



Columnatraumer og degenerative rygsygdomme

Jørgen Degn

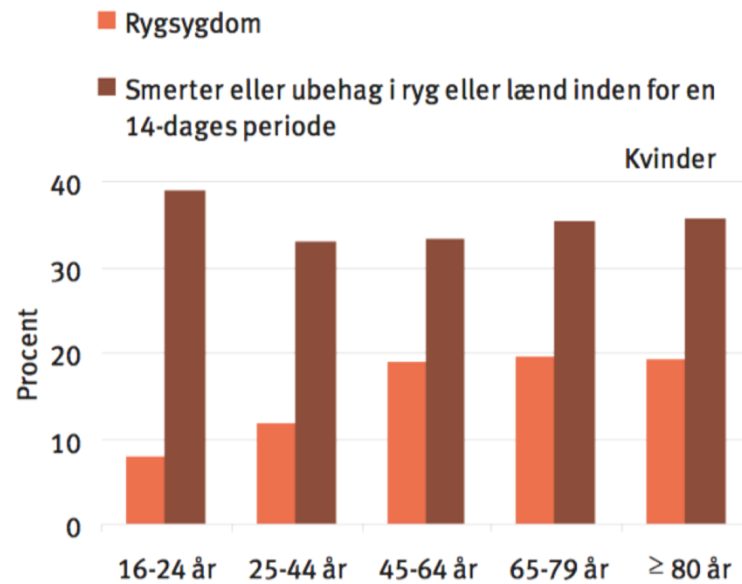
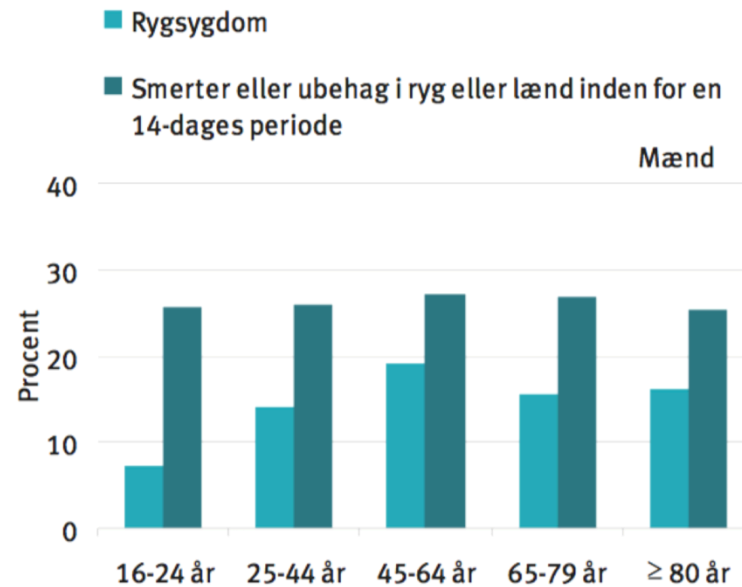
Afdelingslæge og klinisk lektor

Videncenter for Reumatologi og Rygsygdomme

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Hvem har haft smerter
eller ubehag i ryggen
inden for de sidste
2 uger?

Figur 7.3. Forekomst (%) af lænderygssmerter blandt mænd og kvinder i forskellige aldersgrupper. 2005.



Kilde: Sundheds- og sygelighedsundersøgelsen 2005.

Vigtige kliniske problemstillinger

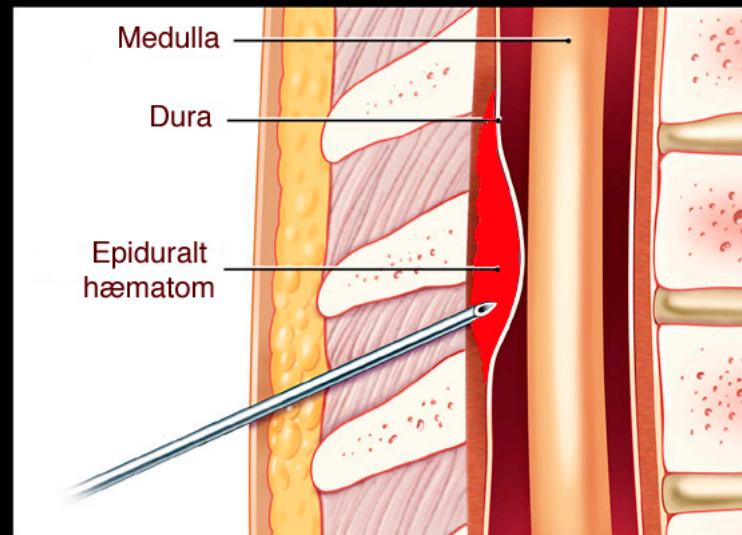
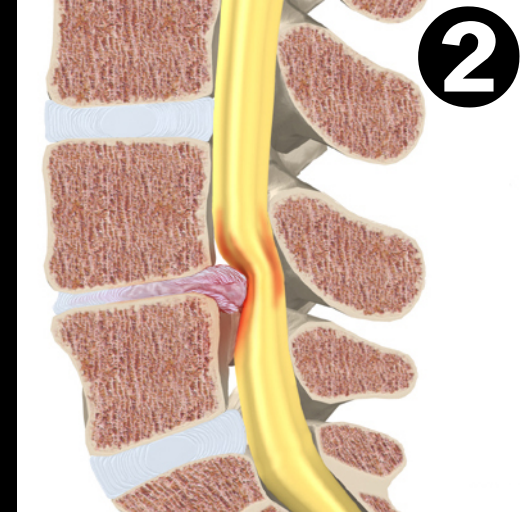
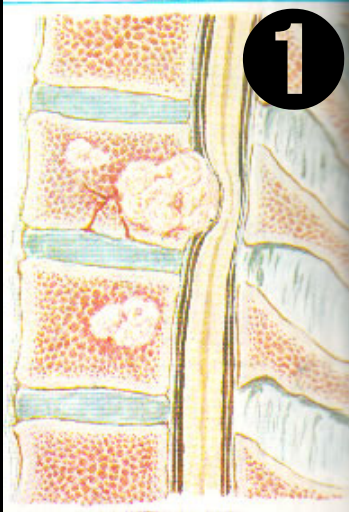
- 1. eller 2. neurons påvirkning
- "Tværsnit" eller "cauda"
- Let eller svær parese
- Lette eller svære smerter
- Diskogene eller radikulære smerter
- Central eller foraminær stenose
- Myoser eller columna-lidelse
- Akut eller langvarig tilstand
- Reelle symptomer eller somatisering
- MR- eller CT-skanning
- Urinretention eller –inkontinens
- Normal eller slap analsfinkter



WHAT'S IN IT FOR ME?



Årsager til nervepåvirkning



Red flags

Tværsnits-
syndrom

Cauda
equina
syndrom

Prog.
svær
parese

Intraktable
smerter

1. Klinisk diagnose? - anamnese og objektiv us.

Fraktur? Diskogene smerter? Instabilitet? Rodtryk? Myelopati? Neurogen claudicatio?

2. Akut tilstand? - med nyopståede svære neuroudfald

Tværsnit? Cauda? Rodinkarceration med prog. svær parese (0-3)? RH/VRR

3. Subakut tilstand?

Smerteforpint? Svær parese gennem flere døgn?

4. Elektiv tilstand? F.U. I løbet af 1-2 måneder

Kroniske rygsmerter? (kons. 26 uger) Rodtryk med let parese? (kons. 6-12 uger)

5. Radiologisk udredning? – Lab? – MR el. CT

Overensstemmelse med klinisk diagnose? Region H: udredning på lokal. Reum. Afd.

6. Operationsønske?

Har pt. allerede taget stilling?

7. Komorbiditet? – differentialdiagnoser - CAVE

Hjertesyg? Lungesyg? Nyresyg? Koagulopati? Malignitet? – Risikovurdering

8. Blodfortyndende behandling? Og fastetidspunkt

Marevan? Plavix? Magnyl? Fiskeolie?

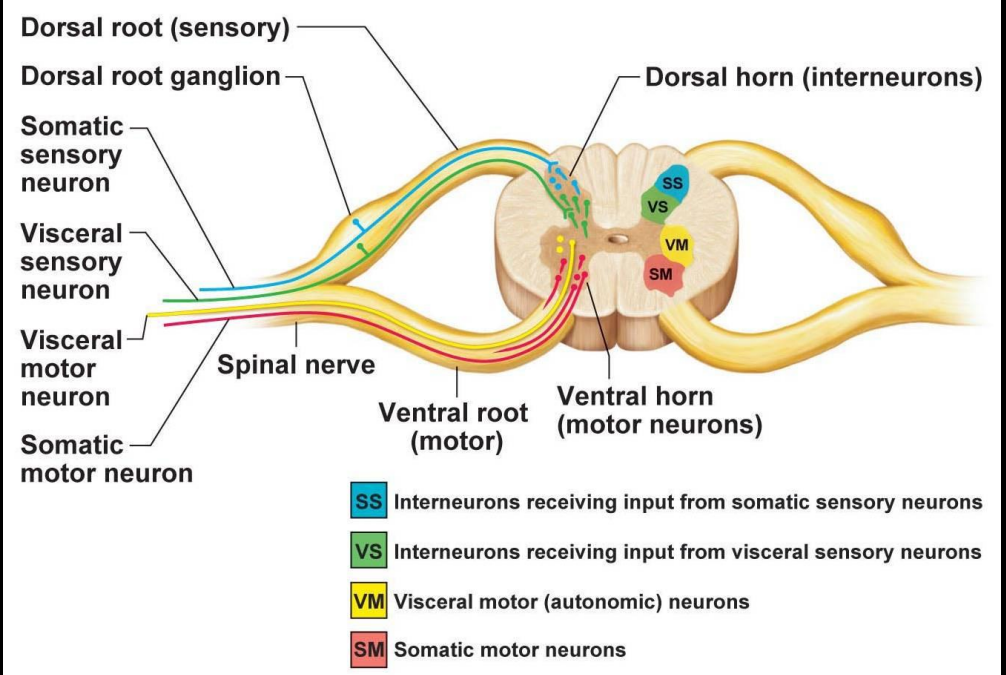
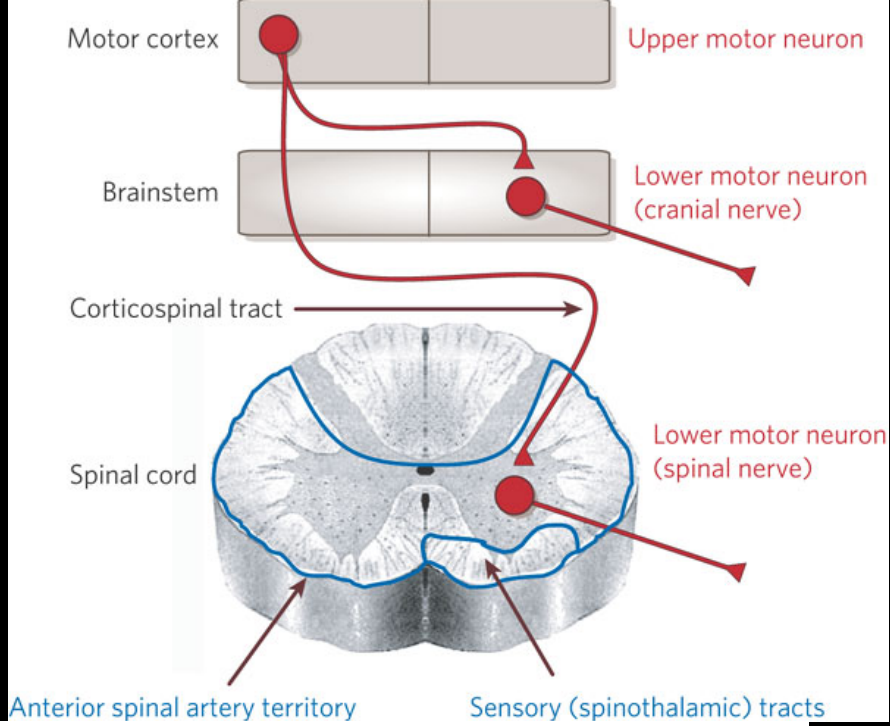
1. eller 2. neuron?

CNS: UMN

- Tetra/paraparese
- Sensibilitetsgrænse
- Hyperrefleksi
- Fodklonus
- Spastisk tonusøgning
- Babinskis tåfænomen
- Hoffman's refleks
- Lille blære
- Evt. let atrofi

PNS: LMN

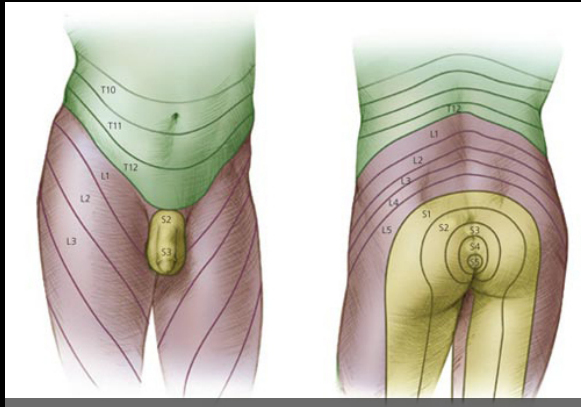
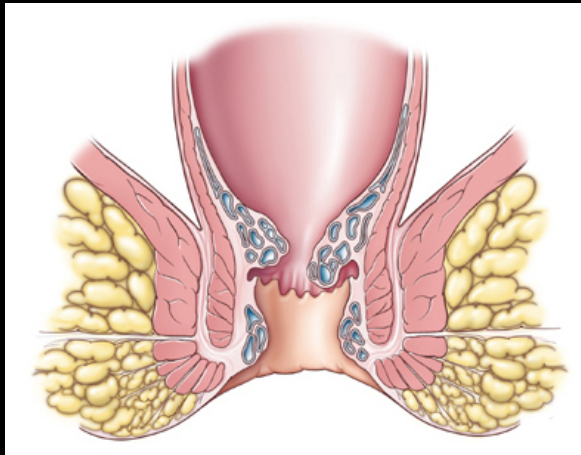
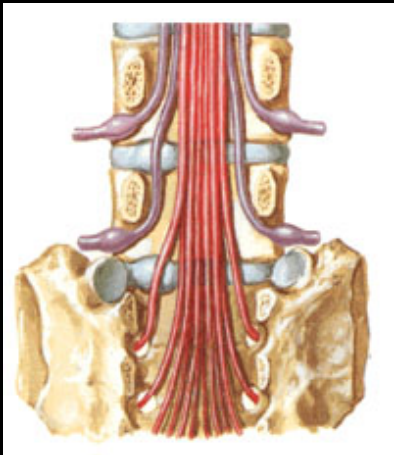
- Slap (mono)parese
- Dermatomaafgræns.
- Hyporefleksi
- Fascikulationer
- Svær muskelatrofi
- CES: Stor blære



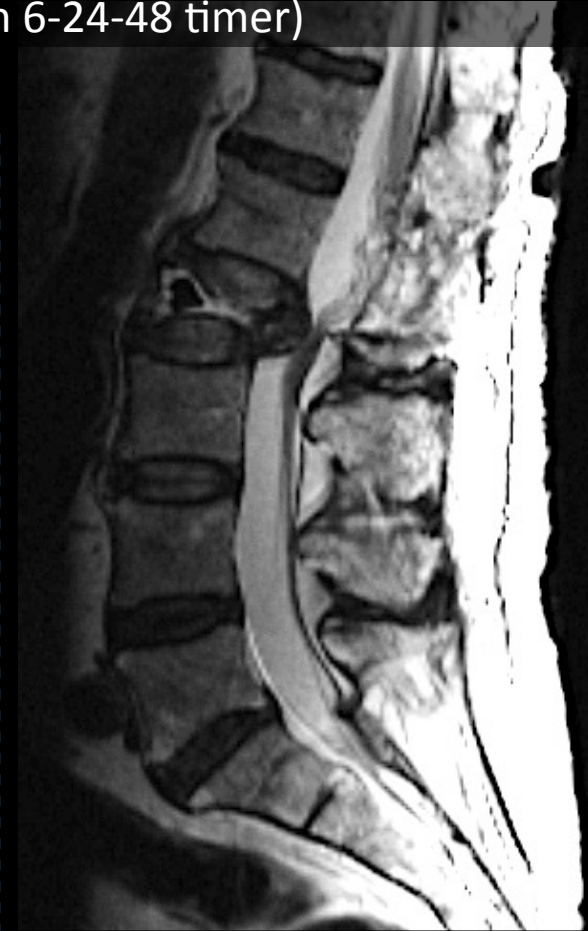
- SS Interneurons receiving input from somatic sensory neurons
- VS Interneurons receiving input from visceral sensory neurons
- VM Visceral motor (autonomic) neurons
- SM Somatic motor neurons

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 !!!

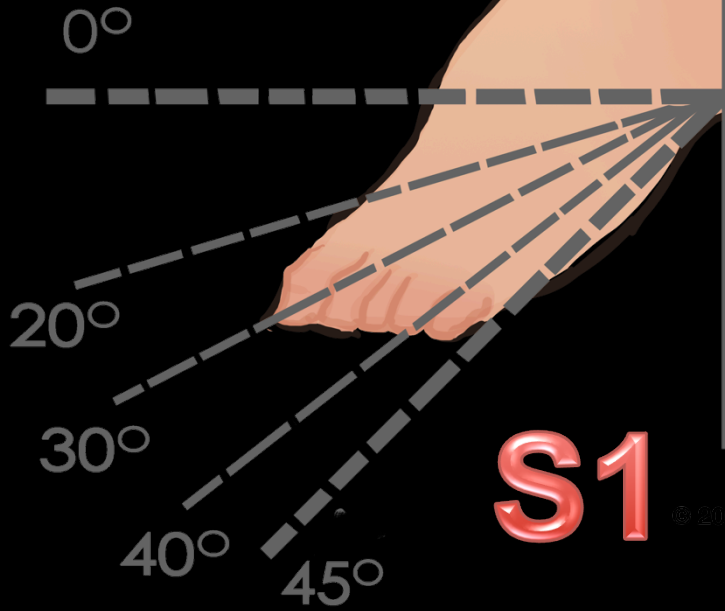
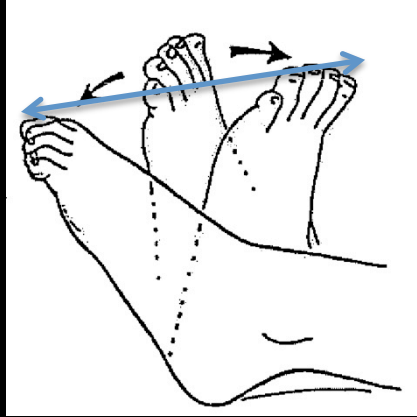
Andre årsager til UR:
Smerter, morfika, BPH

Har pt. klinisk CES?

Klinisk diagnose	Anamnese		Objektivt	
	Påvirkning	Fravær	Påvirkning	Fravær
Følesansen	Ridebukser		Perianalt	
Blæren	Tissetrang Ufrivillig afgang	Prostatabesvær	Urin- retention	
Analfunktion	Ufrivillig afgang f.eks. luft	Diarre	TONUS Knibekraft Anokutan reflex Anoanal reflex	
Andet	Impotens		Schizas D (svær LSS)	Cancer
Begge ben	Smerter evt. lammelser		Achilles reflexer Pareser	1. neurons tegn Smerter

<http://pdf.rygsygd.com.dk/ces.pdf>

Plantar Flexion



S1

DROPFOD

Dorsiflexion

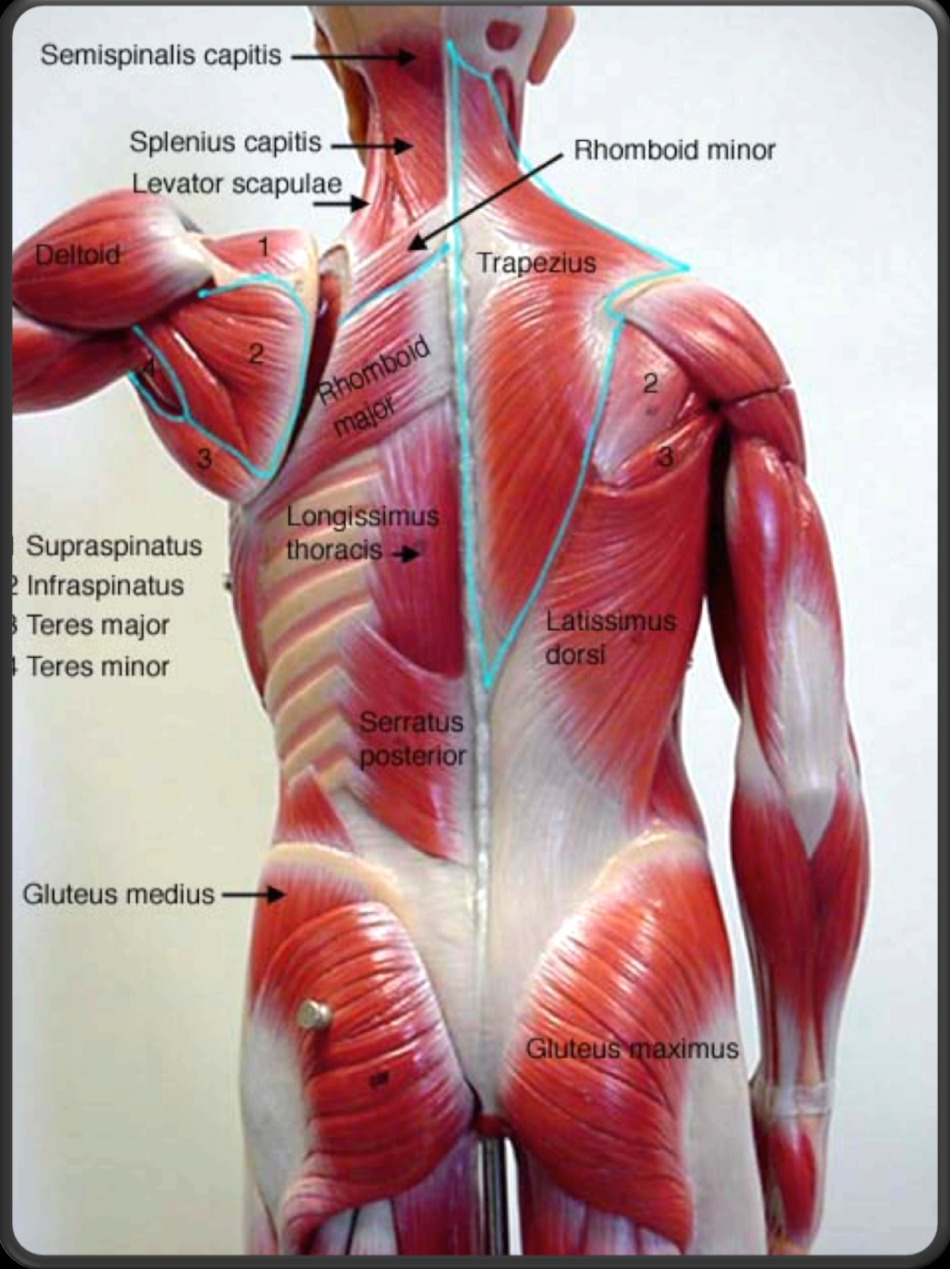
L5



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







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		

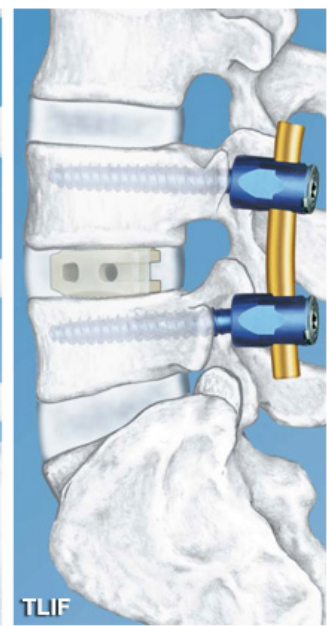
navigation

- Forside
- Forside for skribenter
- Aktuelle begivenheder
- Seneste ændringer
- Tilfældig artikel
- Alle sider
- Vejledninger
- E-learning
- Undervisning
- Uddannelsen
- Stud. med.
- YouTube-kanal
- Moodle (E-læring)
- Neurowiki.dk
- Læger
- Anæstesi
- Sygeplejersker
- Sekretærer
- Hjælp

søg

værktøjer

- Hvad henviser hertil
- Relaterede ændringer
- Læg en fil op
- Specialsider
- Udskriftsvenlig udgave
- Permanent henvisning

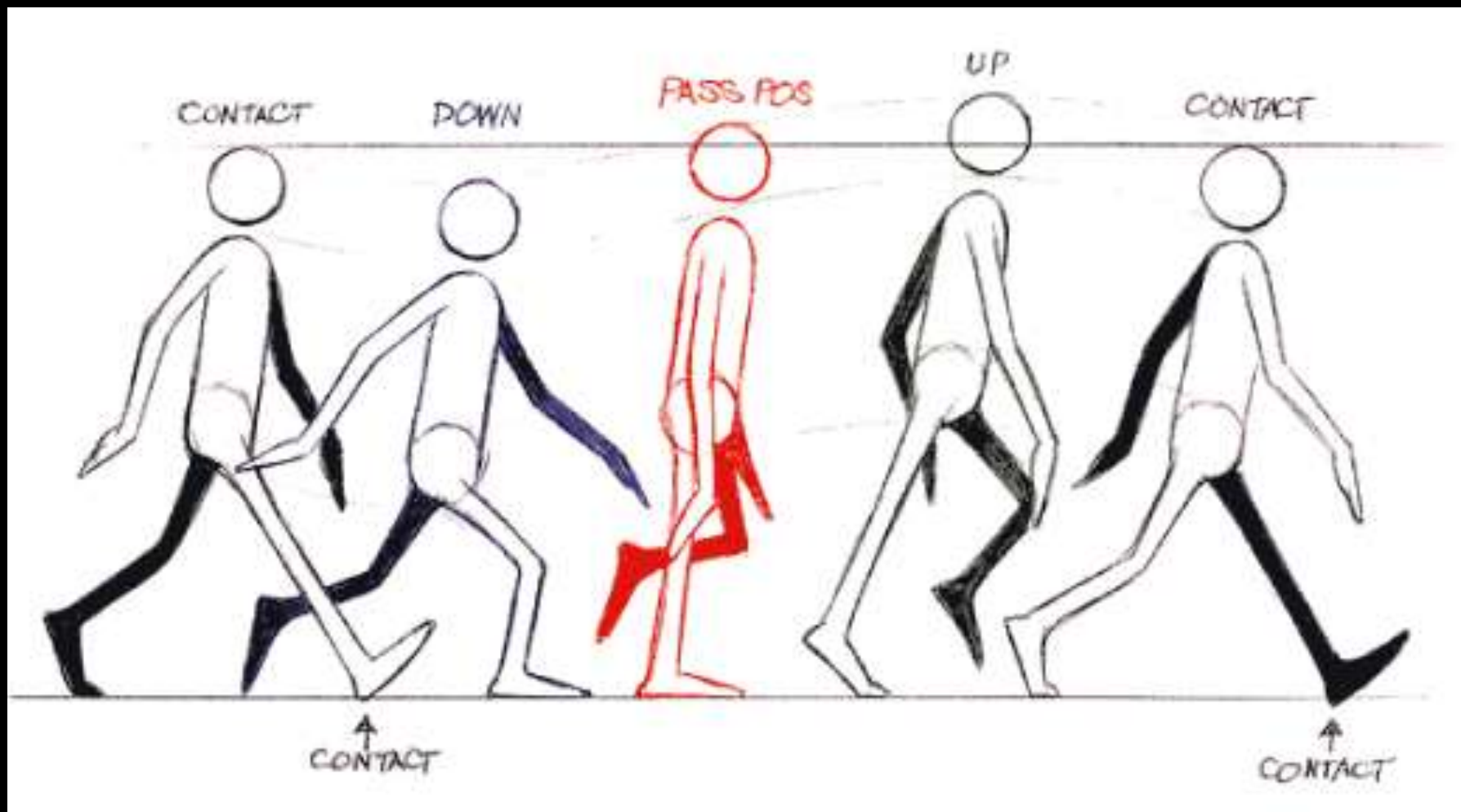


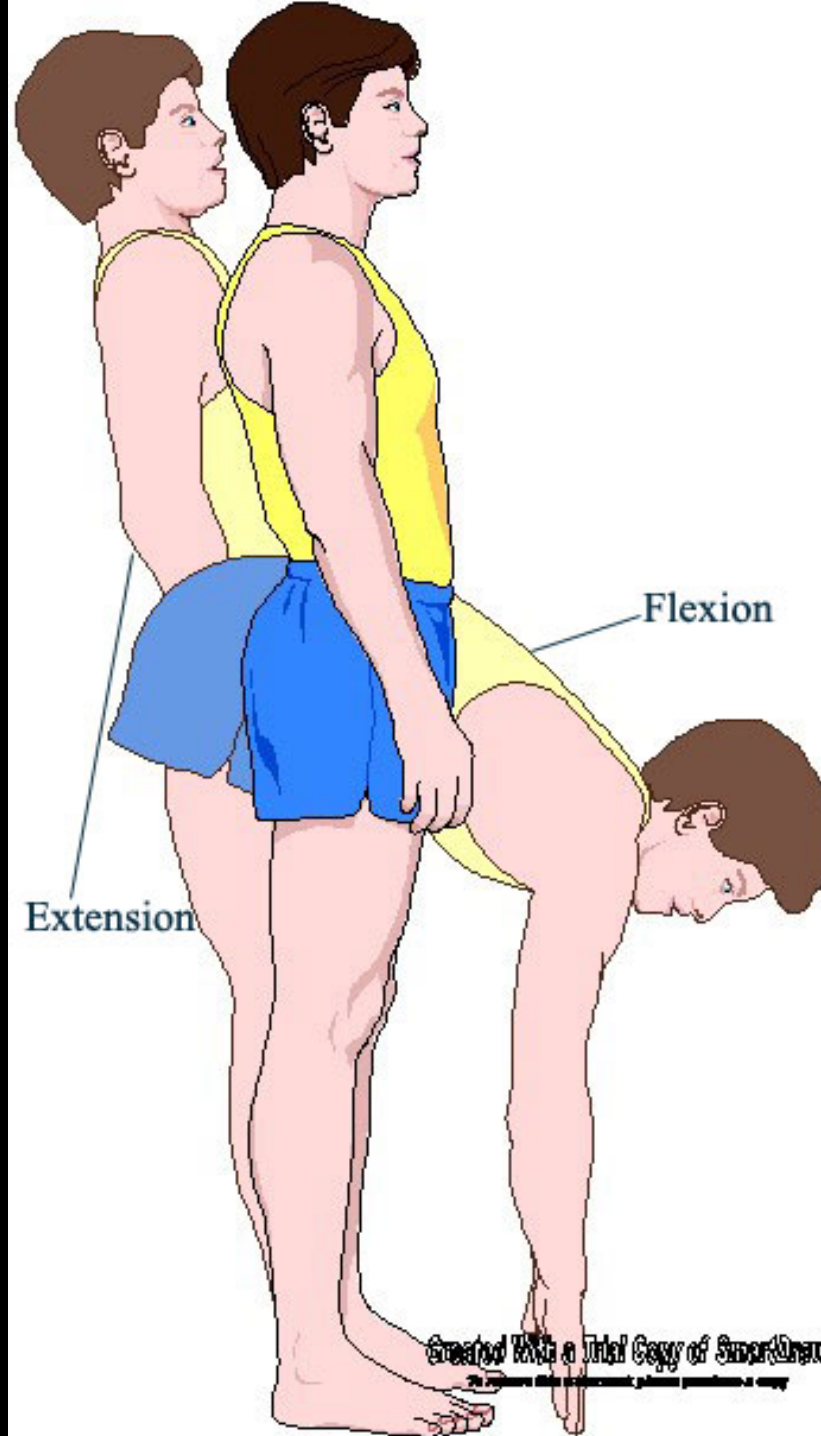
Klinisk diagnose?

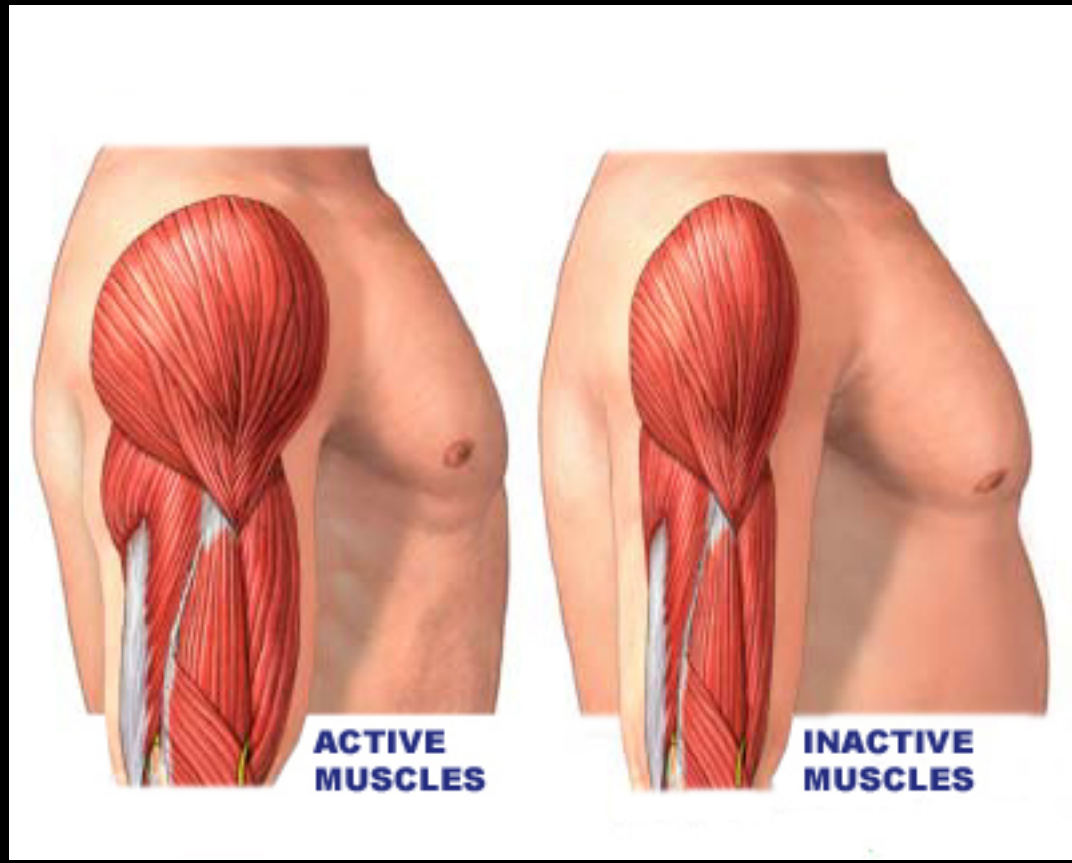
Hvor sidder læsionen?

- Storhjernen, lillehjernen, kranienerver
- Cervikale rygmarg eller nerverod
- Thorakale rygmarg eller nerverod
- Lumbale nerverødder
- Sacrale nerverødder
- Perifere nerver
- Højre / venstre side

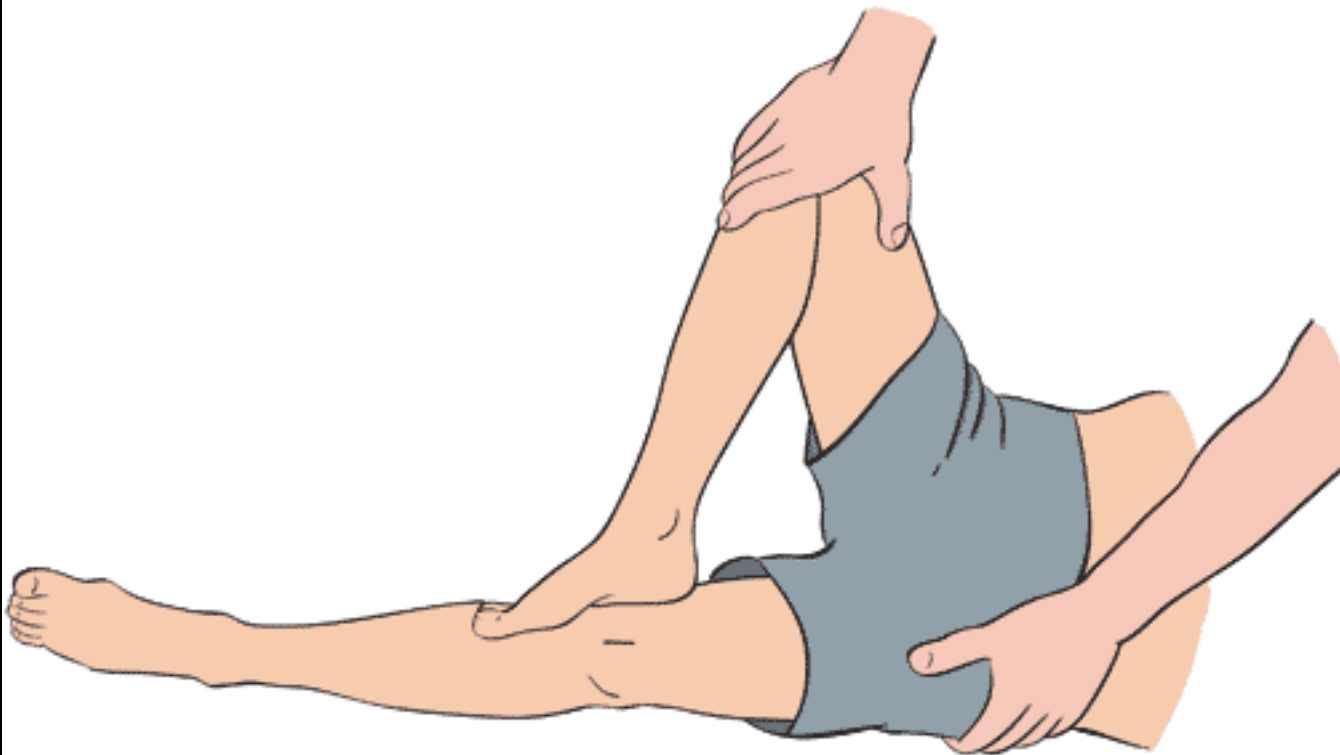
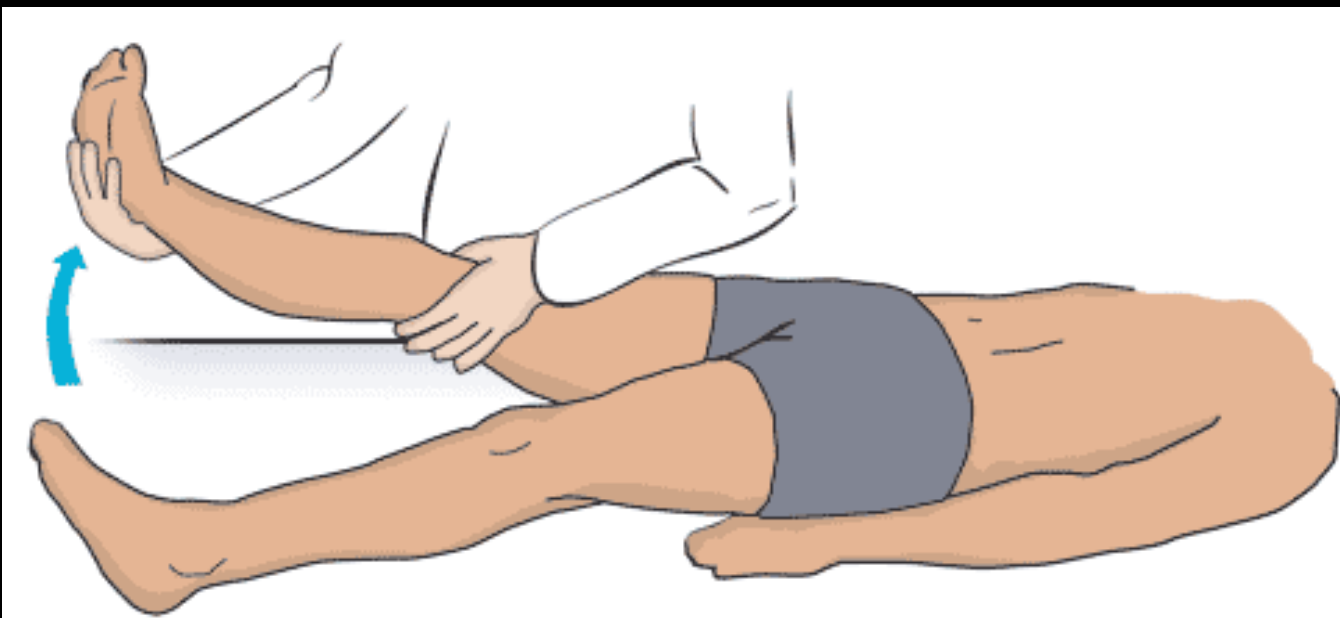






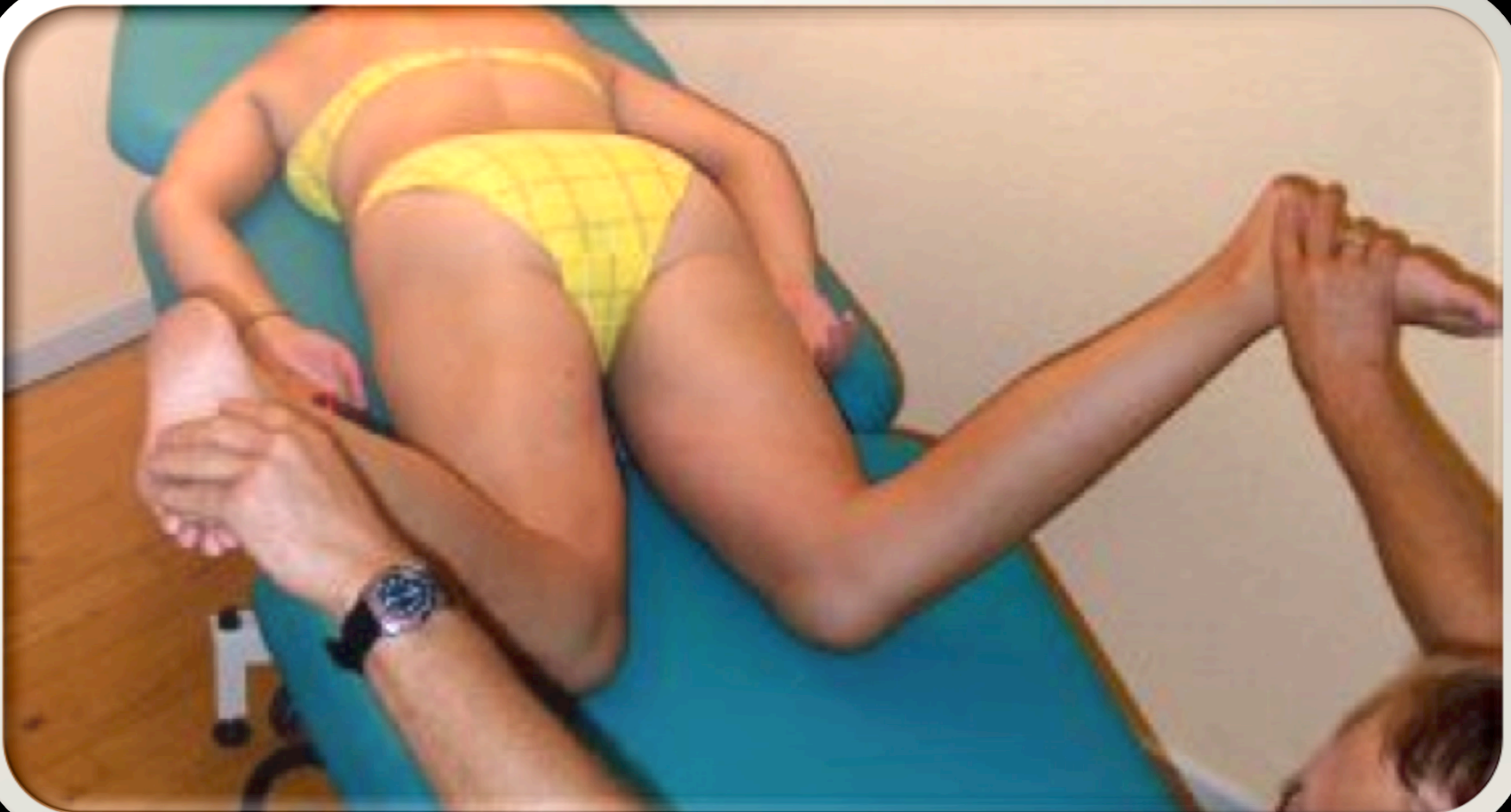




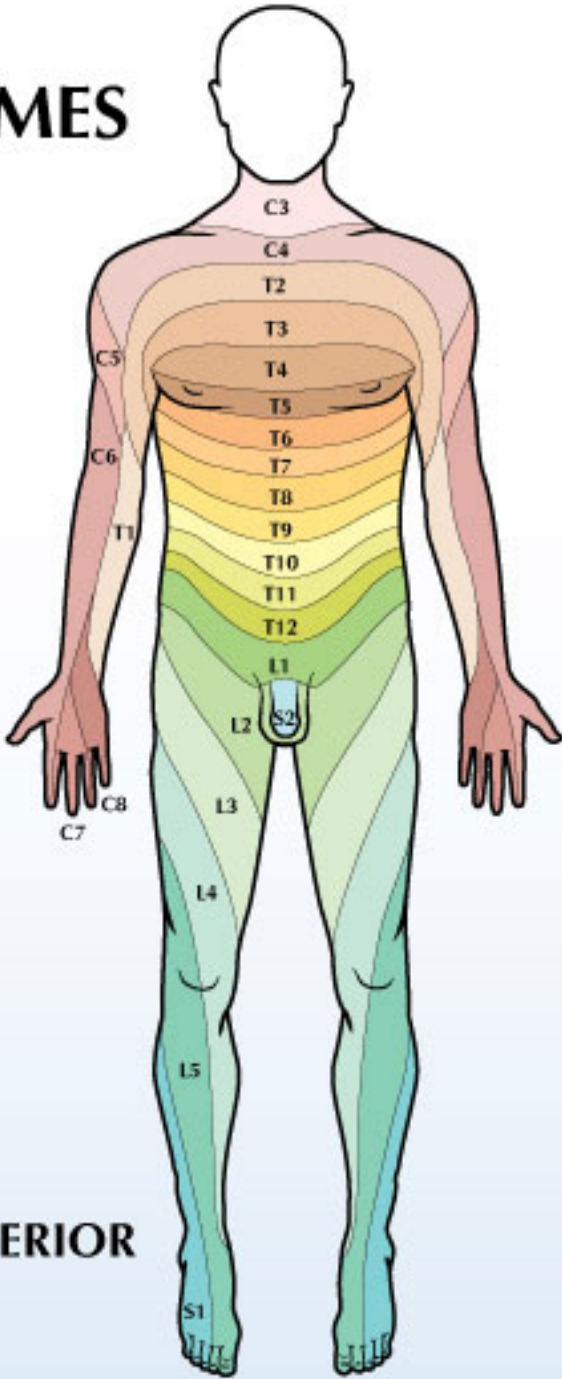


Indadrotationen i hoften

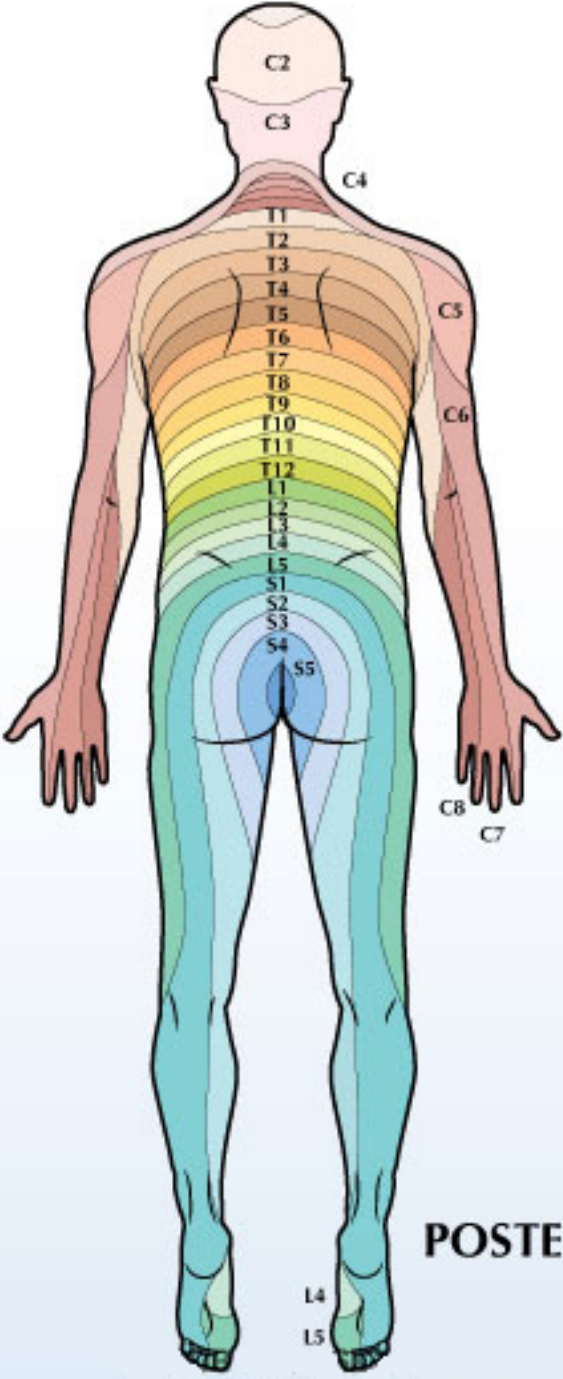
nedsat og smertefuld ved artrose



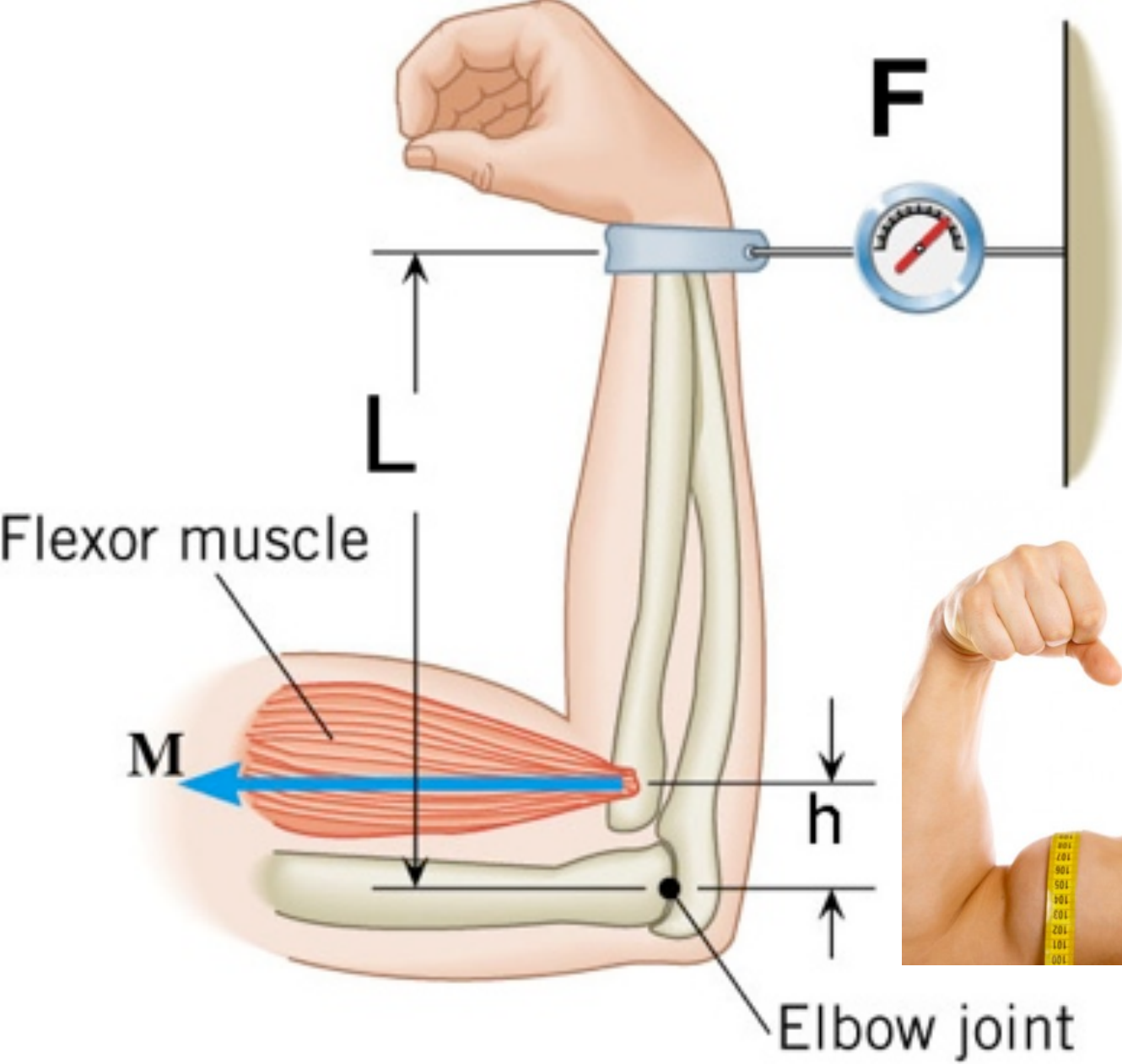
DERMATOMES

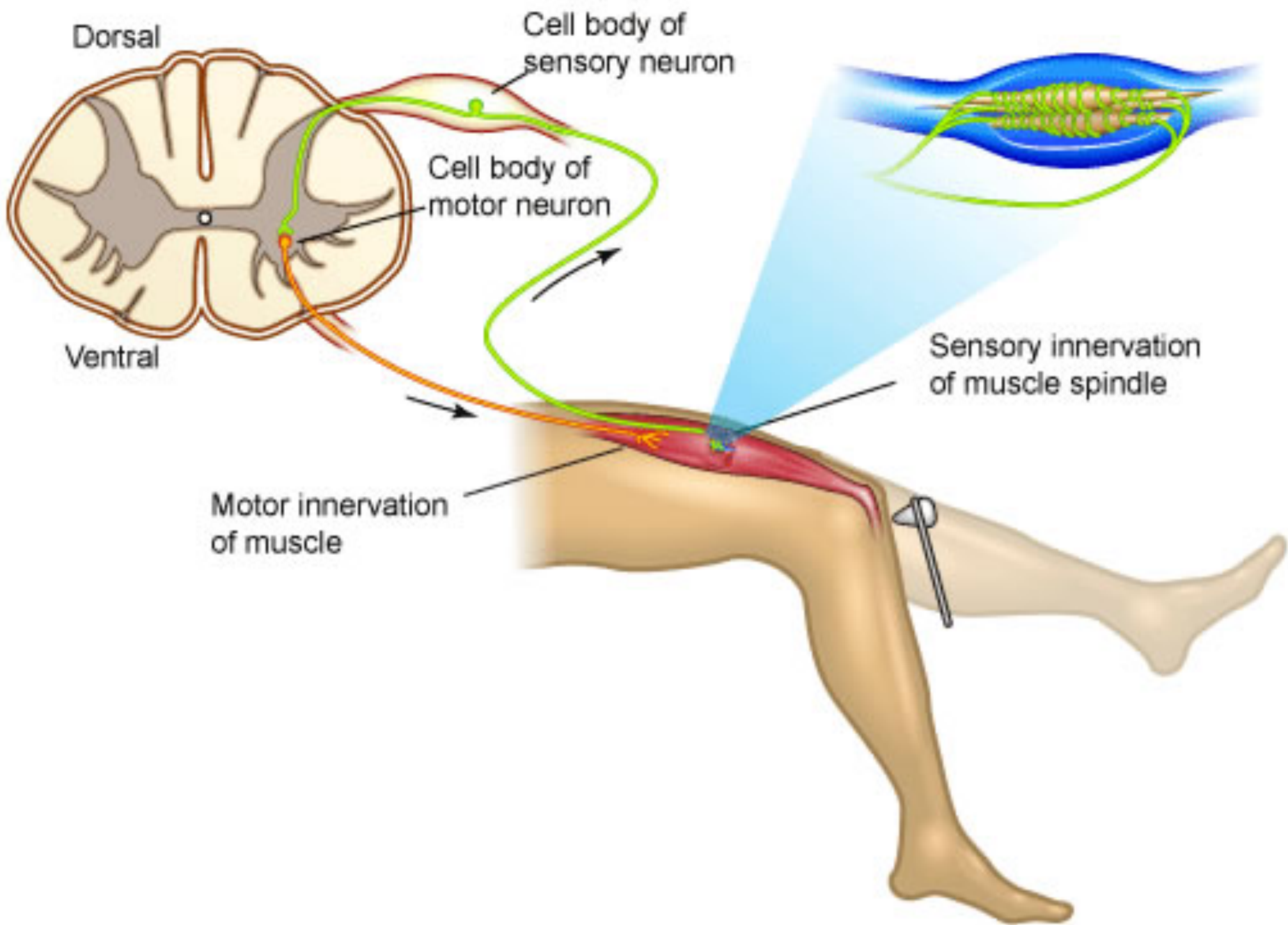


ANTERIOR



POSTERIOR





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!

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







Hvor længe har paresen været til stede?

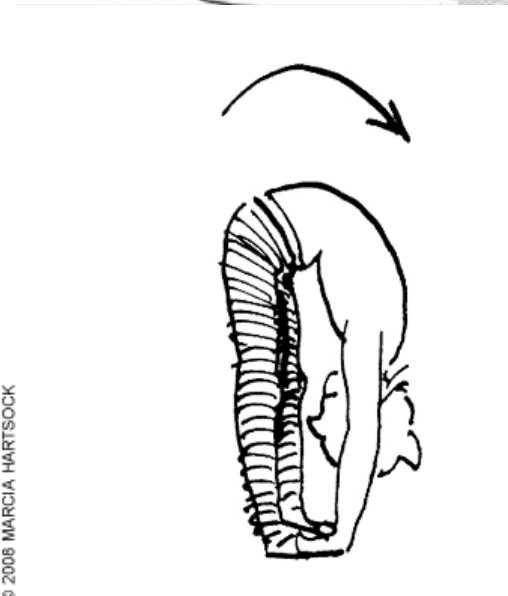
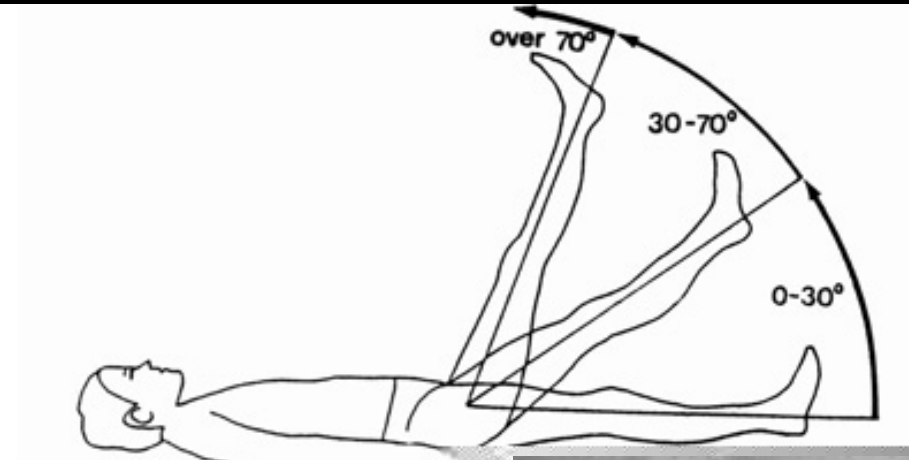
Ved en svær, nyopstået parese kan det være en god ide at lade patienten faste - indtil sagen er afklaret



Udredning

Anamnese - Hæl/tågang - FGA/Schobers test - Lasègue/Bragard
 Neurologisk us (moto-sens-refleks) – ER - MR

Disk	Nerve root	Reflex	Motor examination	Sensory loss signature zone
L3-L4	L4	Patellar	 <p>Ankle dorsiflexion</p>	 <p>Medial malleolus</p>
L4-L5	L5	None	 <p>Great toe dorsiflexion</p>	 <p>Dorsal third metatarsophalangeal joint</p>
L5-S1	S1	Achilles	 <p>Ankle plantar flexion</p>	 <p>Lateral heel</p>



1. neuronstegn?



**Lesion of
upper or lower
motor neurons?**

Supranukleær læsion

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

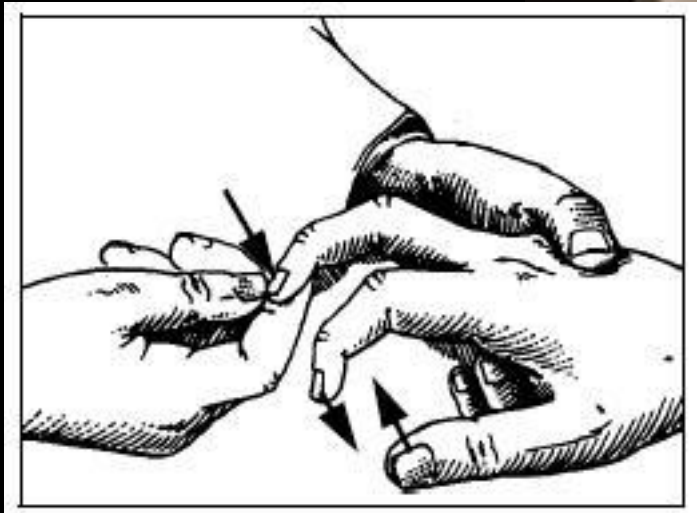
- Hyperrefleksi
- Fodklonus
- Spastisk tonusøgning
- Babinskis tåfænomen
- Hoffman's refleks
- Sensibilitetsgrænse
- Para/tetraparese
- Blæreparalyse
- Evt. let atrofi

Eksempler: Cervikal eller thorakal myelopati. Akut medullært tværsnitssyndrom, evt. af **inkomplet** type: Brown-Séguard, centralt, anteriort, posteriort.

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

Ankel-klonus

Babinski



Hoffman's
reflex



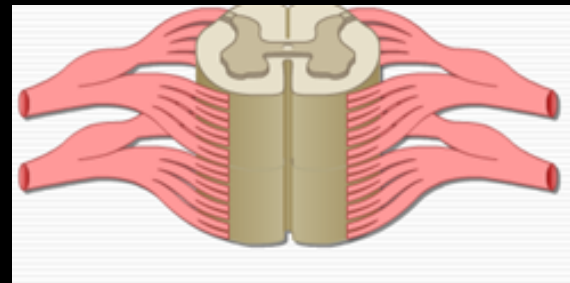
Myelopati med thenaratrofi



Infra/nukleær læsion

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

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

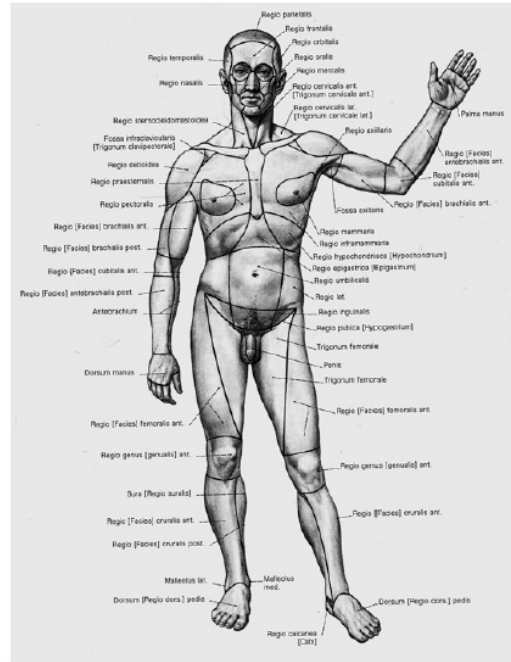


Eksempler: Neurogen claudicatio med påvirkning af de lumbosacræle nerverødder ved central lumbal spinalkanalstenose - giver bensmerter ved gang. **Cauda equina syndromet** med sfinkterpåvirkning herunder urinretention. Monoradikulopati ved prolaps eller rodkanalstenose, giver smerteudbredning i relevante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

Symptomer

- A. Hovedpine
- B. Nakkesmerter
- C. Skuldersmerter
- D. Armsmerter ***
- E. Smerter i brystryg
- F. Lændesmerter **
- G. Bensmerter *** / referred pain
- H. Kraftnedsættelse **
- I. Styringsbesvær **
- J. Føleforstyrrelser *
- K. Nedsat gangdistance ***
- L. Bevægeindskrænkning (ADL)
- M. Tab af blærefyldningsførom.
- N. Blæretømmningsbesvær *
- O. Afføringsinkontinens *
- P. Impotens
- Q. Smertekarakter
- R. Smertestyrke og -tærskel (VAS)
- S. Debut, varighed, variabilitet
- T. Diffus eller dermatomal
- U. Provokation/lindring

Smertediagrammet

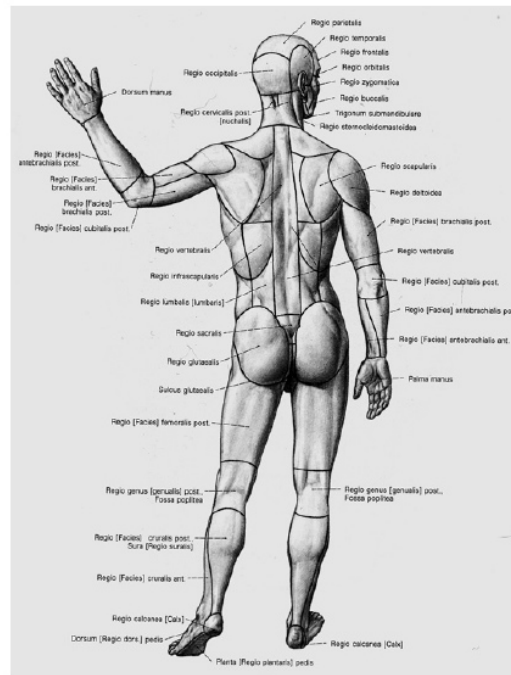


højre hånd

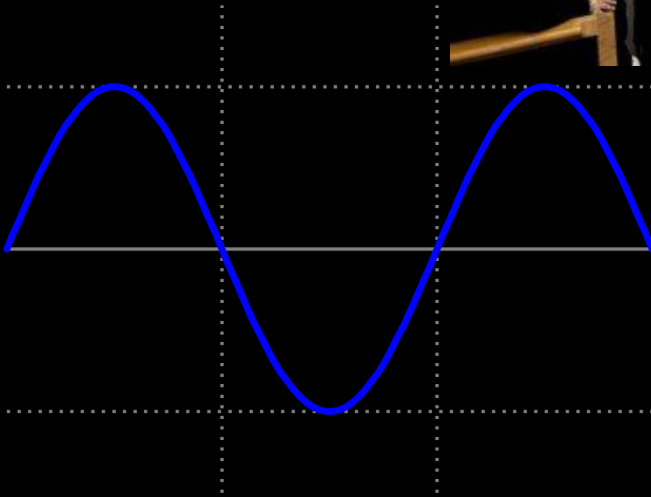
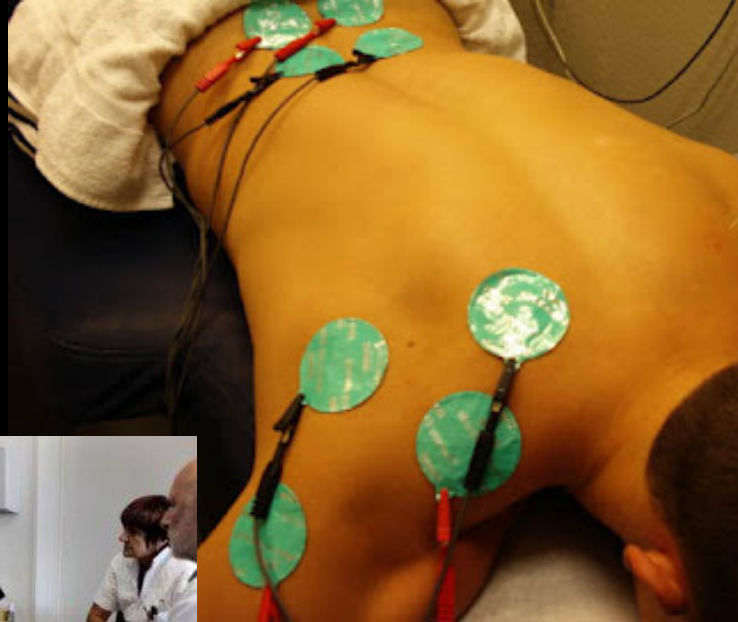


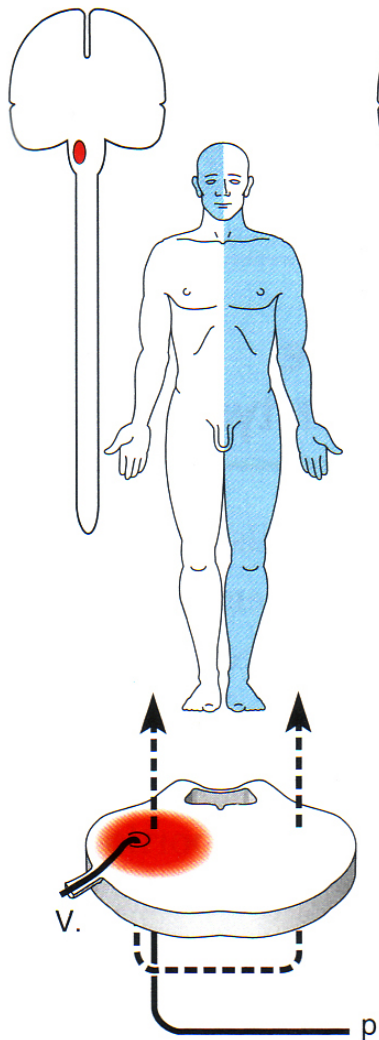
venstre hånd

SMERTE (rød, x)
MYREKRYB (grøn, Δ)
FØLESELSØSHED (blå, o)
NEDSAT BEVÆGELIGHED (□)



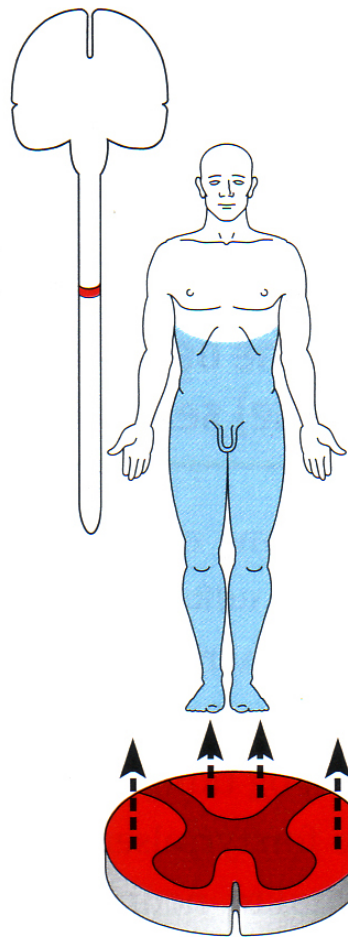
Smertekarakter





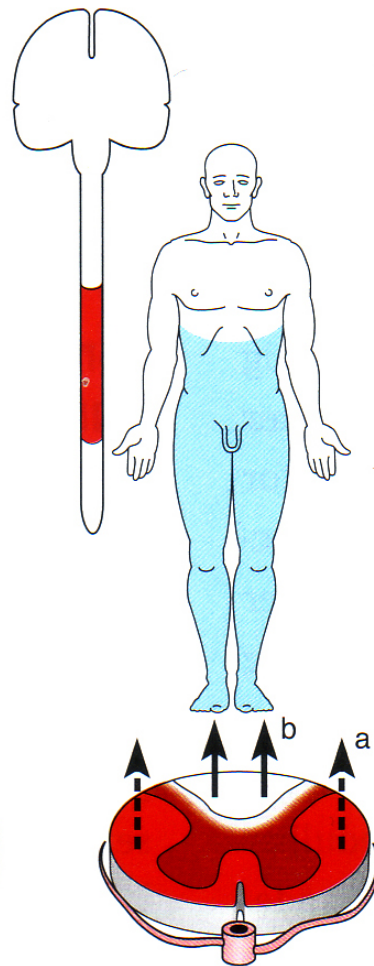
Hjernestammelæsion (halvsidig)

(fx infarkt)
Tab af smerte- og temperatursans samsidigt i ansigtet (n. trigeminus, V.) og modsidigt på krop og ekstremiteter (p).



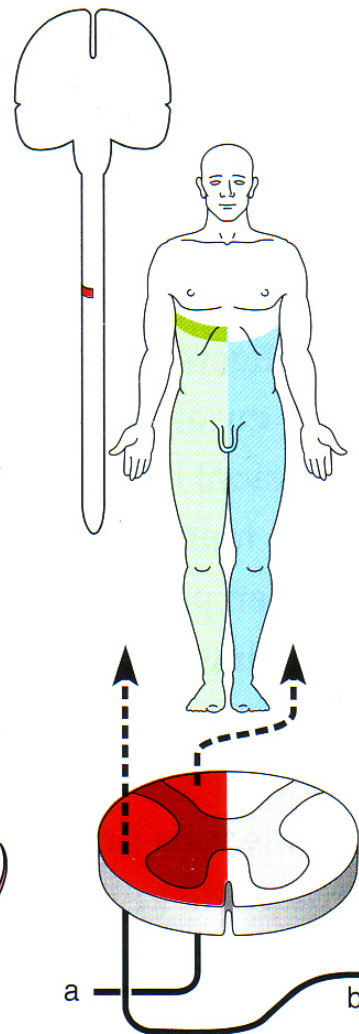
Medullært tværsnitssyndrom

(fx kolumna-metastase)
Tab af alle sensoriske modaliteter distalt for det pågældende medullære segment. (+ paraparesis inf.)



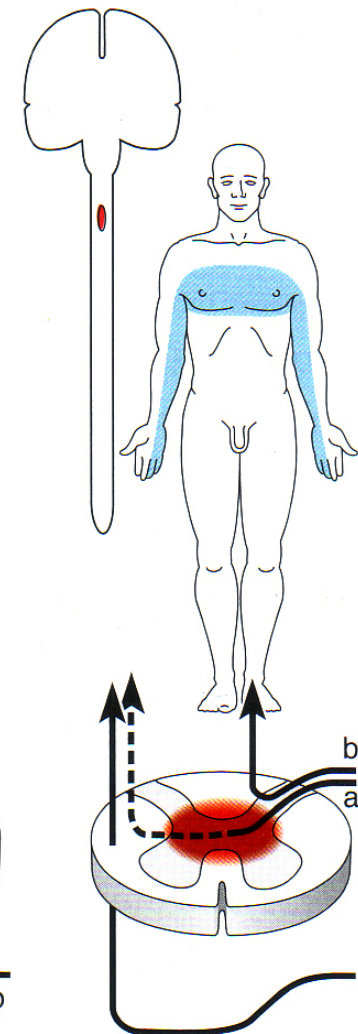
Spinalis anticus syndrom

(fx trombose i a. spinalis ant.)
Tab af smerte- og temperatursans (a), men bevaret stillings- og vibrationsans (b). (+ paraparesis inf.)



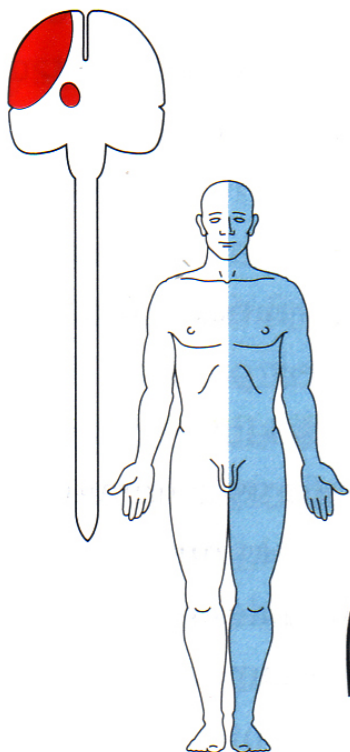
Brown-Séquard syndrom

(Halvsidigt medullært tværsnitssyndrom)
Samsidigt tab af stillings- og vibrationsans (a), modsidigt tab af smerte og temperatursans (b). (Samsidigt benparese)



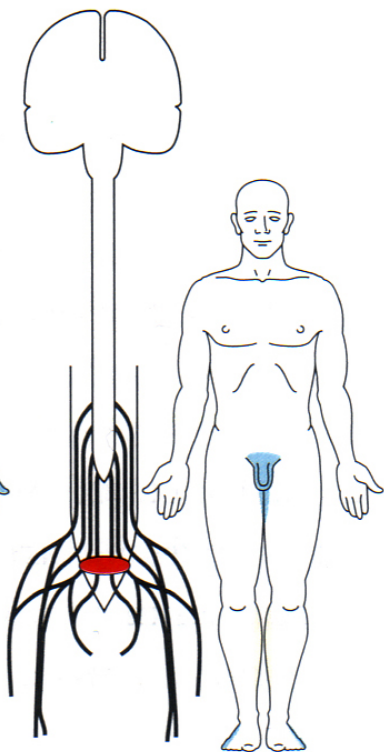
Central medullær læsion (cervicalt)

(fx kontusion)
Kyras-formet dissocieret sensibiliteets udfald svarende til flere dermatomer med tab af smerte og temperatursans (a), men bevaret berørings- og proprioceptiv sans (b). (Armparese)



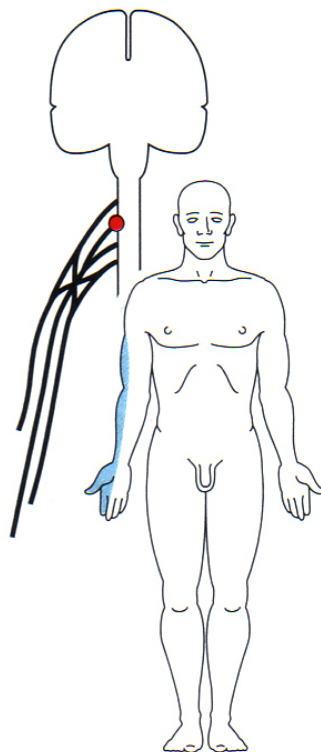
Sensorisk cortex eller thalamus

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



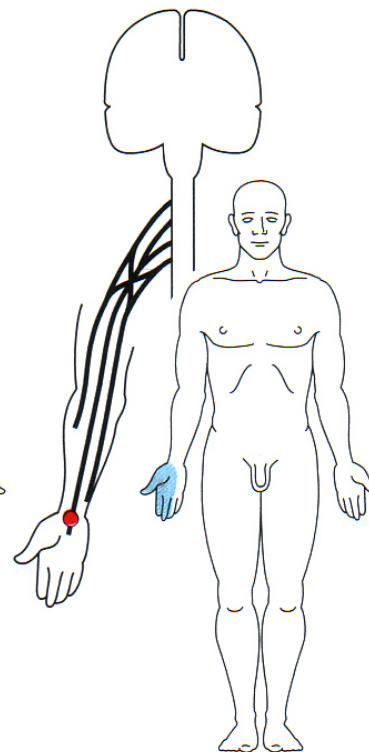
Cauda equina syndrom

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



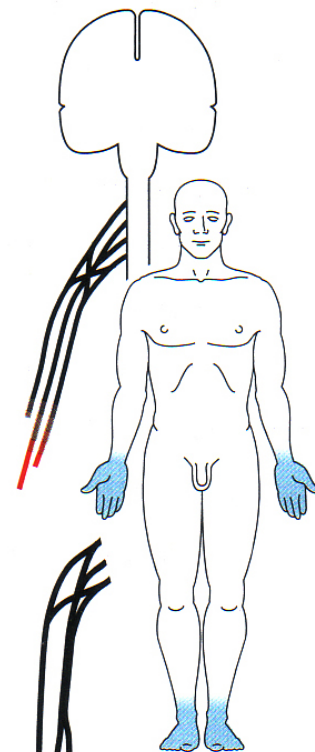
Radikulopati

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



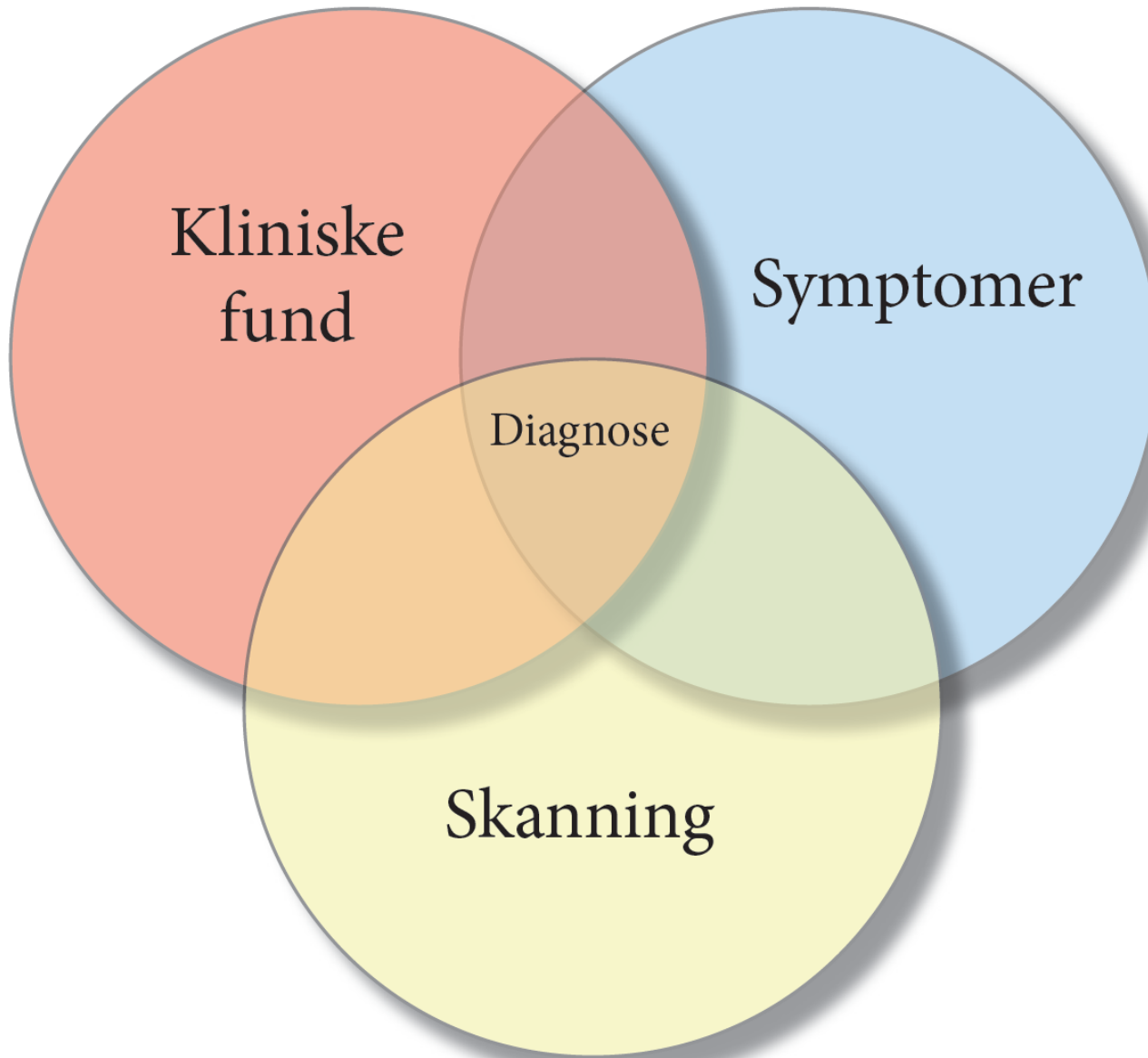
Mononeuropati

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



Polyneuropati

Handske- og sokformet sensibilitetsudfald.



Kliniske
fund

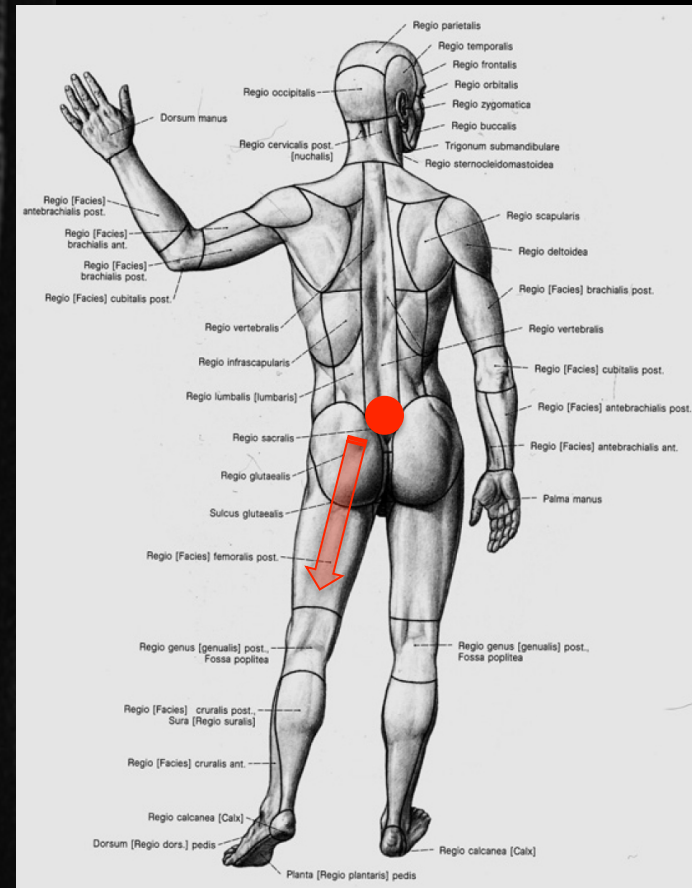
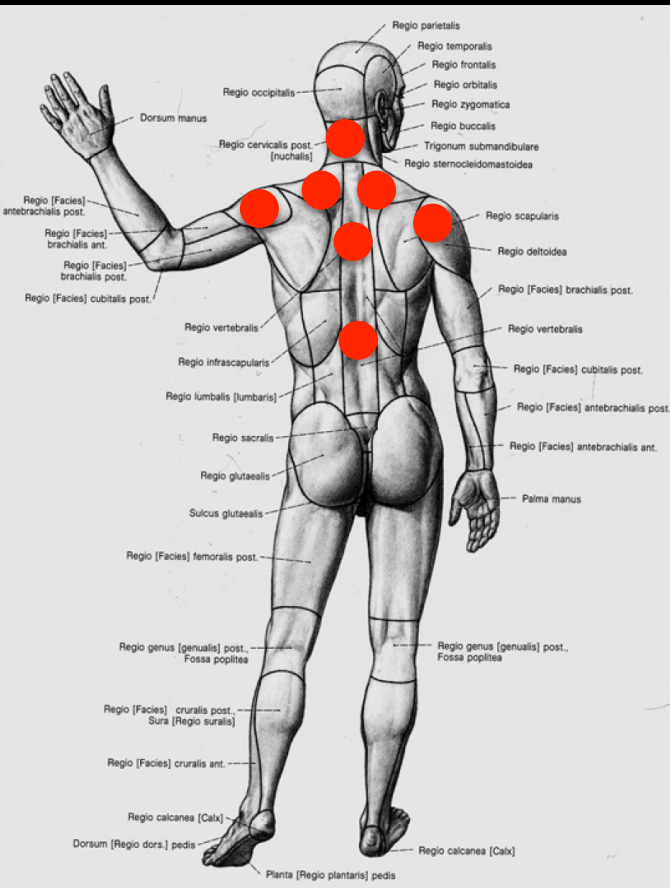
Symptomer

Diagnose

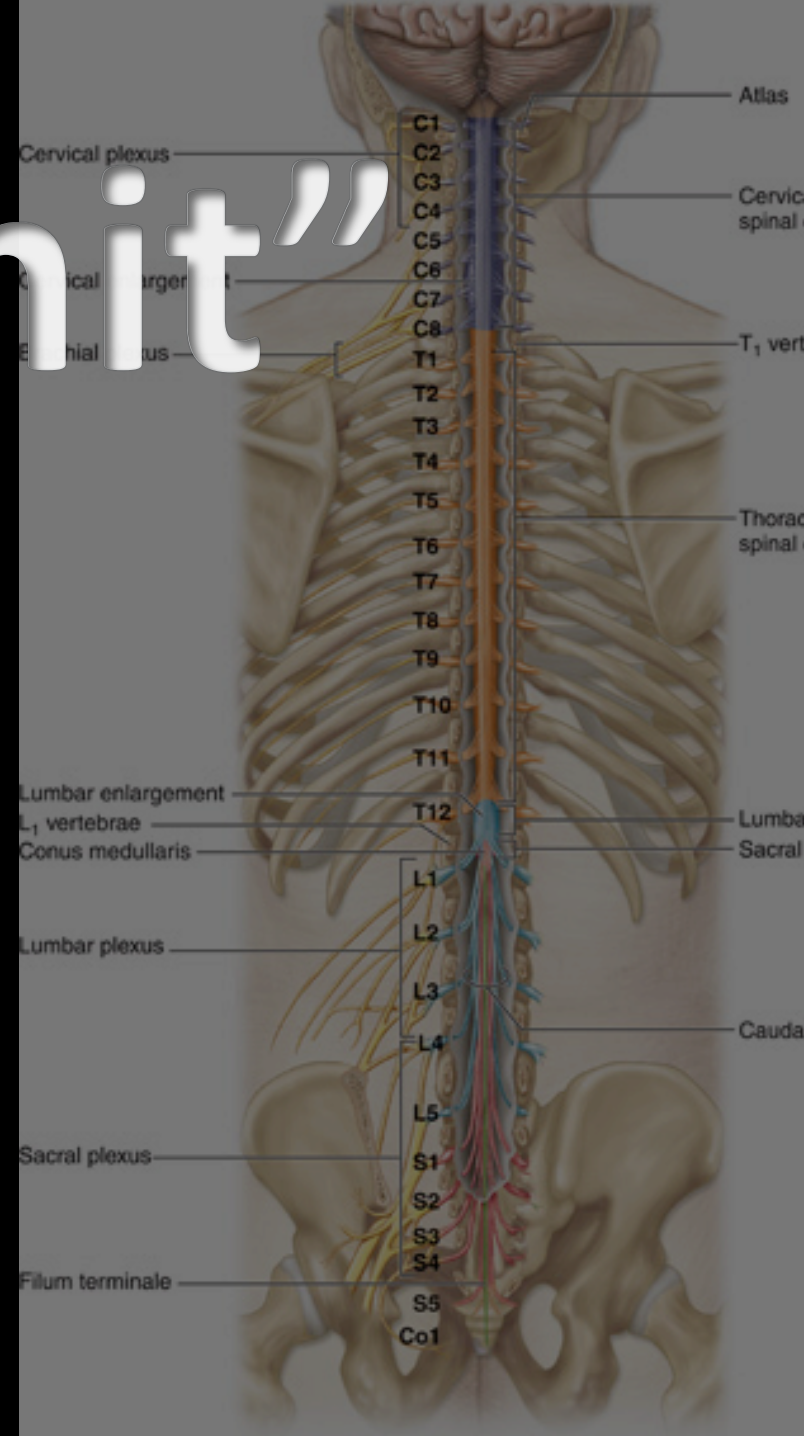
Skanning

Hvilken smertegenerator?

Diskus? Facetledsartrose? Rodtryk? Myoser? Gigt?



”Tværsnit”



Medullært tværnitssyndrom

Motor and descending (efferent) pathways (red)

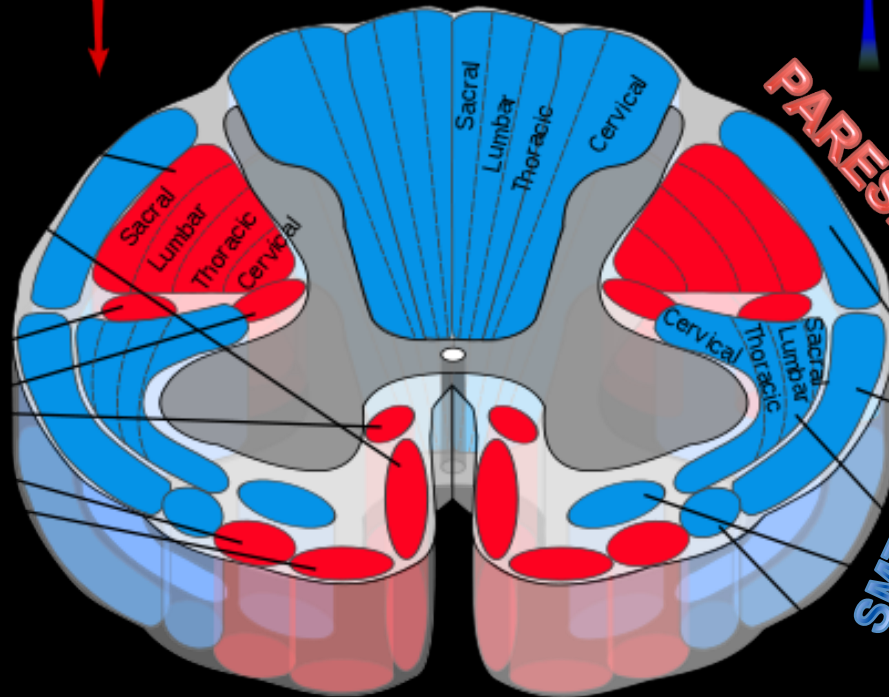
Pyramidal tracts

- Lateral corticospinal tract
- Anterior corticospinal tract

Extrapyramidal Tracts

- Rubrospinal tract
- Reticulospinal tracts
- Olivospinal tract
- Vestibulospinal tract

VIB+PROP



Sensory and ascending (afferent) pathways (blue)

Dorsal Column Medial Lemniscus System

- Gracile fasciculus
- Cuneate fasciculus

Spinocerebellar Tracts

- Posterior spinocerebellar tract
- Anterior spinocerebellar tract

Anterolateral System

- Lateral spinothalamic tract
- Anterior spinothalamic tract

Spino-olivary fibers

KOMPLET

Totalt bortfald udfor og nedenfor læsionen med skarp sensibilitetsgrænse

PARTIELT

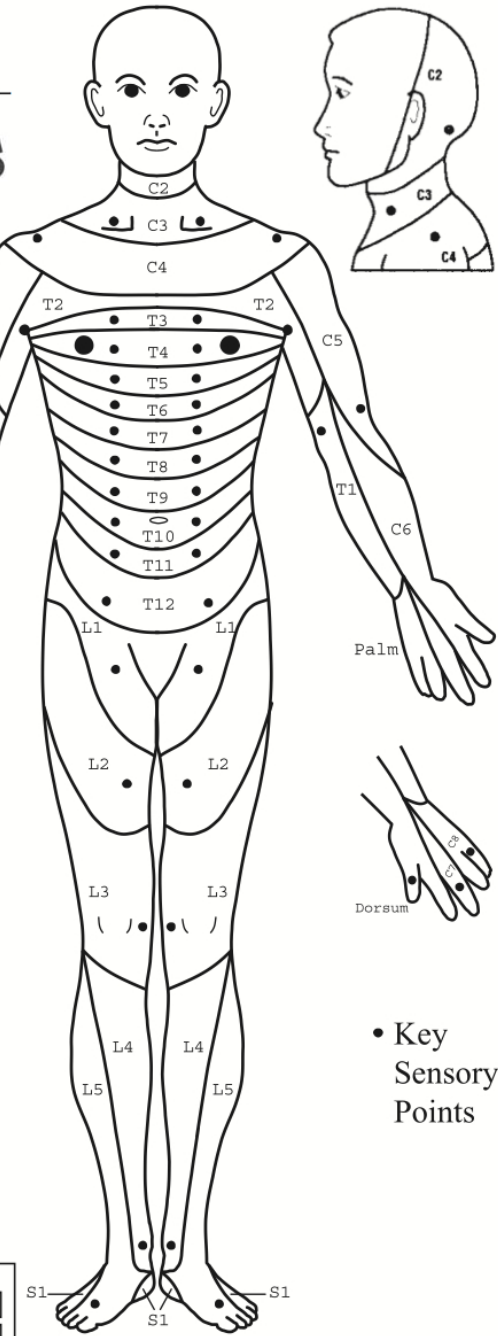
Halvsidigt (Brown-Séguard): smt+tmp krydser
 Anterior (SAS) eller posterior
 Centralt (OE) eller blandet

Patient Name _____

Examiner Name _____ Date/Time of Exam _____



STANDARD NEUROLOGICAL CLASSIFICATION OF SPINAL CORD INJURY



MOTOR

KEY MUSCLES
(scoring on reverse side)

	R	L	
C5	<input type="checkbox"/>	<input type="checkbox"/>	Elbow flexors
C6	<input type="checkbox"/>	<input type="checkbox"/>	Wrist extensors
C7	<input type="checkbox"/>	<input type="checkbox"/>	Elbow extensors
C8	<input type="checkbox"/>	<input type="checkbox"/>	Finger flexors (distal phalanx of middle finger)
T1	<input type="checkbox"/>	<input type="checkbox"/>	Finger abductors (little finger)

UPPER LIMB TOTAL (MAXIMUM) + =
(25) (25) (50)

Comments:

L2	<input type="checkbox"/>	<input type="checkbox"/>	Hip flexors
L3	<input type="checkbox"/>	<input type="checkbox"/>	Knee extensors
L4	<input type="checkbox"/>	<input type="checkbox"/>	Ankle dorsiflexors
L5	<input type="checkbox"/>	<input type="checkbox"/>	Long toe extensors
S1	<input type="checkbox"/>	<input type="checkbox"/>	Ankle plantar flexors

Voluntary anal contraction (Yes/No)

LOWER LIMB TOTAL (MAXIMUM) + =
(25) (25) (50)

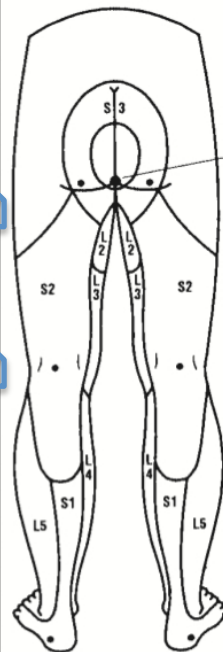
LIGHT TOUCH PIN PRICK

	LIGHT TOUCH		PIN PRICK	
	R	L	R	L
C2				
C3				
C4				
C5				
C6				
C7				
C8				
T1				
T2				
T3				
T4				
T5				
T6				
T7				
T8				
T9				
T10				
T11				
T12				
L1				
L2				
L3				
L4				
L5				
S1				
S2				
S3				
S4-5				

SENSORY

KEY SENSORY POINTS

0 = absent
1 = impaired
2 = normal
NT = not testable



TOTALS { + = }
(MAXIMUM) (56) (56) (56) (56)

Any anal sensation (Yes/No)
 PIN PRICK SCORE (max: 112)
 LIGHT TOUCH SCORE (max: 112)

NEUROLOGICAL LEVEL
The most caudal segment with normal function

	R	L
SENSORY	<input type="checkbox"/>	<input type="checkbox"/>
MOTOR	<input type="checkbox"/>	<input type="checkbox"/>

COMPLETE OR INCOMPLETE?
Incomplete = Any sensory or motor function in S4-S5

ASIA IMPAIRMENT SCALE

ZONE OF PARTIAL PRESERVATION
Caudal extent of partially innervated segments

	R	L
SENSORY	<input type="checkbox"/>	<input type="checkbox"/>
MOTOR	<input type="checkbox"/>	<input type="checkbox"/>

• Key Sensory Points



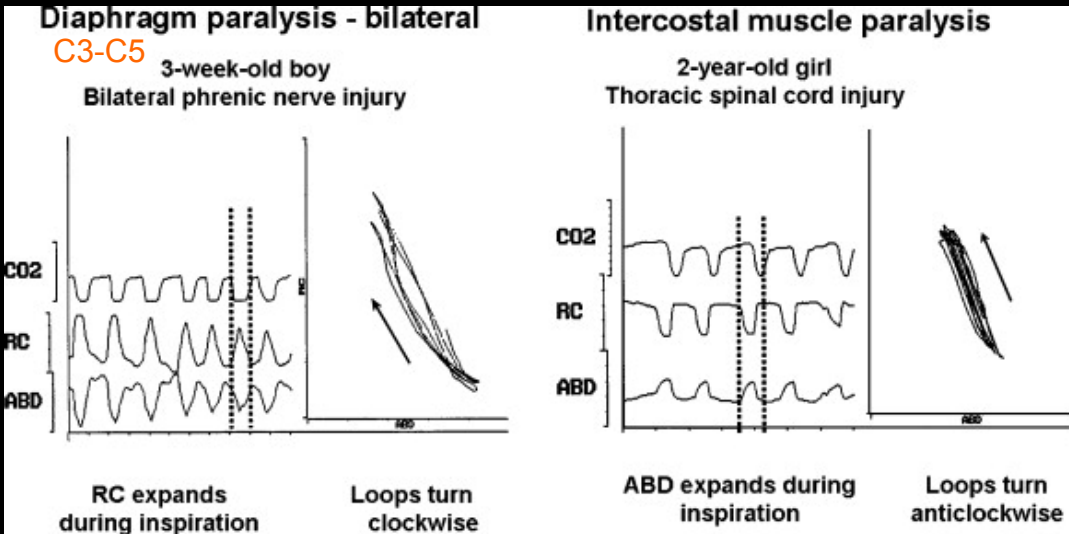
Paralytisk ileus



Nedsat svedsekretions distalt



Erektiv dysfunktion



Respiratoriske indtrækninger (C5-Th6)



Autonom dysfunktion
 Hvp, HT, bradykardi, flushing - blæredistension

Kardiovaskulære symptomer

Cervikal medullær læsion kan medføre **funktionel sympatectomi**

- Nedsat hjerterefrekvens
- Nedsat cardiac output
- Nedsat blodtryk



Risiko for lungeødem ved behandling !

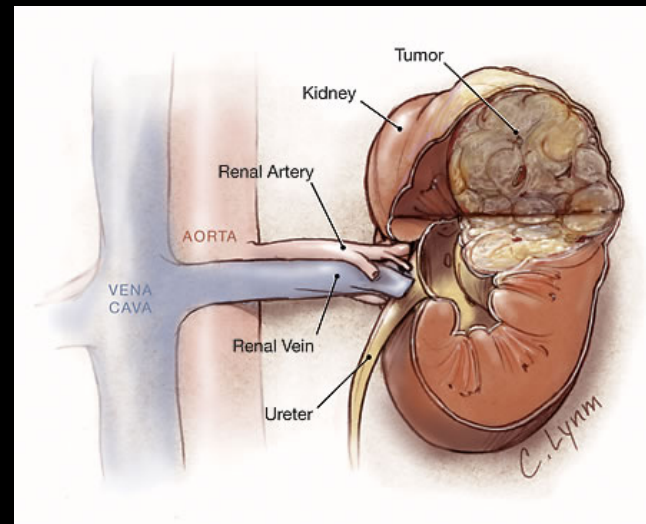
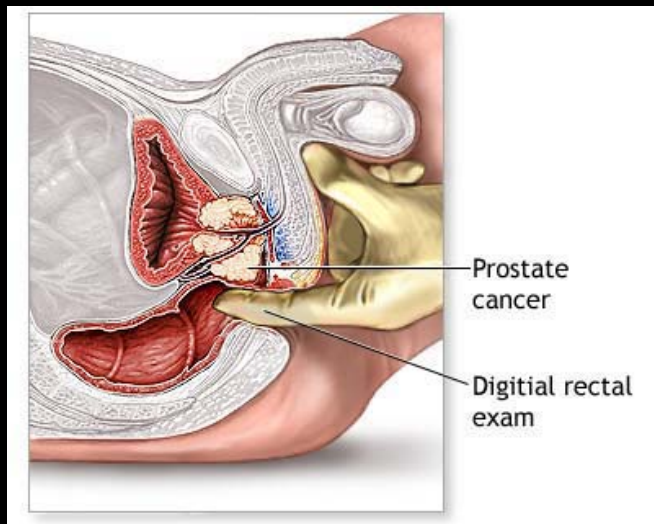
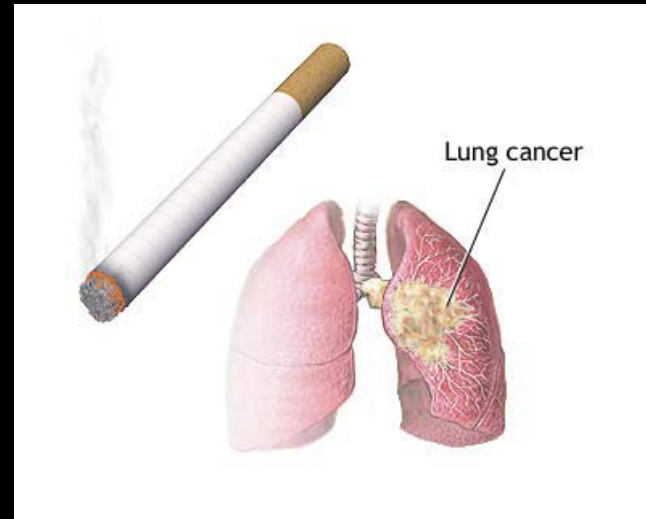
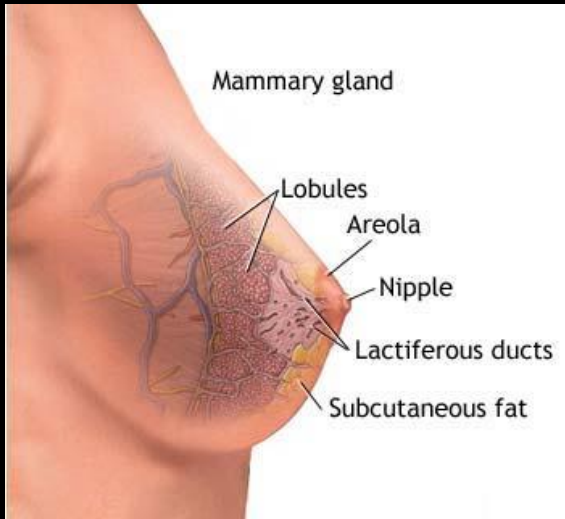
Prediction Model Spinal Metastasis

“Metastaser”



70% sidder thorakalt
85% svt. corpus vertebra

Primær tumor



CASE



Besøg hos e.l. pga.
tiltagende og
betydelige
gangproblemer

Hvad vil du spørge pt.
om? Hvilke
undersøgelser?



B



Columnafraktur



Epidemiologi



- 80 % < 40 år
- Mænd : Kvinder = 3:1
- 50% : Trafikulykker
- 40% : Faldulykker
- 10% : Andet
- 500 / mill / år
- Medullær læsion: 60-70 årligt i DK

Generelt

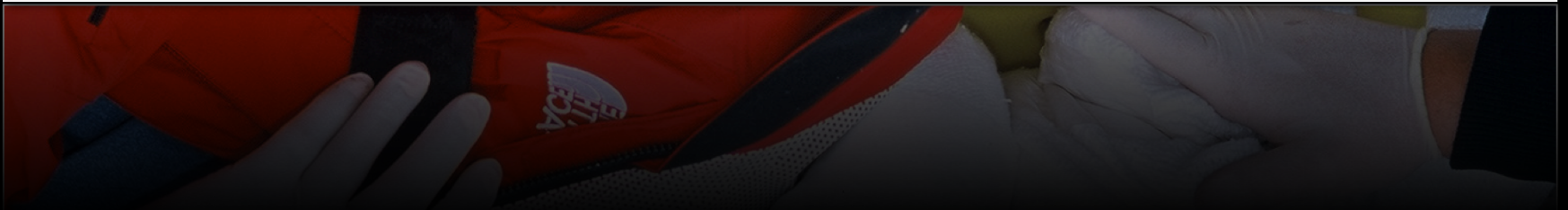
- Fraktur af columna skal altid mistænkes ved højenergitraumer
- Bevidstløse pt. skal altid mistænkes for evt. fraktur/medullær skade indtil det er afkræftet
- Columnaskade med medullær påvirkning kræver akut behandling for at begrænse skadevirkningerne. Den primære skade forværres af hypoxi og lavt perfusionstryk
- Columna lejres stabilt. Undlad forsøg på reposition. Tænk på risiko for tryksår ved lejring og bandagering.

Undersøgelse efter traumeprotokol

ATLS-princippet

- **A-B-C-D-E**: frie luftveje, MAP>75, GCS>7
- Stabilisere col. cerv. med stiv halskrave
- (D: Hurtig klinisk/neurologisk undersøgelse)
- Billeddiagnostik: røntgen (thorax, bækken, col. cervicalis), UL-abdomen, CT, MT
- Klinisk undersøgelse (husk rectal eksploration)
- GCS<8 intub., ICP<20, CPP>60, O₂>12, CO₂ 4,5

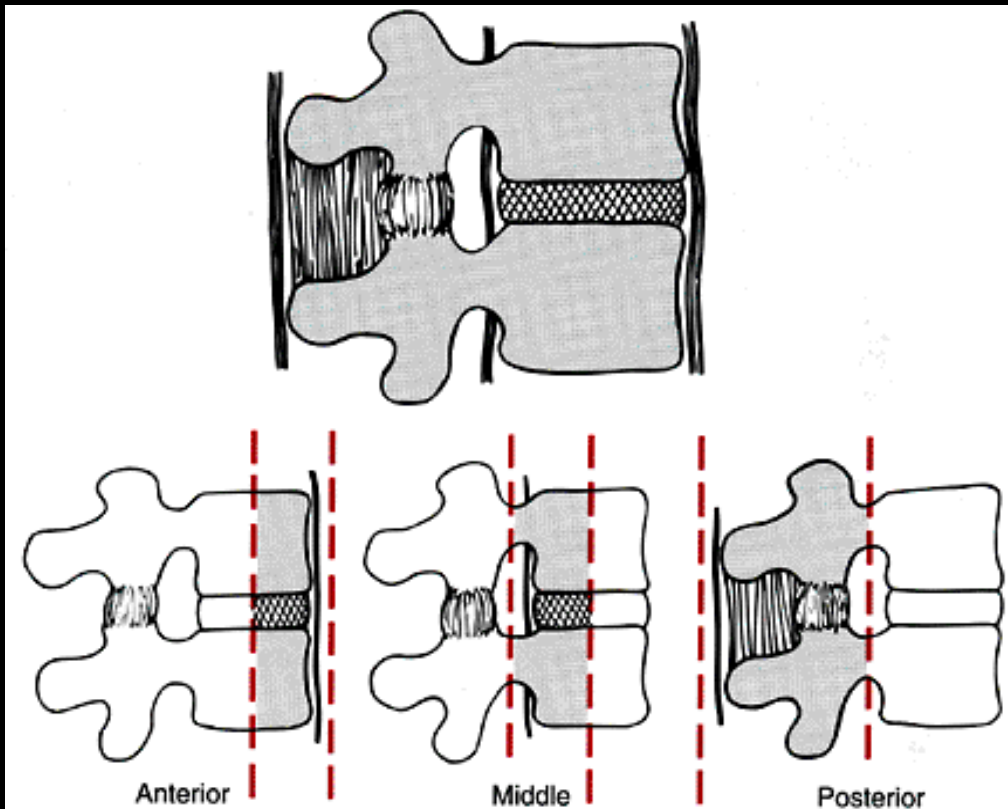
Præhospital immobilisation





Spinal stabilitet

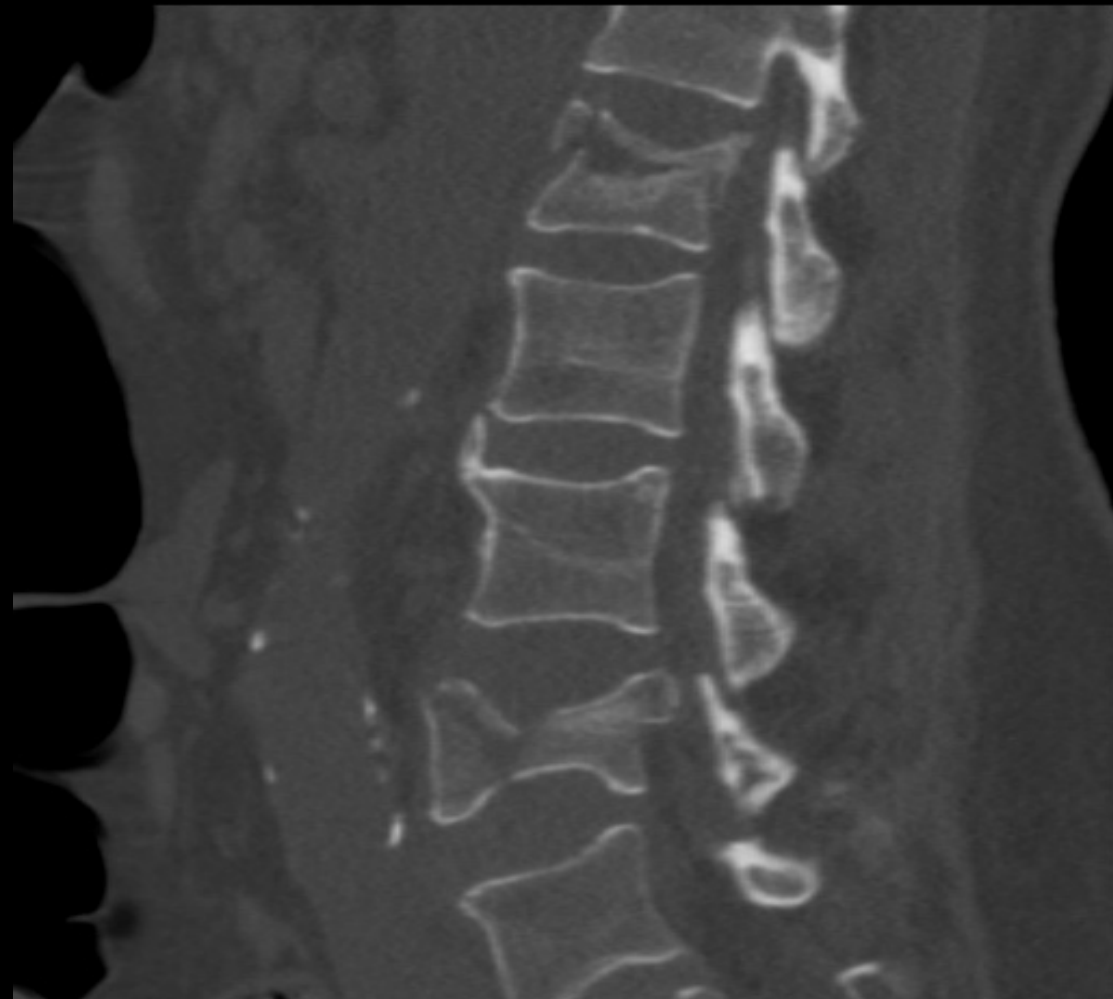
Evnen til at opretholde relationerne mellem de enkelte hvirvler på en sådan måde at der ikke på baggrund af fysiologiske belastninger sker statiske eller progredierende strukturelle ændringer hvorved der sker en skade på **nervevævet**, tilkommer betydende **fejlstilling** eller tilkommer **smerter**



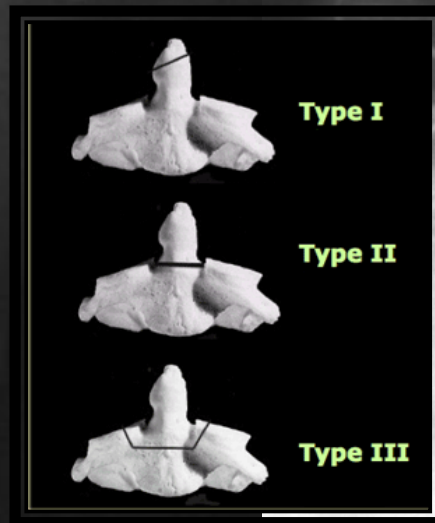
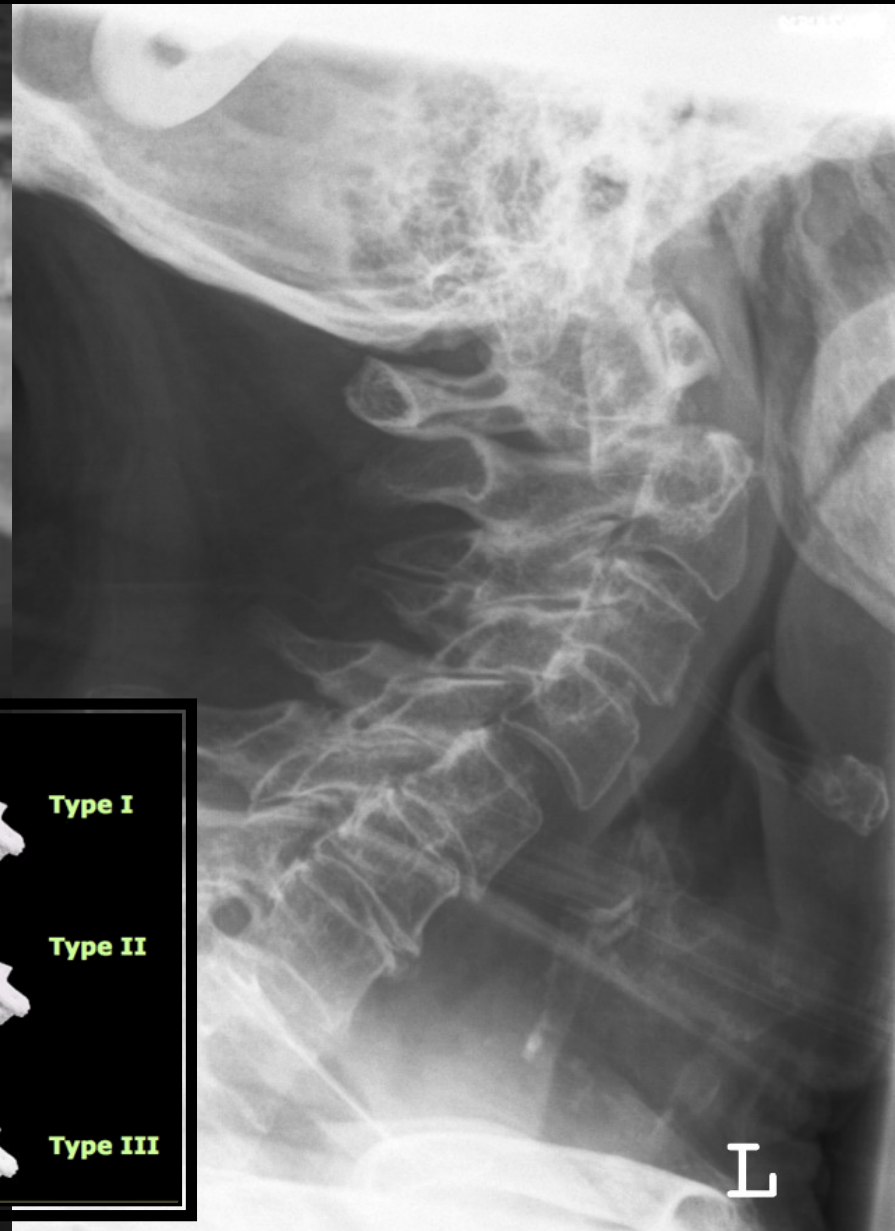
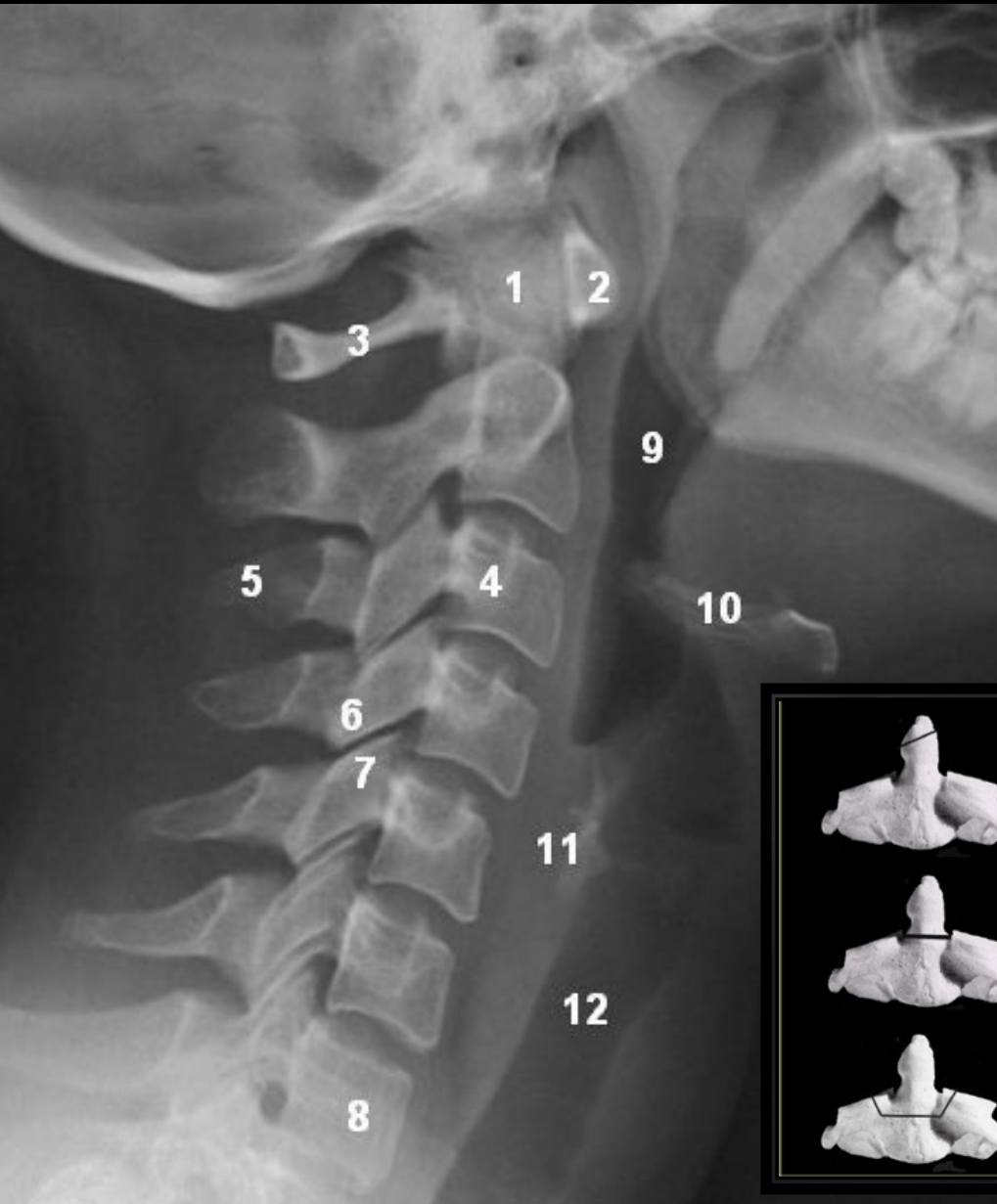
Behandling afhænger af:

- Ustabil fraktur?
- Operation?
- Pt's almentilstand?
- Kooperation?

CT-skanning

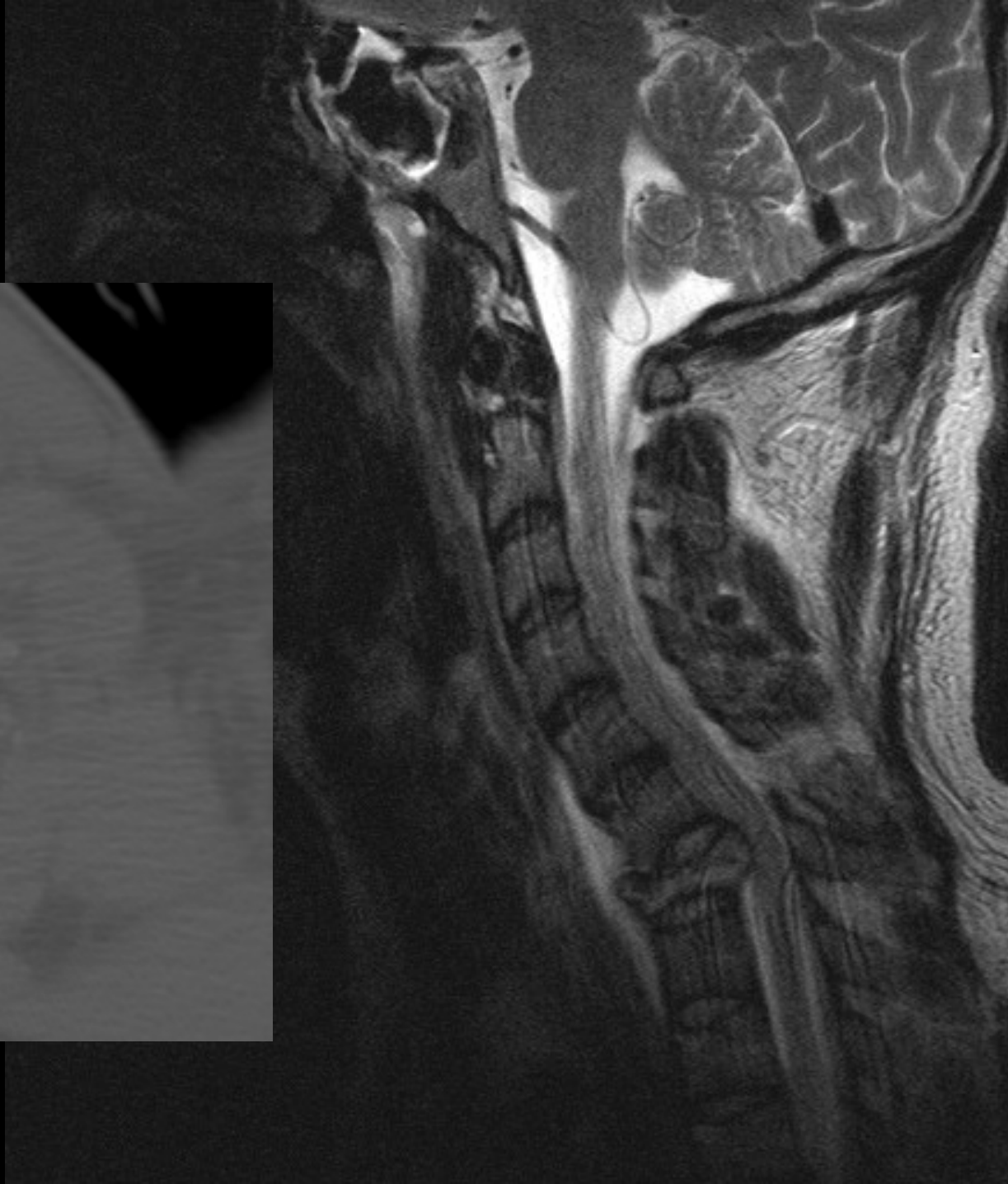
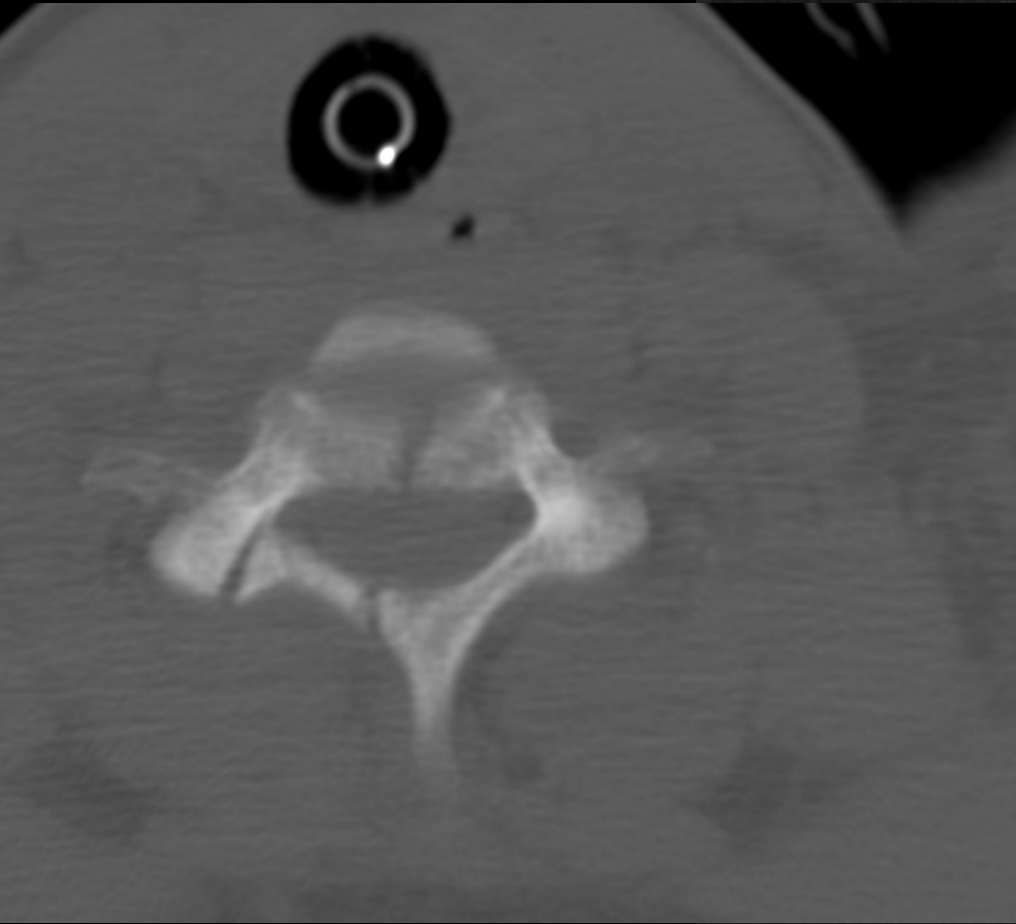


Dens-fraktur



C1/C2 instabilitet

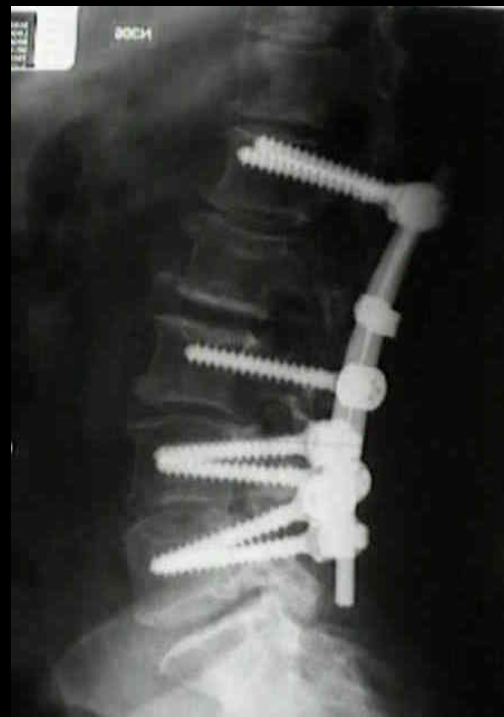
A lateral X-ray of the cervical spine. The image shows the bony structures of the neck, including the skull base, the axis (C2), and the rest of the cervical vertebrae. A black line is drawn along the anterior surface of the C1 and C2 vertebral bodies to highlight the instability. The line shows a significant step-off or discontinuity at the C1/C2 level, indicating a fracture or severe ligamentous injury. The rest of the spine appears relatively normal.



Klassifikation af cervikale frakturer

- Occipito-cervikale samt dislokationer
- Øvre (C1-C2): Jefferson fraktur (Atlas), Dens/
Hangmann (C2)
- Nedre (C3-C7): afh. af traumemekanismen



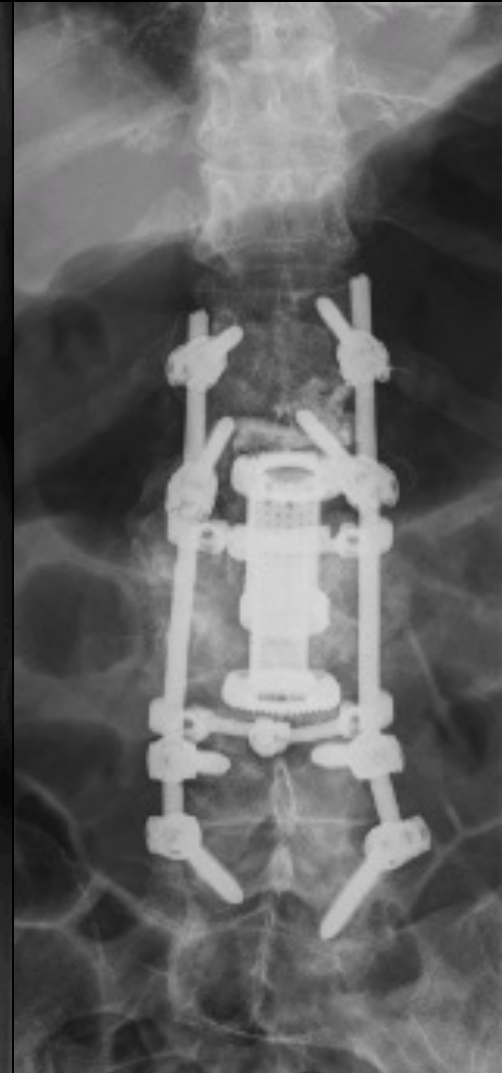


Behandling

Konservativ behandling gennem immobilisation med stiv halskrave, Halovest eller korset. Evt. stræk og sengeleje.



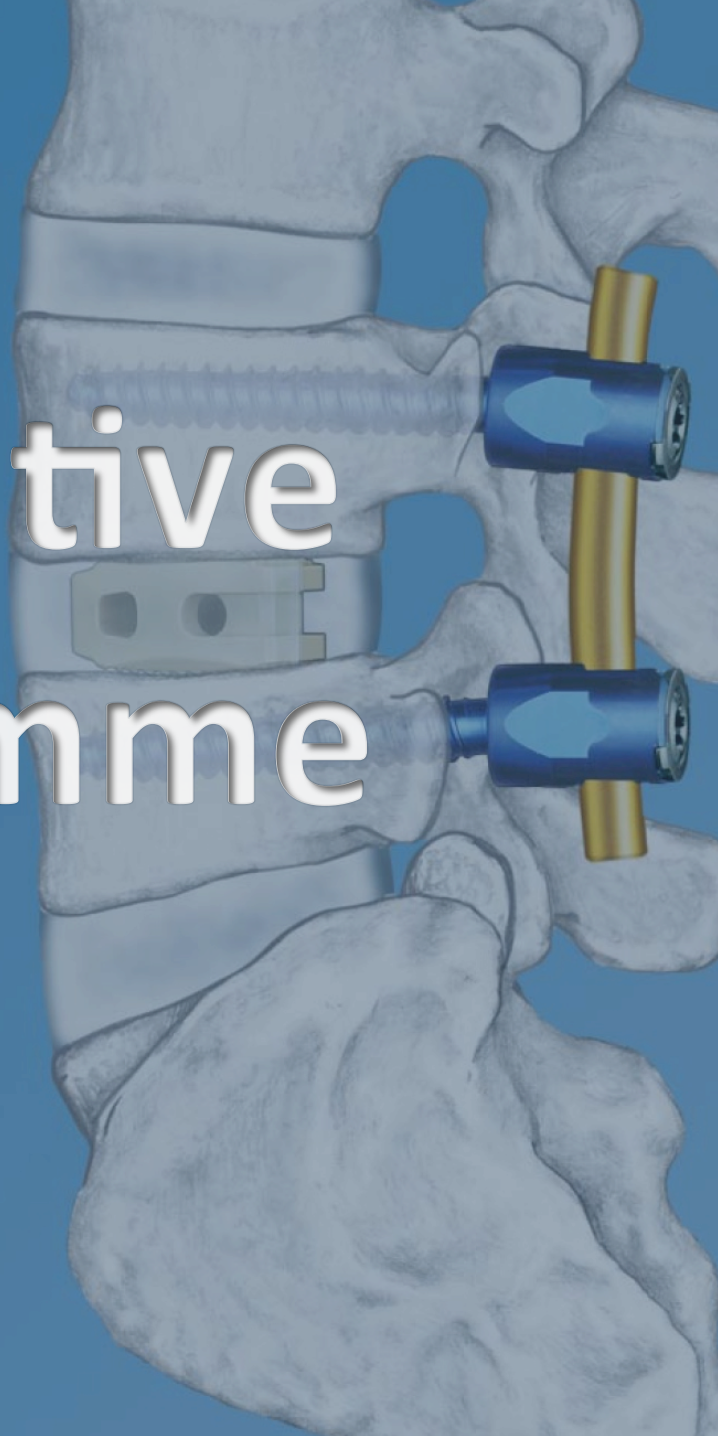
L2-fraktur



HUSK!

- Røntgen af columna cervicalis ved svært hovedtraume - 1:20 har fraktur
- Evt. funktionsoptagelse
- Medulla slutter ved L1

Degenerative rygsygdomme





10-03-2012 09:58 Smerter i nakke, ryg og ud i hø. arm
Nyligt op. i nakkehvirvlerne

Obj.:

Egal nat. neurologi

st p et c ia

Massivt myotisk over begge skuldre/nakke, mest over hø. side

Er i max. smertestillende.

Lægger med info og varsel muskelrelaxans på

Caudavarsel.

Smertetitrering ved e.l. eller privathospitalet

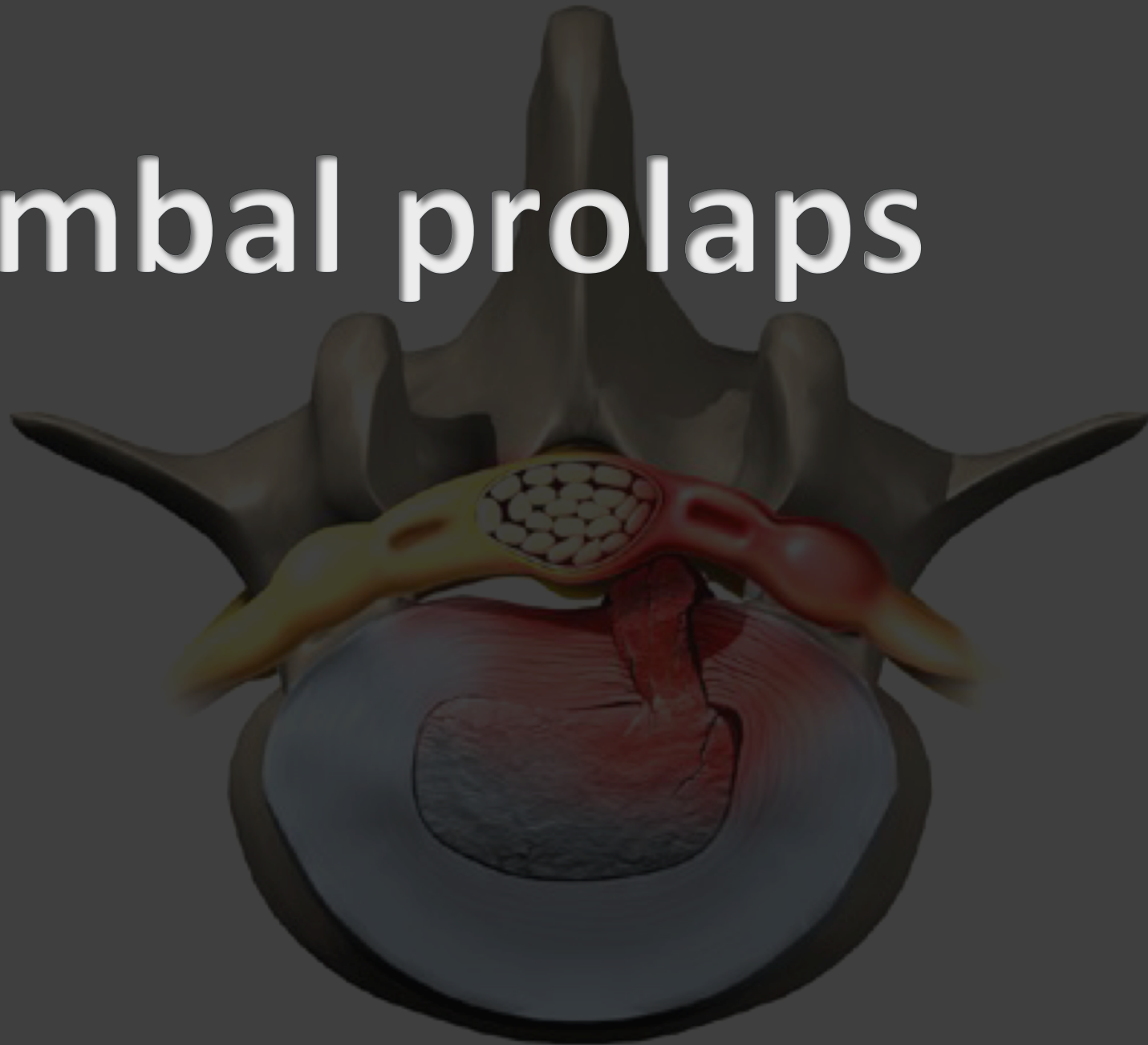
Handling: Konsultation



RYGKIRURGI

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

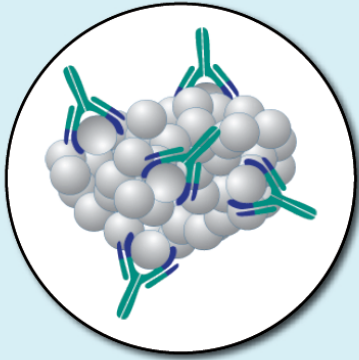
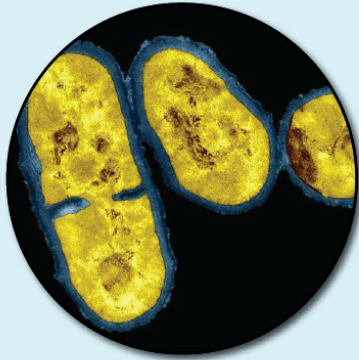
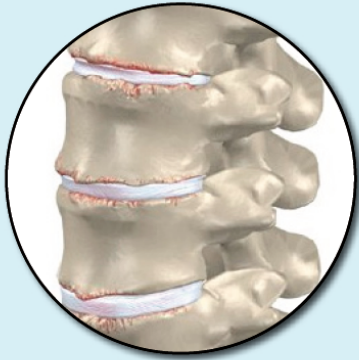
Lumbar prolaps



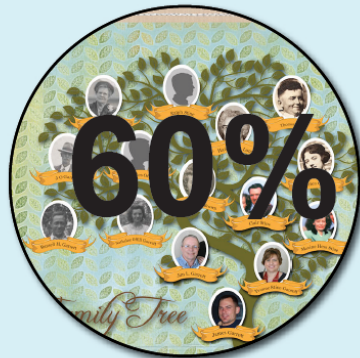
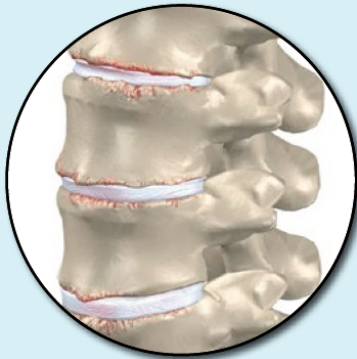
Årsag til diskusdegeneration? ("slidgigt" i ryggen)





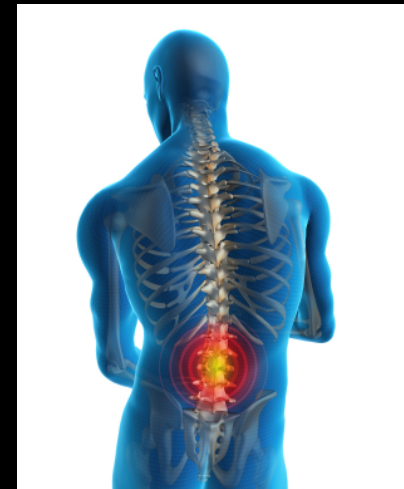
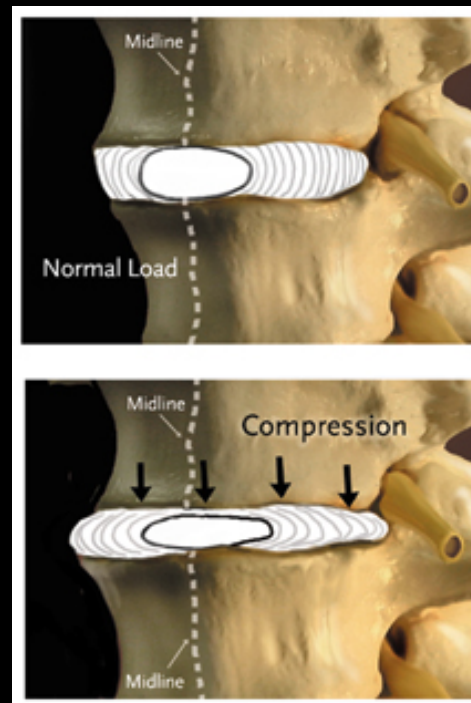
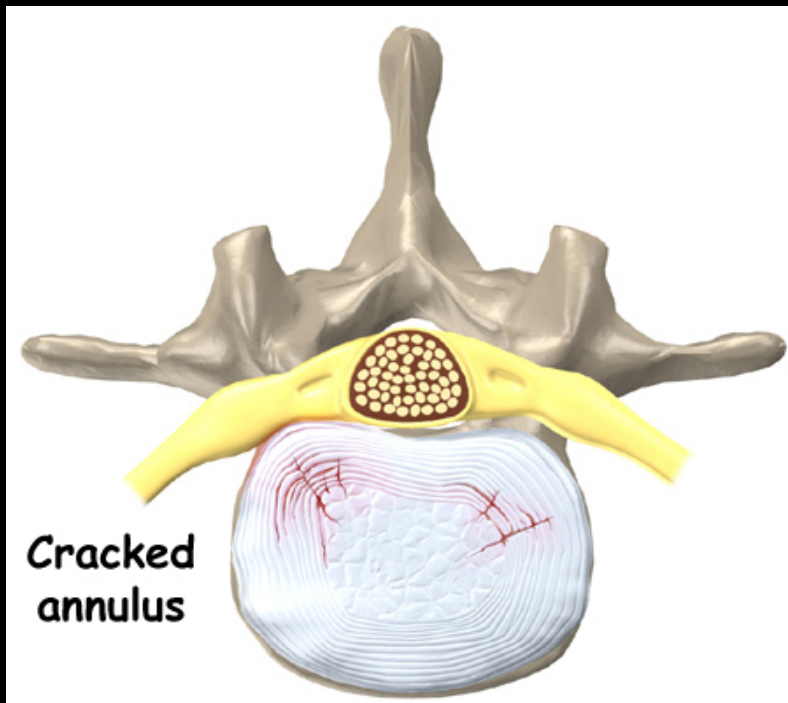


Multifaktoriel kumulativ model



Diskusdegeneration

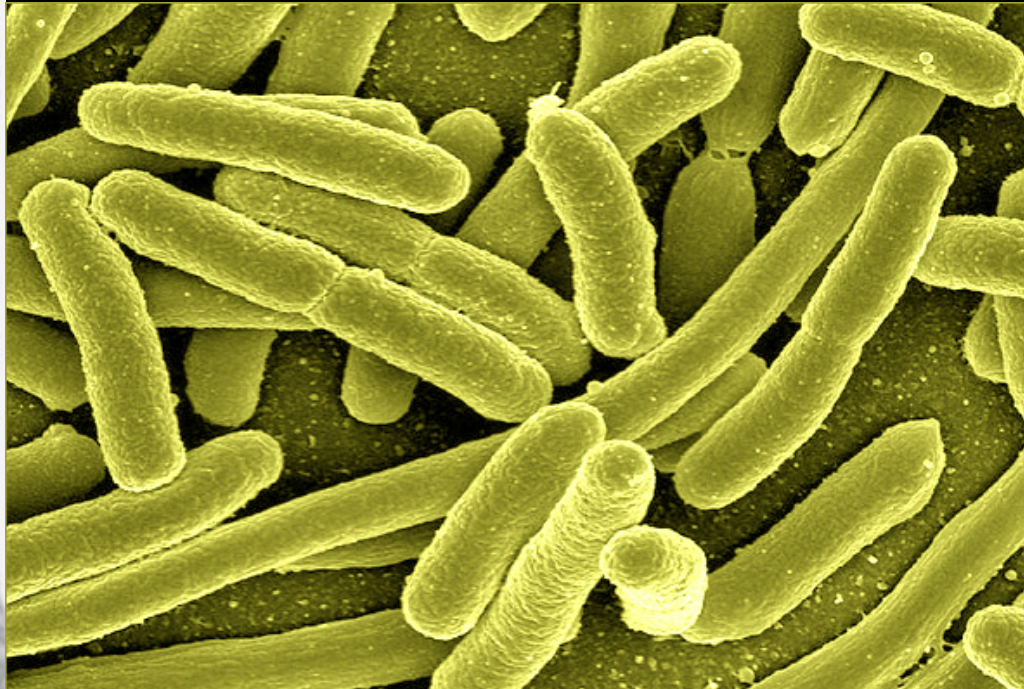
Degeneration af annulus fibrosus med udvikling af sprækker, inflammation, nedsat vandindhold, afladning og smerte



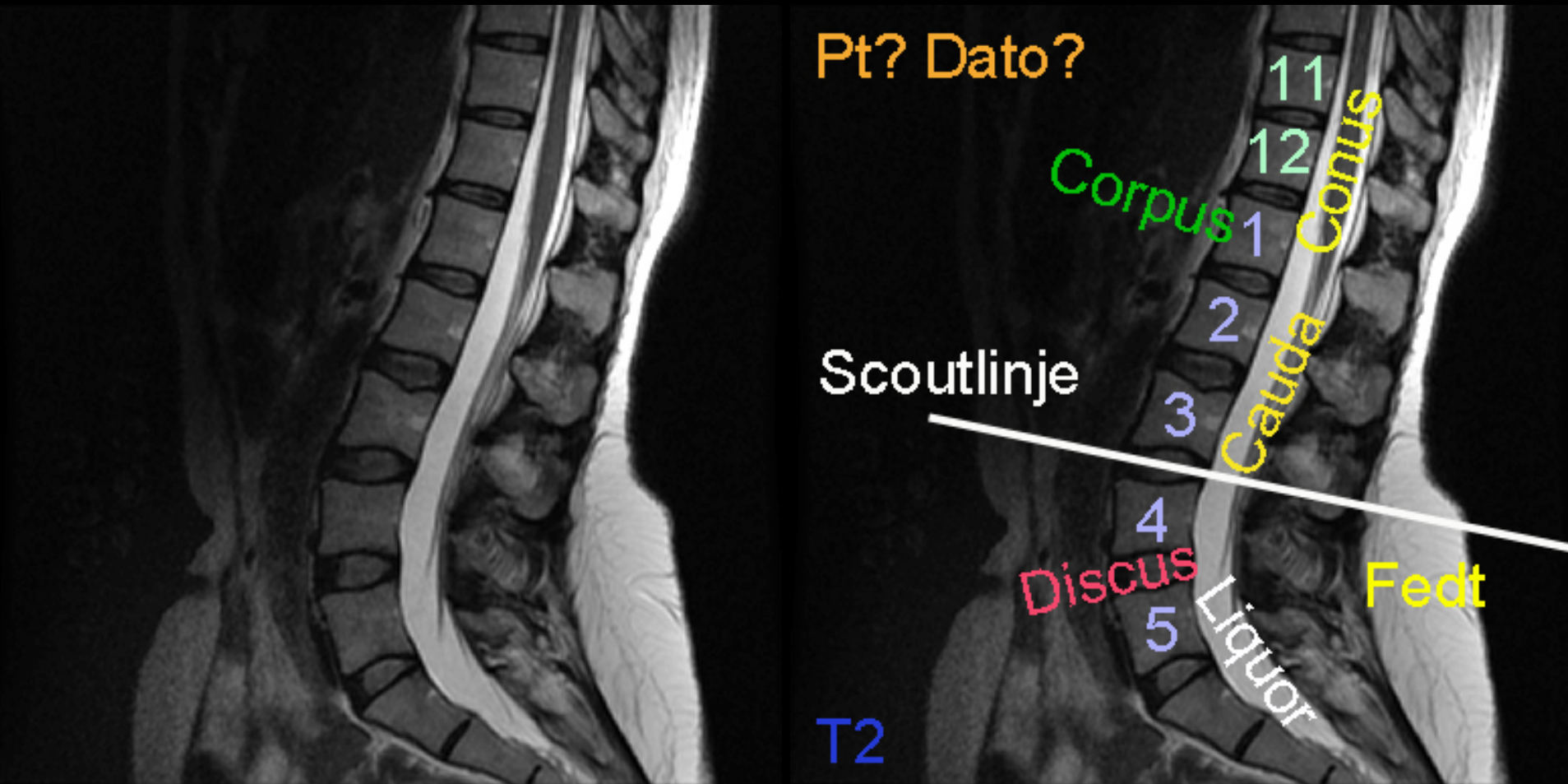
Modic type 1 & Bioclavid

- Baggrundsbefolkningen: 6%
- Lændesmerter: 43%
- Førtdispensionister: 70%

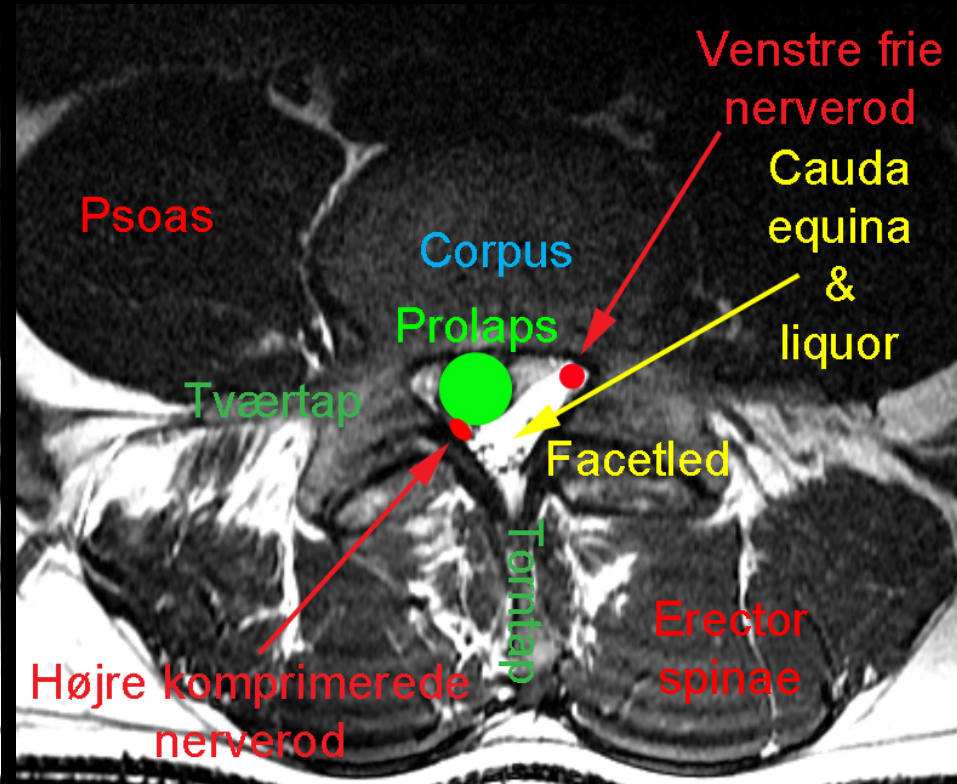
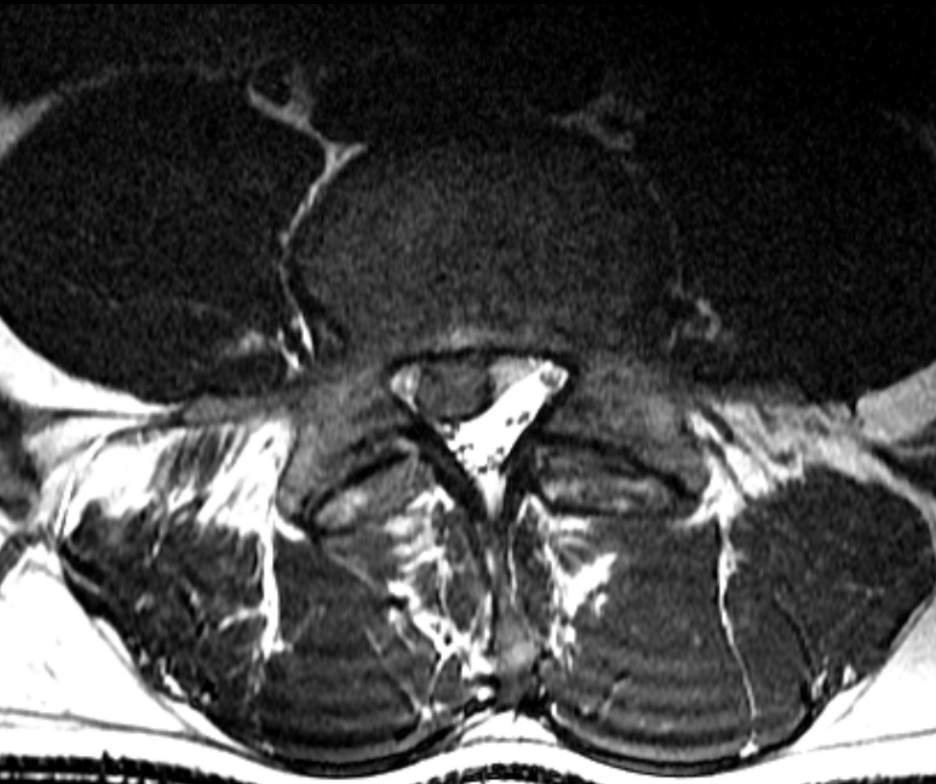
- Propione acnes: propionsyre der "æder" endepladerne
- Bioclavid x 3 i 100 dage
- Modic-klinikker
- Kontaminering?
- Korrekt blinding (bivirkninger)?
- Ren antiinflammatorisk effekt?
- NNT 3-4



MR-skanning (Sag T2)

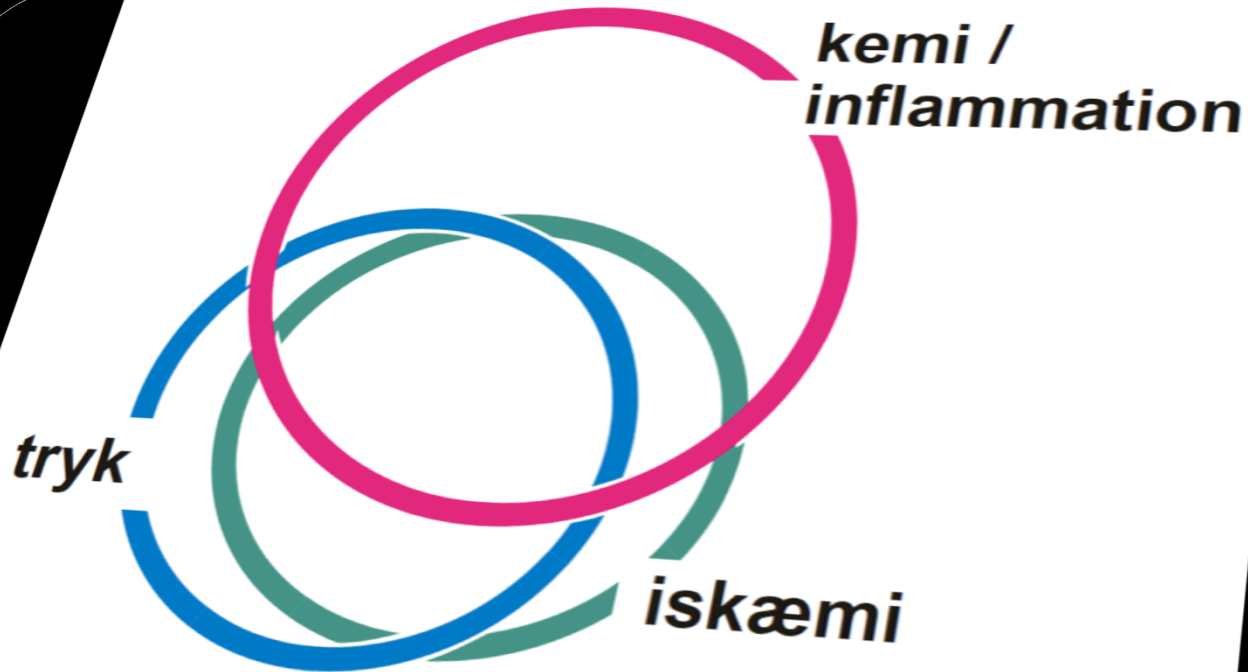


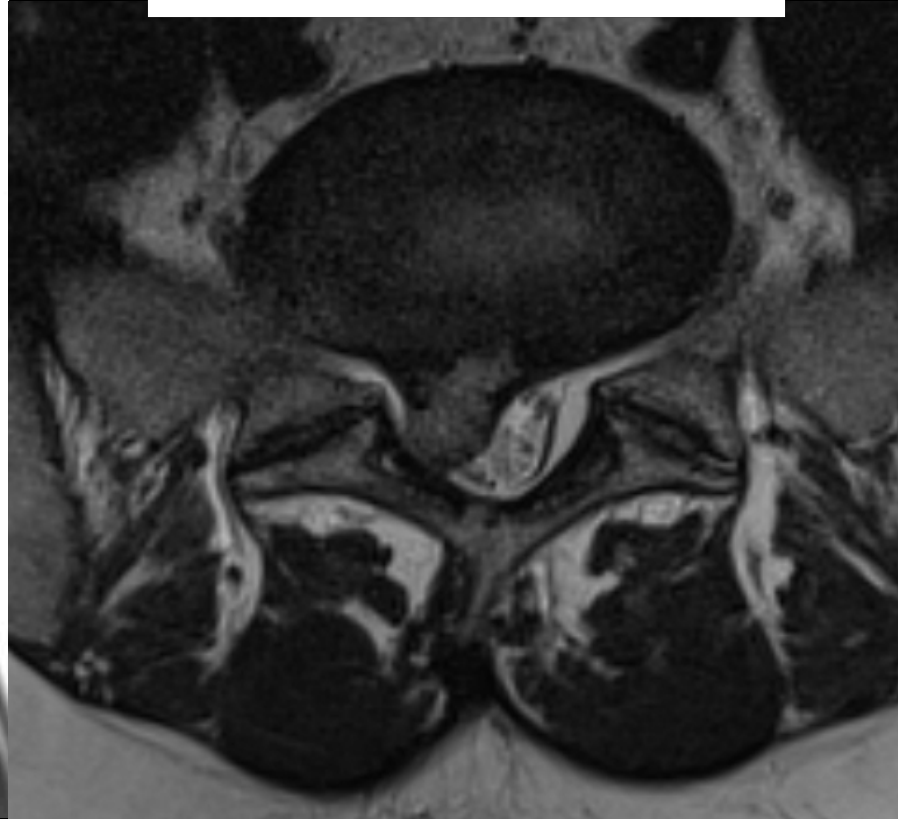
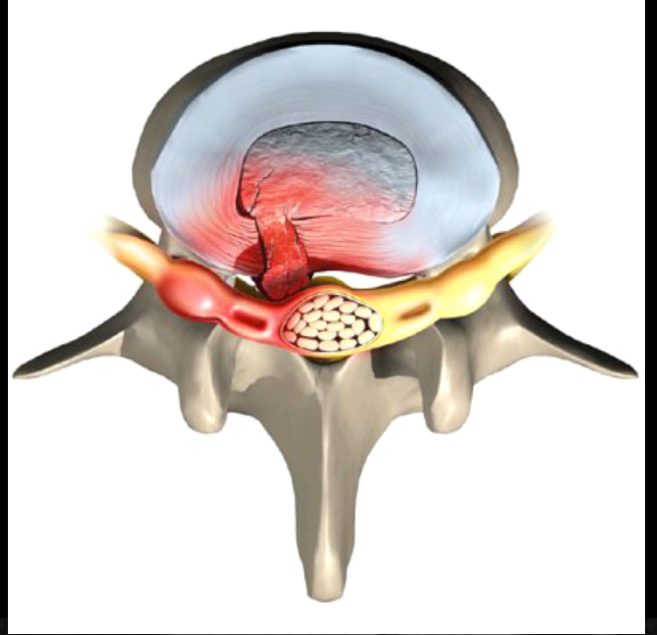
MR-skanning (Hor T2)



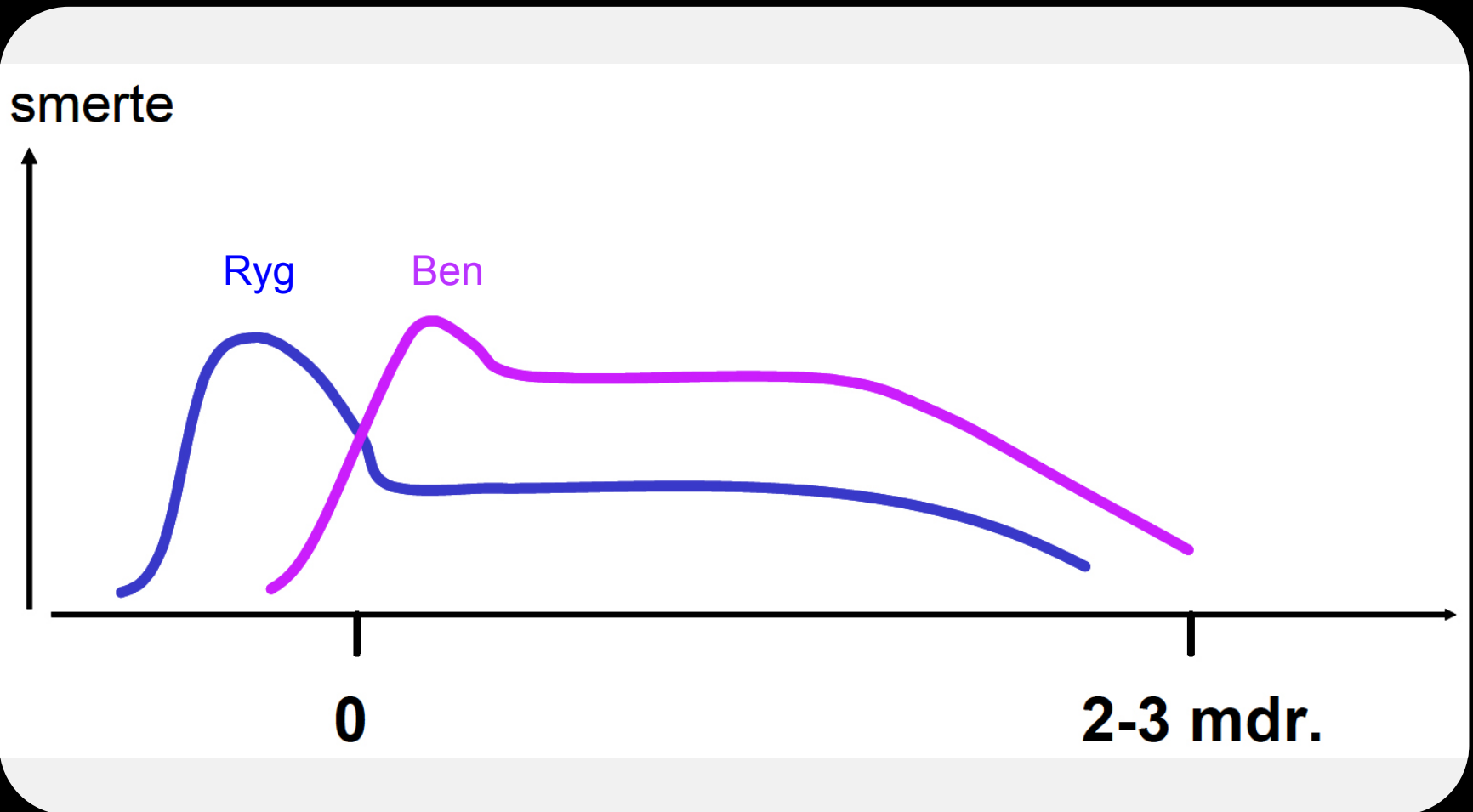
Rodpåvirkning ved discusprolaps

Sensibilisering





Naturforløbet ved discusprolaps



0

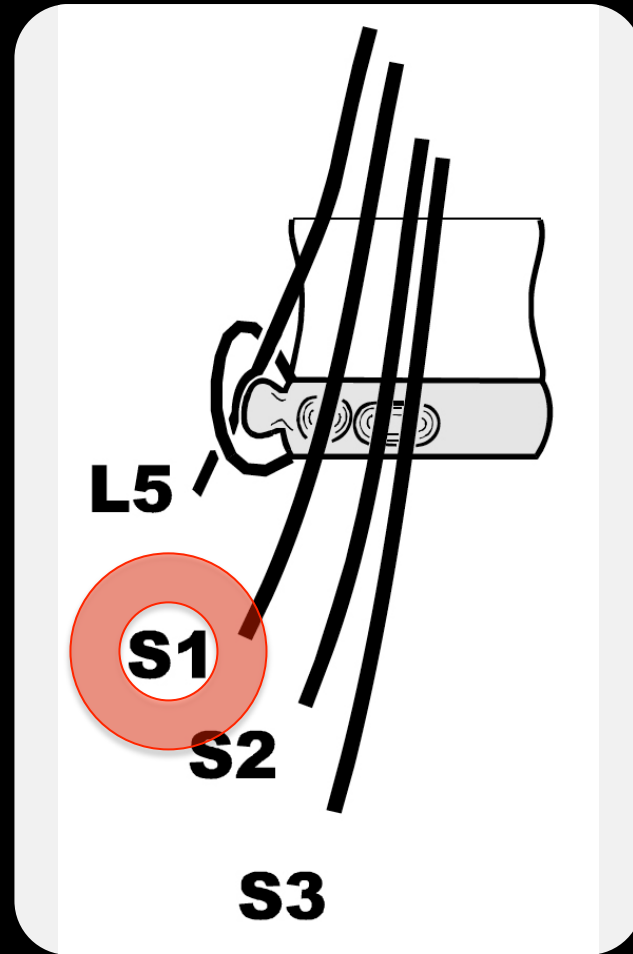
2-3 mdr.



Tabel 7.2. Risikofaktorer for forekomst og kronicitet af lænderygmerter.

	Forekomst	Kronicitet
<i>Individuelle faktorer</i>	<ul style="list-style-type: none"> - Alder - Fysisk form - Arvelighed - Nedsat udholdenhed af rygmuskulatur - Rygning - Dårligt helbred - Lavt uddannelsesniveau - Lav socialgruppe 	<ul style="list-style-type: none"> - Overvægt - Kraftig smerte og funktionsnedsættelse - Ischias smerter - Langvarig sygemelding
<i>Psykosociale faktorer</i>	<ul style="list-style-type: none"> - Stress - Bekymring - Dårlig kognitiv funktion - Lav jobtilfredshed 	<ul style="list-style-type: none"> - Depression - Somatisering - Aggraverende (overdreven) sygdomsadfærd
<i>Arbejdsrelaterede faktorer</i>	<ul style="list-style-type: none"> - Dårligt arbejdsmiljø - Mange belastende vrid - Mange gentagne bevægelser - Mange helkropsvibrationer 	<ul style="list-style-type: none"> - Arbejdsskadesag, erstatnings sag eller pensions sag under behandling - Tungt arbejde / mange løft ved tilbagevenden til arbejde

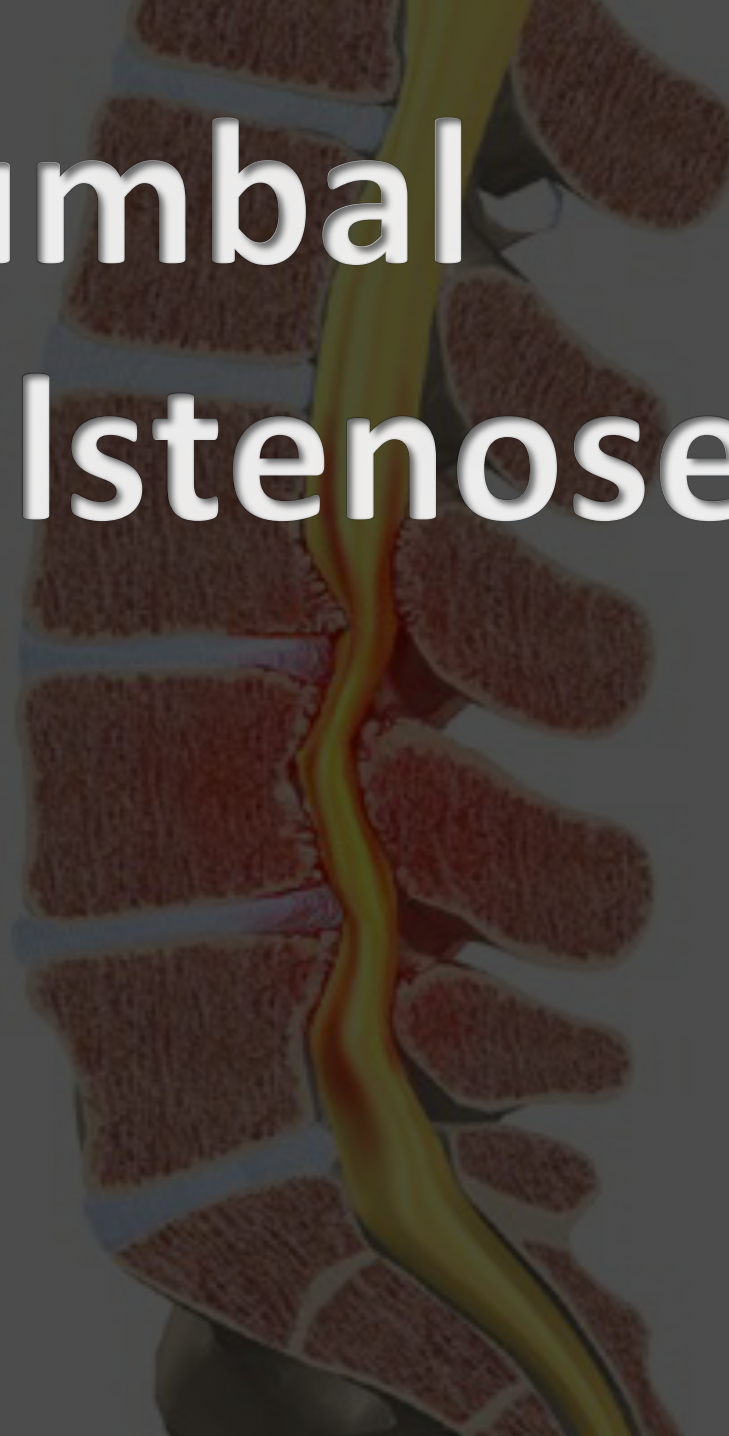
Discusniveau L5/S1



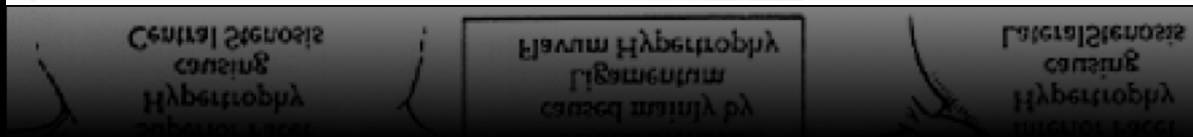
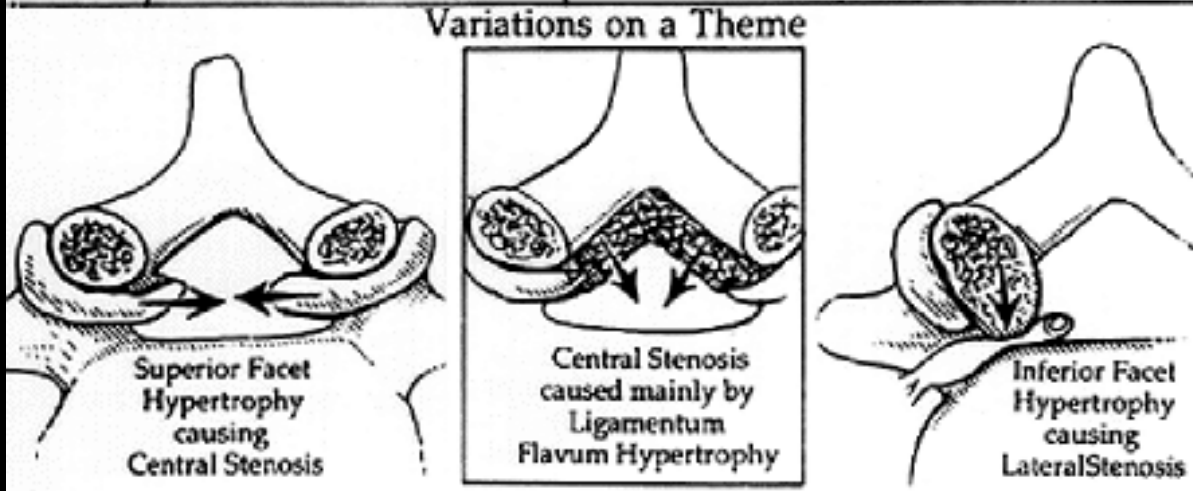
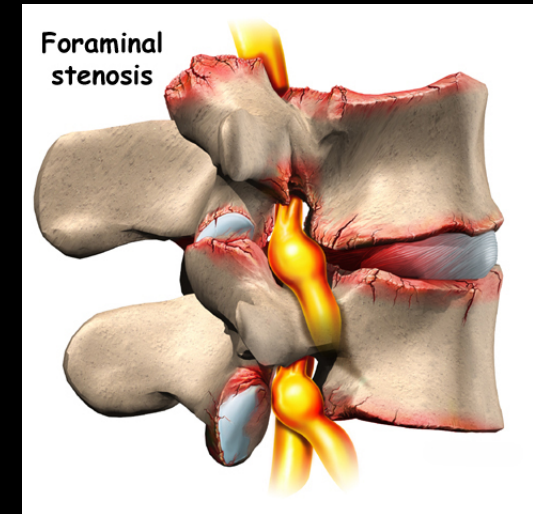
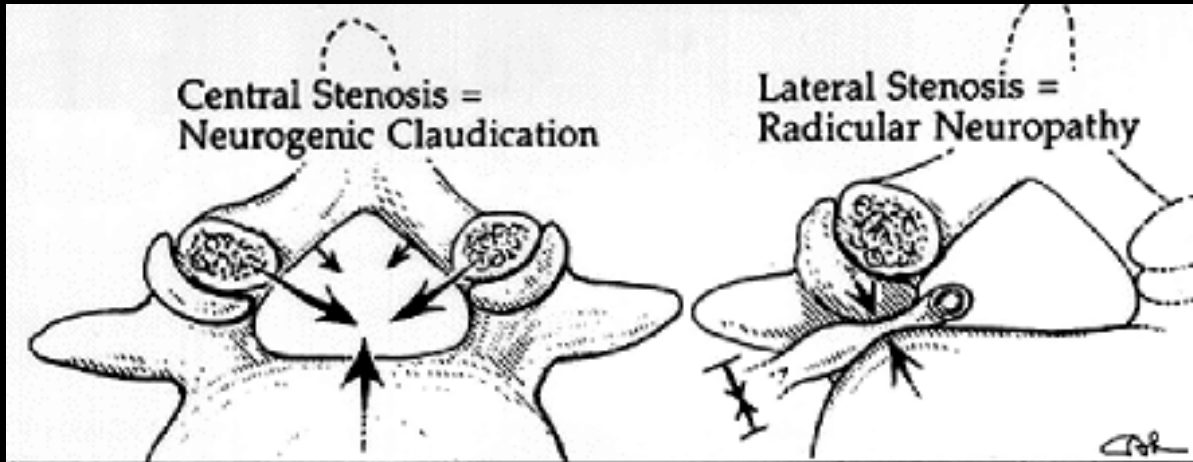
Behandling af diskusprolaps

- **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

Lumbar spinalstenose

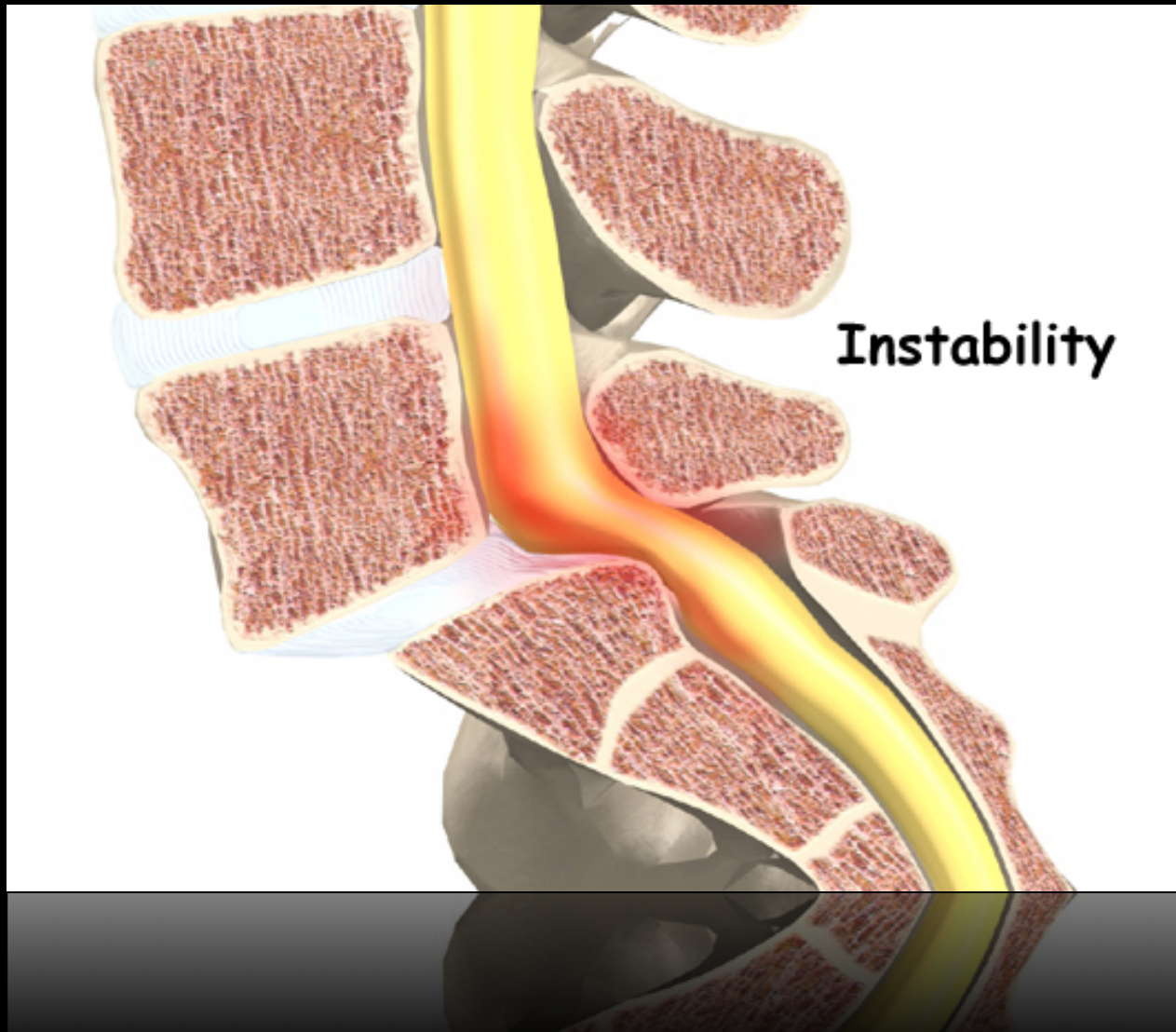


Central eller foraminær/lateral type

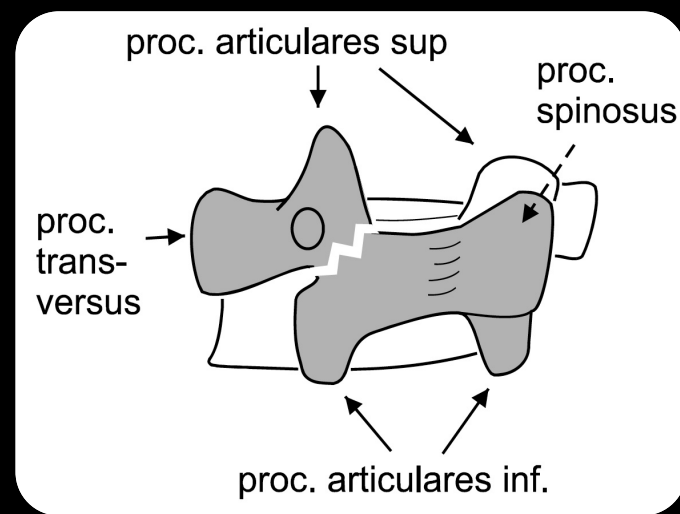


Evt. sammen med olistese (glidning)

I givet fald udføres spondylodese (stivgørende operation)



Arcolyse & spondylolistese



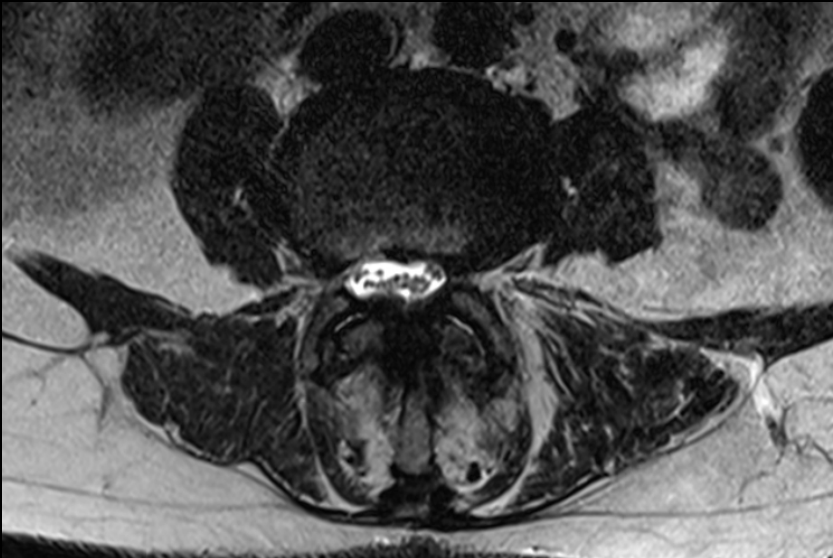
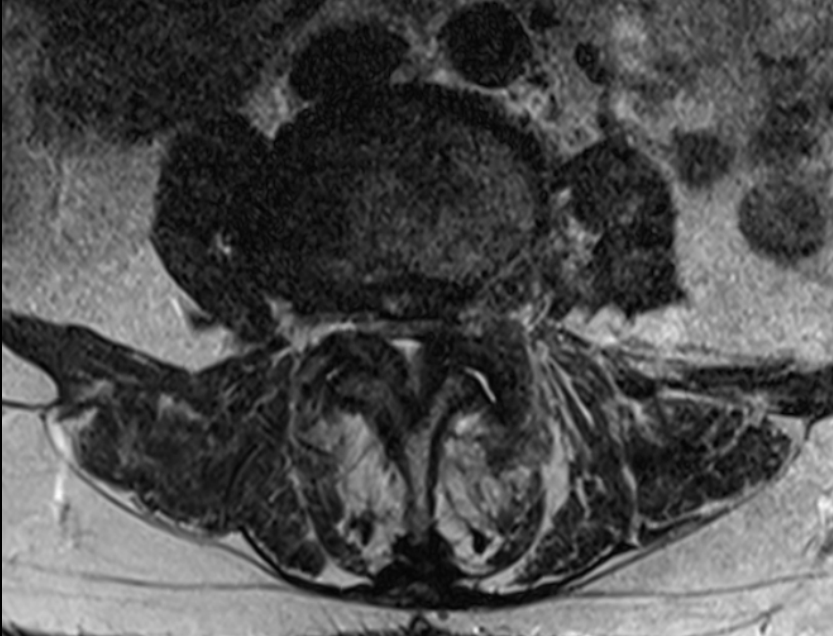
proc. articulares inf.

Klinik

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



MR



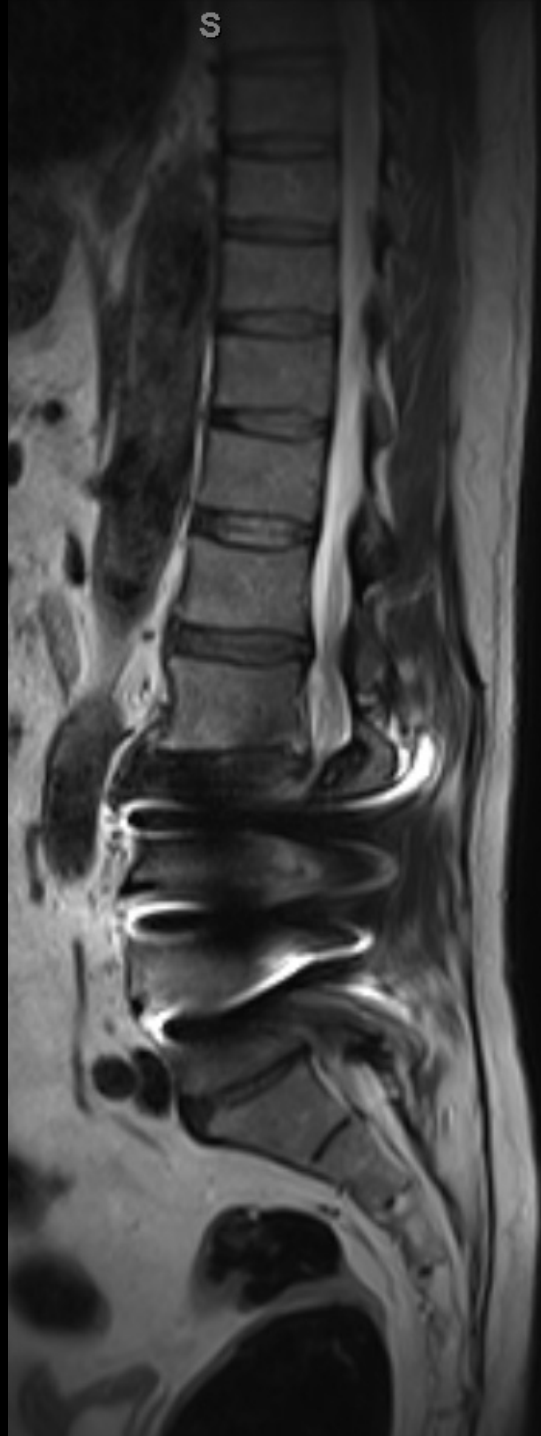
CASE

- 70-årig mand (tidligere skibsmontør)
- 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?

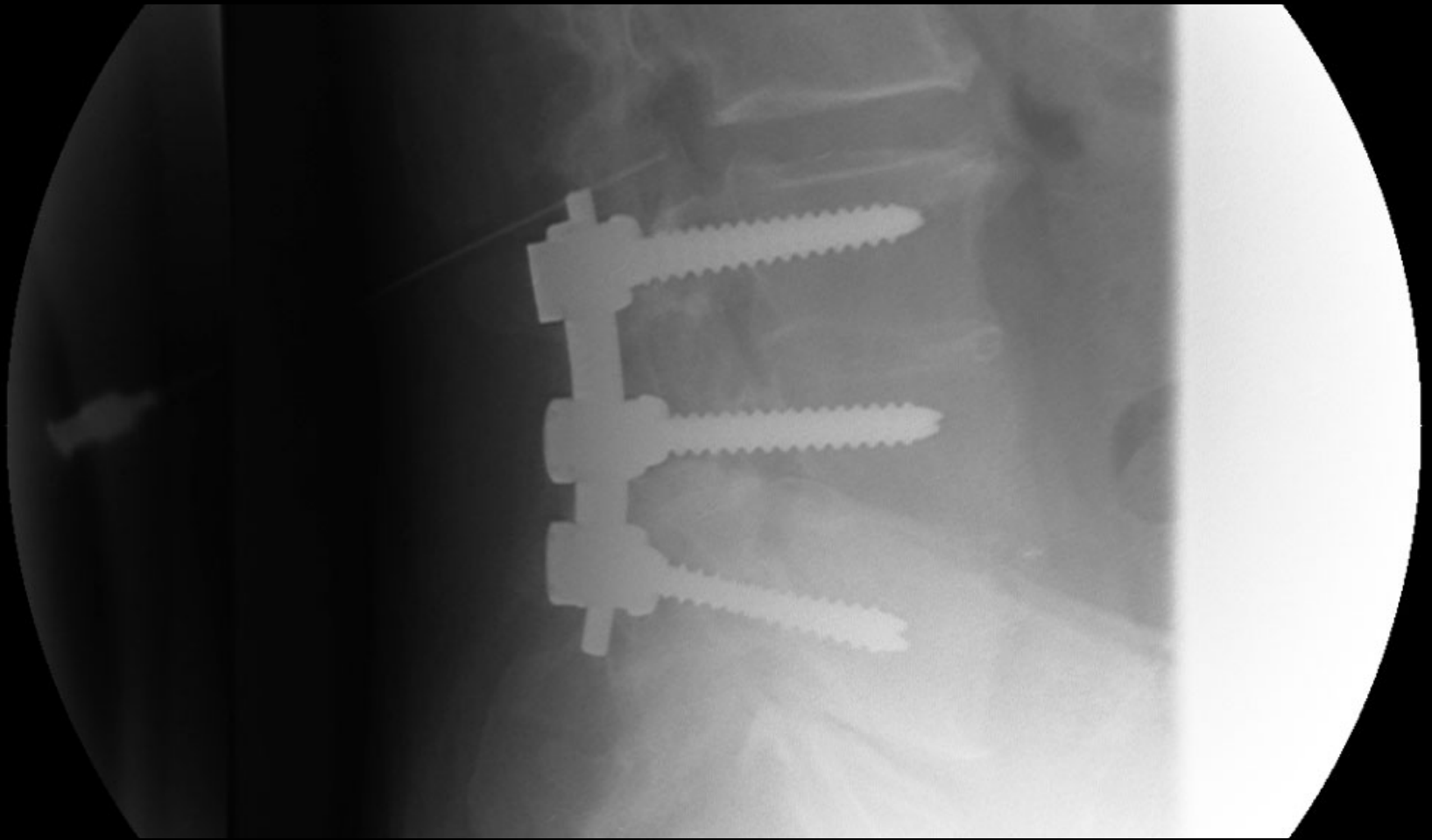
CT-skanning



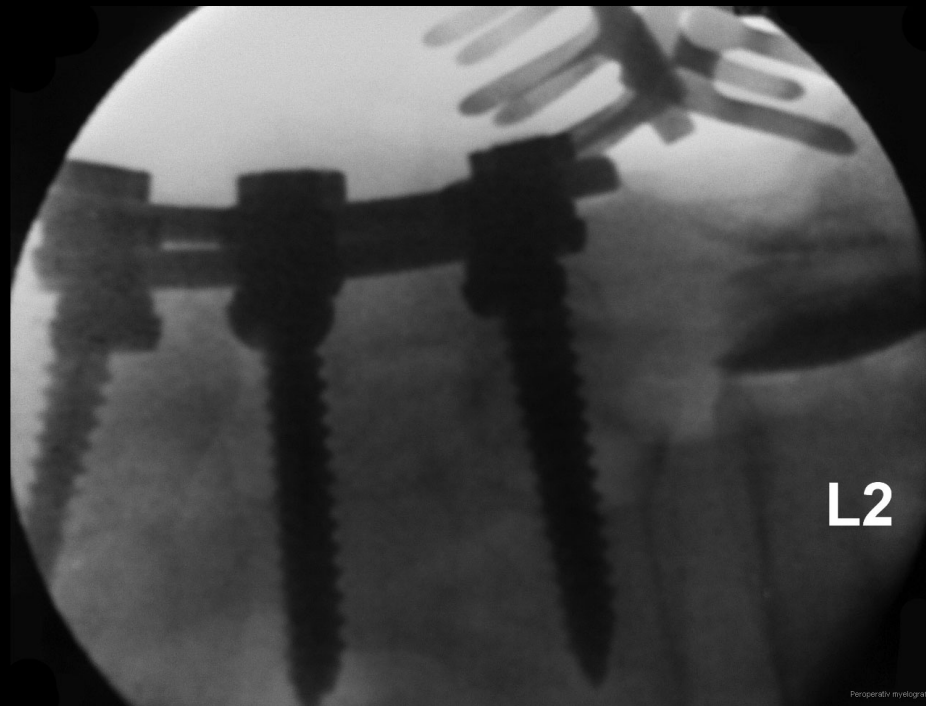


MR-skanning

Myelografi



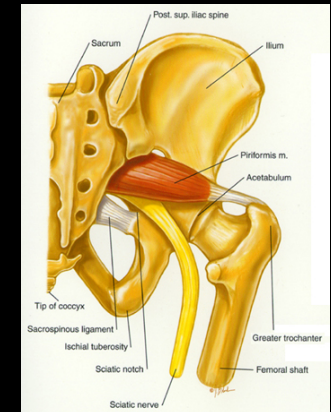
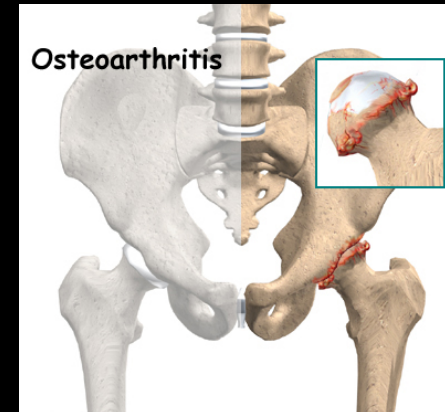
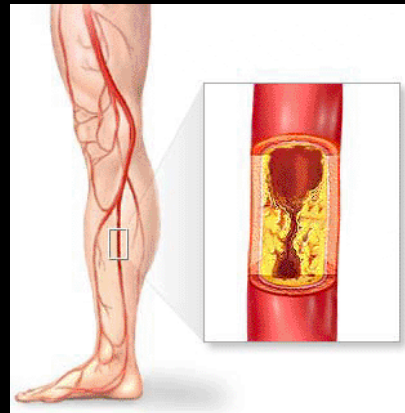
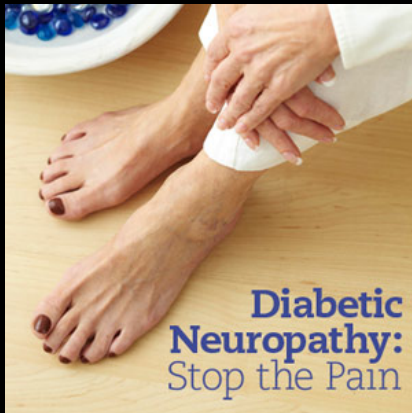
Peroperativ myelografi



Differentialdiagnoser

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

Neurofysiologisk us.
DBT/A-grafi
FABER's test
Freiberg/indadrot.



Behandling



FORVENTNING

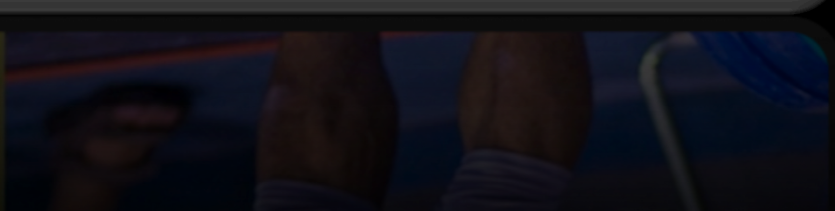
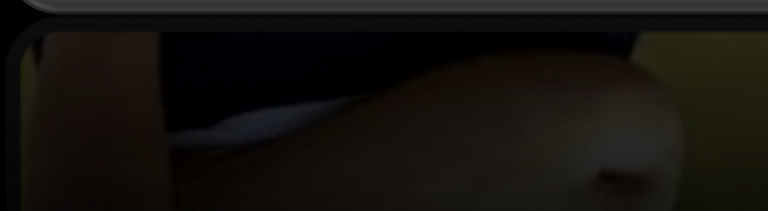
Tiden?
Glødejernet?
Sygemelding?
Pension?

”Rygvræg?”

RYGKIRURGI

- Dekompression (frilægning)
- Spondylodese (stivgøring)
- Korrektion (opretning)



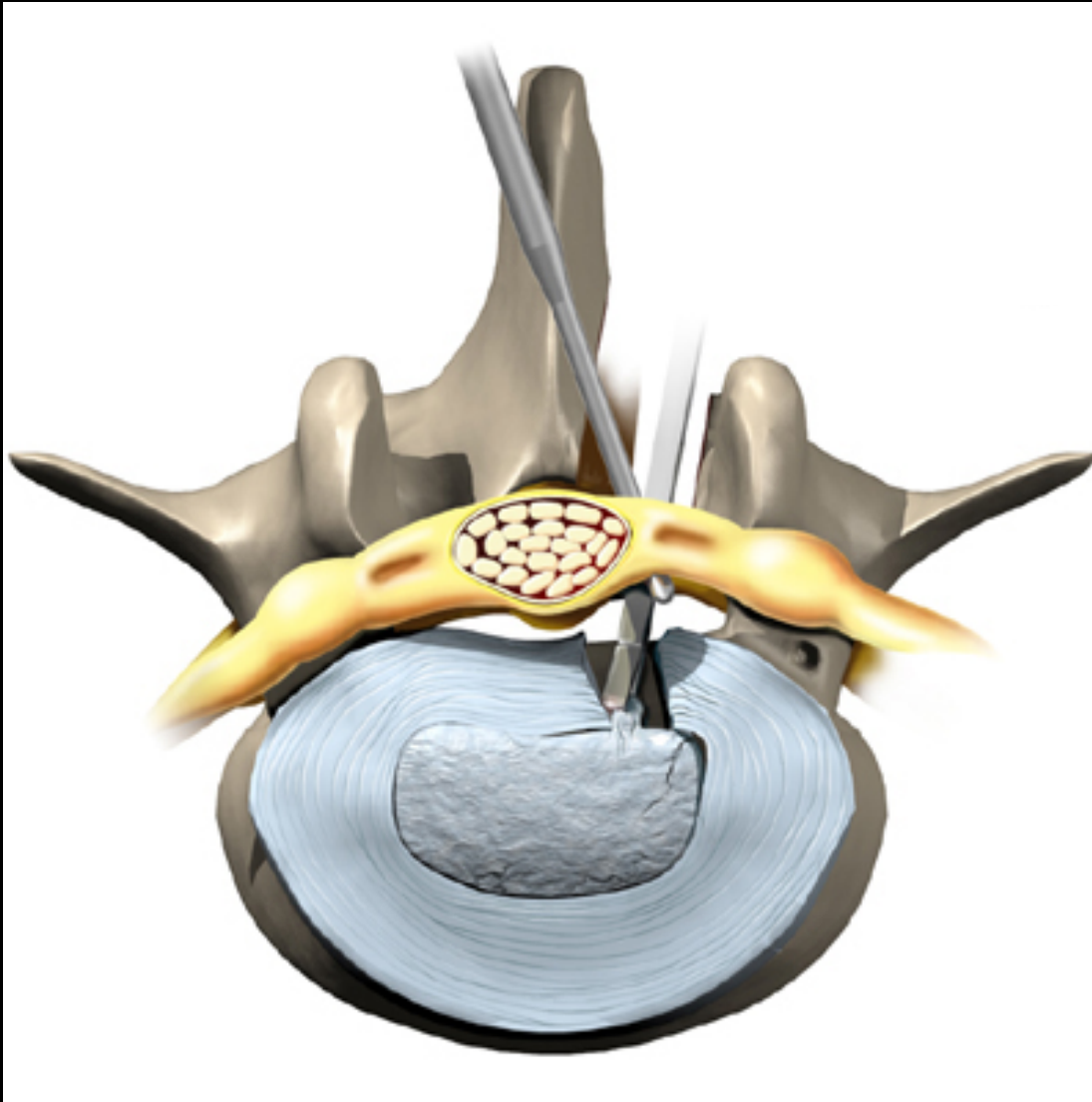


Effekten af operation

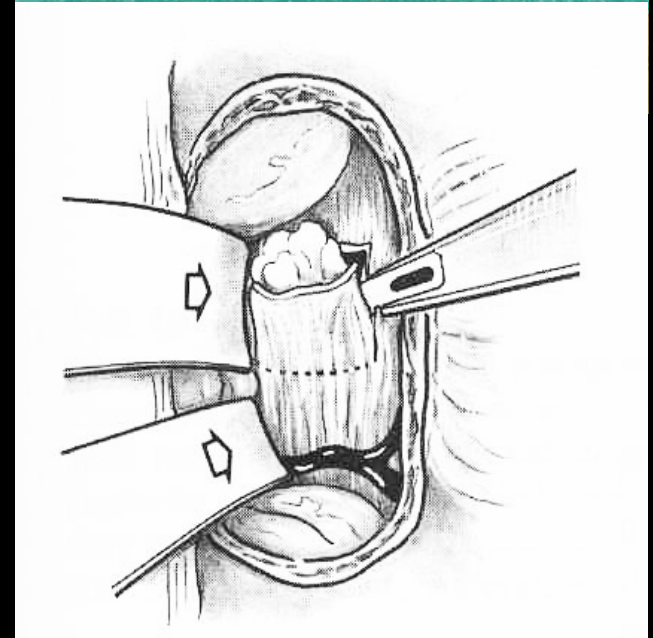
A photograph of a surgical team in an operating room. Five surgeons in blue scrubs, masks, and caps are focused on a patient lying on an operating table. The room is brightly lit by overhead surgical lamps. The background shows medical equipment and a clock on the wall.

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

Partiel hemilaminektomi

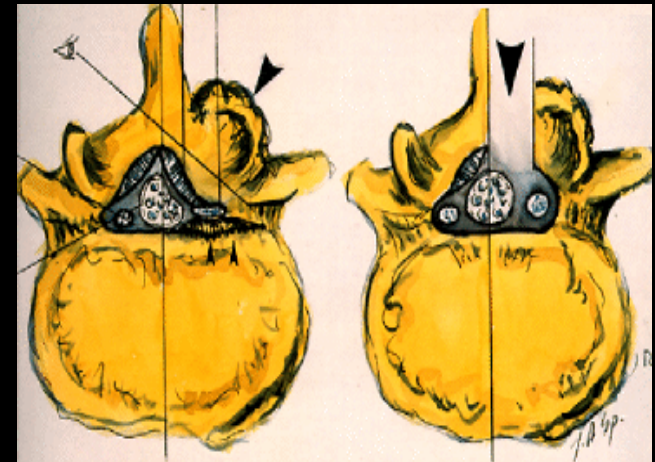
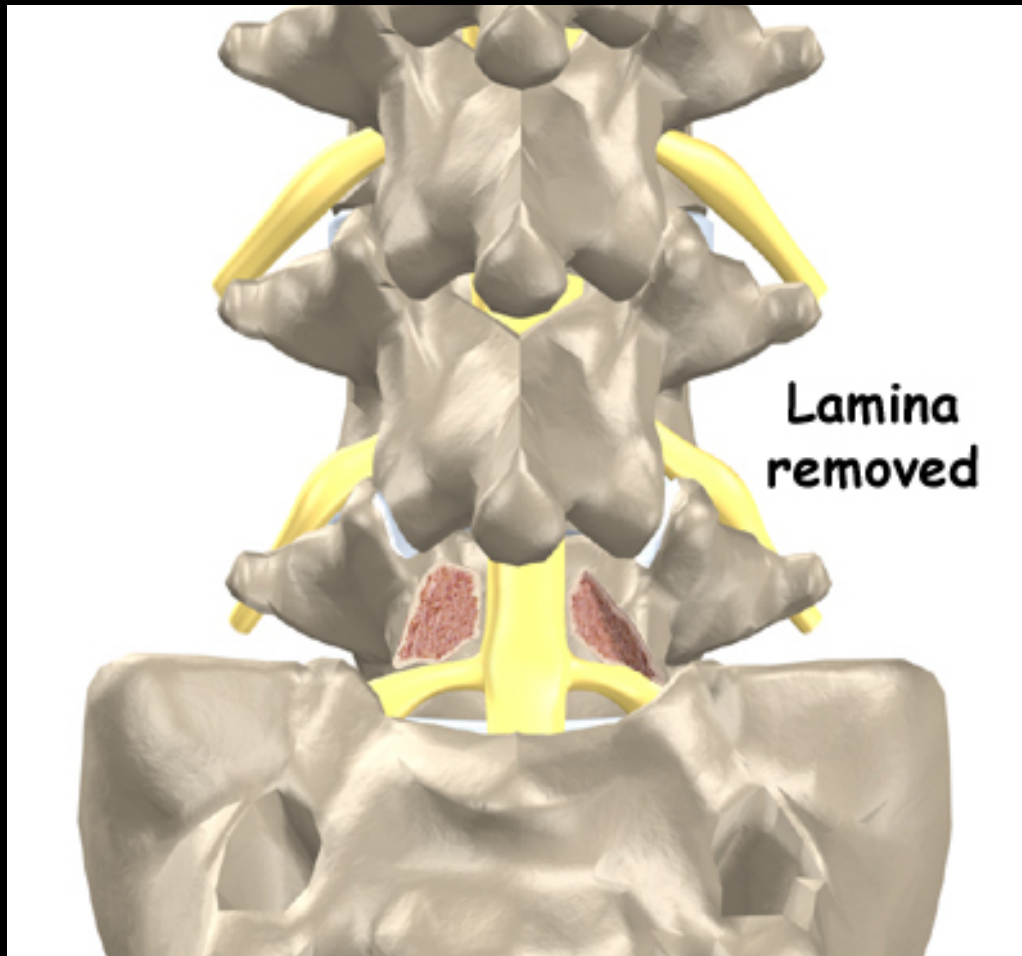


- Klassisk diskektomi
- Mikroskop v/ recidiv
- Evt. dese



Laminektomi eller rodfrilægning

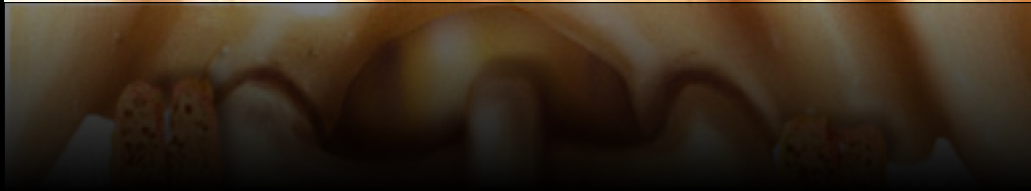
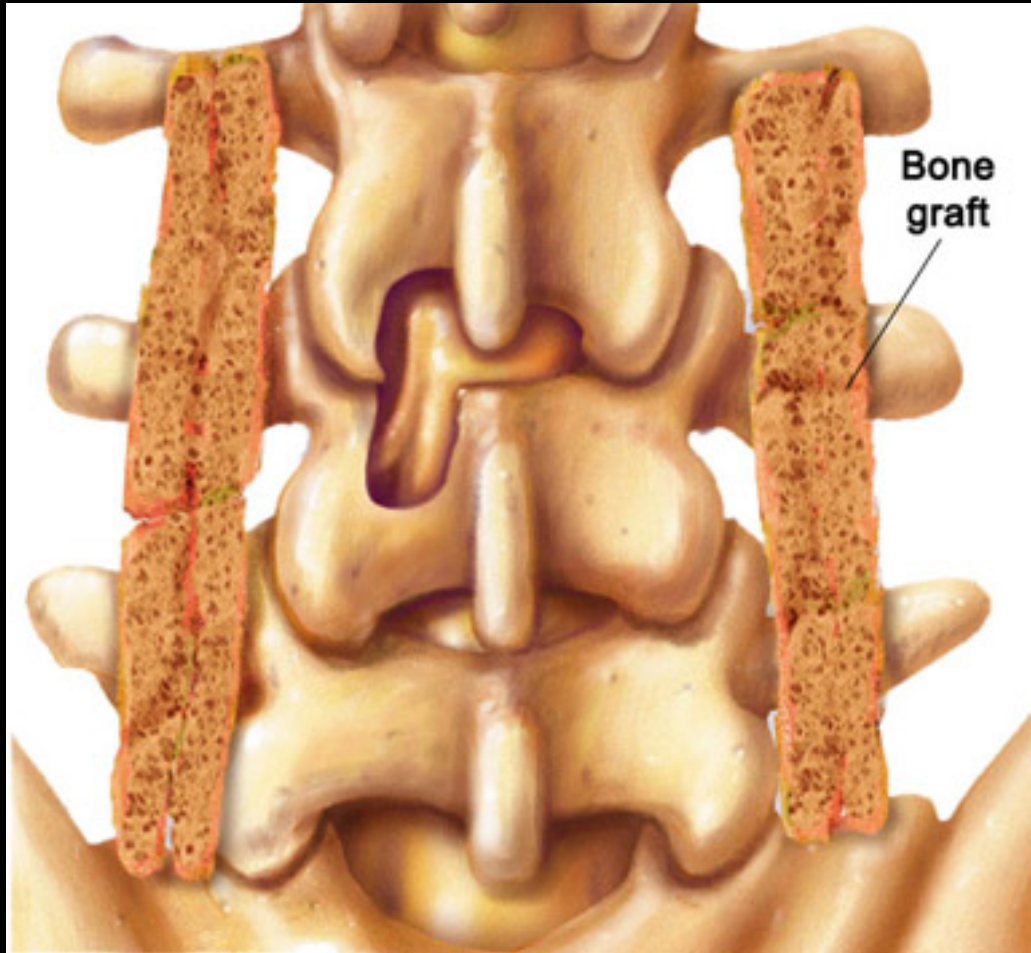
Facetleddet bevarer – 4% udvikler instabilitet



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



Ikke-instrumenteret dese

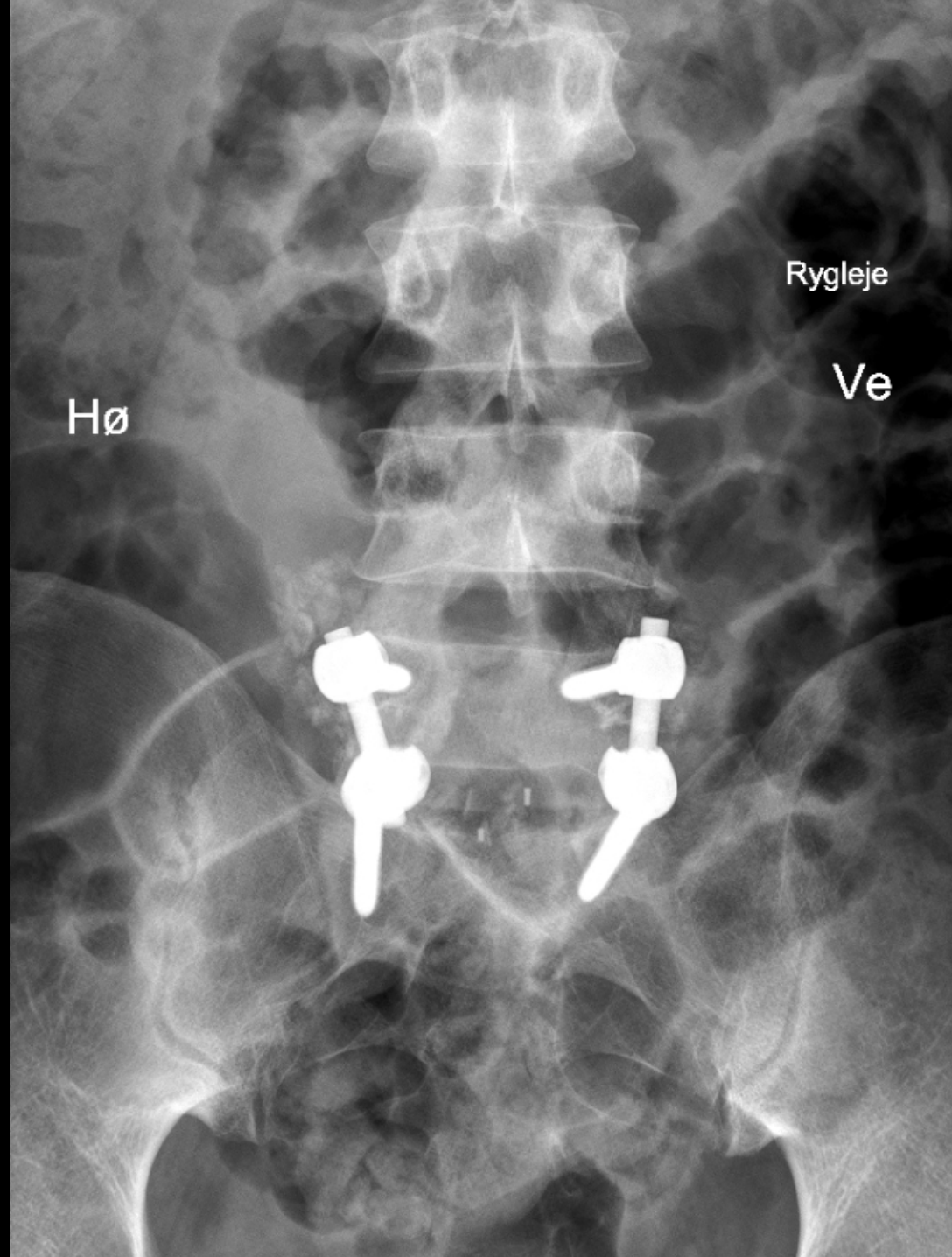
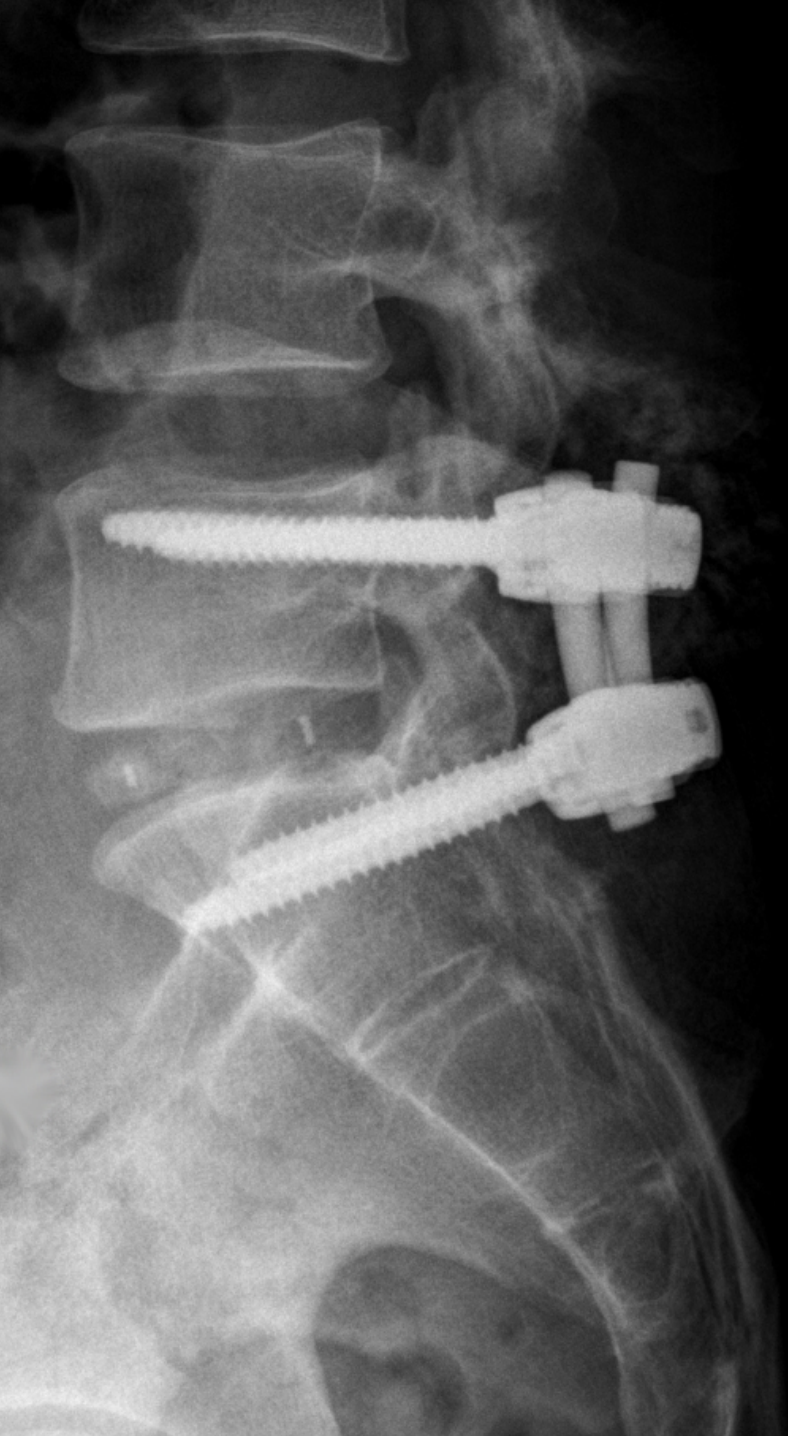


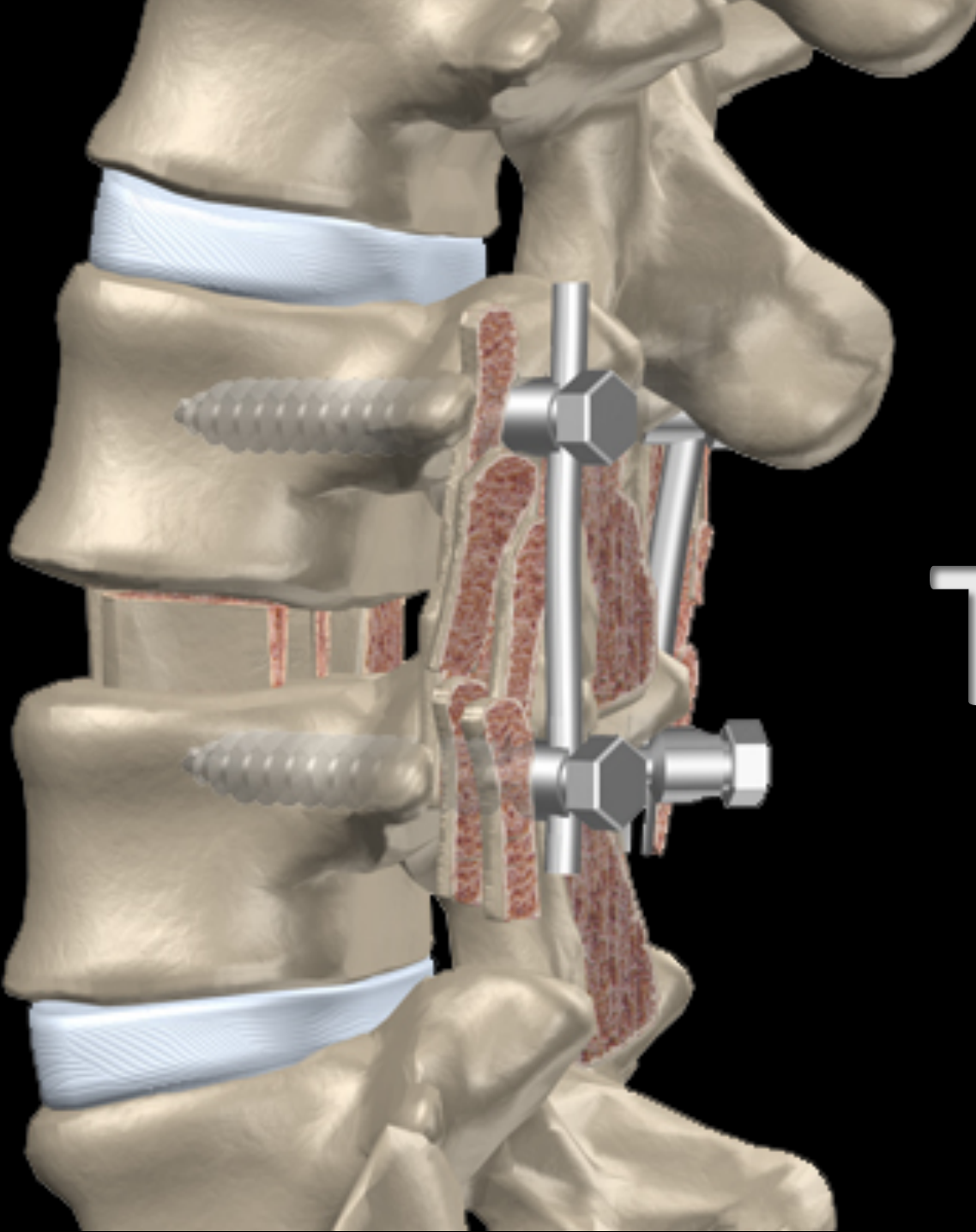
L4/L5-Dese

Transforaminal Lumbar Interbody Fusion

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

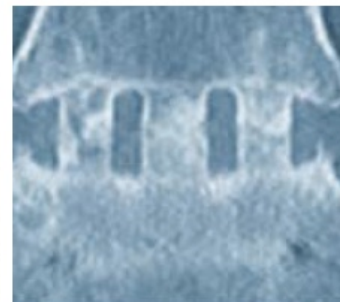
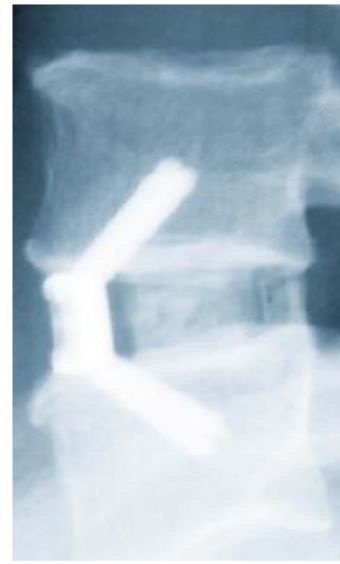
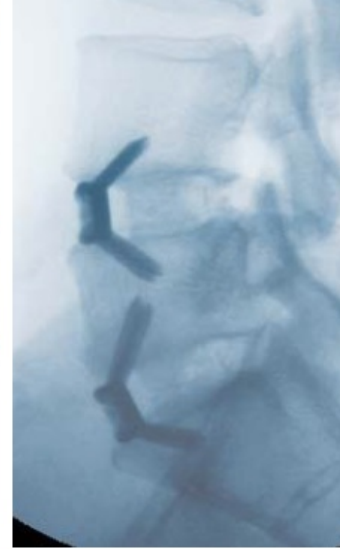






TLIF

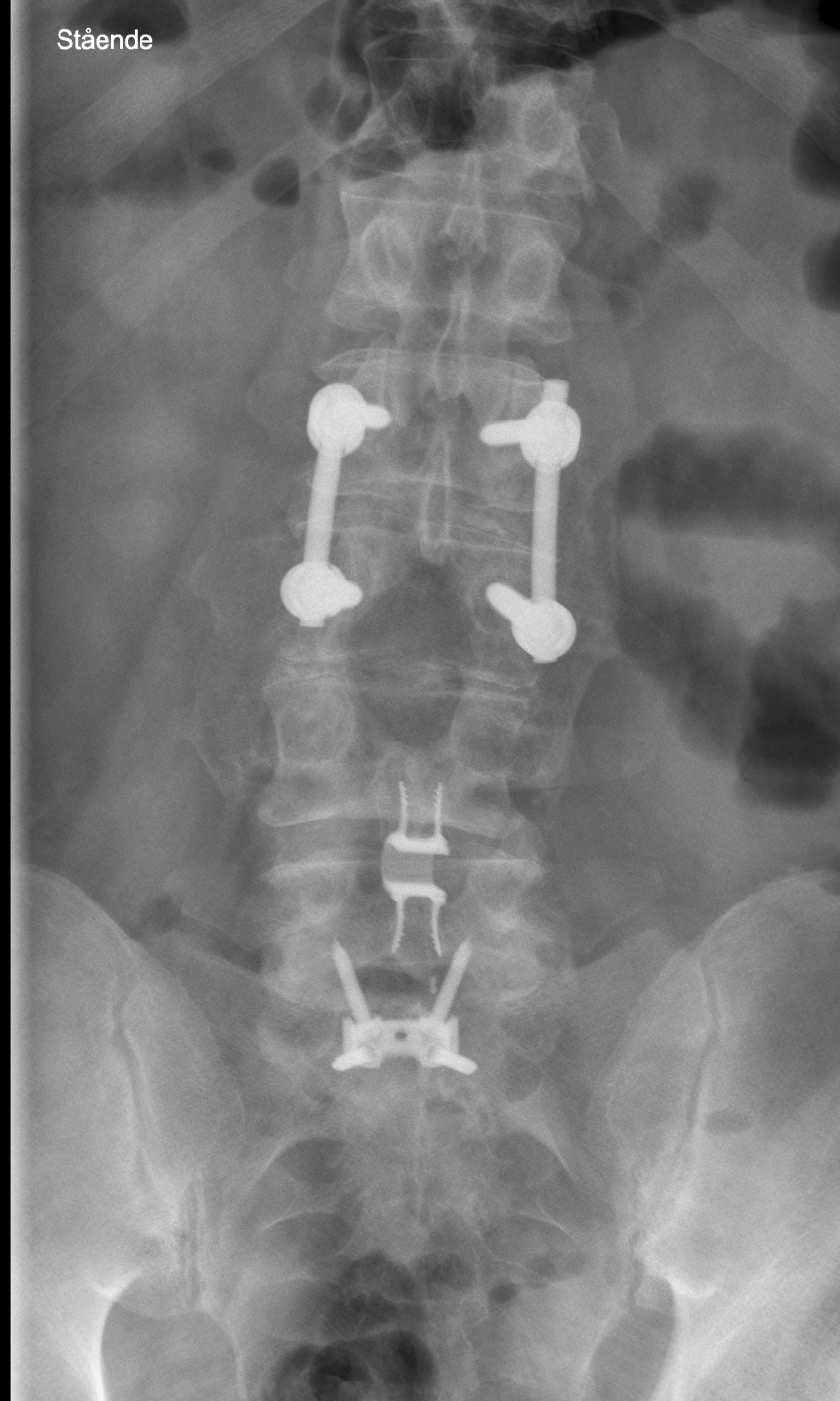
ALIF

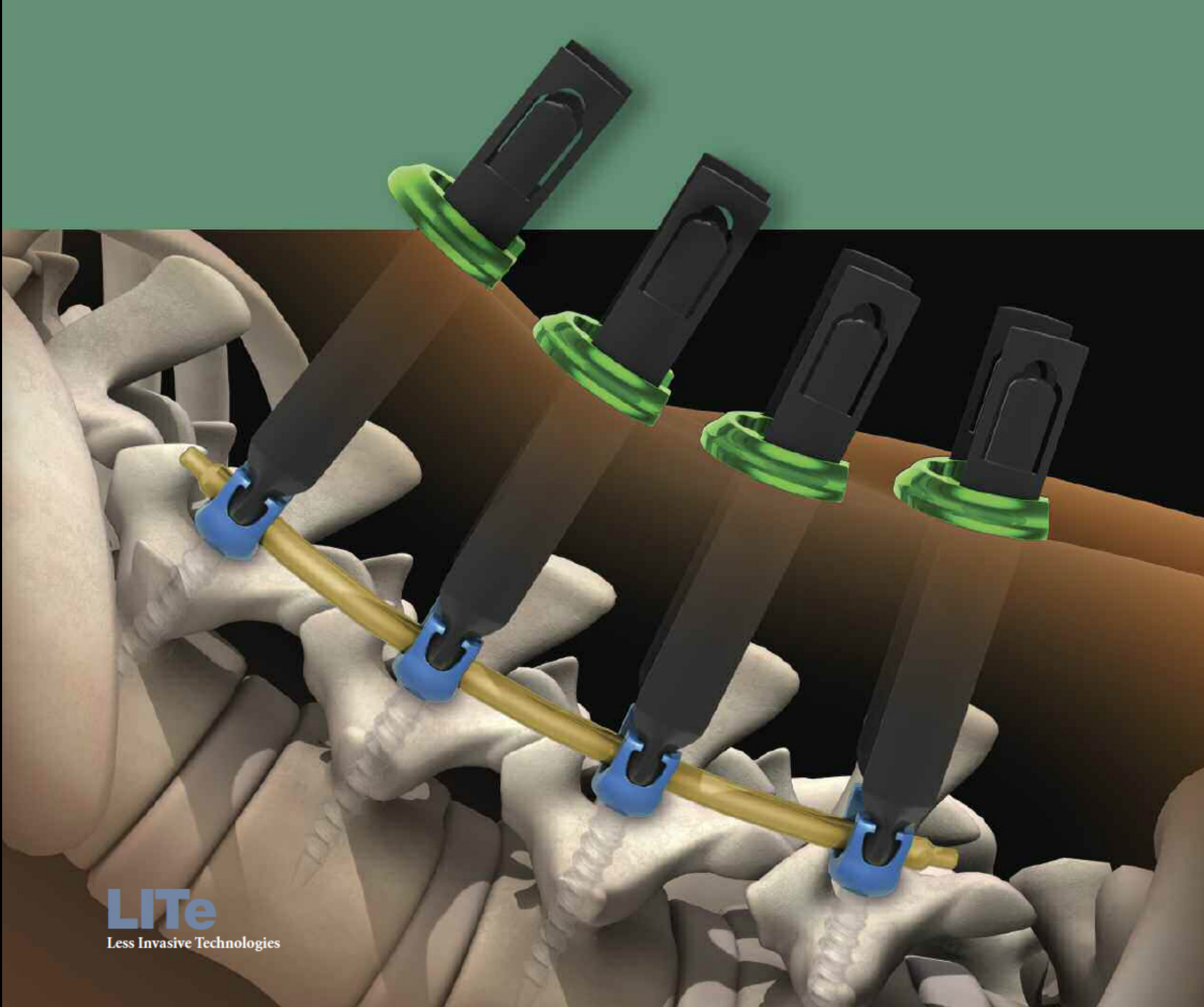


Stående



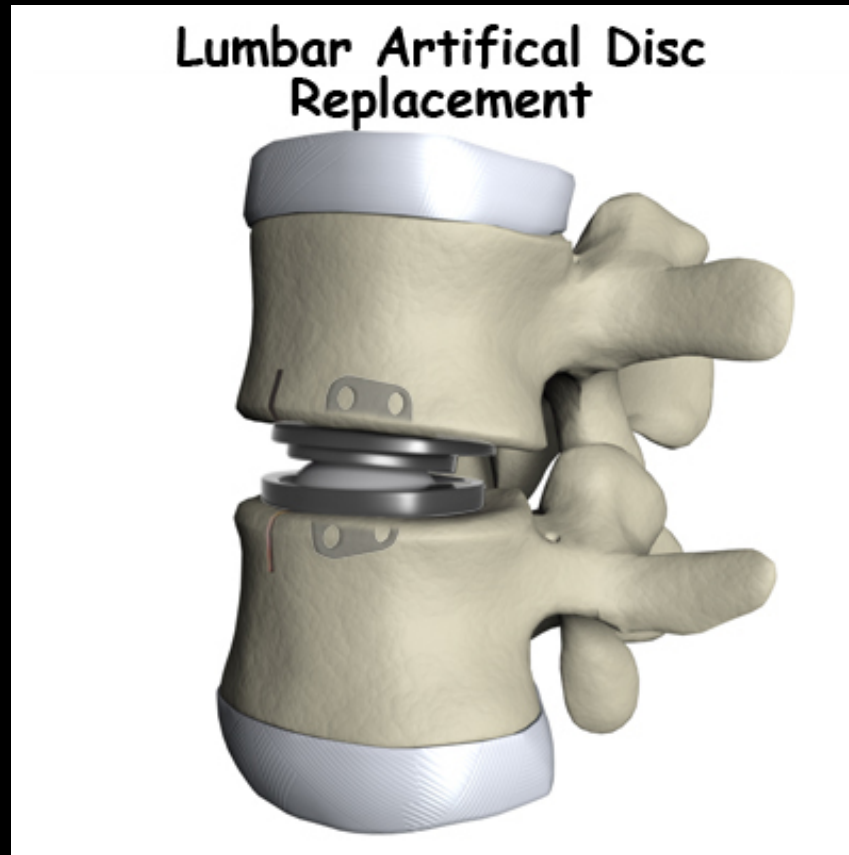
Stående



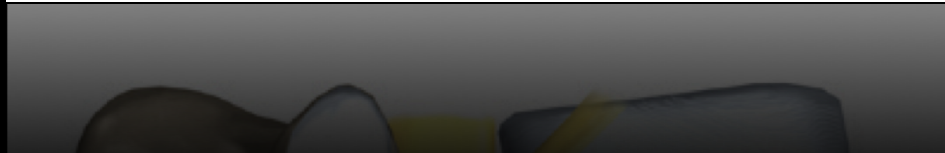
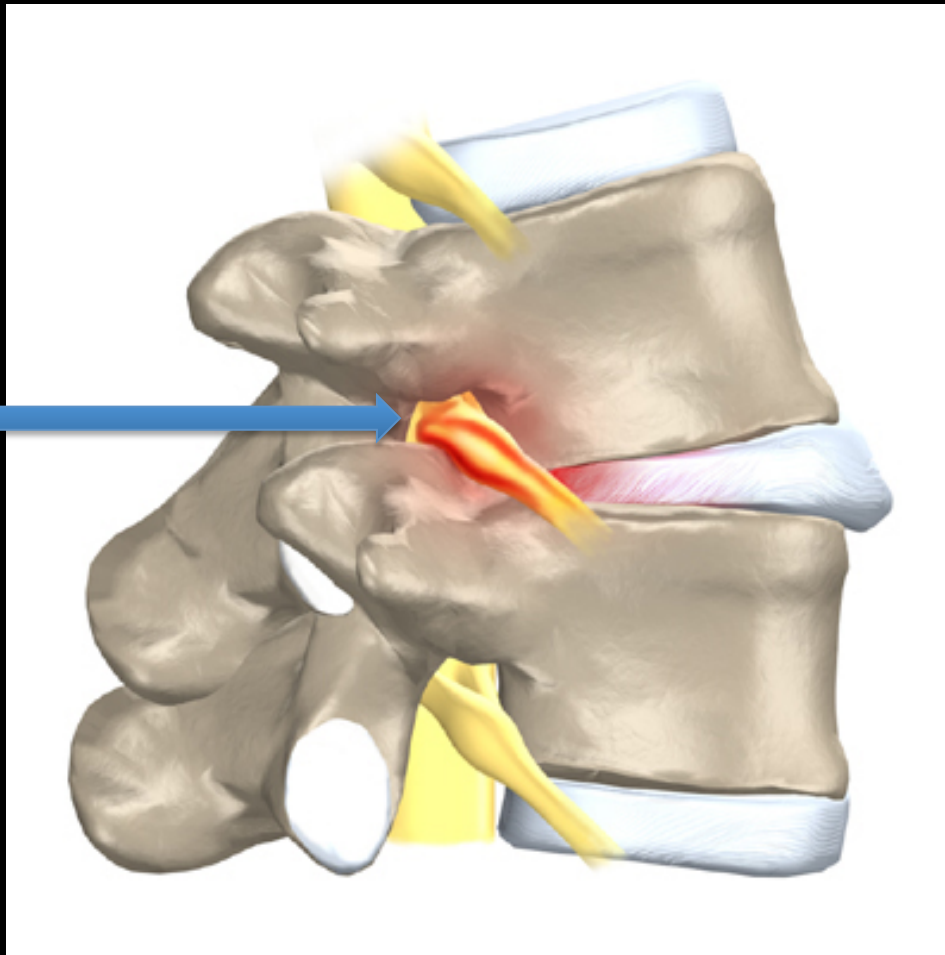


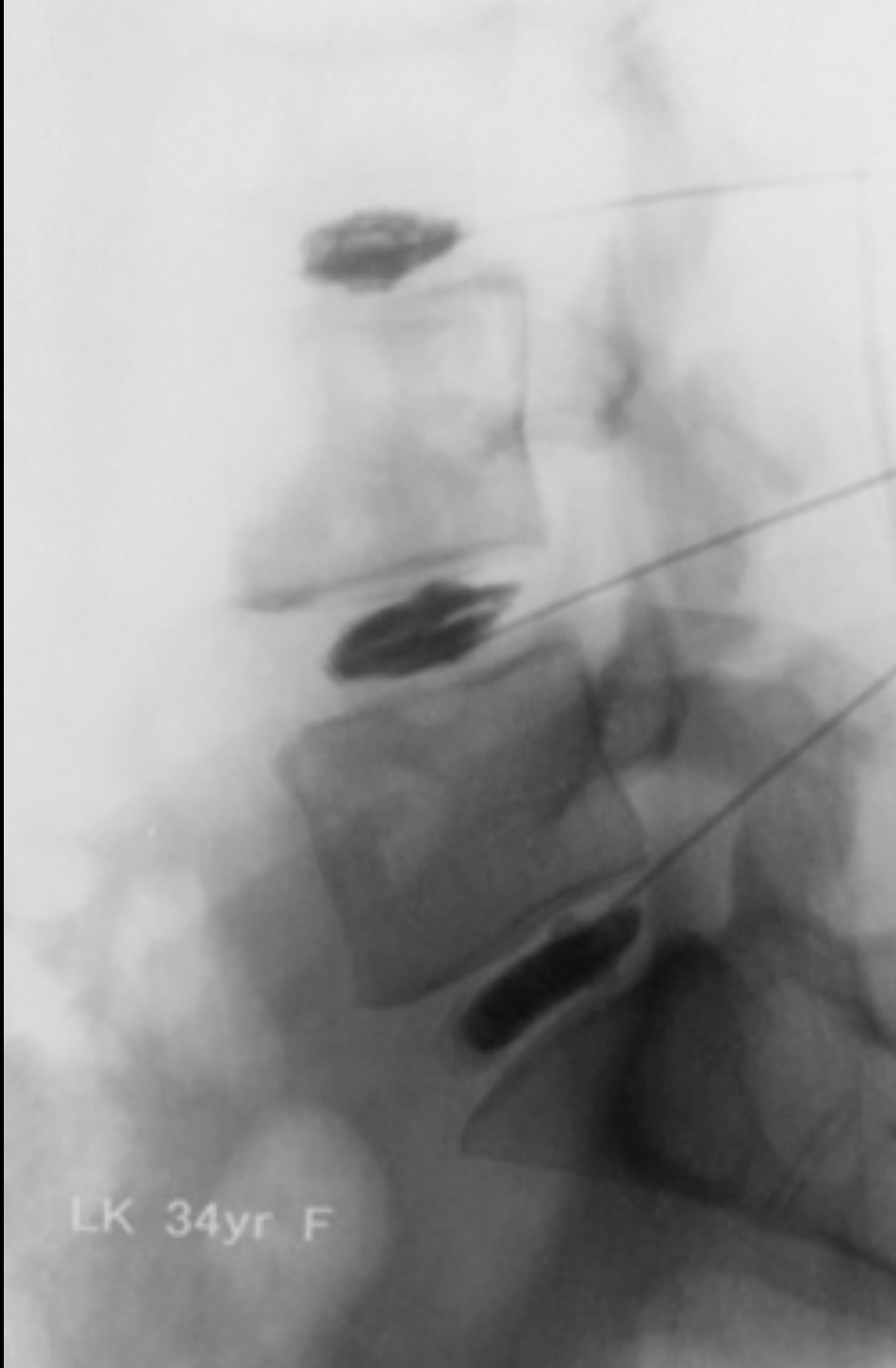
LITe
Less Invasive Technologies

Diskusprothese



Blokade af nerverod eller facetled



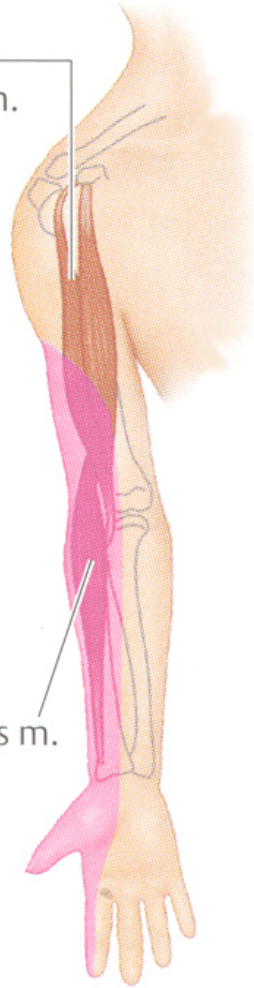


LK 34yr F

Cervikal diskusprolaps



Biceps
brachii m.



Brachioradialis m.

C 6
(Dermatome: dark red)

(Dermatome: dark red)
C 6

Motorisk funktion af de cervikale rødder

Additional Motor Function Hints

C4 - trapezius **shrugs shoulders**

C5 - Supraspinatus and deltoid **allows shoulder abduction**

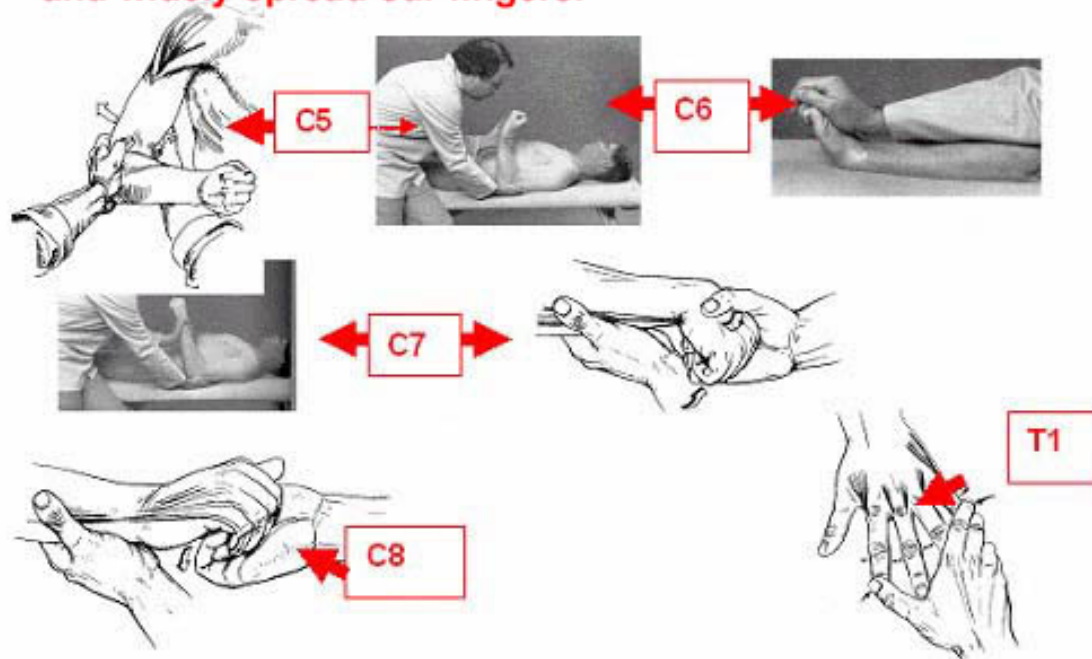
C6 - Biceps & wrist extensors **allow a waiter to carry a serving tray on the palm of his hand without using fingers**

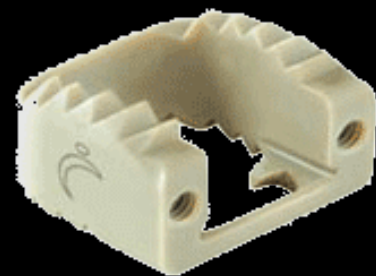
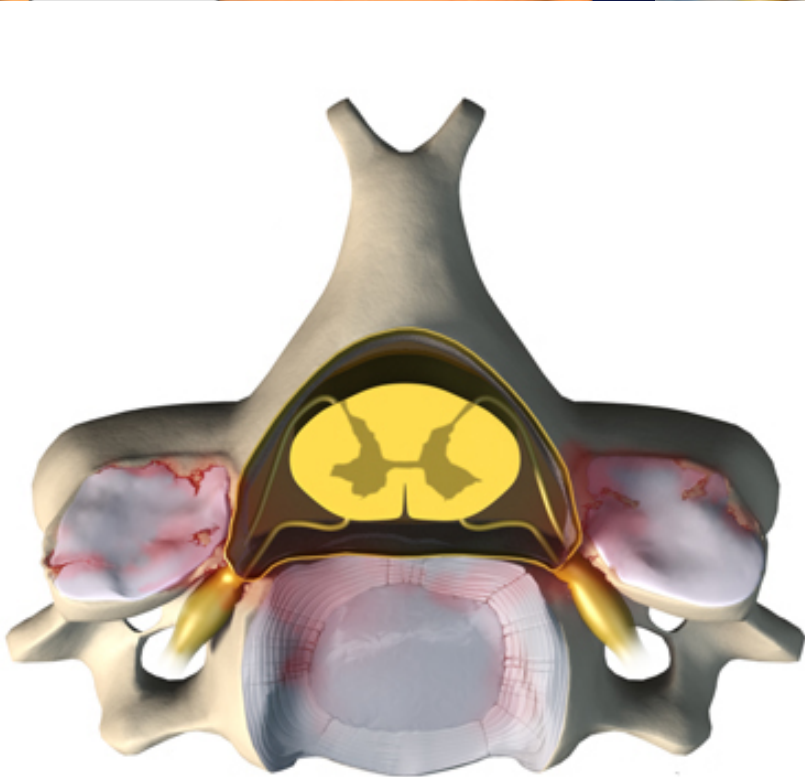
C7 - Triceps, wrist flexors and finger extensors **allow a waiter to slyly accept tips behind his back**

(arm straight down, palm up with fingers extended)

C8 - Finger flexors **allow us to carry a bucket with no thumb.**

T1 - Thumb and finger abductors **allow us to give a "thumbs up" and widely spread our fingers.**





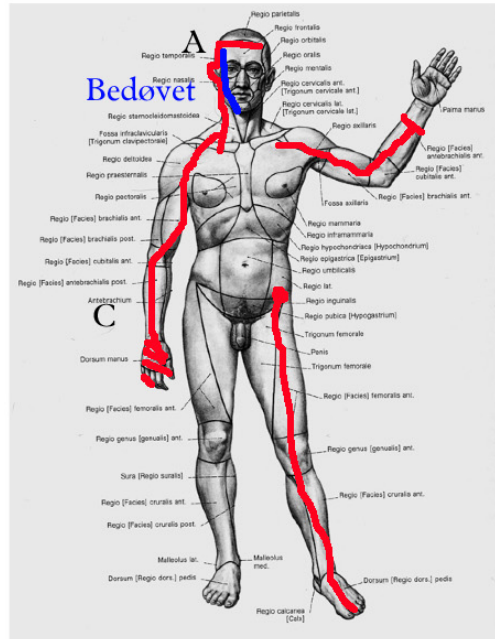
Differentialdiagnostiske overvejelser ved armsmerter

- 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

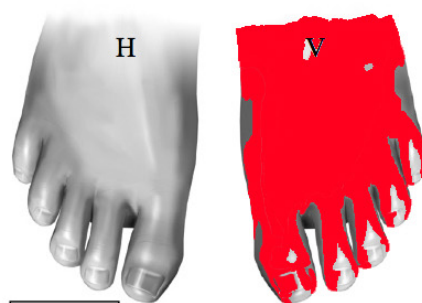
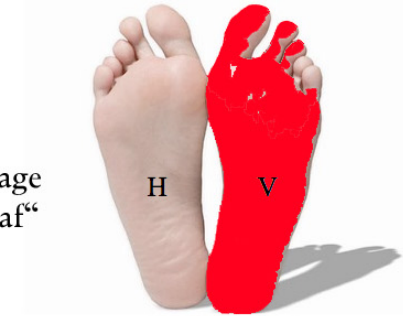
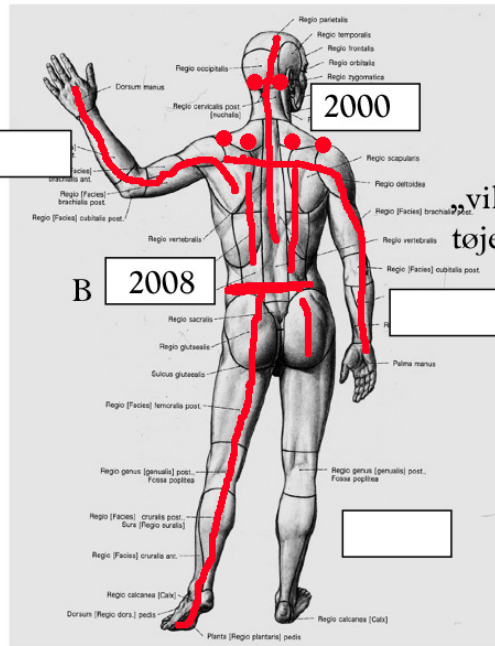


Somatisering & funktionelle lidelser

Smertediagrammet



SMERTE (rød, x)
MYREKRYB (grøn, Δ)
FØLELSLØSHED (blå, o)
NEDSAT BEVÆGELIGHED (□)



Disp

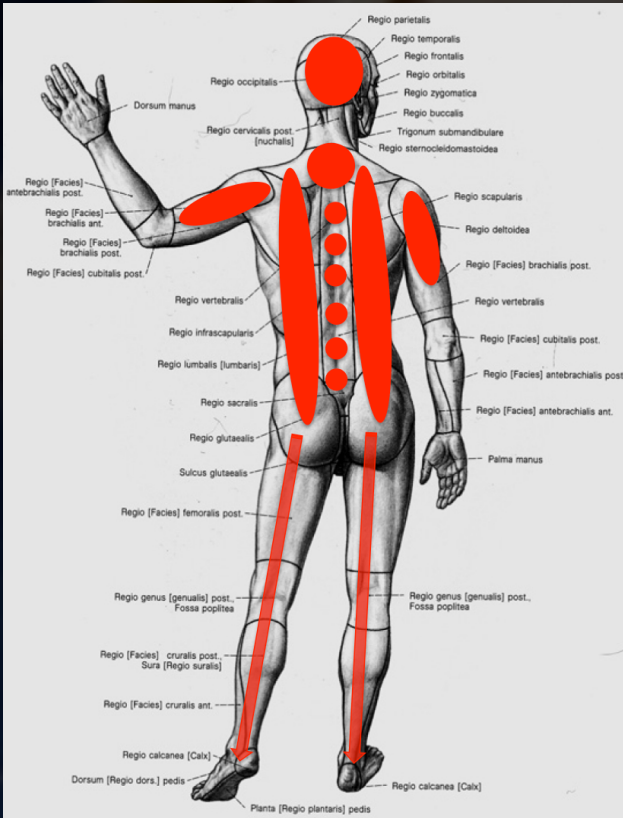
Anfaldsvise smerter

„vil tage tøjet af“

Flere subgrupper

- Smerter: fibromyalgi, piskesmæld
- PTSD/PNES: kendt psykotraume
- Depression
- Overbekymring: ved f.eks. cancer
- Forsikringssvindel: Crash-for-cash
- Almindeligt forekommende symptomer
- Aldersbetingede, degenerative forandringer
- Sekundær gevinst – bevidst eller ubevidst

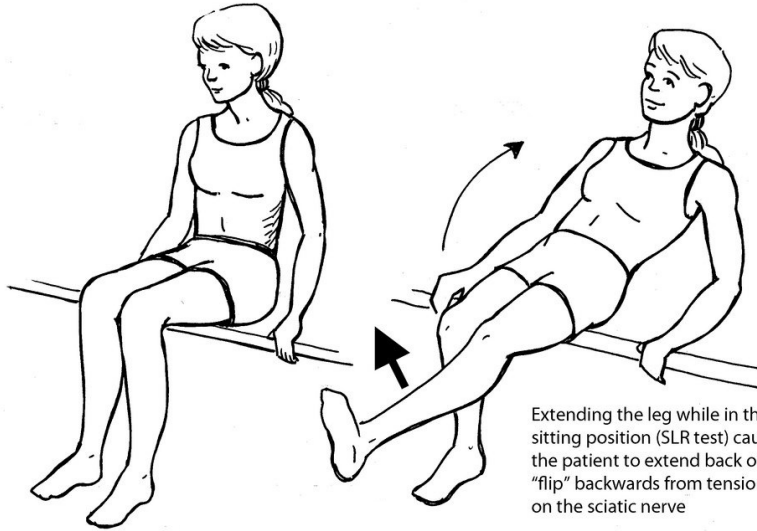
Somatisering



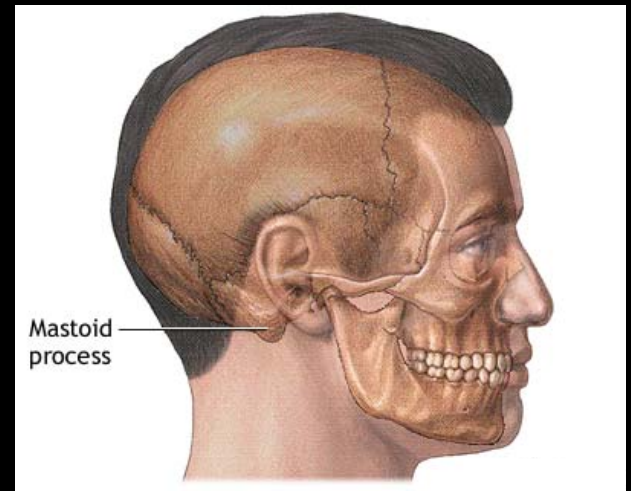
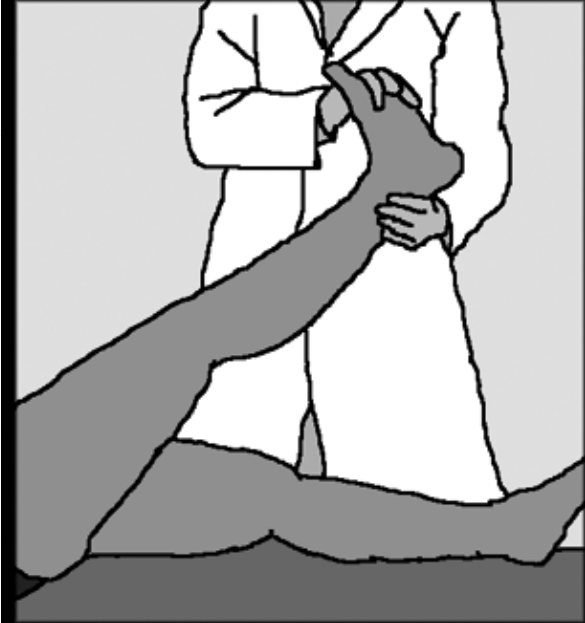
- Polysymptomatologi
- Overdriver symptomerne, symptomfiksering, atypiske symptomer
- Overdriver medicinforbruget eller udfald – kan afledes
- Underdriver funktionsniveauet
- Waddell

Smerteprovoakation

Positive Flip Test



Extending the leg while in the sitting position (SLR test) causes the patient to extend back or "flip" backwards from tension on the sciatic nerve



Behandling af somatisering

- "Intet hjælper"

• Psykoterapi

- Let medicinering evt. SSRI
- Social afklaring inkl. forsikringsager
- Genfinde livsmening


TABLE 1. The 8 Nonorganic Somatic Signs¹³

Test Categories	Nonorganic Somatic Signs
Tenderness	1. Superficial
	The skin is tender to light pinch over a wide lumbar area. A localized band in a posterior primary ramus distribution may be caused by nerve irritation and should be discounted.
	2. Deep
	Tenderness is felt over a wide area. It is not localized to 1 structure, and it often extends to the thoracic spine, sacrum, or pelvis.
Simulation tests	3. Axial loading
	Low back pain is reported on vertical loading over the standing participant's skull by the examiner's hands. Neck pain is common and should be discounted.
	4. Rotation
	Back pain is reported when the shoulders and pelvis are passively rotated in the same plane as the participant stands relaxed with the feet together. In the presence of root irritation, leg pain may be produced and should be discounted.
Distraction test	5. Straight leg raising
	Straight leg raising is the most useful distraction test. The participant whose back pain has a nonorganic component shows marked improvement in straight leg raising on distraction as compared with formal testing.
Regional disturbances	6. Sensory
	Sensory disturbances include diminished sensation to light touch, pinprick, and sometimes other modalities fitting a "stocking" rather than a dermatomal pattern.
	7. Weakness
Weakness is demonstrated on formal testing by a partial cogwheel "giving way" of many muscle groups that cannot be explained on a localized neurological basis.	
Overreaction	8. Overreaction during examination may take the form of disproportionate verbalization, facial expressions, muscle tension and tremor, collapsing, or sweating. Judgments should, however, be made with caution, minimizing the examiner's own emotional reaction; there are considerable cultural variations, and it is very easy to introduce observer bias or to provoke this type of response unconsciously.

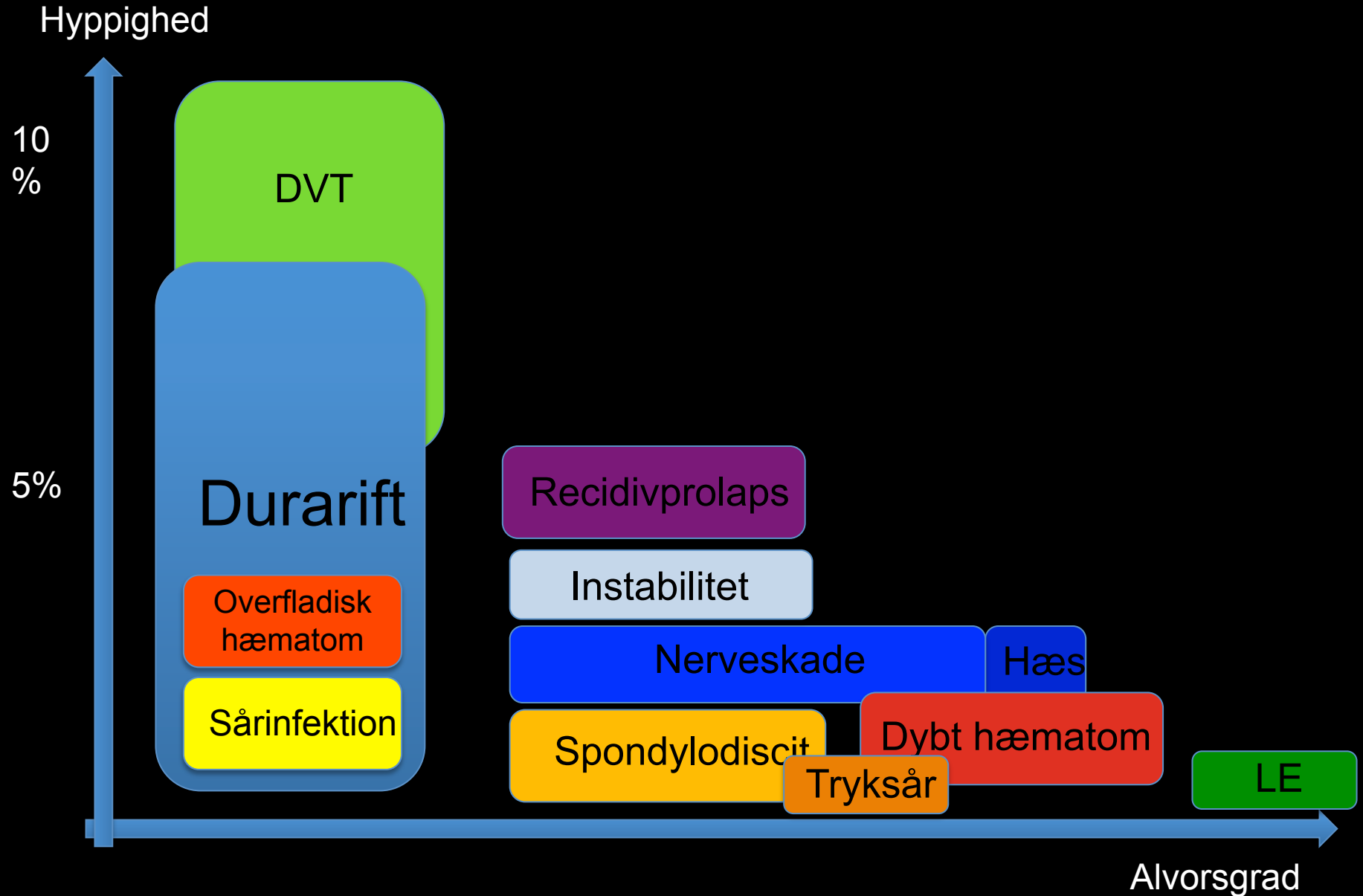
A category is positive if at least 1 nonorganic somatic sign in that category is positive. Three positive categories are required indicating that a patient with low back pain does not have a straightforward physical problem.

Komplikationen

Komplikationer afhænger af indgrebstypen

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

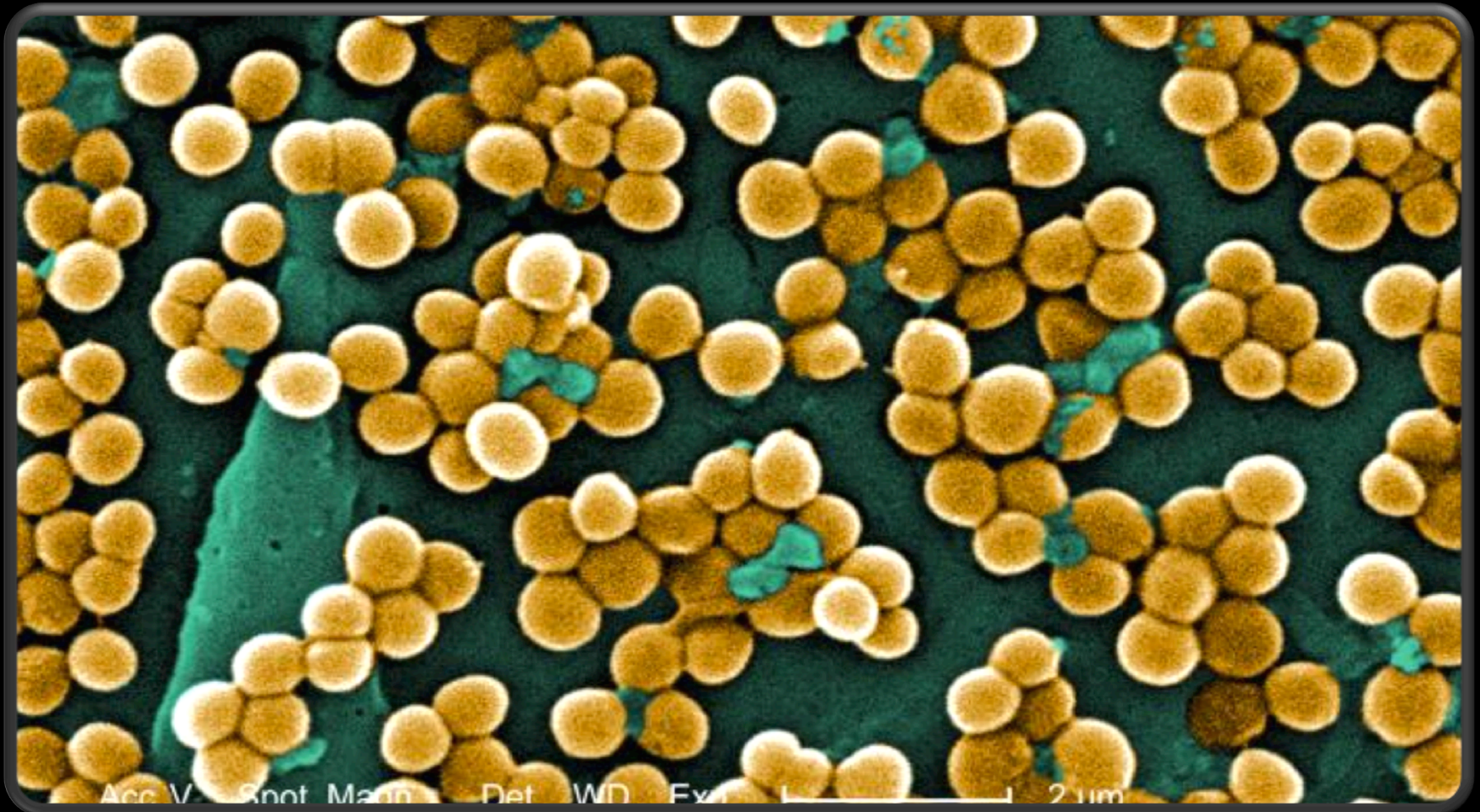
Komplikationer



Postoperativ smerteøgning

- I opvågningen ...
- Efter et par timer ...
- Efter et par dage ...
- Efter et par uger ...
- Efter et par år ...

MRSA

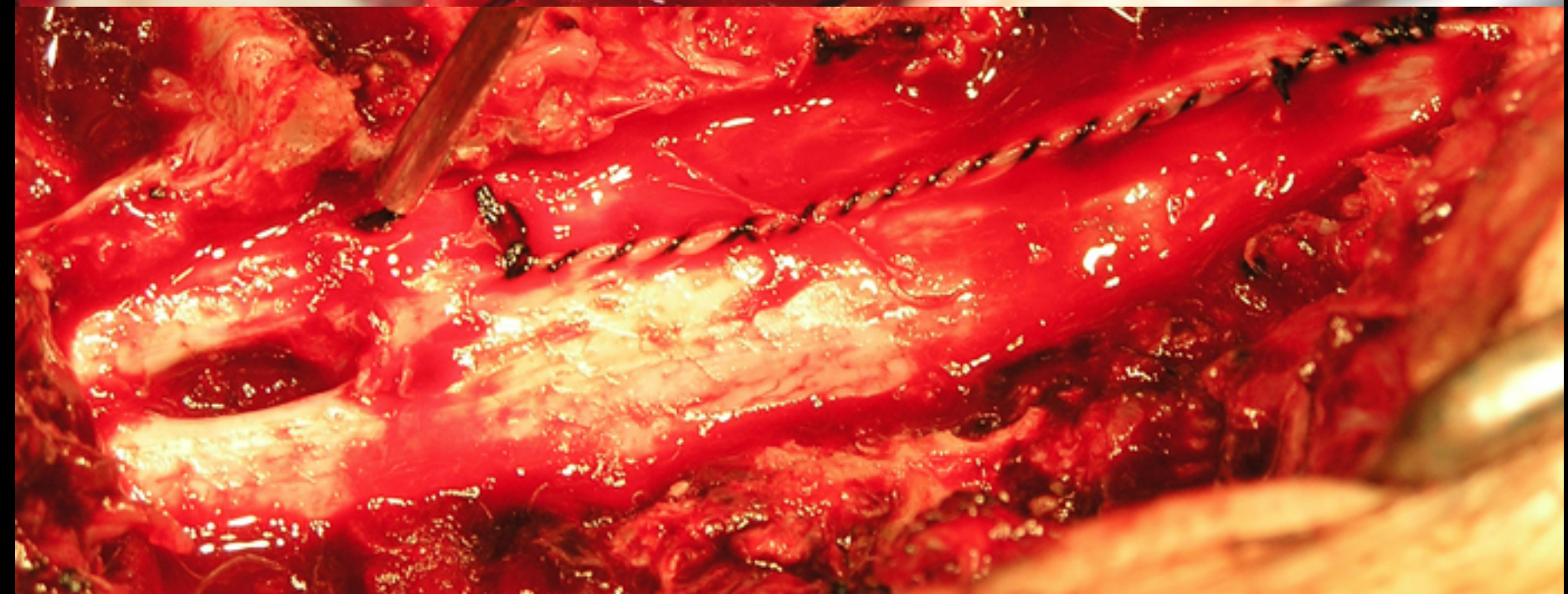
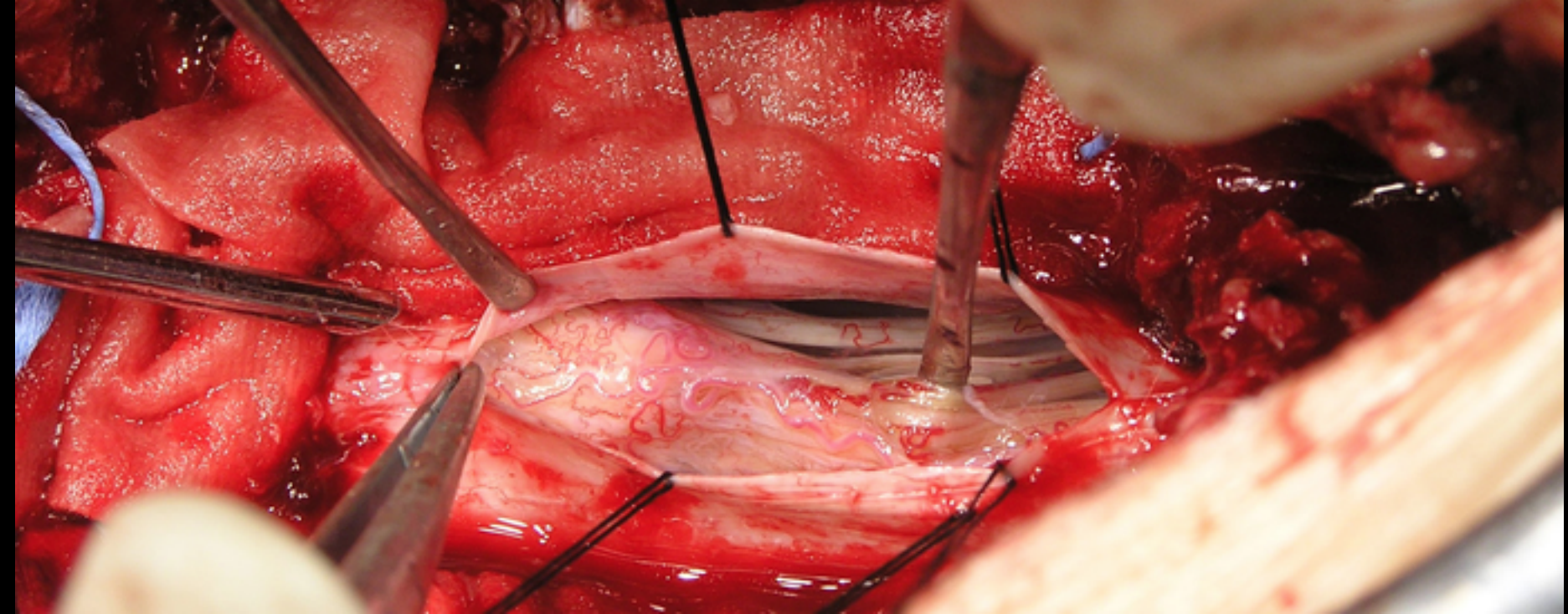


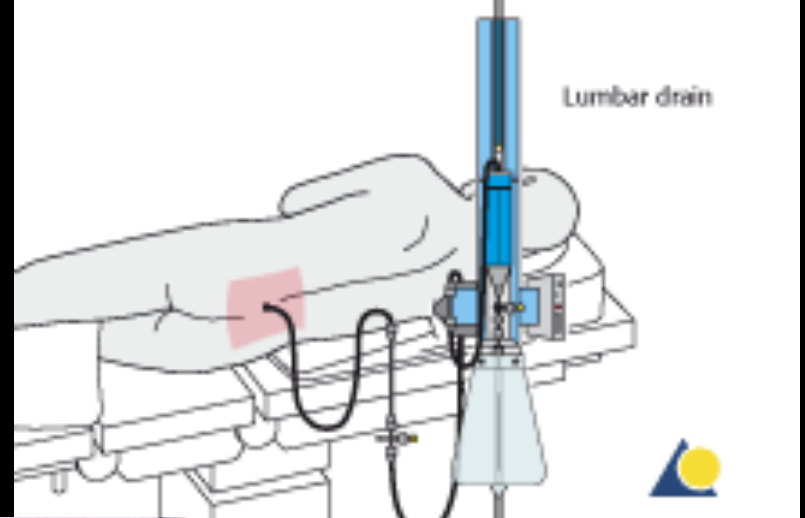
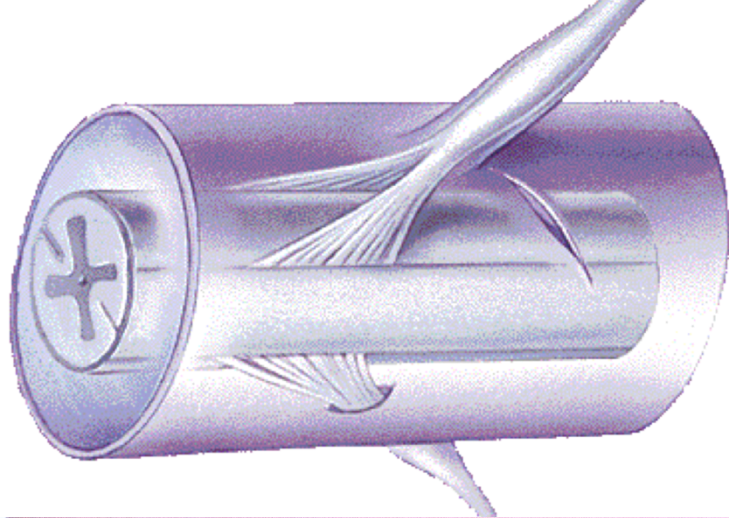
A

SE1
TR 500
TE 15
Thk 4.0
TA 1:51

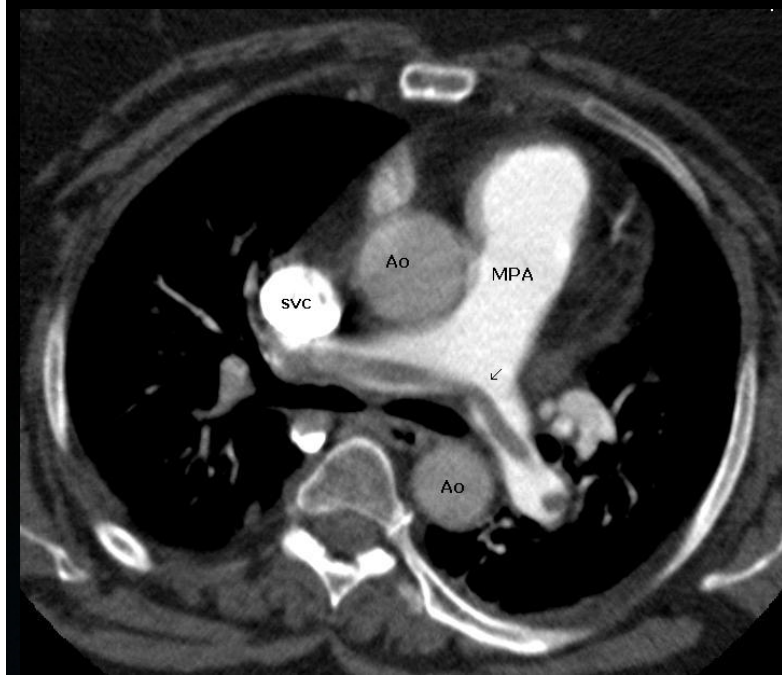
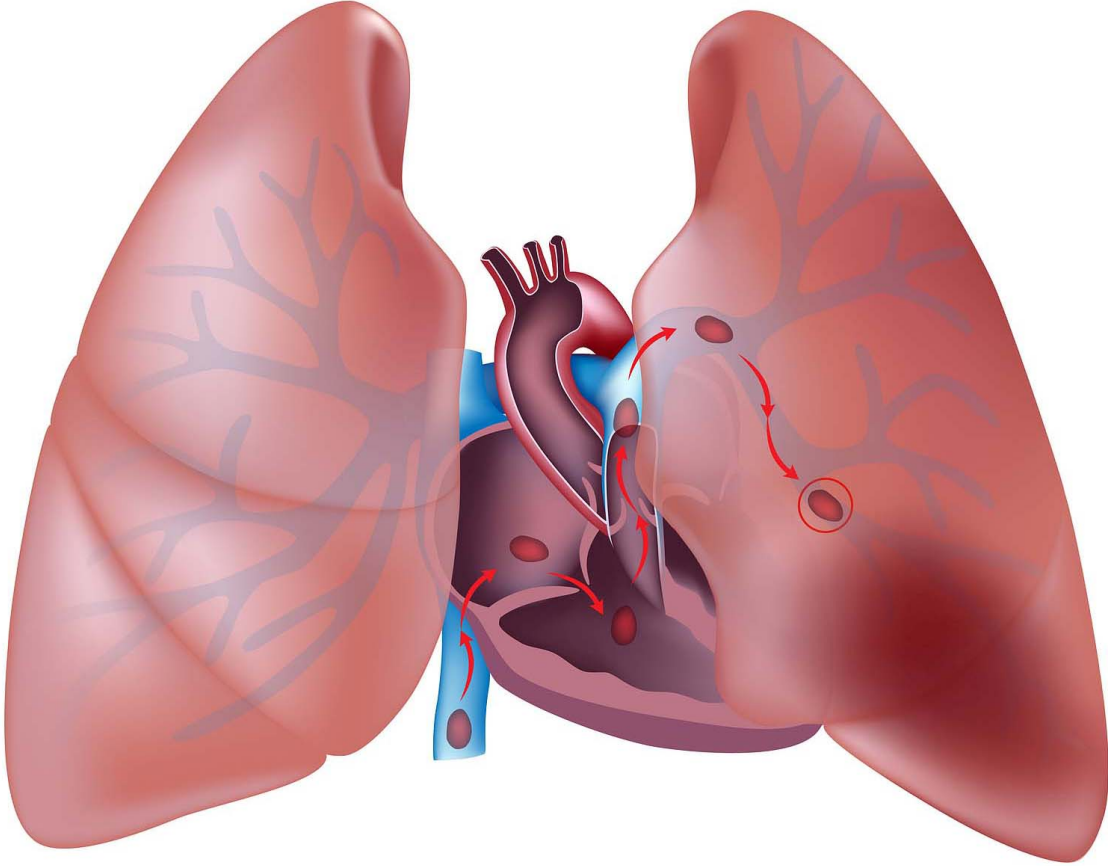
B

SE1
TR 500
TE 15
Thk 4.0
TA 1:51





Døgproduktion: 500 ml



- (Lægømhed)
- Åndenød
- Svimmelhed
- Hoste evt. blodig
- Brystsmerter
- Synkope
- Takykardi
- Svedtendens
- Tidligere DVT
- Hjertesvigt
- Overvægt
- Graviditet
- Sengeleje
- P-piller
- Cancer
- Arvelige blodsygdomme

