrom, meningeom
- Referred pain: pleura, **hjertet** ←
- Led: calcificeret tendinit, rotator cuff læsion, bursitis, osteoarthritis, rheumatoid arthritis, infektiøs arthrit, **tennisalbue** ←
- Vaskulær: thoracic outlet syndrome, paraproteinæmi, kollagenøs karsygdom
- PNS: nerveskade, neuropati, **karpaltunnelsyndrom**, **ulnariskompression** ←

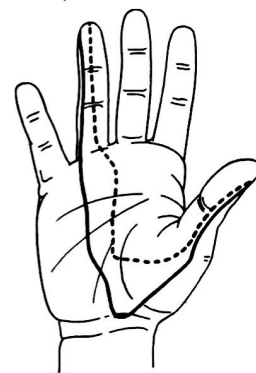
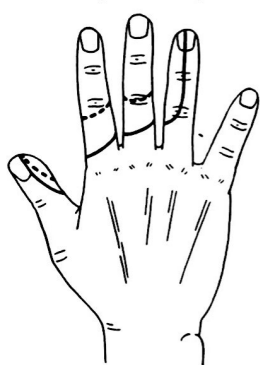




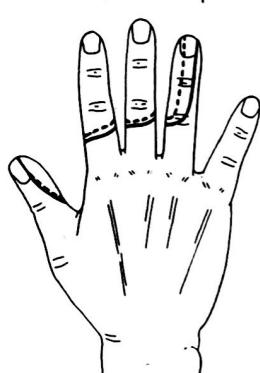
A



B



C



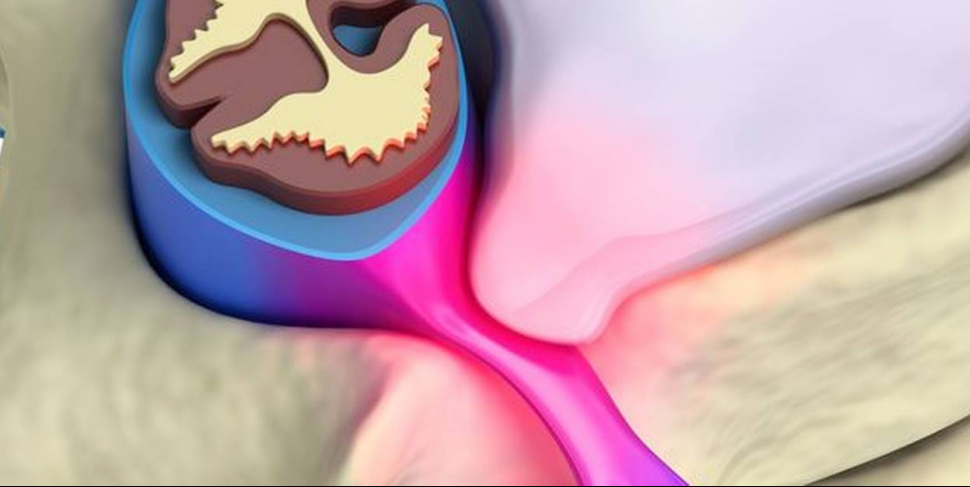
KARPALTUNNEL SYNDROMET

- N. Medianus, kvinder, 40-60 år, 1/3 bilateralt
- Smerter, paræstesier 2.+3. finger, evt underarm/skulder
- Værst om natten, vækker pt som må ryste hånden
- Evt. muskelsvind af thenar
- Evt. lammelse af tommelfingerens abduktion/opposition
- Tinel's bankeprøve, Phalens fleksionstest

ULNARISKOMPRESSION

- Tryk i albueregionen
- Ulnare føleforstyrrelser 4.+5. finger, smerter
- Provokeres ved bevægelse af albueleddet
- Parese: hammer, syning, maskinskrivning – fingerspredning, lillefingerens abduktion, tommelfingerens adduktion
- Atrofi: mm. Interossei, hypothenar

[illegible][illegible]

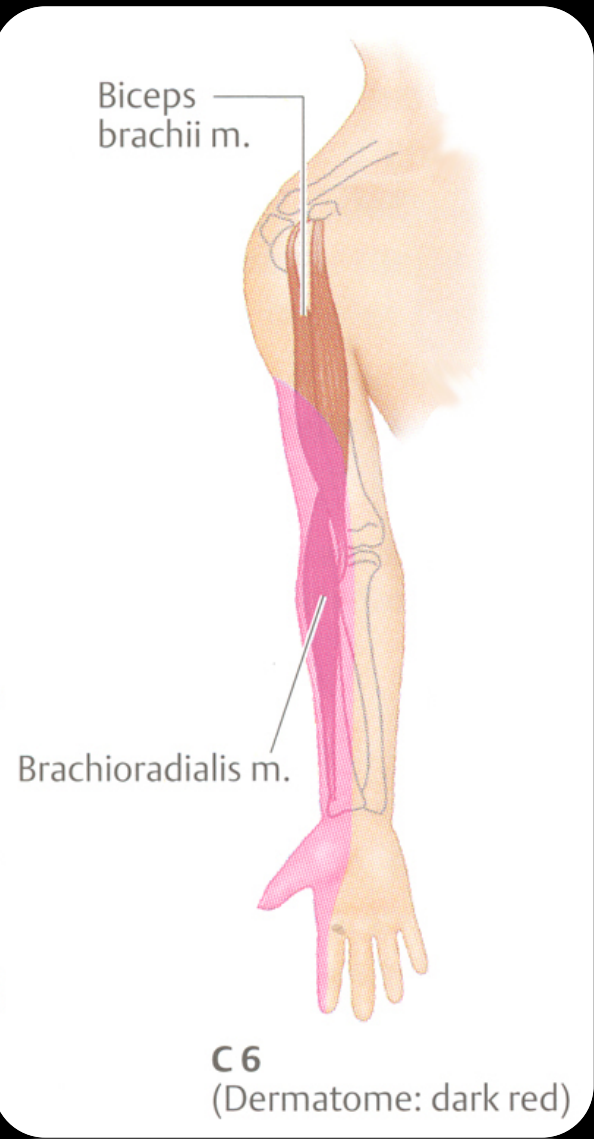


ACIF

Armsmerter (C6- & C7-
rodstryk)

Tetra/paraplegi
(myelopati)

MC+ (anker), Cornerstone,
skinne, Mikroskop

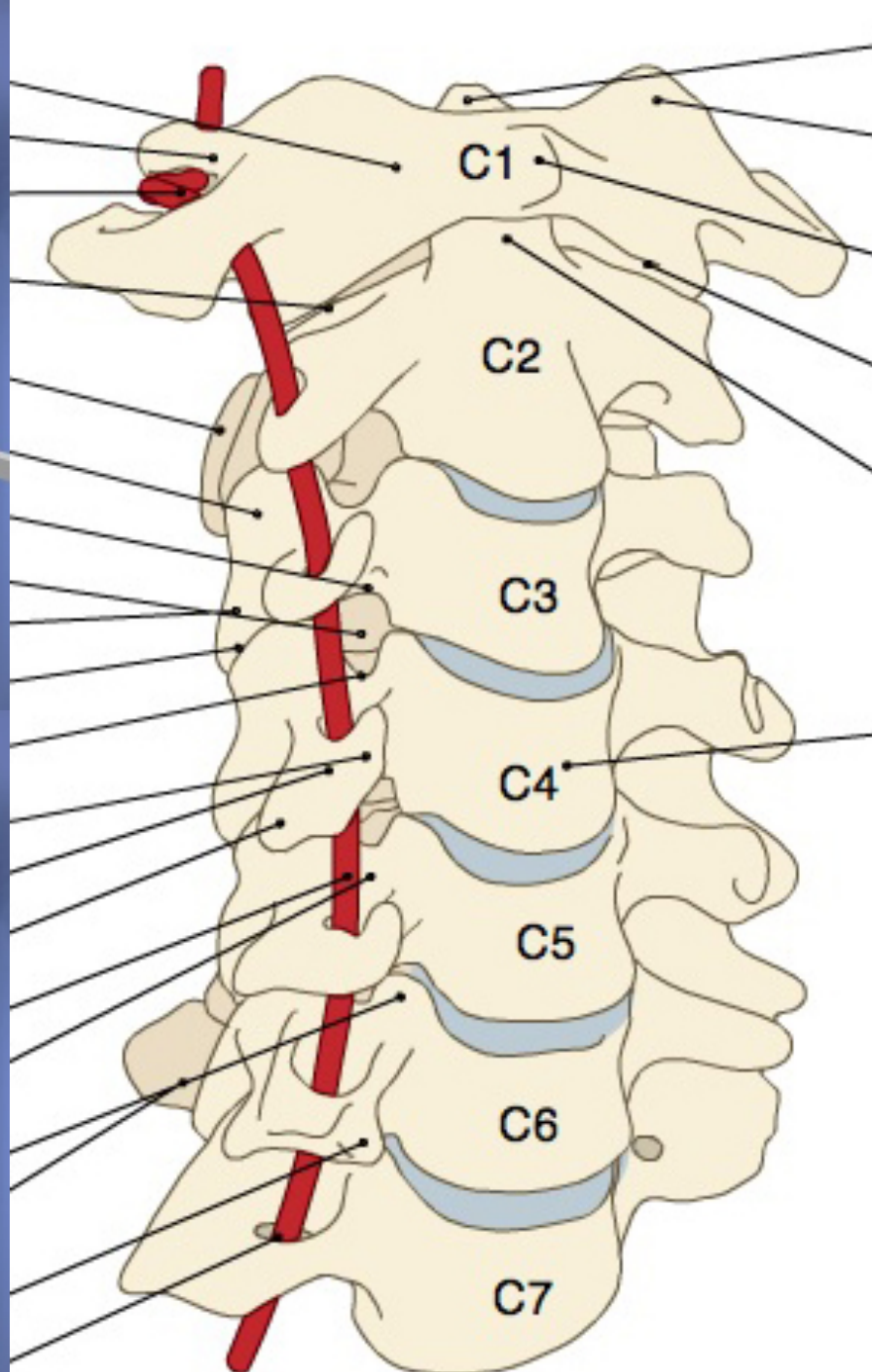
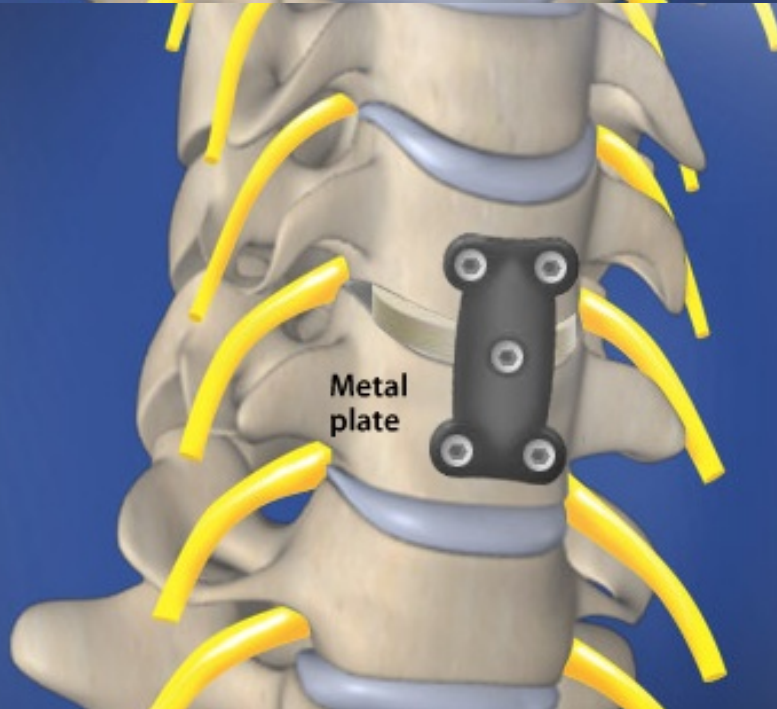


(Dermatome: dark red)
C 6

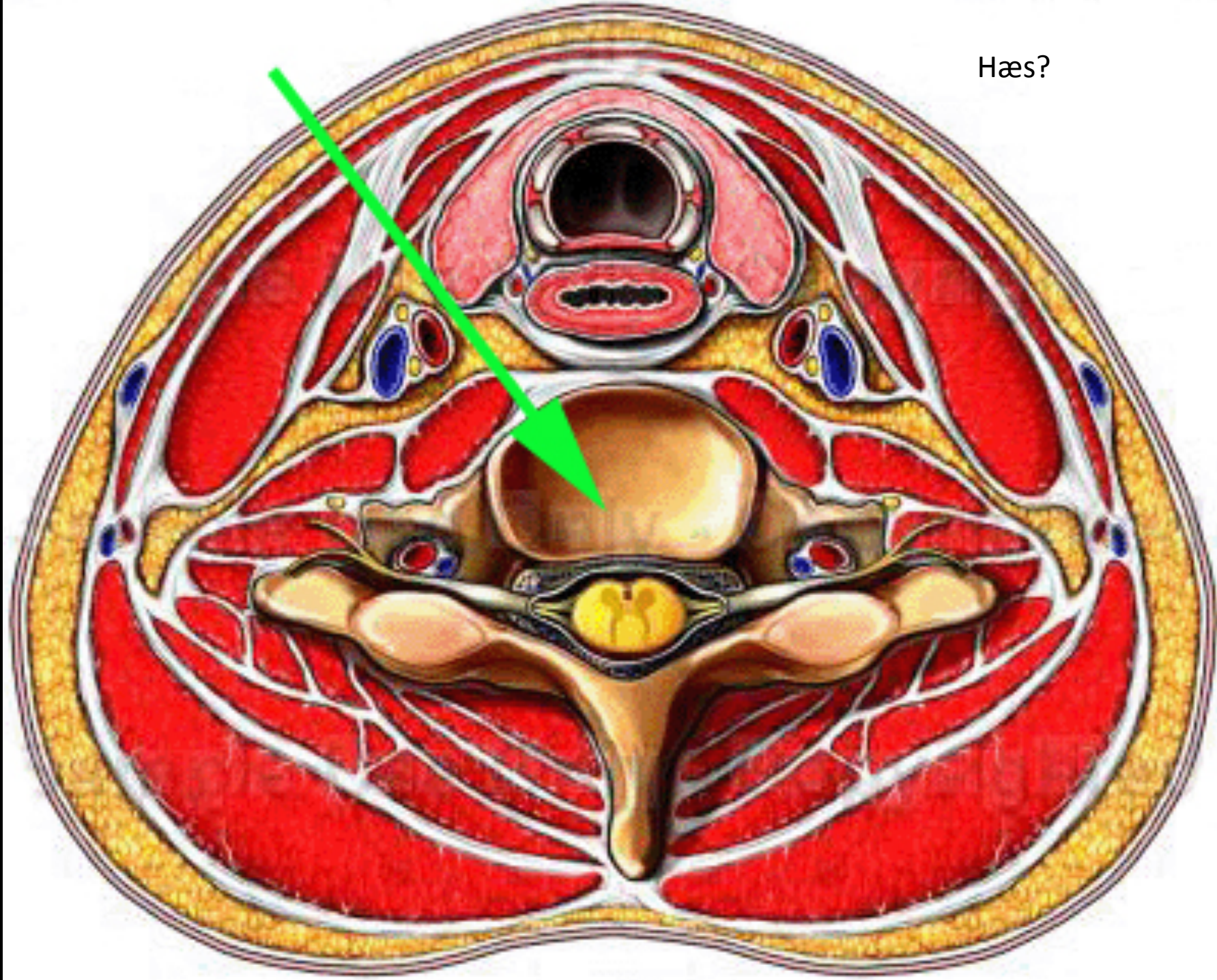
KOMPLIKATIONER

- Globulus
- Hæshed (4%)
- Øsofagus
- Hæmatom
- Myelopati
- Horner





Hæs?



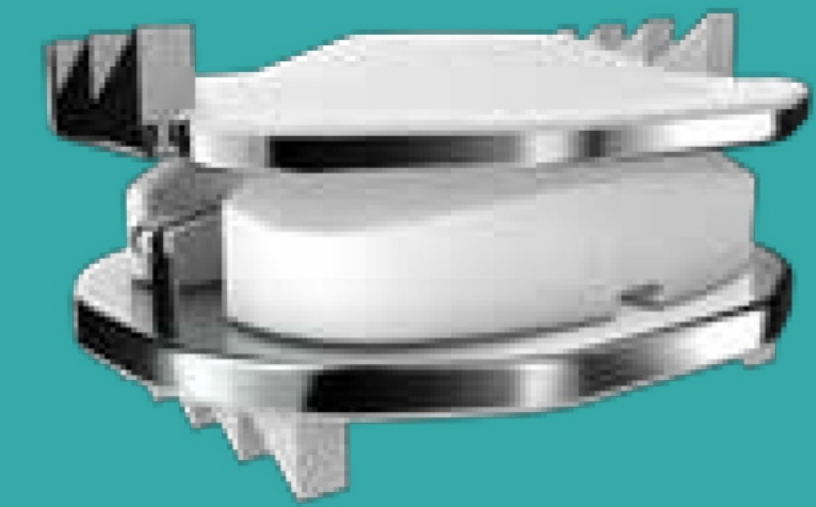
DISKUSPROTESE

- Mobi-C
- Nakke- & armsmerter



Mobi-C[®]

CERVICAL DISC

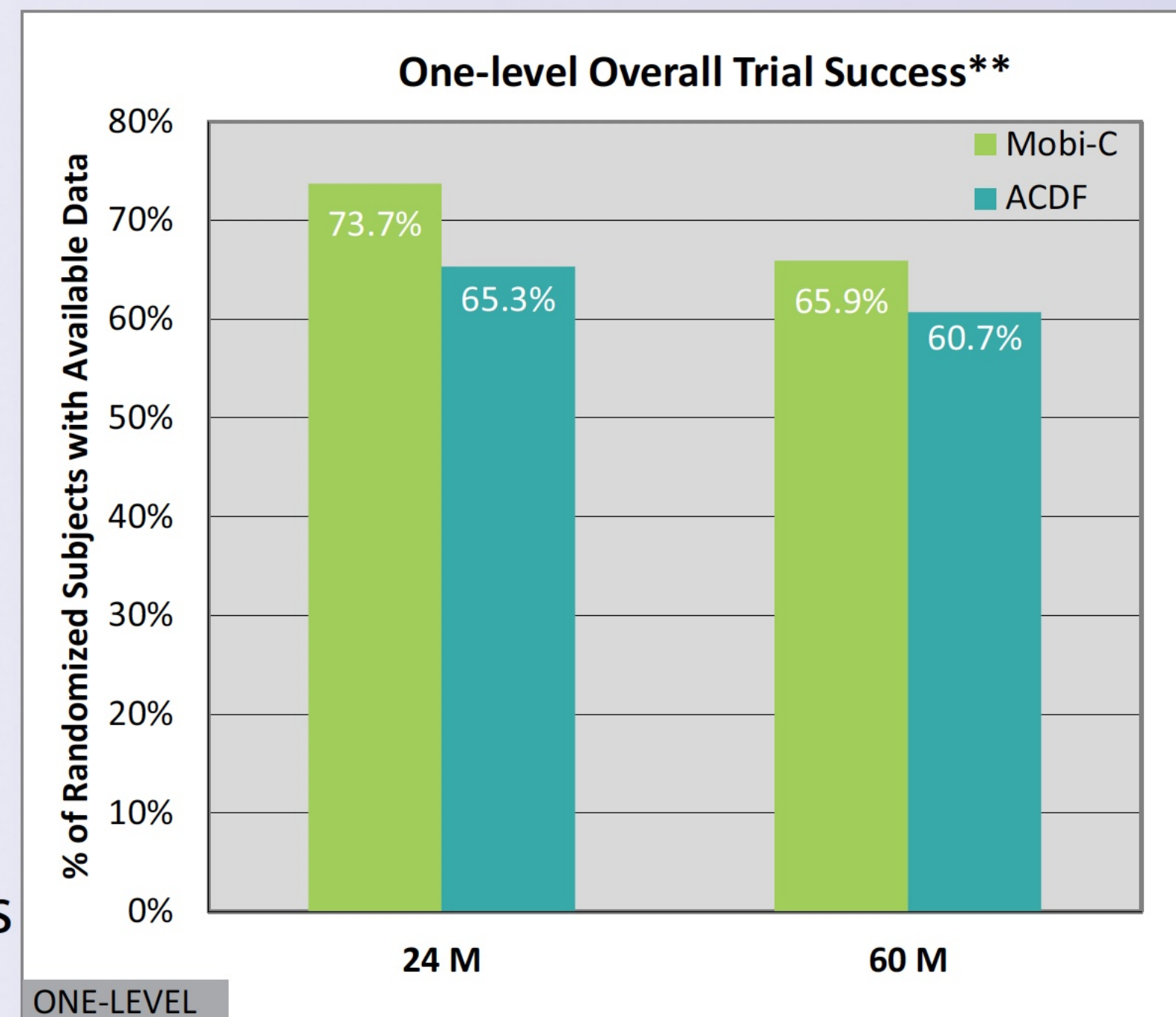


Statistical Superiority in Overall Trial Success Compared to Fusion for Two-Level Disc Replacement

MOBI-C CLINICAL TRIAL

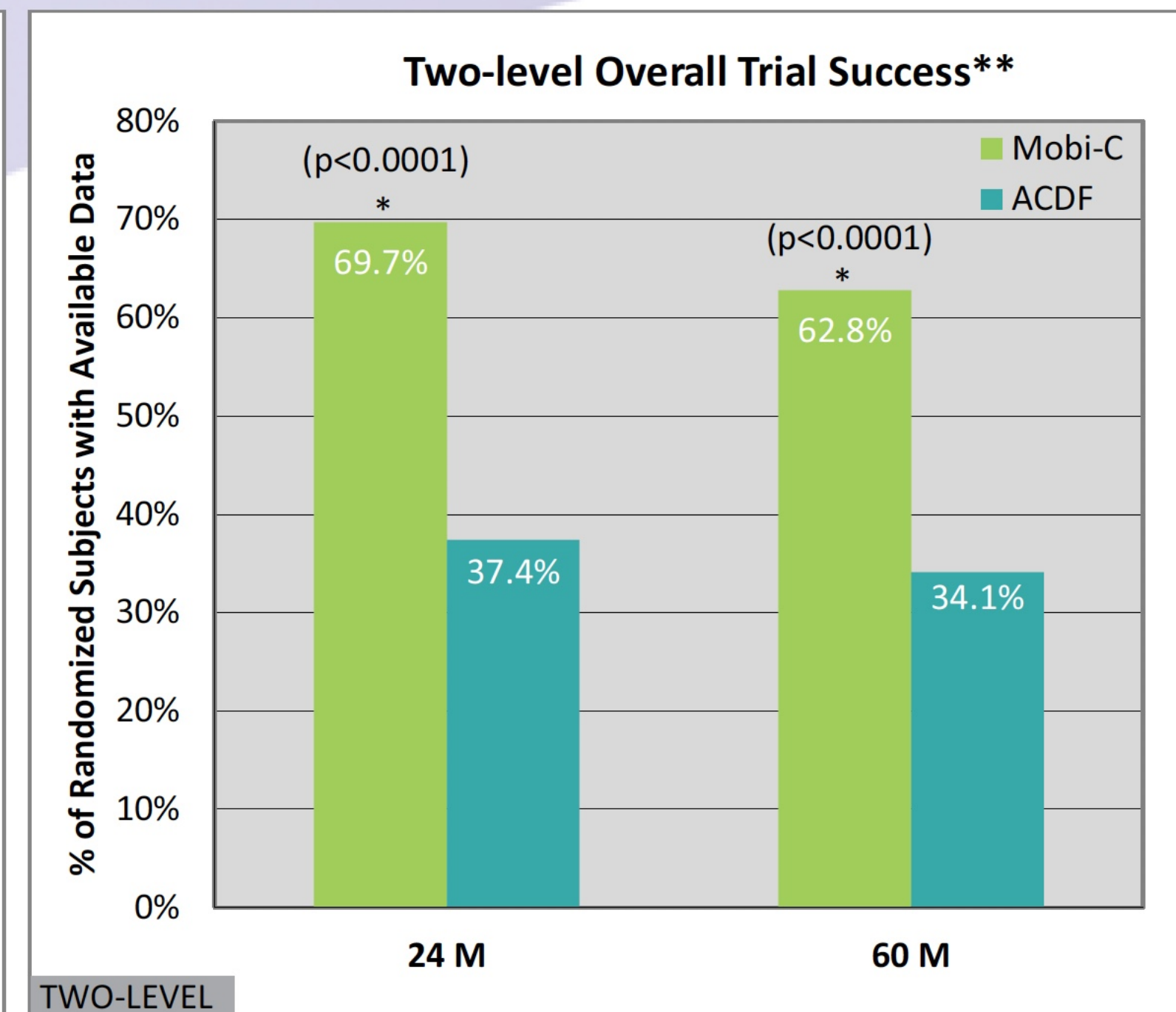
The Mobi-C Cervical Disc (Mobi-C) Investigational Device Exemption (IDE), a multi-centered, prospective, randomized and controlled clinical trial, examined Mobi-C compared to the control, anterior discectomy and fusion (ACDF). ACDF patients received allograft bone and an anterior cervical plate.

To be considered an overall trial success, subjects had to be successful in all 5 components which included: no neurologic deterioration, neck disability index improvement, no device-related adverse events, no radiologic failure, and no subsequent surgeries at the treated level(s).



* Fisher's Exact test used to compare frequencies between the treatments.

**Overall trial success based on IDE defined primary endpoint.

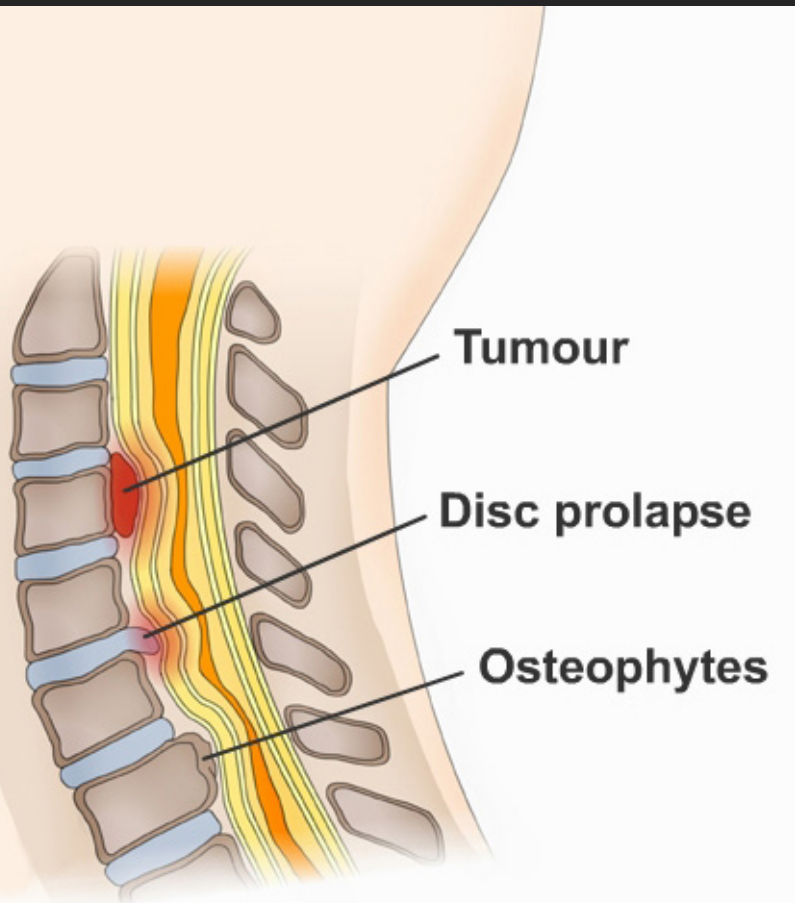




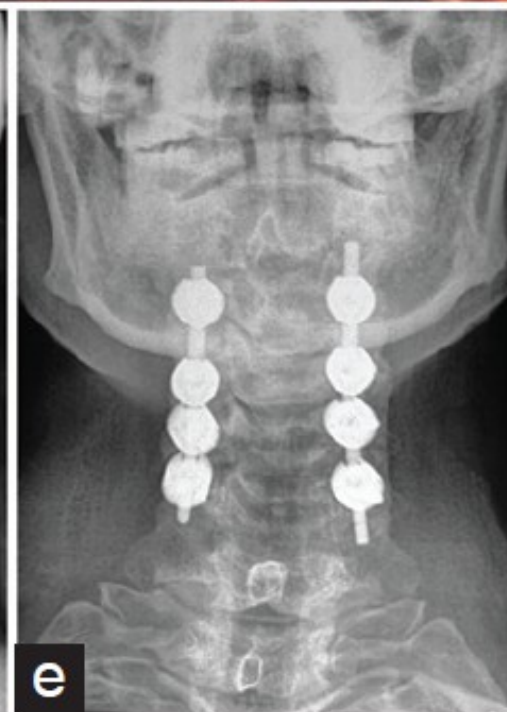
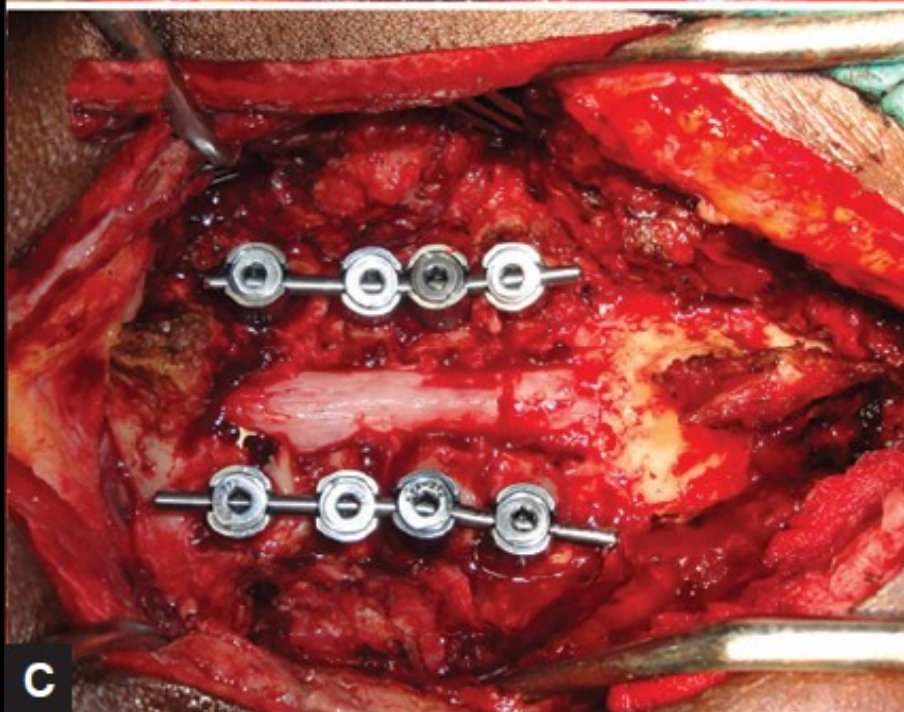
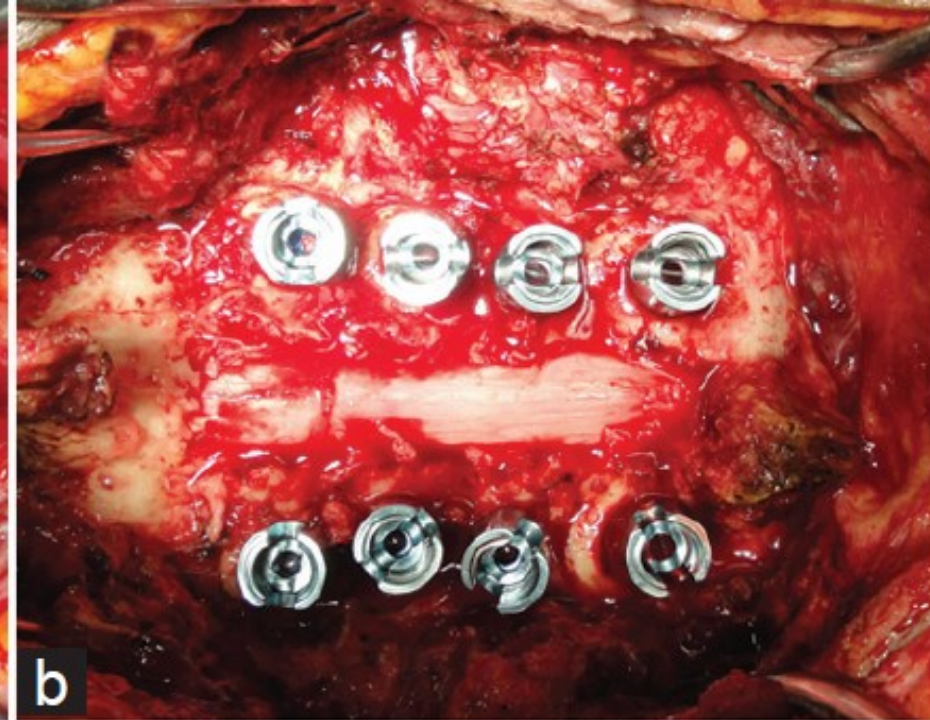
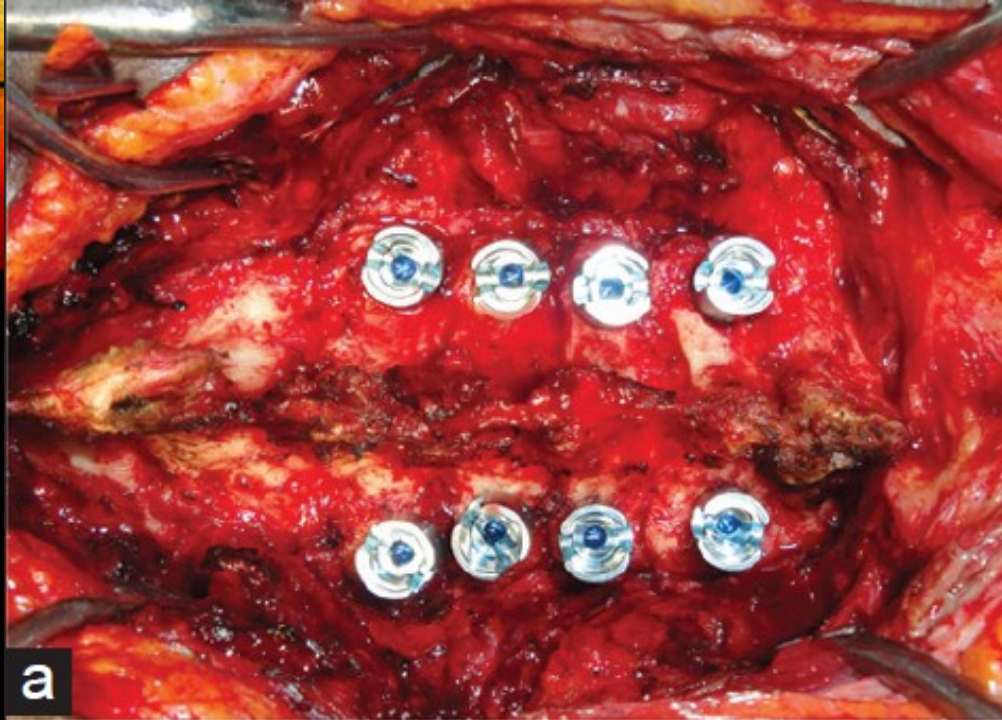
BAG CERV LAM/DESE

- Myelopati (cerv spinalstenose)
- Instabilitet
- Omfattende frilægning

CERVIKAL MYELOPATI



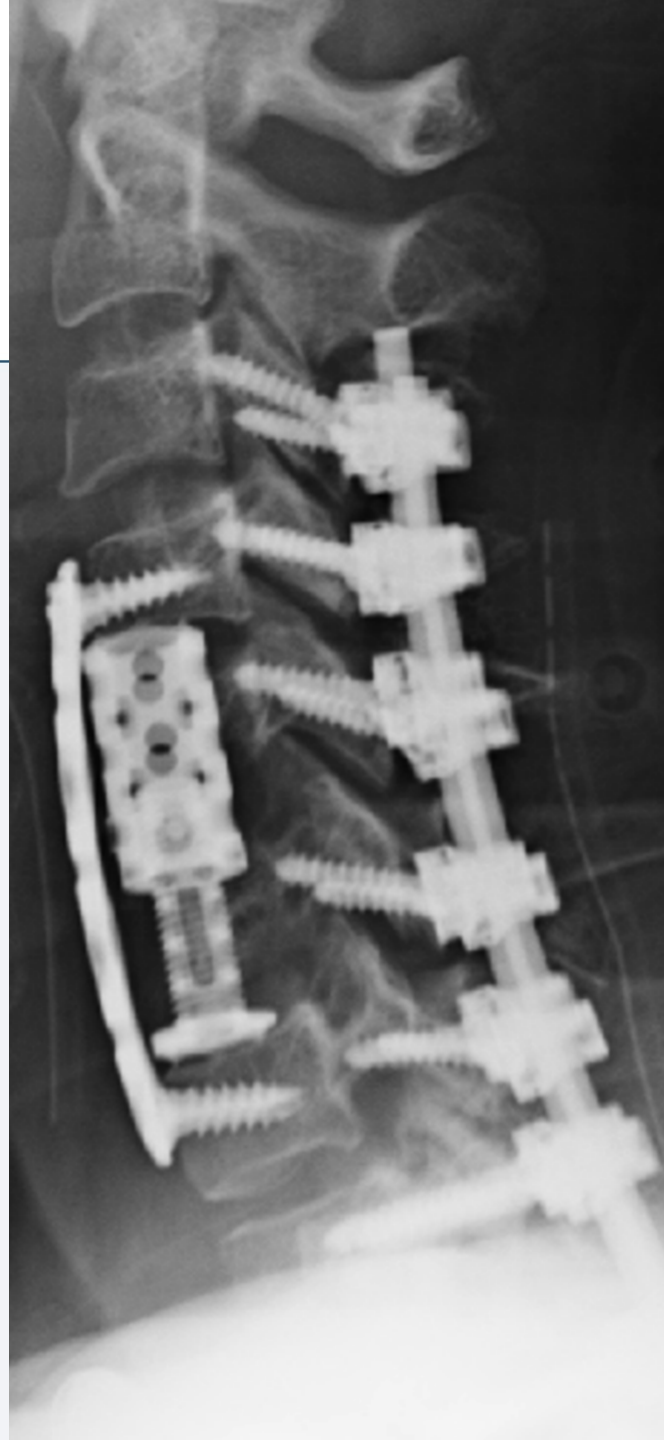
- Clumsy- numb hands, problemer med finmotorikken
- Gang- og balanceproblemer: faldtendens, usikker og bredsporet gang
- Tetra- eller paraparese
- Hyperrefleksi & ankelklonus
- Babinski & Hoffman refleks
- L'hermittes tegn
- Grip-and-release test < 20 pr. 10 sekunder
- Evt. maskering af de klassiske 1. neuronstegn ved neuropati eller LSS

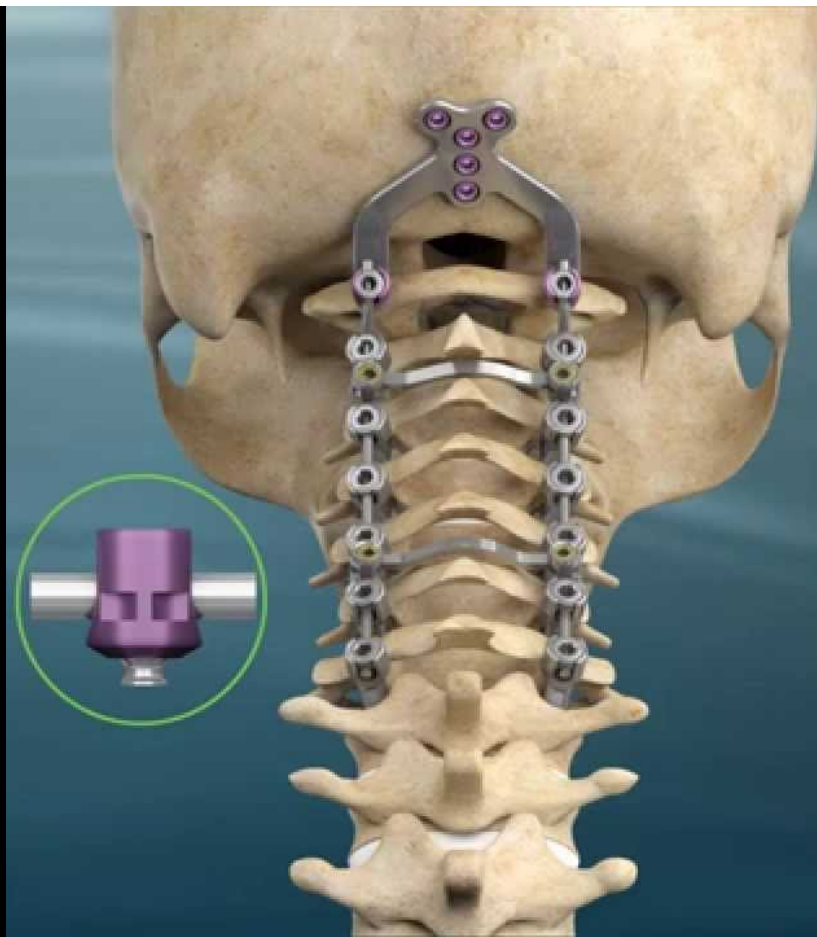
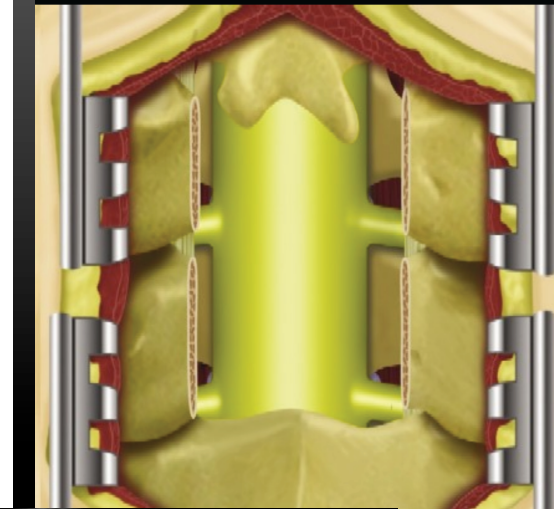


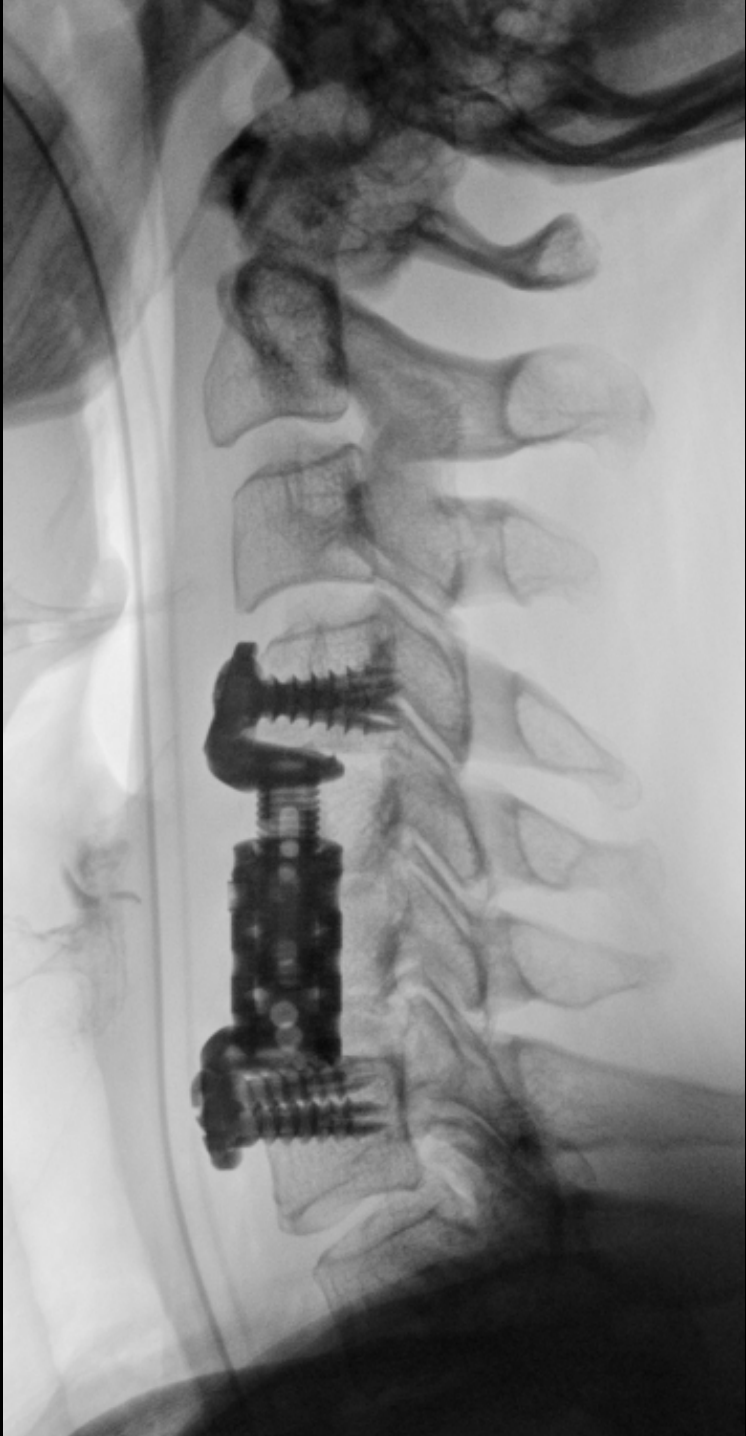
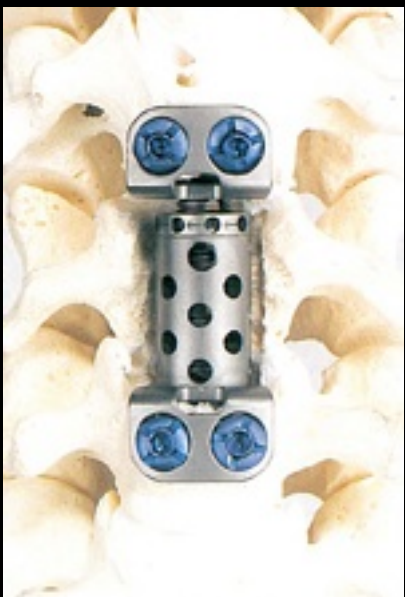
Surgical Technique



Fig. 21







Tidsfaktor

AKUT: spinalt shock

- **Slappe pareser**
- **Manglende senerereflekser**
- **Atonisk blæreparalyse**

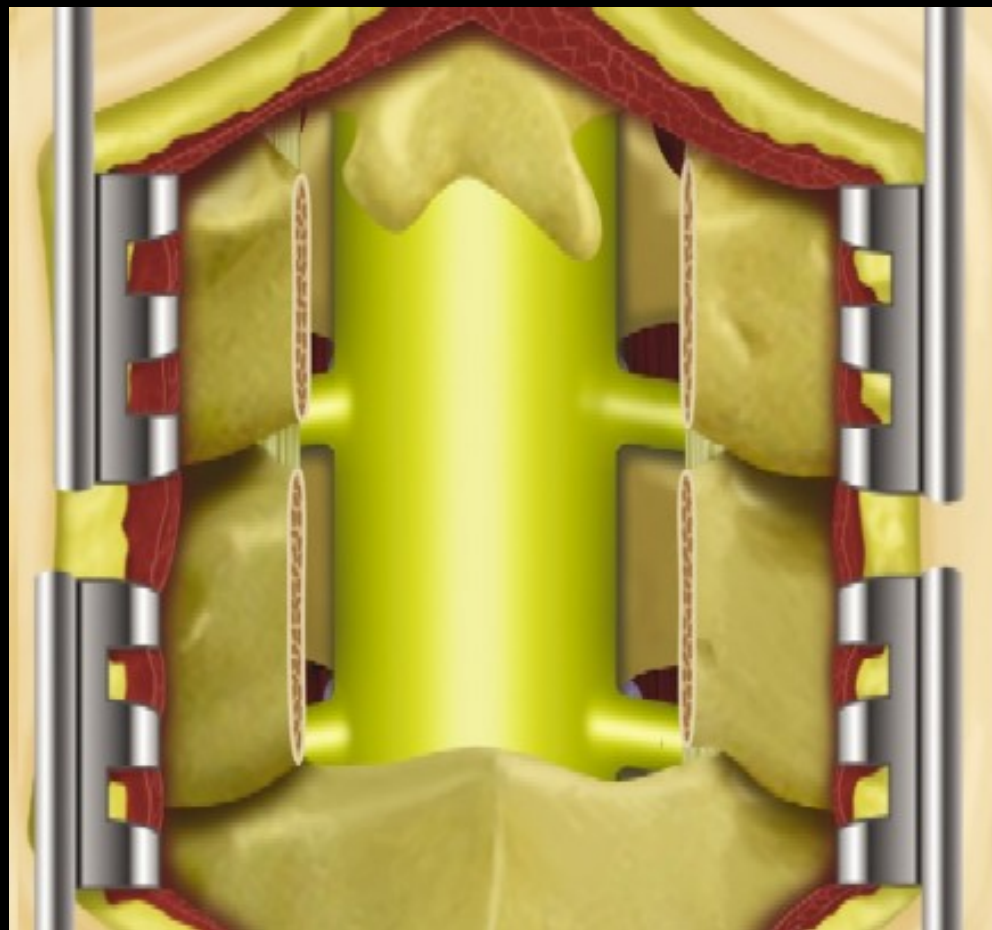
KRONISK / LANGSOM

- Lokale rygsmerter
- Radikulære smerter
- Paræstesier
- Spastisk parese
- Øget tonus
- Klonus
- Livlige reflekser
- Babinskis tåfænomen



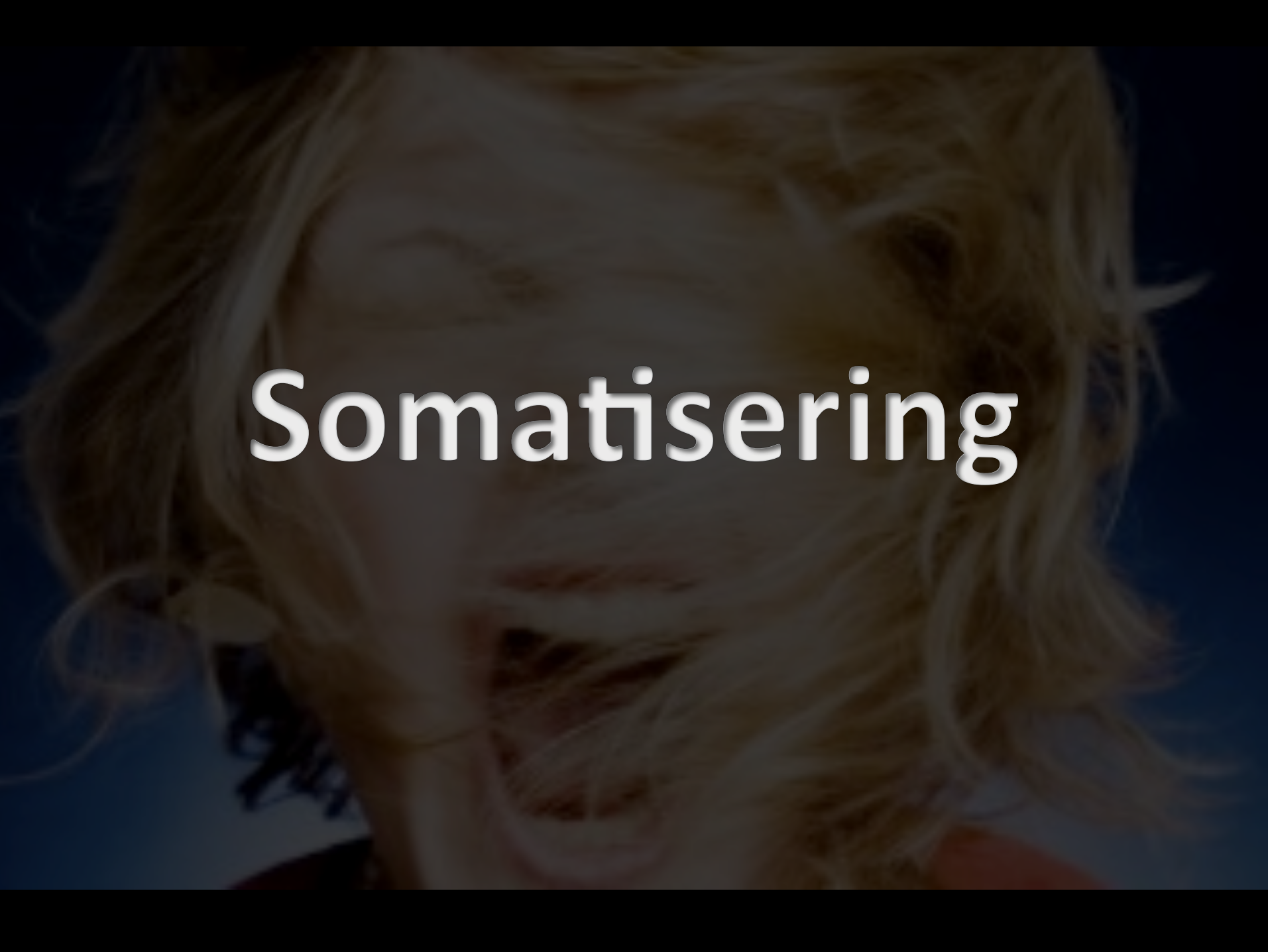
FRYKHOLM

- Bagre rodfrilægning
- Operasanger eller tidl ACIF
- T1 ved kort plumb hals
- Mikroskop





Spørgsmål?

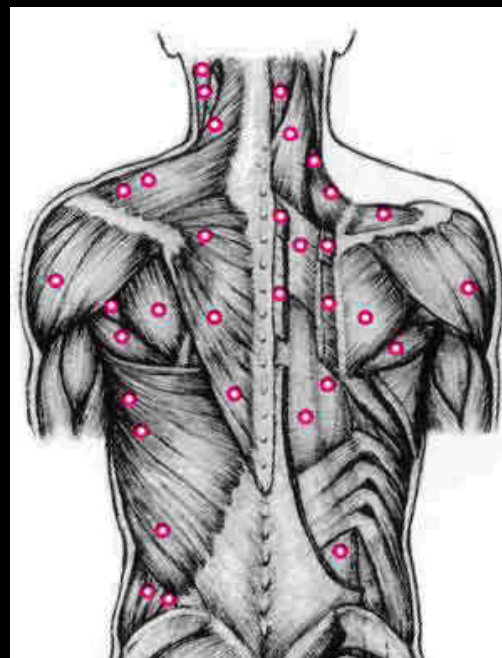
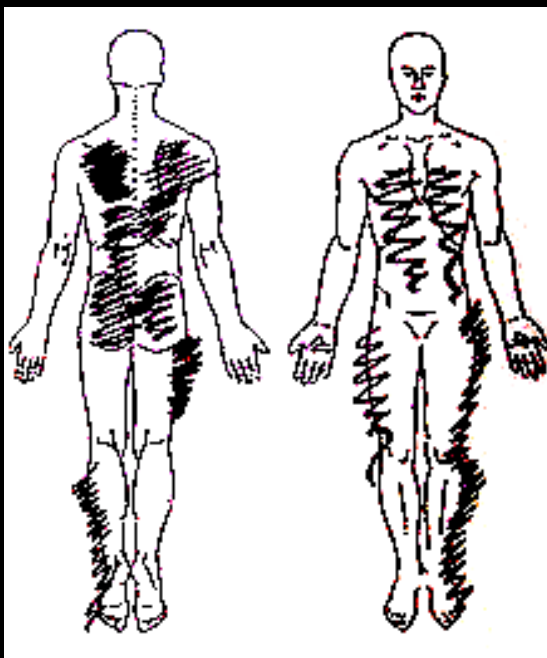
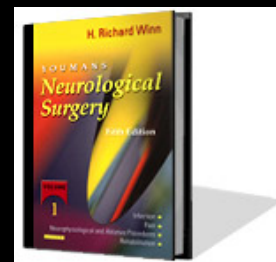


Somatisering

Smertebeskrivelse



VAS 12 24-7



Tabell 1 Eksempler på tilstander som ofte helt eller delvis betegnes som «funksjonelle somatiske lidelser»

Betegnelsen	Hovedsymptomer som presenteres når pasienten søker lege	Sekundærlinjetjeneste som pasienten vanligvis først henvises til
Irritabel tarm-syndrom Ikke-ulcusdyspepsi Matvareintoleranse Kronisk tretthetssyndrom	Magesmerter, løs mage eller forstoppelse, oppblåsthet, kvalme	Gastroenterologi
Utbrenthet Fibromyalgi	Utmattelse ved den minste fysiske eller psykiske anstrengelse Tap av energi og kreativitet; lei, dysforisk Smerter og ømhet i muskler, tretthet, konsentrasjonsproblemer	Polysymptomatologi Infeksjonsmedisin Generell indremedisin Revmatologi
Somatoform smertelidelse	Kroniske smerter som ikke lar seg forklare ut fra biologiske funn	Anestesiologi
Nakkesleng	Smerter i nakke; konsentrasjons- og hukommelsessvikt	Nevrologi (Nevrokirurgi, Revmatologi, Ortopedi)
Vertigo Afoni Kroniske underlivssmerter Ikke-kardiale brystmerter Multippel kjemisk hypersensitivitet Hyperventilasjonssyndrom	Svimmelhet uten sikre funn Kan ikke snakke Smerter i underliv/bekken; smerter ved samleie Smerter og trykk/ømhet i brystkassen; pustebesvær Overfølsomhet for matvarer, stoffer i omgivelsene	Øre-Nese-Hals Nevrologi Gynekologi Kardiologi Allergologi
Funksjonelle kjeveplager Amalgamsyke Hypokondri	Rask overflatisk pust; tungpusten; trykk for brystet; parestesier Smerter i kjeve Diverse generelle plager	Lungemedisin Odontologi
Dissosiativ motorisk eller sensorisk lidelse («konversjonslidelse»)	Sykdomsangst; oftest kreft eller annen dødelig sykdom (eks. HIV, amyotrofisk lateralsklerose) Bortfall av sensoriske (f.eks. tap av hudfølelse) eller motoriske (f.eks. lammelser) funksjoner uten nevrologiske funn eller pseudoepilepsi	Indremedisin Nevrologi Psykiatri Nevrologi

BEVIDST ELLER UBEVIDST PRÆSENTATION

- Overdriver sygehistorien (inkl. smerterne)
- Symptomfiksering
- Atypisk symptombeskrivelse
- Overdriver medicinforbruget
- Overdriver udfald – kan ofte afledes
- Underdriver funktionsniveauet

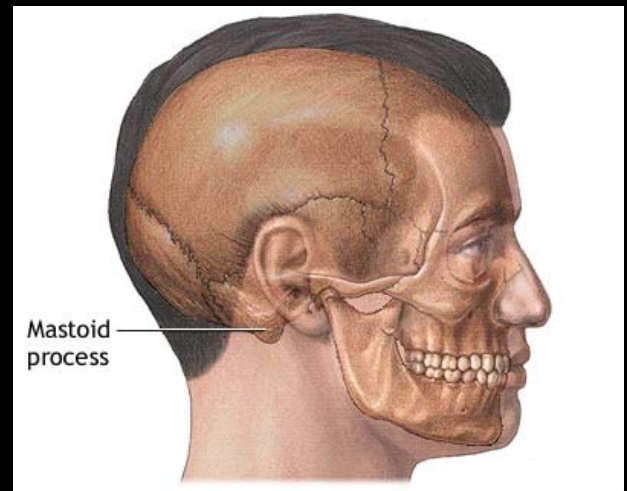
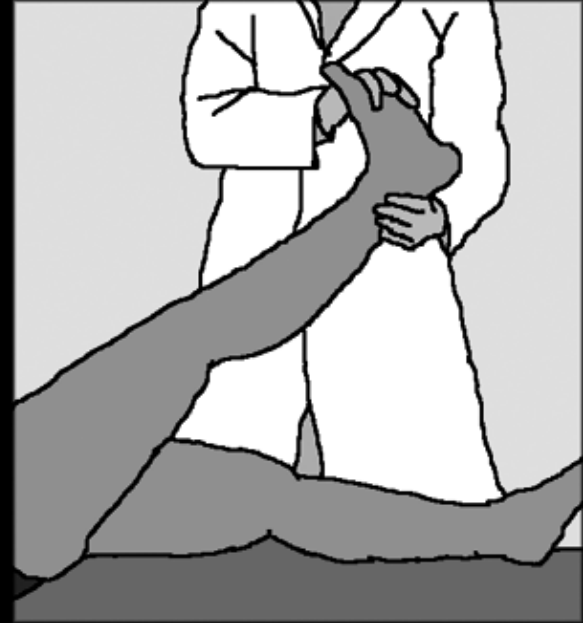
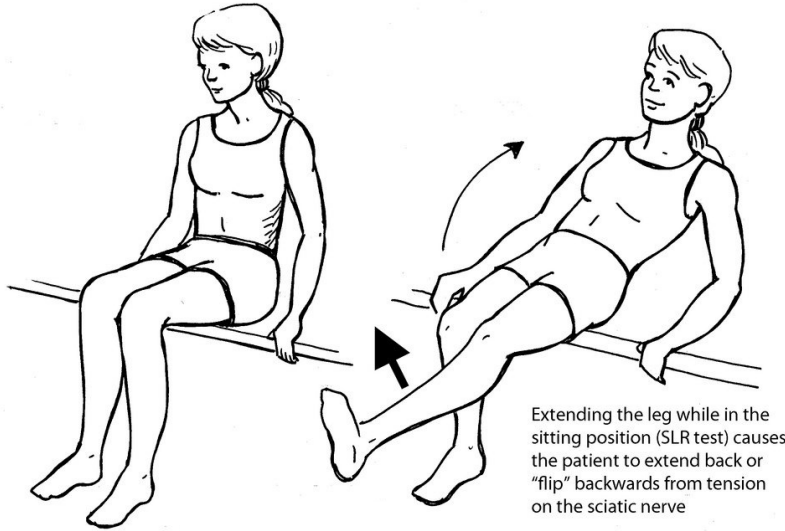
Somatisering

Non-organiske tegn

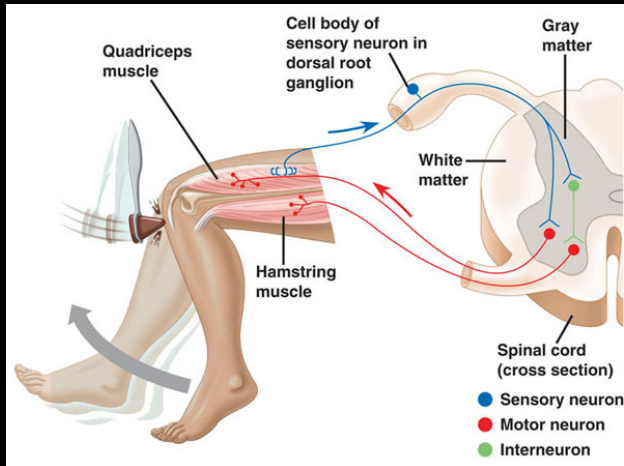
- Smerter i hele benet
- Følelsesløshed i hele benet
- Fornemmelse af at benet giver efter
- Smerter ved spidsen af halebenet
- Intolerans for tidligere behandlinger
- Ingen smertefri perioder
- Tidligere akutte indlæggelser for lænderygsmerter
- Udbredt ømhed ved berøring
- Forværring af lændesmerterne ved let kranial kompression
- Forværring af lændesmerterne ved rotation af truncus og bækken én bloc
- Strakt benløft test forbedres ved afledning
- Hørlig klagen og grimassen
- Tager sig til ryggen
- Brug af gangredskaber uden indlysende grund

Smerteprovoakation

Positive Flip Test



Funktionstestning

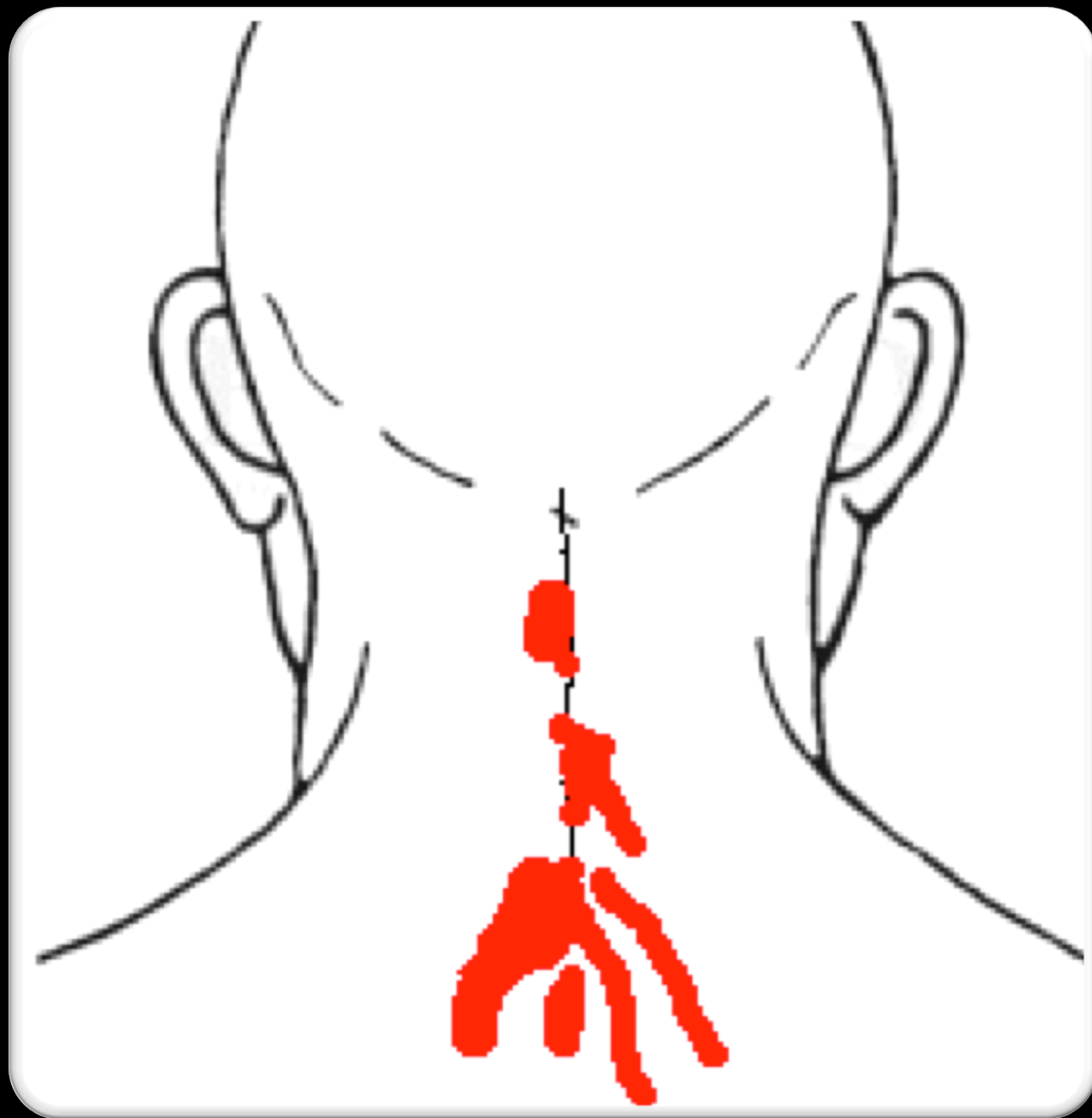


Komplikationen

Postoperativ fase

- Karskade: hæmatom
- Smertebehandling
- Nerveskade
- Duralæsion





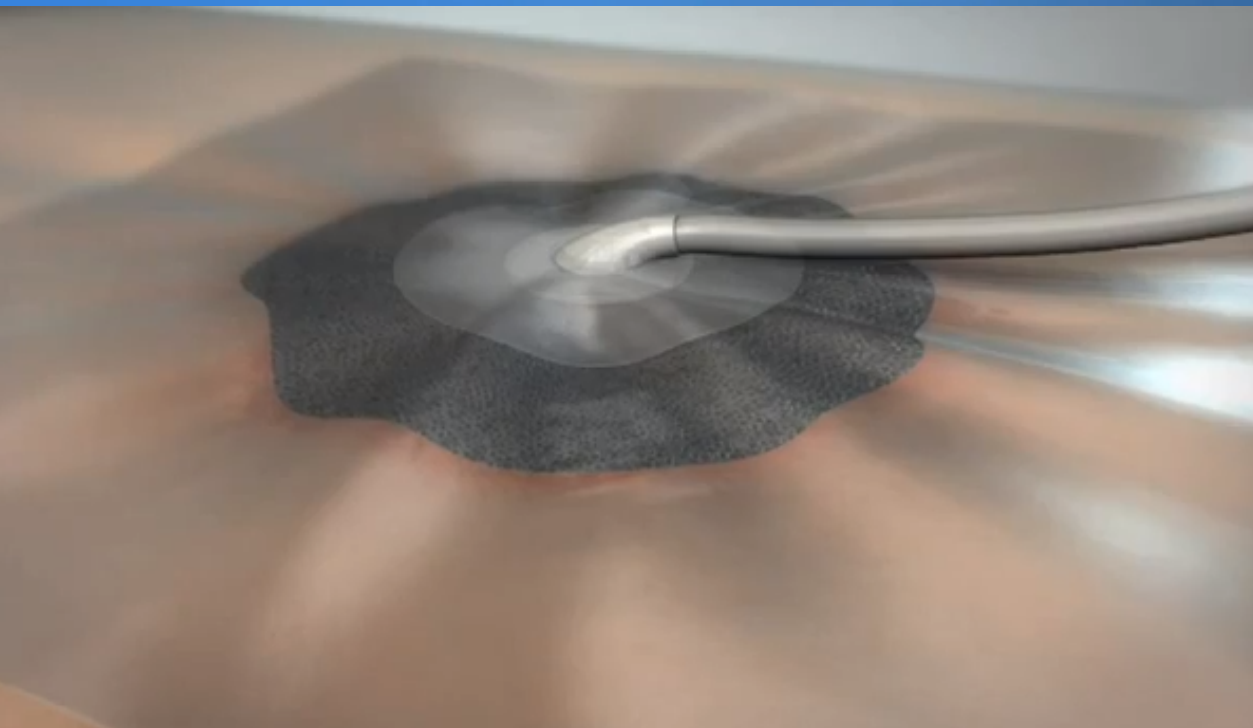
SYGEPLEJE TIL DEN NYOPEREREDE

- Accelererede patientforløb med tværfaglig indsats via INFORMATION, tidlig mobilisering og medinddragelse af patienten
- Observation for nytilkomne neuroudfald (lægekald) – parese eller paralyse
- Hæmatomdannelse: overfladisk eller dybt?
- Drænproduktion – obs. durarift!
- Kontinuerlig VAS-scoring. Obs: vægt, erfaring, misbrug, angst, neurogen type, anden lejring, posterior adgang
- POUR: blærefyldningsfølelse? SIK
- TL ved durarift
- Ernæring så hurtigt som muligt – dysfagi? faste?

- ACIF: vejrtrækning, SAT, dysfagi, hæshed, manglende stemmestyrke – sikre frie luftveje
- LAMINEKTOMI: liquor? Hovedpine?



vac.therapy
KCI Healing by design



Naropin

- Ved afslutningen af de bagre lumbale indgreb anlægges evt. lokalbedøvelse med 20-40 ml af stoffet Naropin (ropivacaine) over og under muskelfascien
- Noget af bedøvelsen kan løbe ned til durasækken og give en midlertidig "epidural anæstesi" med lammelse i ben
- Halvveringstiden er ca. 6 timer, så hvis der ikke er sket en markant bedring af den motoriske funktion i løbet af 6 timer efter blokaden anbefales akut CT skanning for at udelukke hæmatom
- Hellere een CT-skanning for meget end een for lidt. Lad tvivlen komme patienten til gode.

DVT

- Asymptomatisk
- Smerter i benet
- Rødme
- Hævelse
- Feber
- D-dimer
- Ultralyd



Lungeemboli

SYMPTOMER

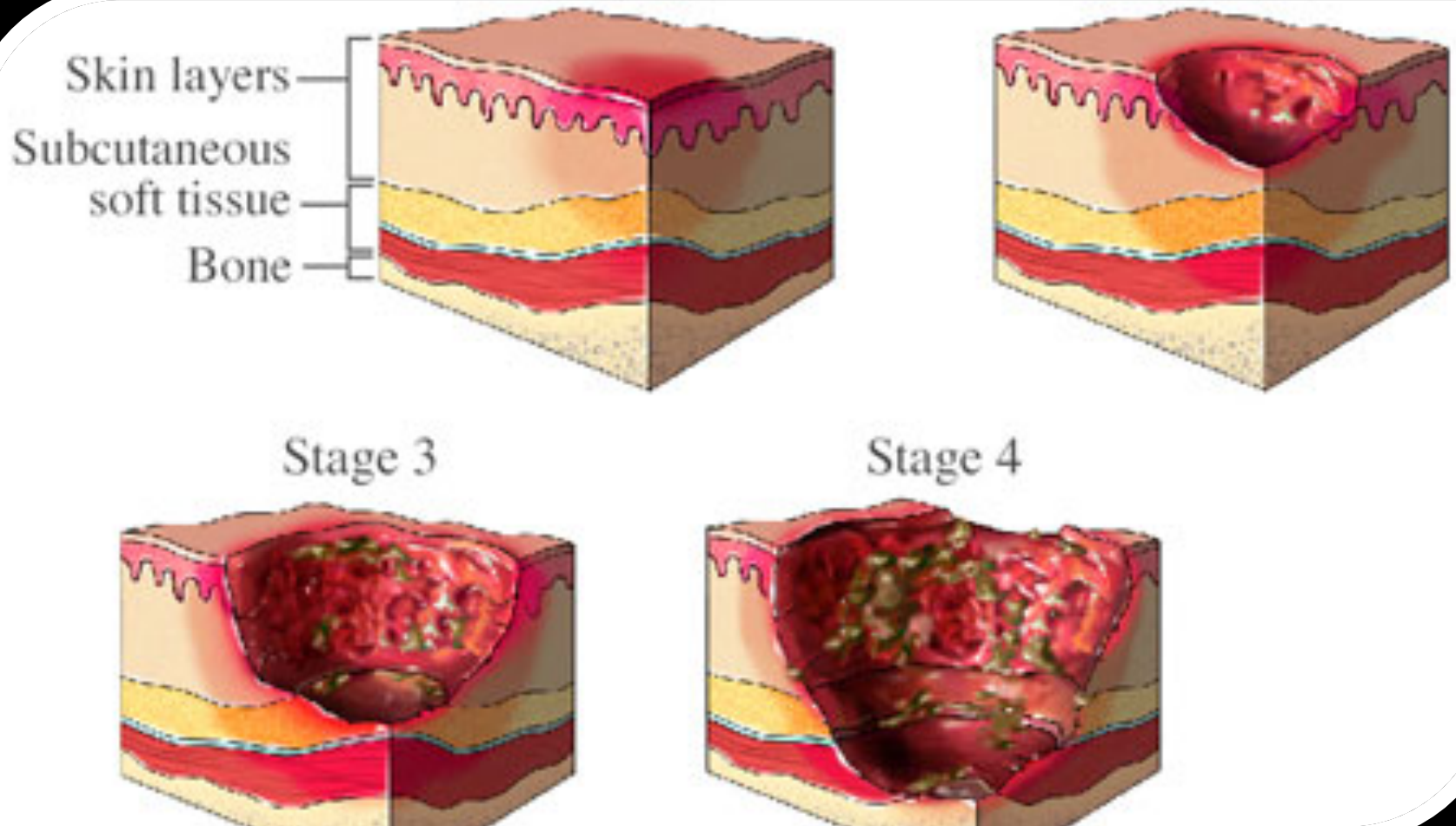
- (Lægømhed)
- Åndenød
- Svimmelhed
- Hoste evt. blodig
- Brystsmerter
- Synkope
- Takykardi
- Svedtendens

RISIKOFAKTORER

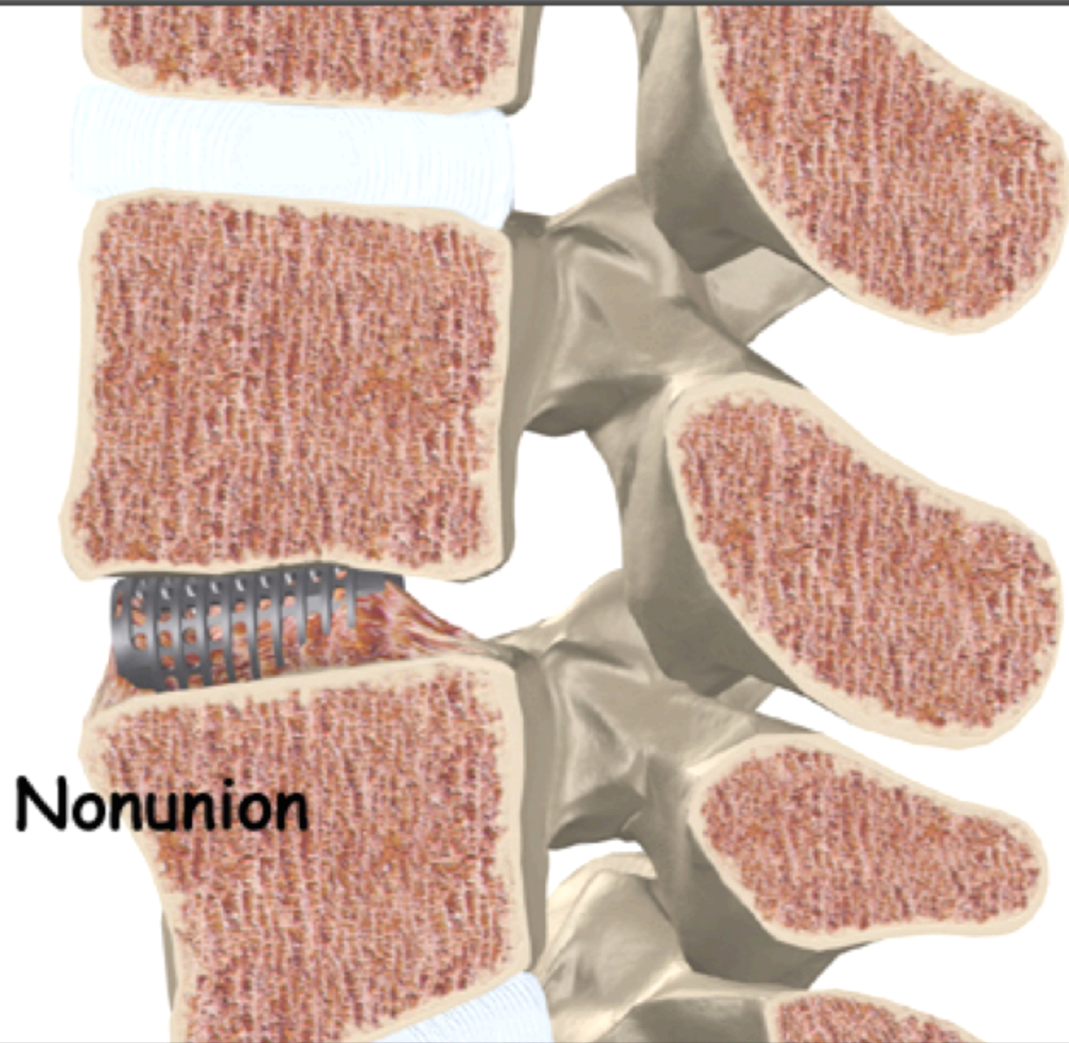
- Tidligere DVT
- Hjertesvigt
- Overvægt
- Graviditet
- Sengeleje
- P-piller
- Cancer
- Arvelige blodsygdomme



Tryksår

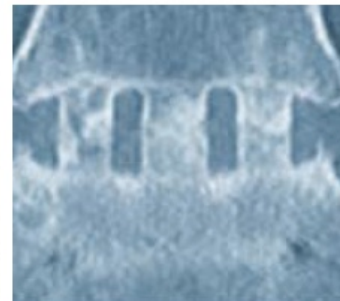
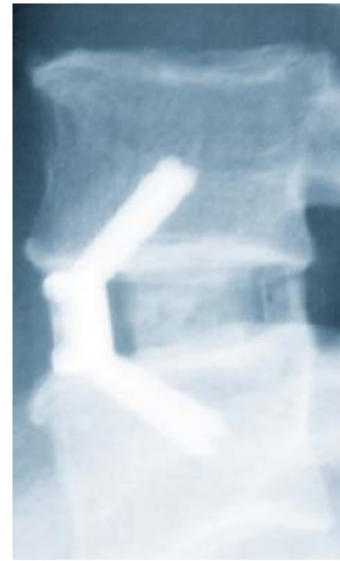
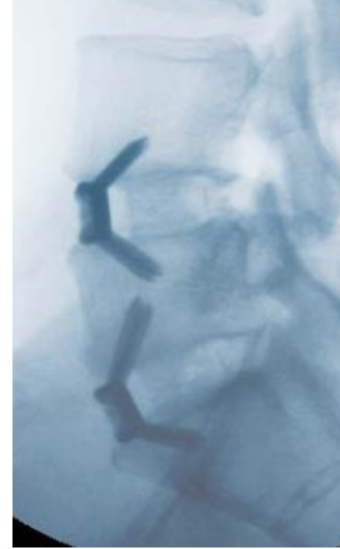


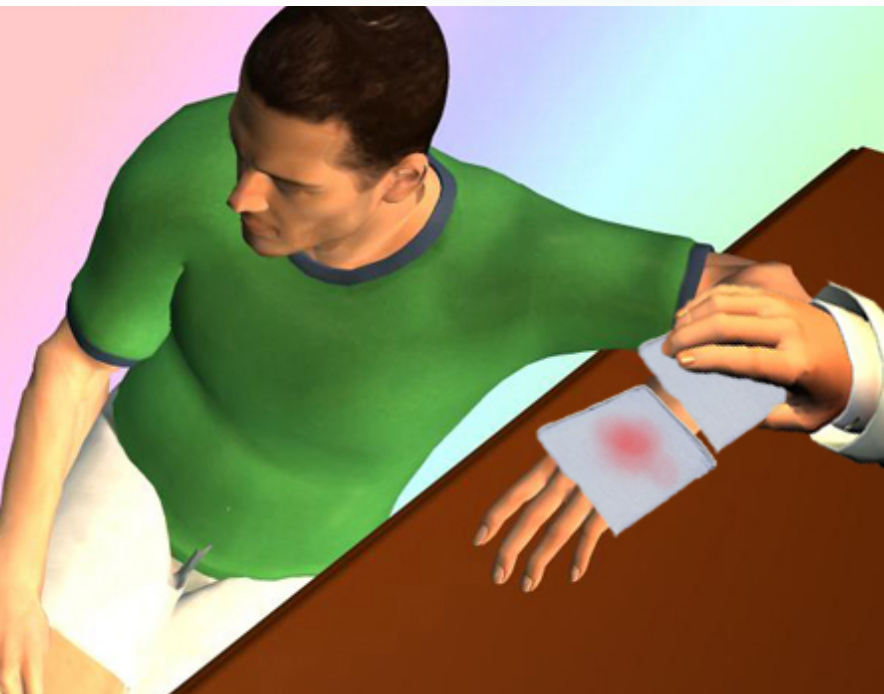
Pseudoarthrose

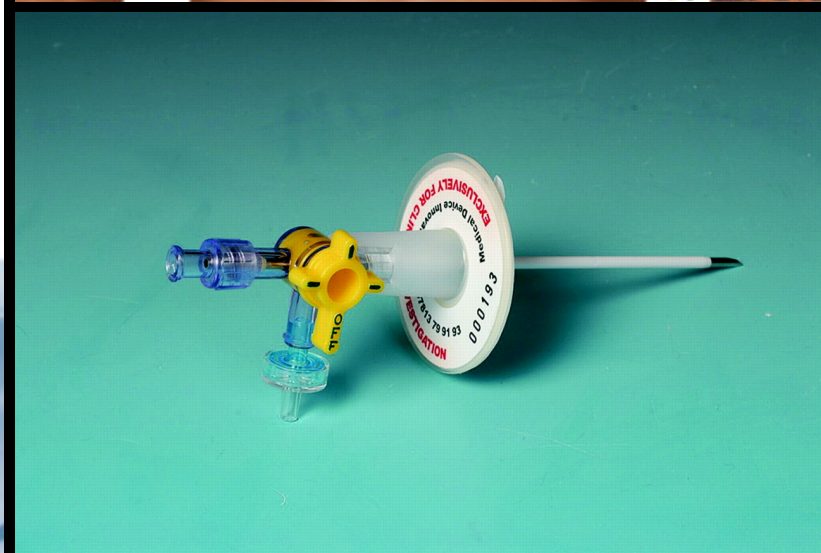
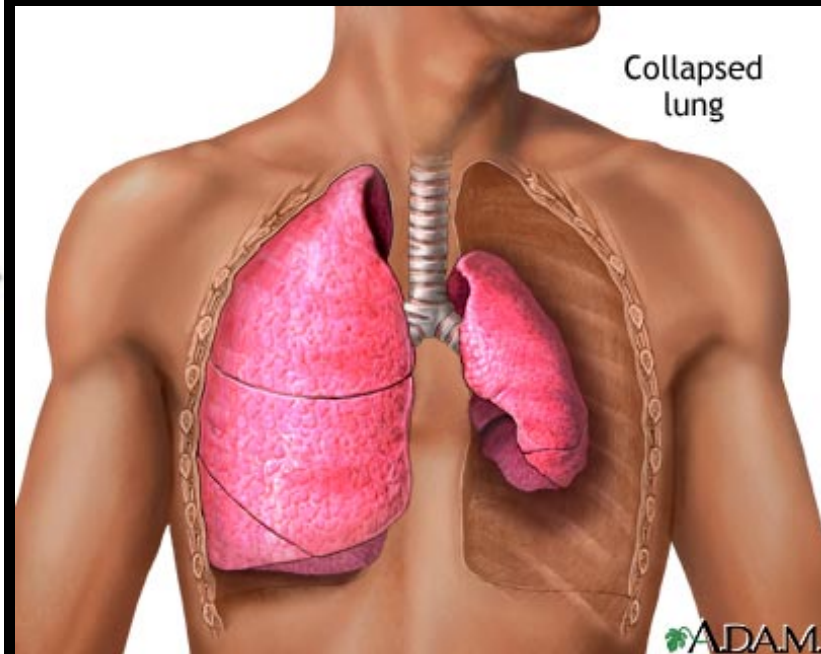
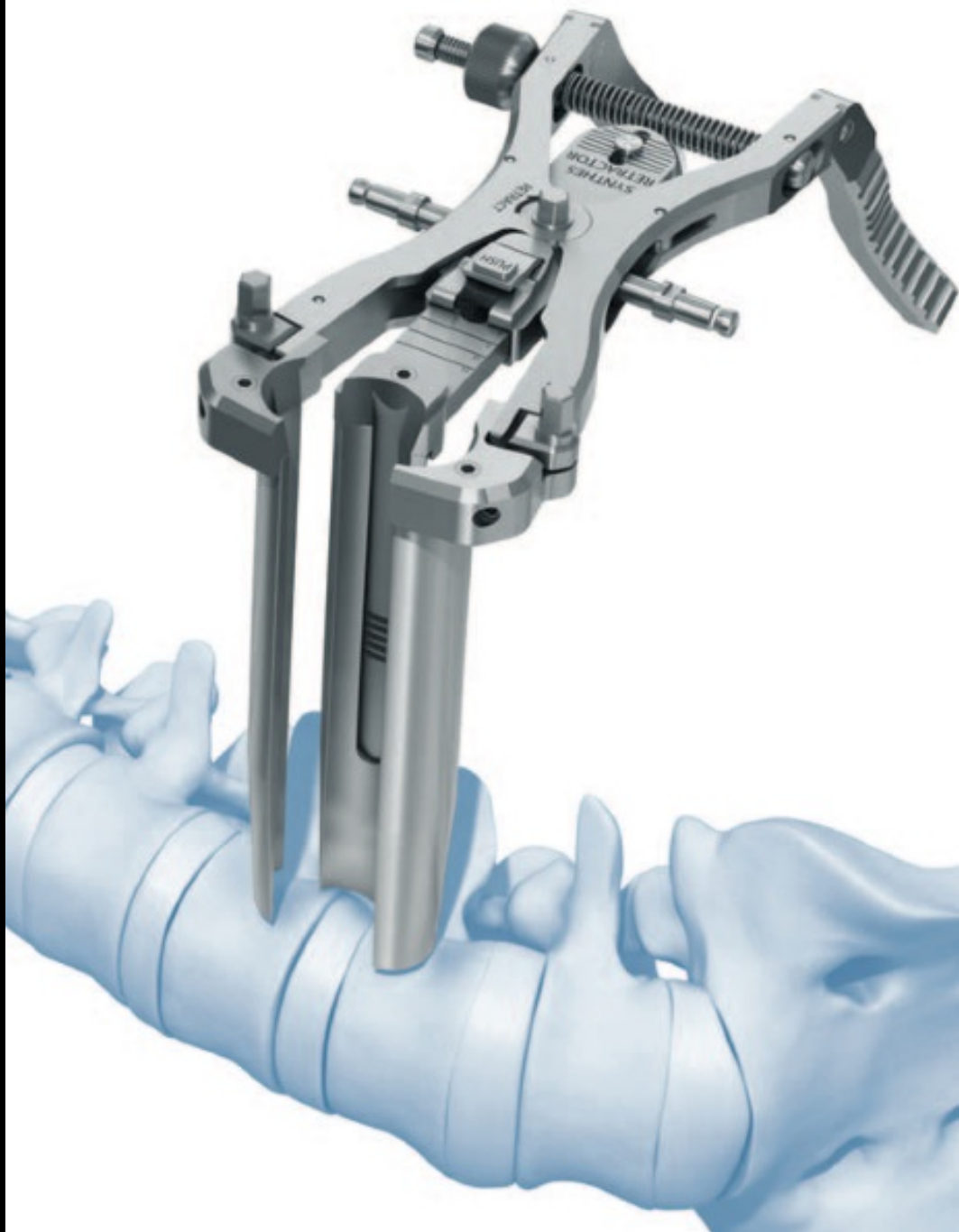


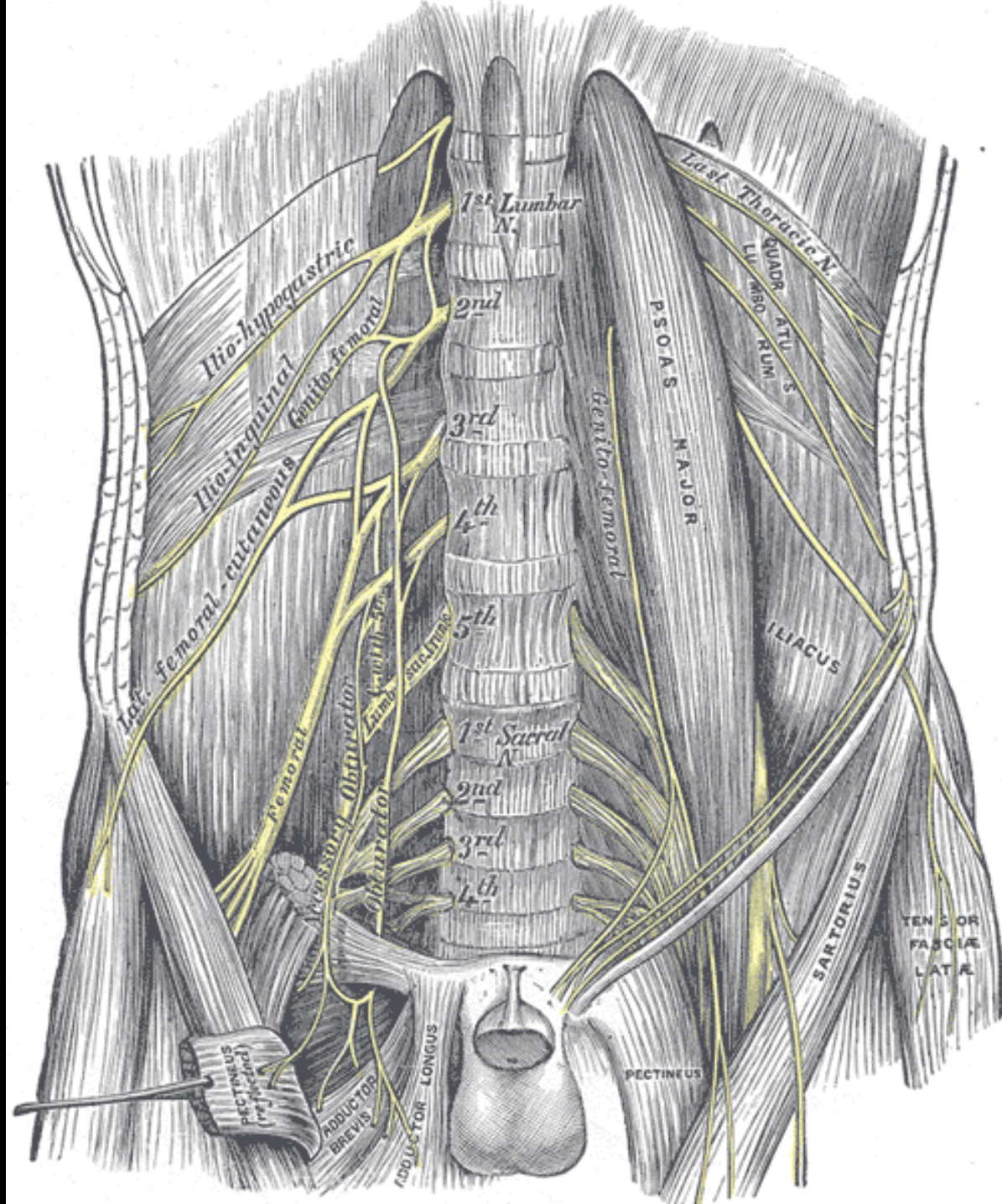
ALIF

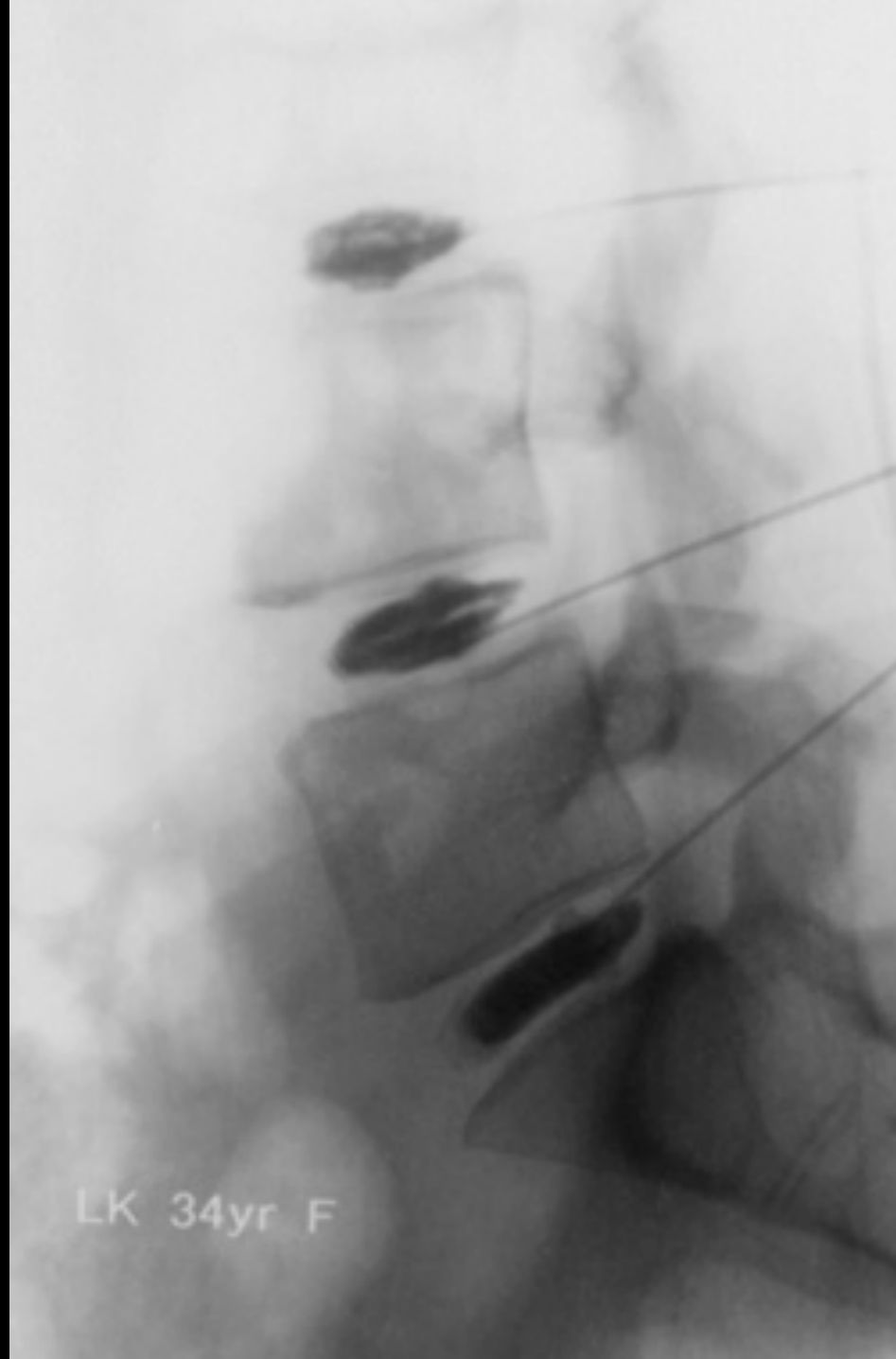
SHOCK





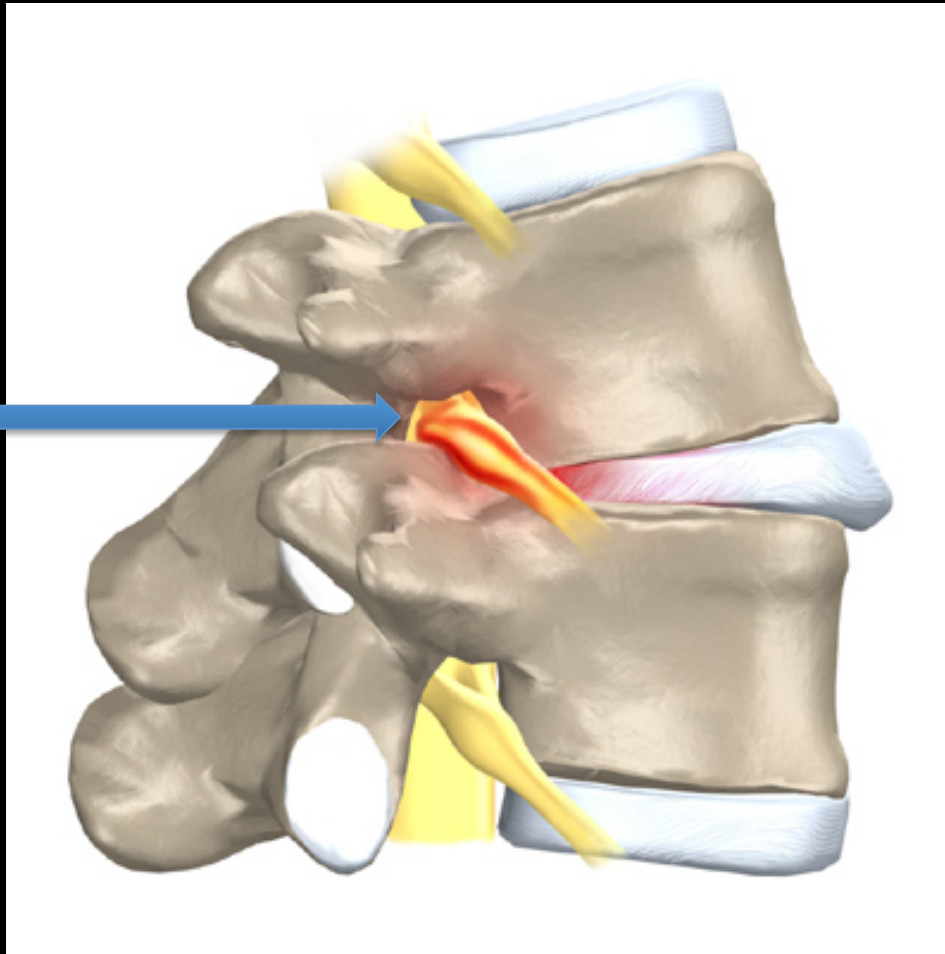


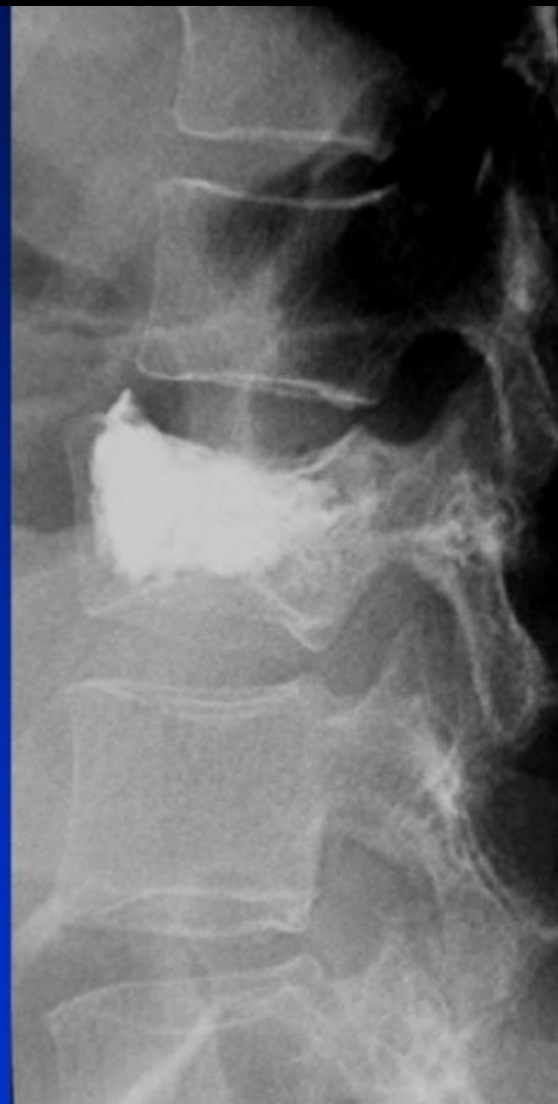




LK 34yr F

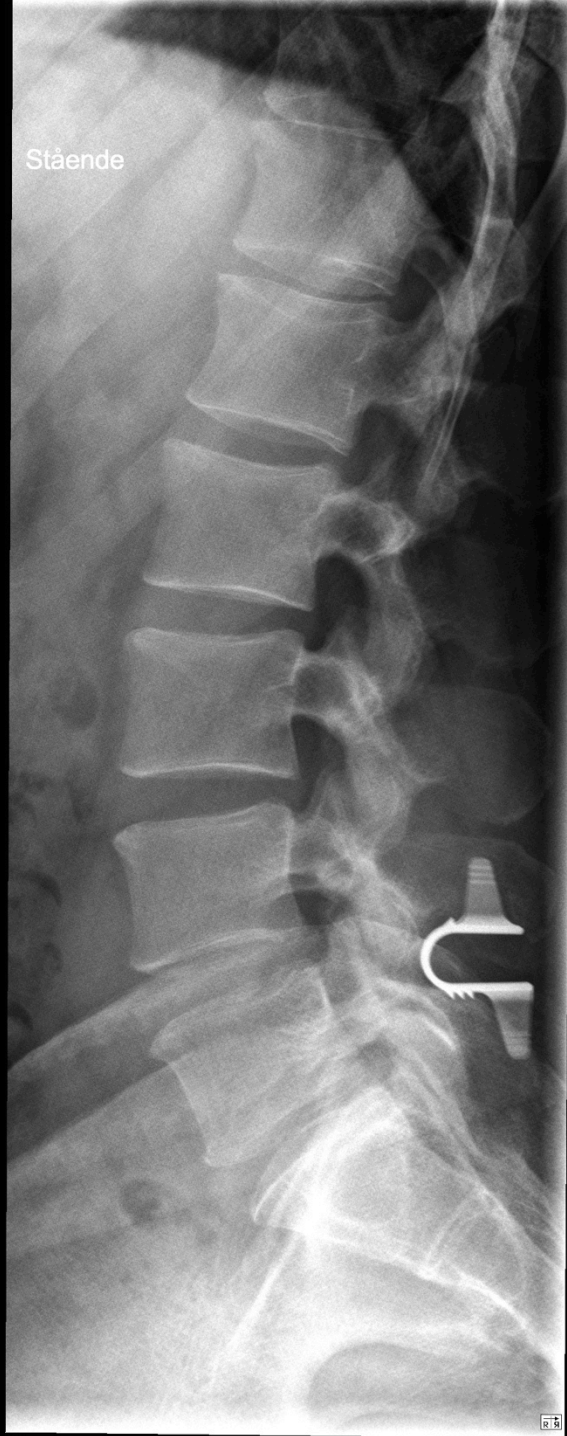
Blokade af nerverod eller facetled



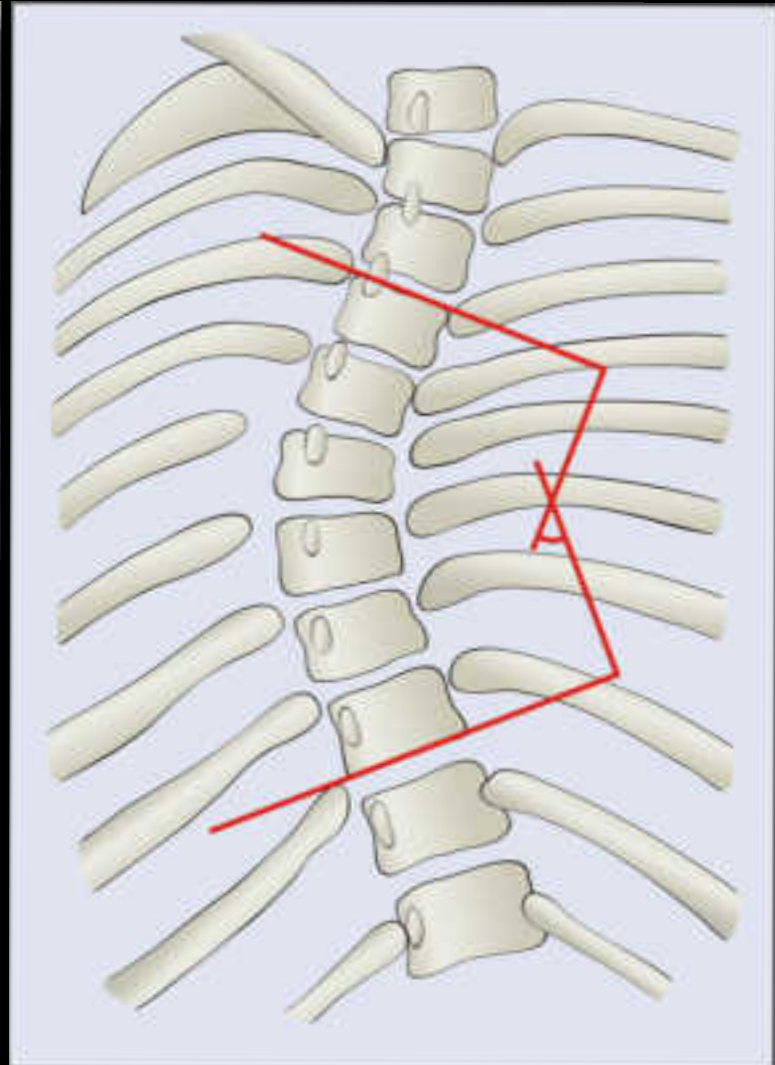


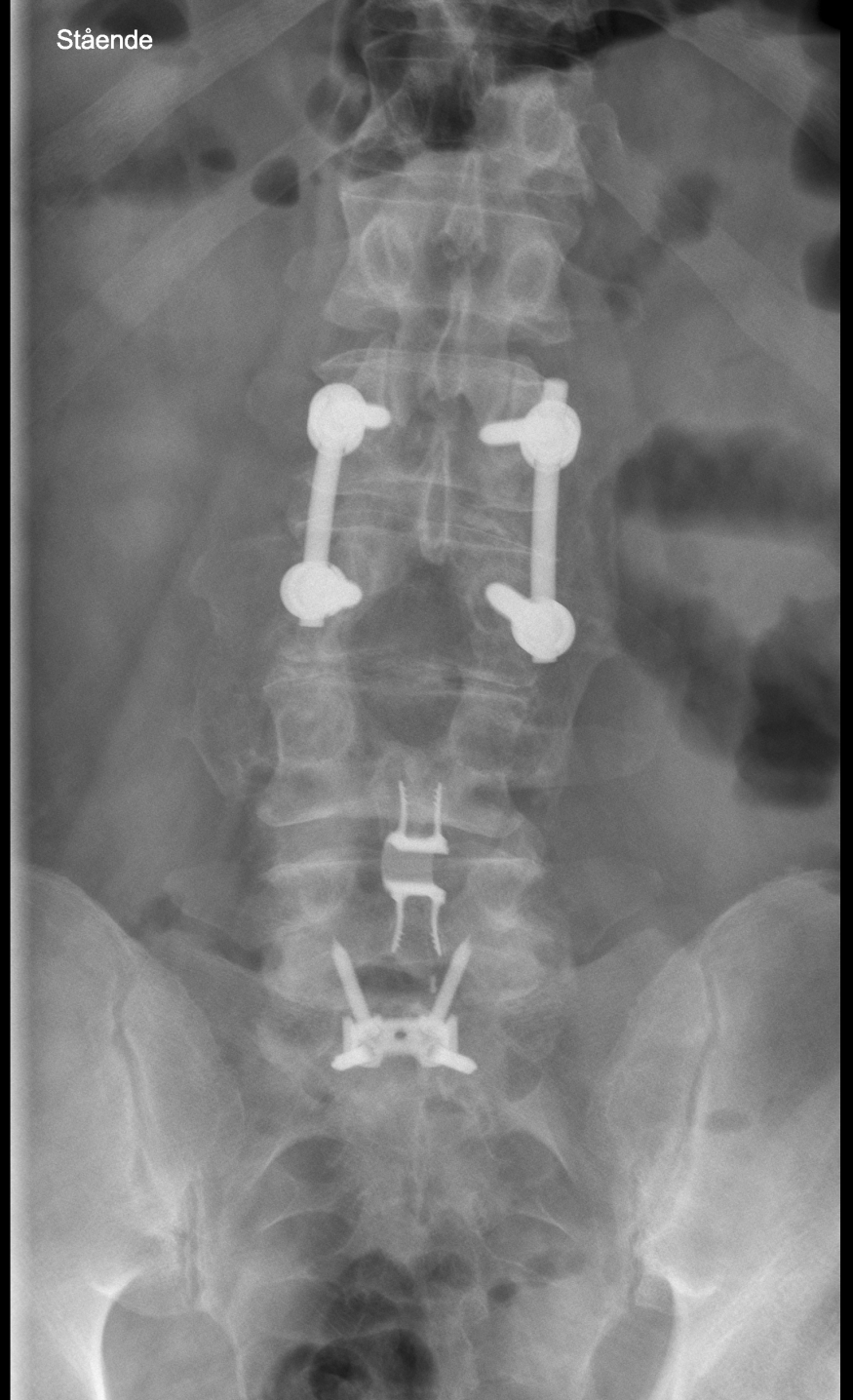
Radiologi

Stående

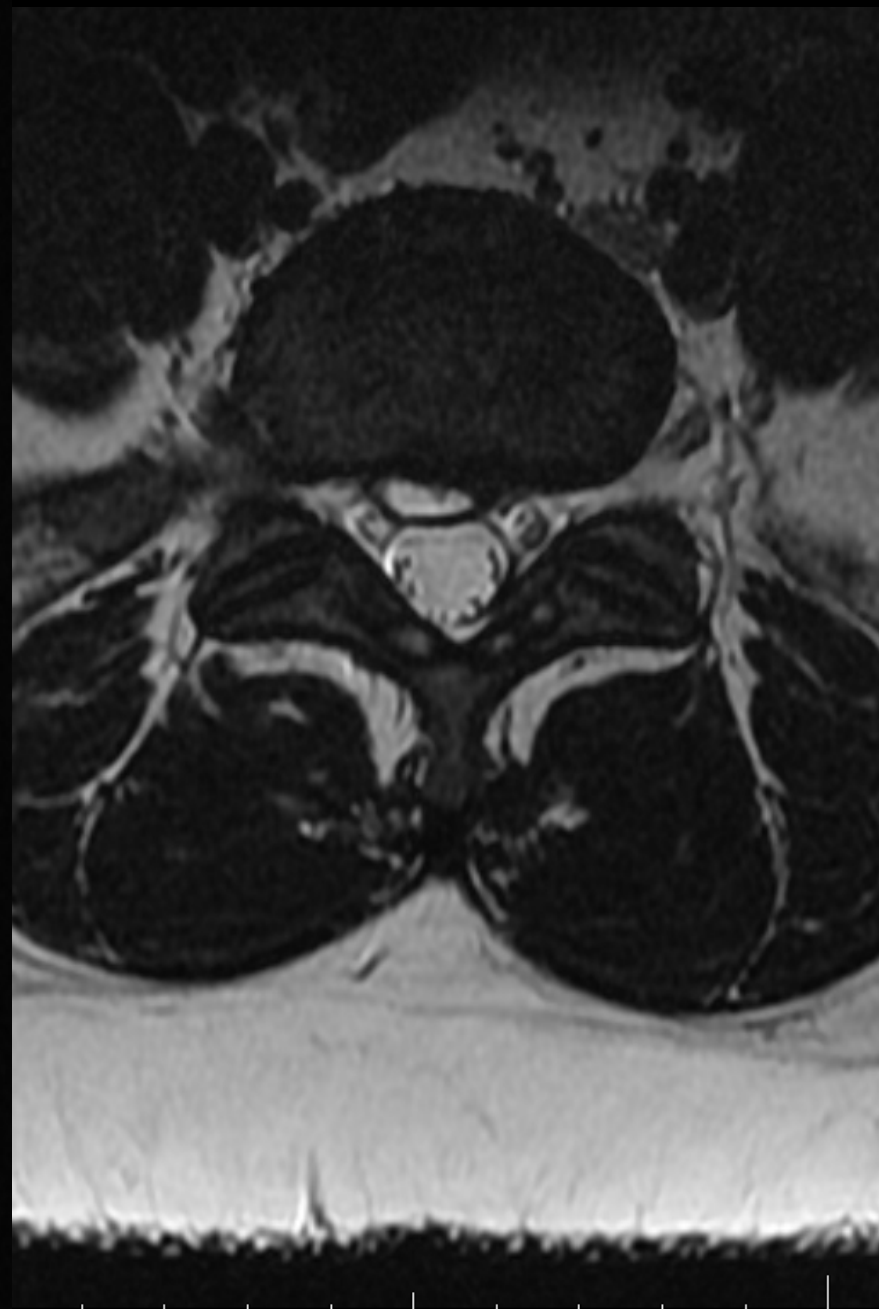
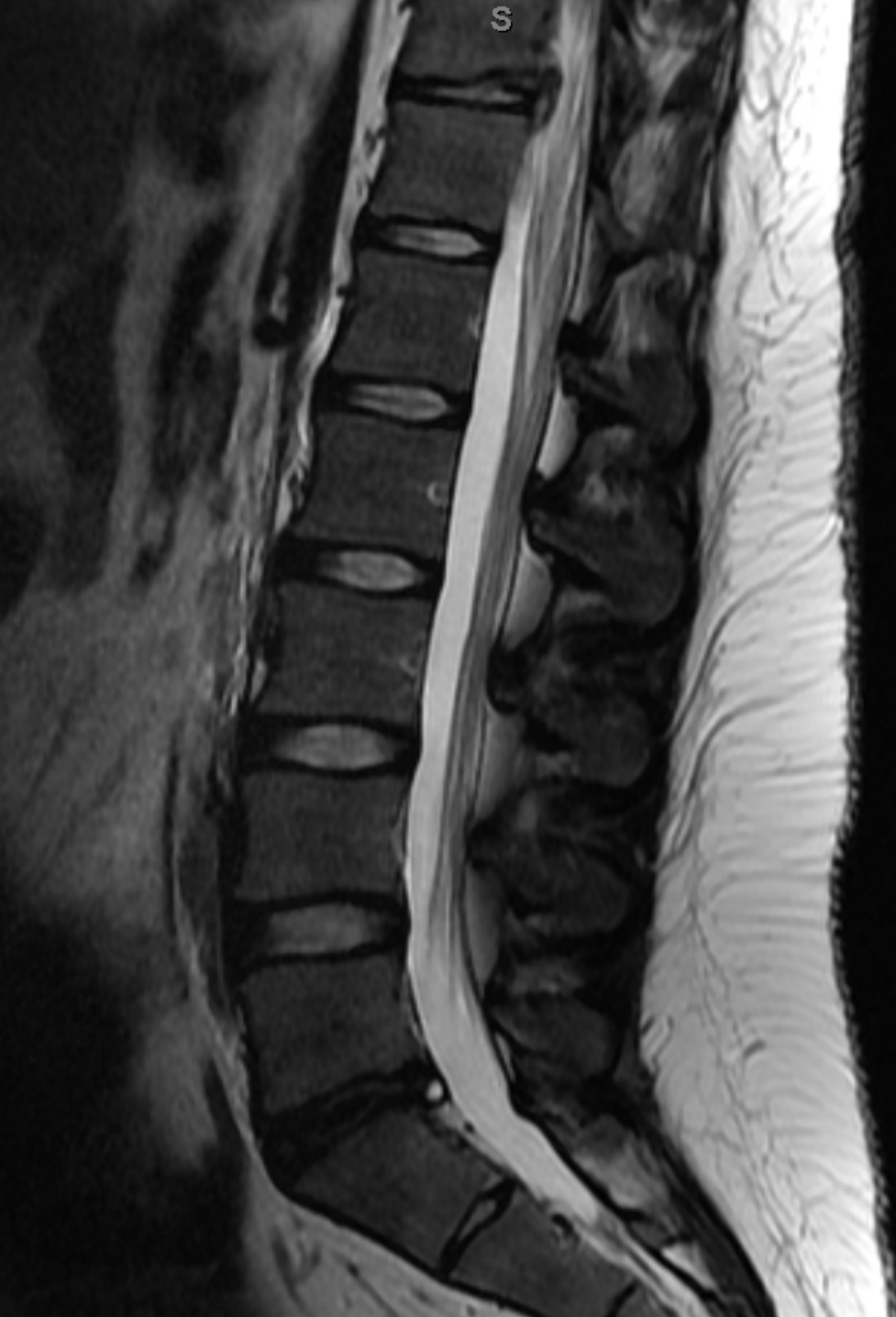


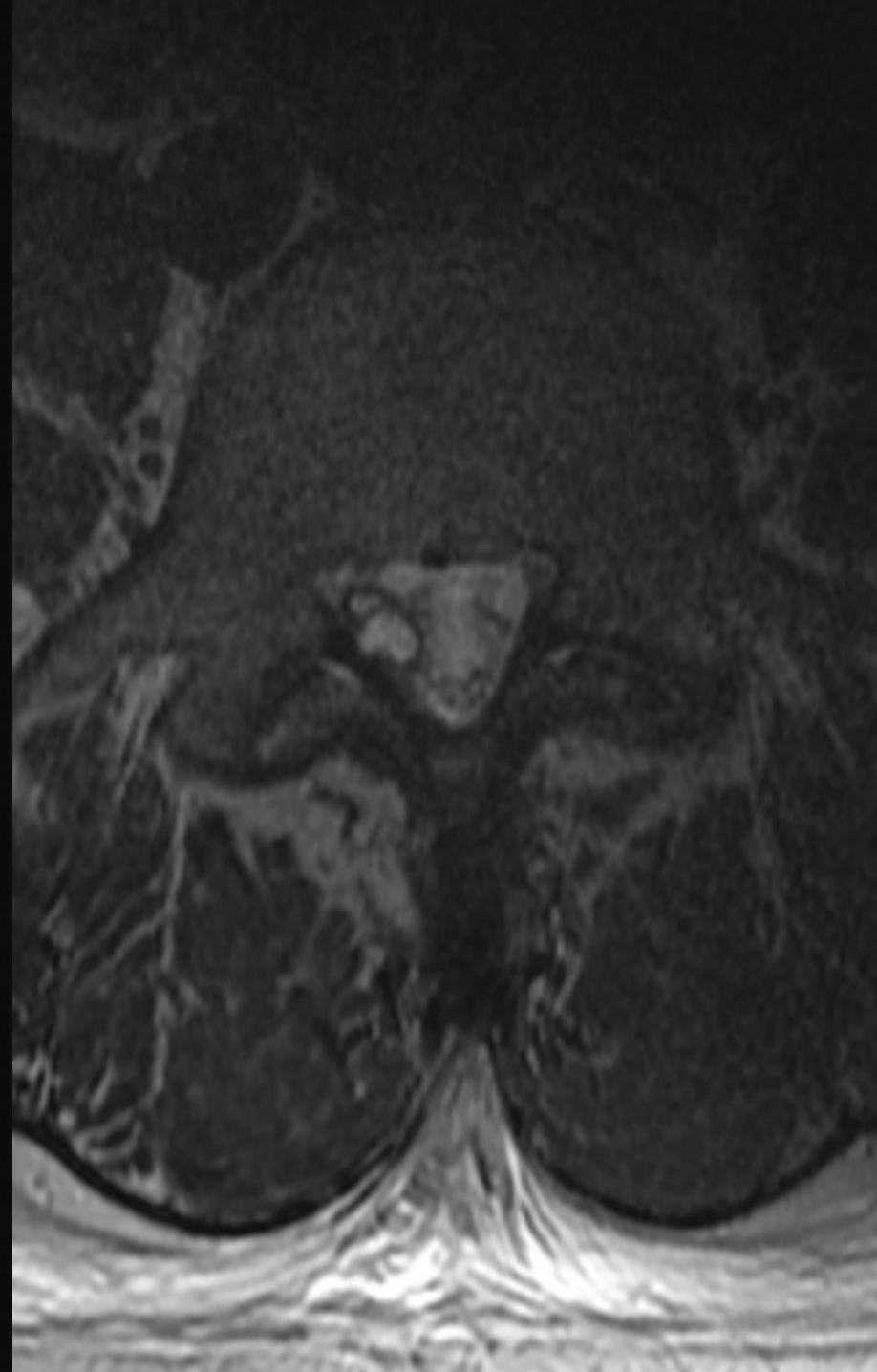
Cobb's angle



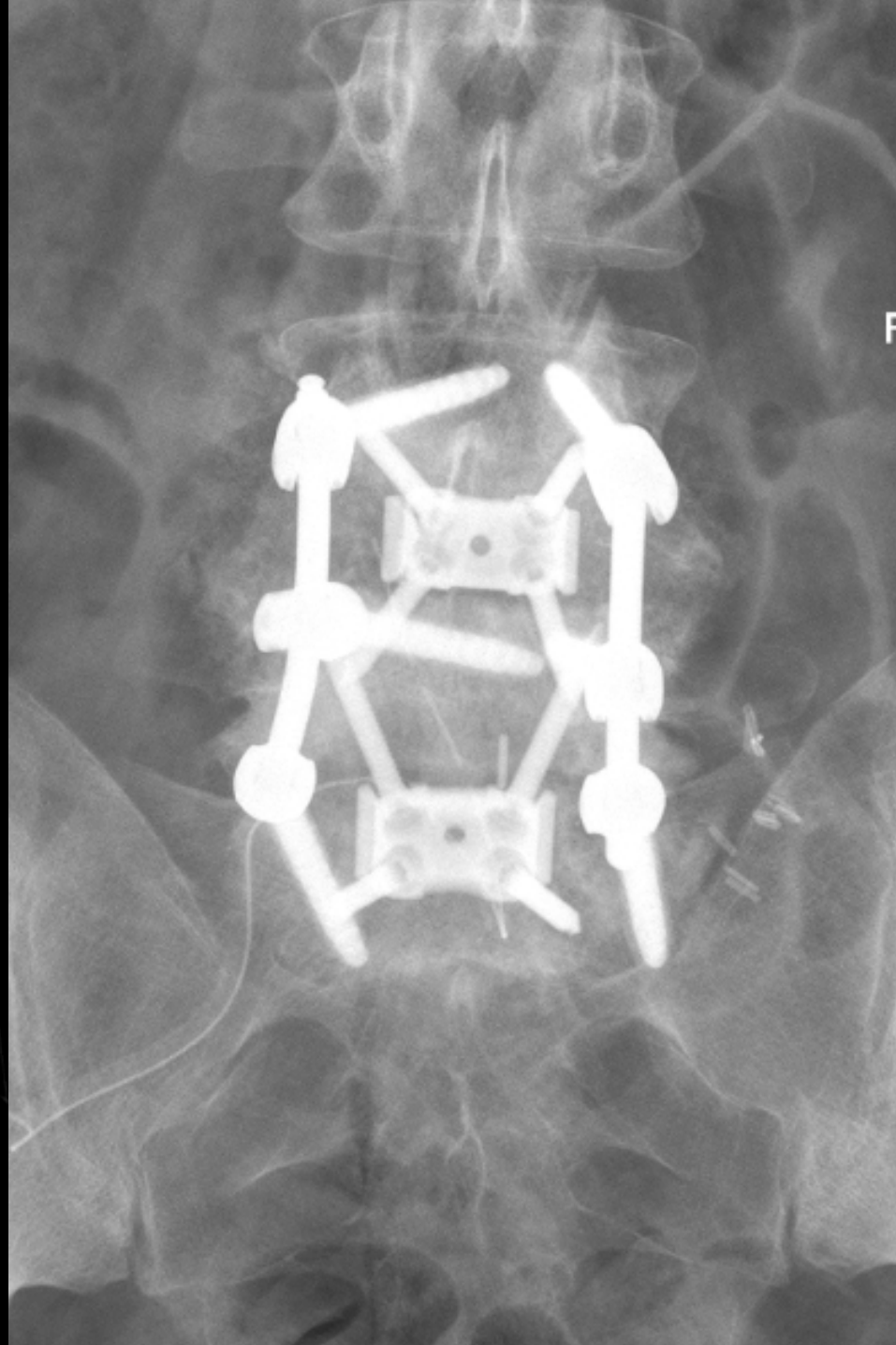


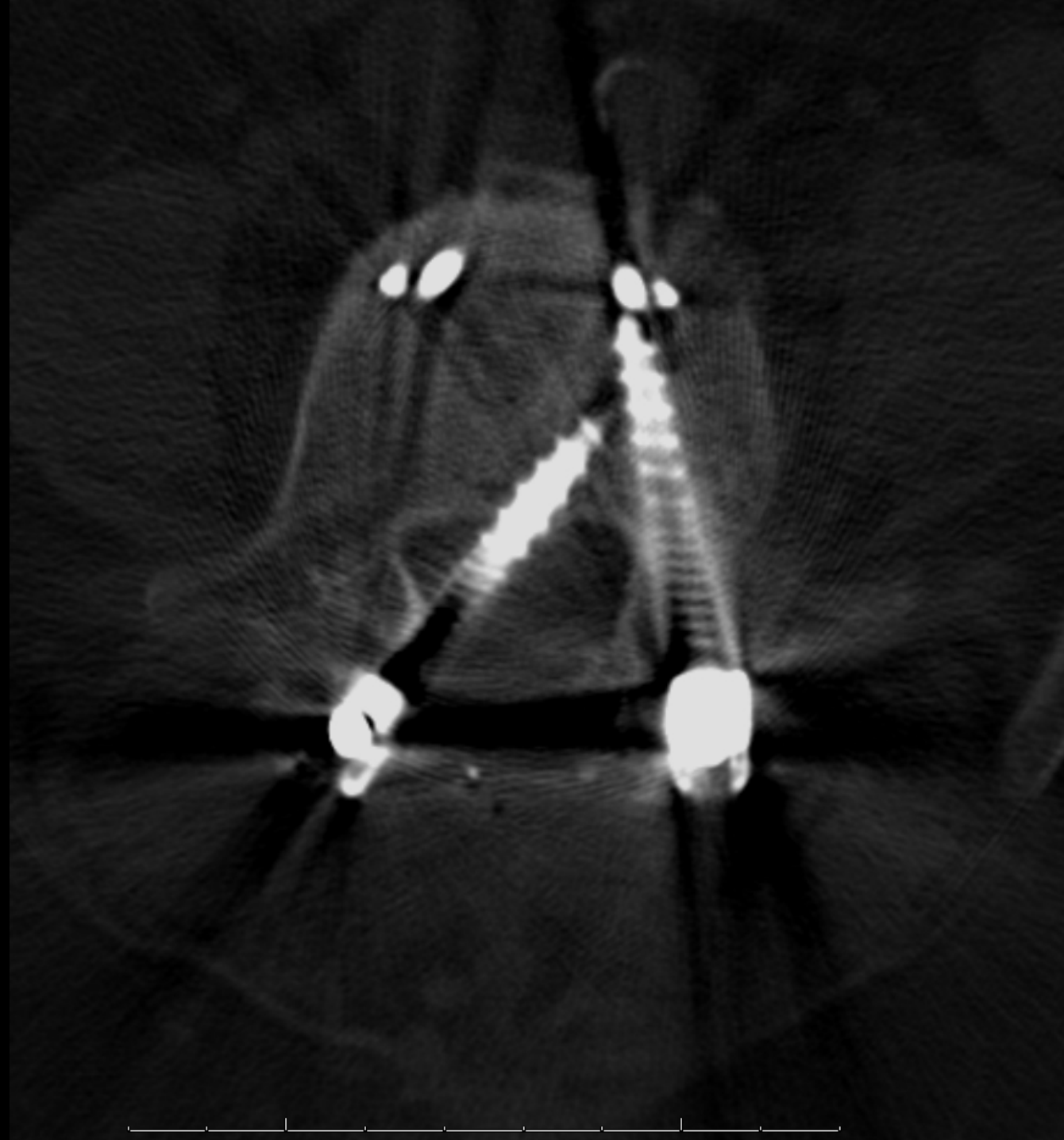


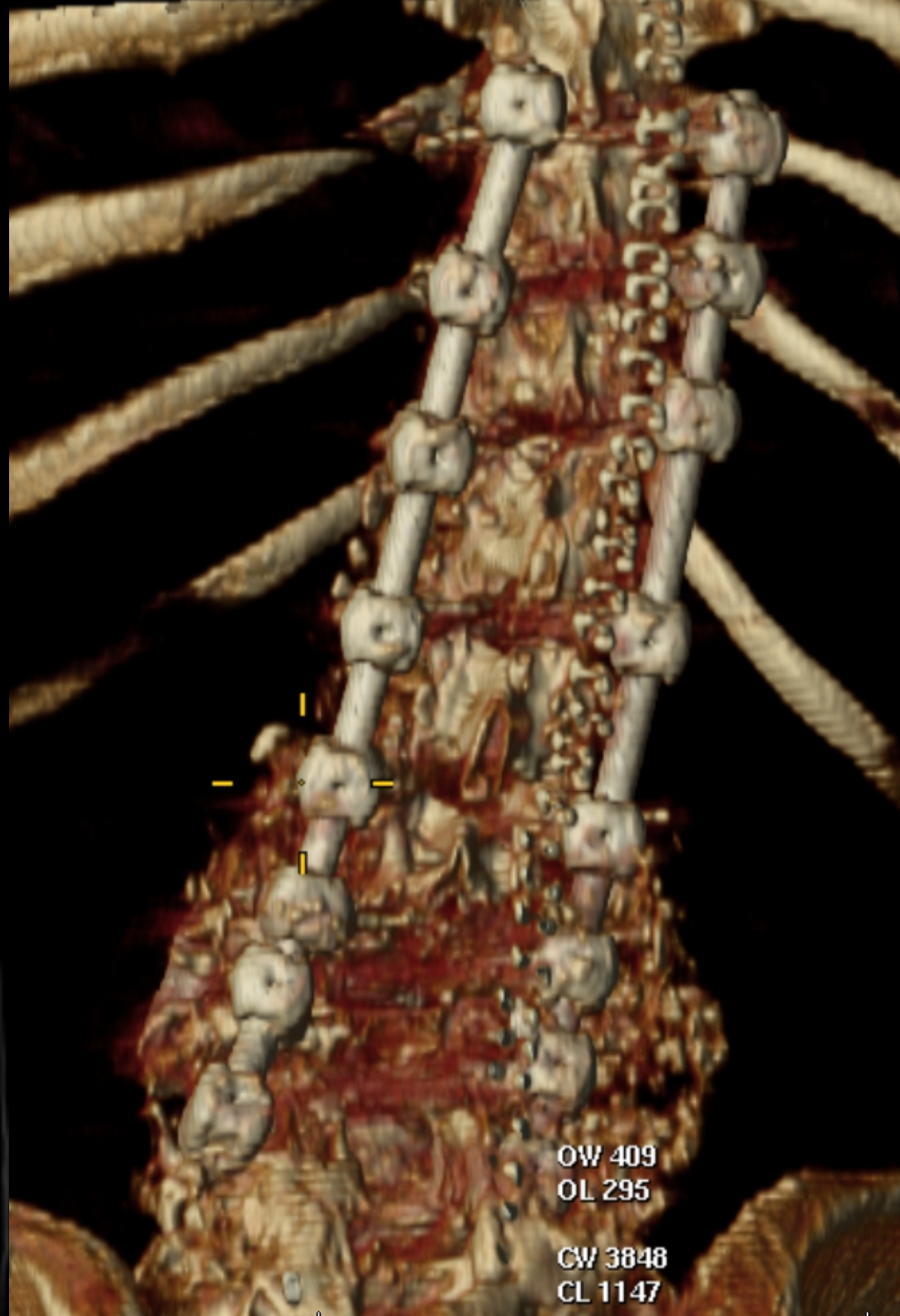




Liggende







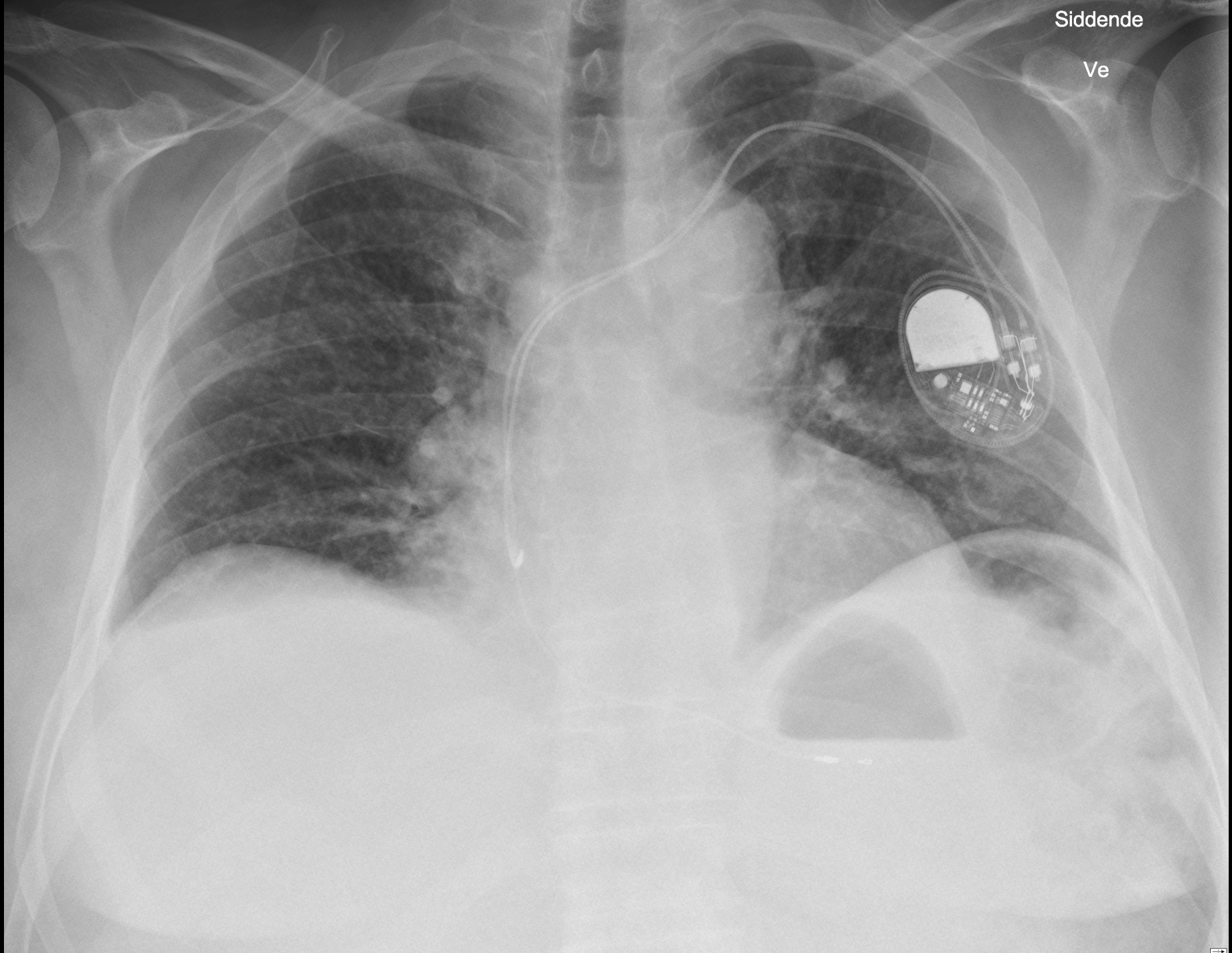
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CL 1147



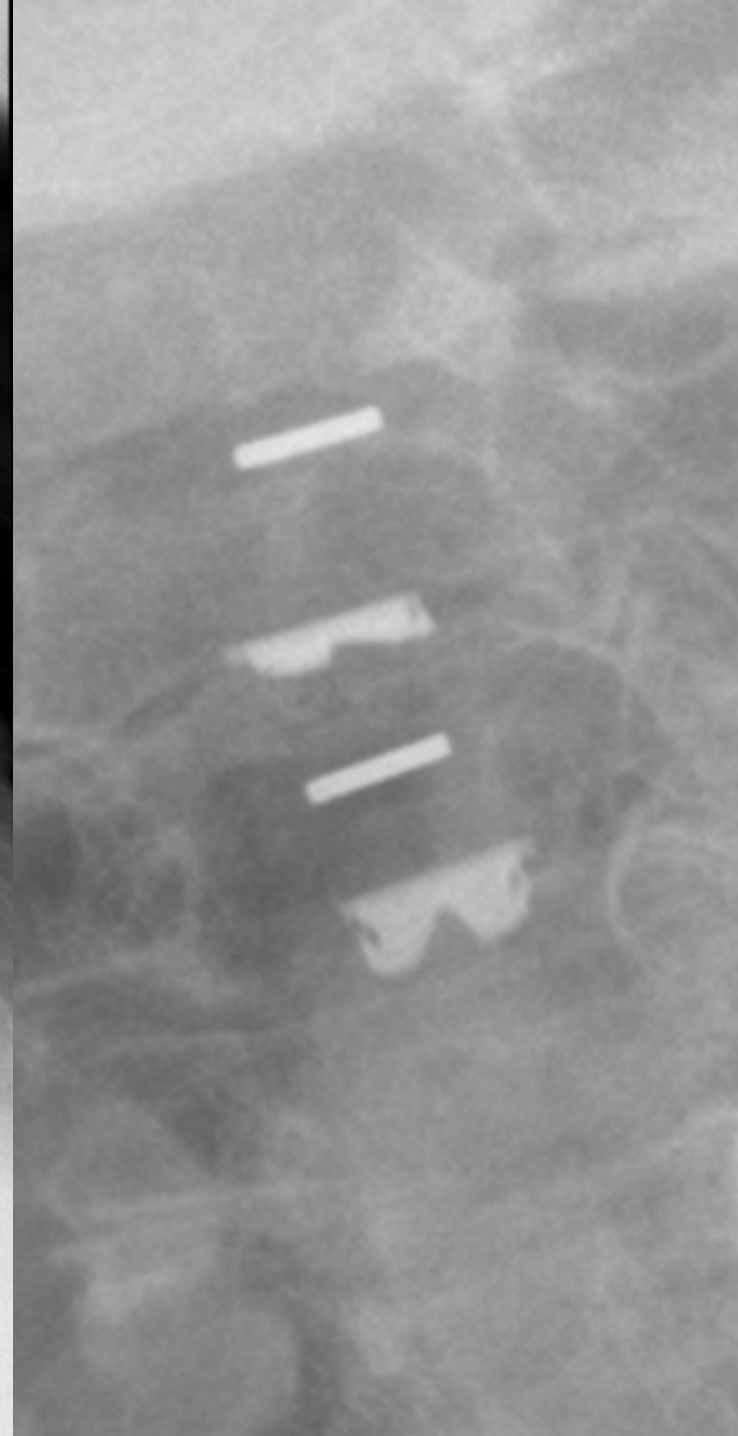


Siddende

Ve



Rygleje
Horisontal







Spørgsmål?