

Sykdommer i cervicaldelen av ryggraden

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Center for pain-therapy and spine surgery
Priv.-Doz. Dr. med. habil. Sebastian Ruetten

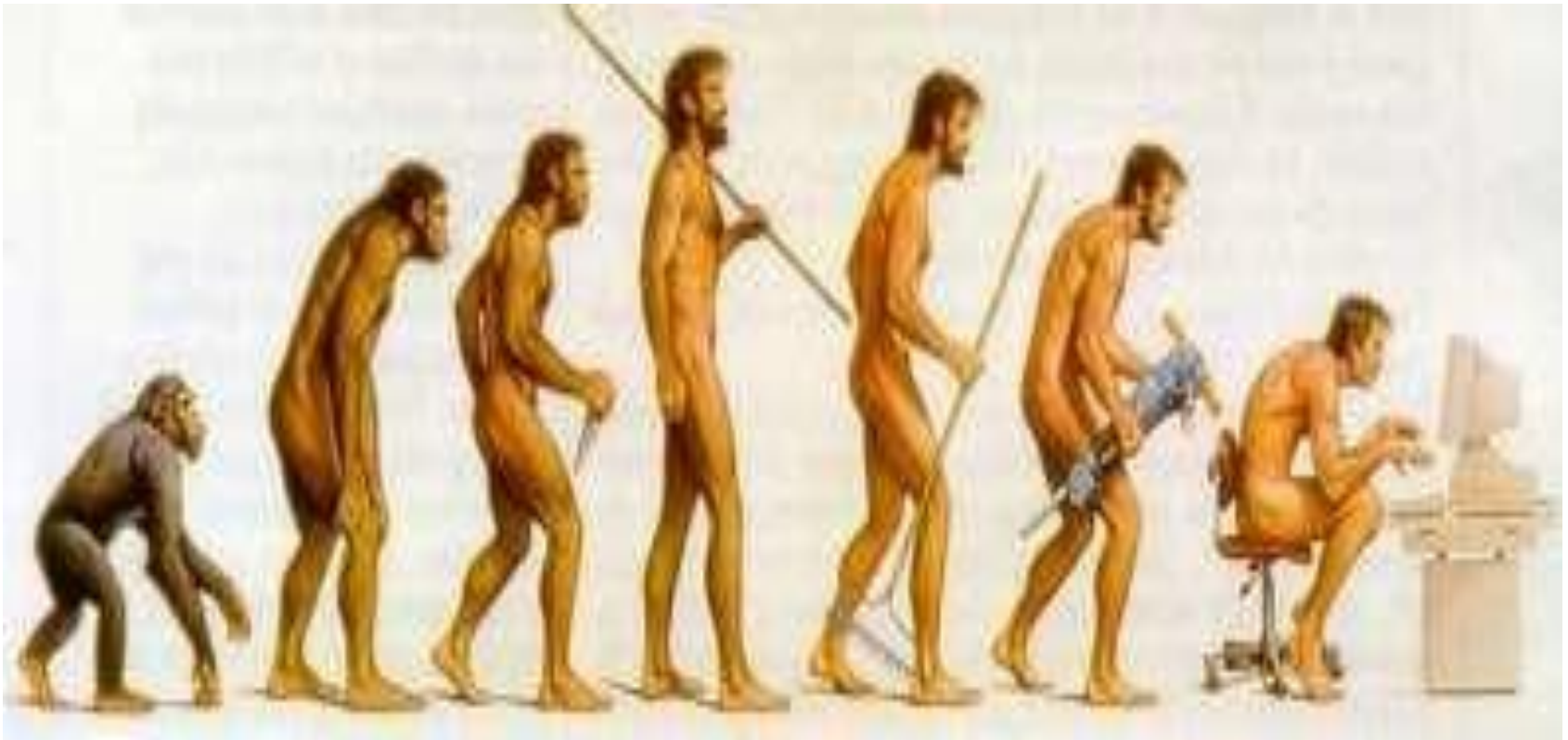


Center for orthopedic surgery and traumatology
St. Elisabeth group
Director: Prof. Dr. med. Georgios Godolias

St. Anna Hospital Herne 

**Universitätsklinikum
Marienhospital Herne** 

Marien Hospital Witten 



- Bærekonstruksjon for hodet og ekstremitetene
- Beskytter myelin (fettaktig stoff som danner en isolerende skjede rundt visse nervefibrer)
- Feste for ribbeina (costa)
- Støtdempende funksjon



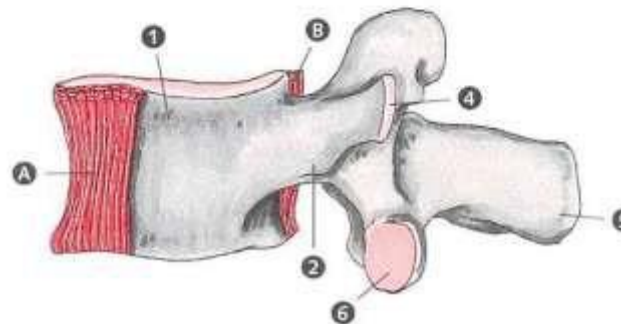
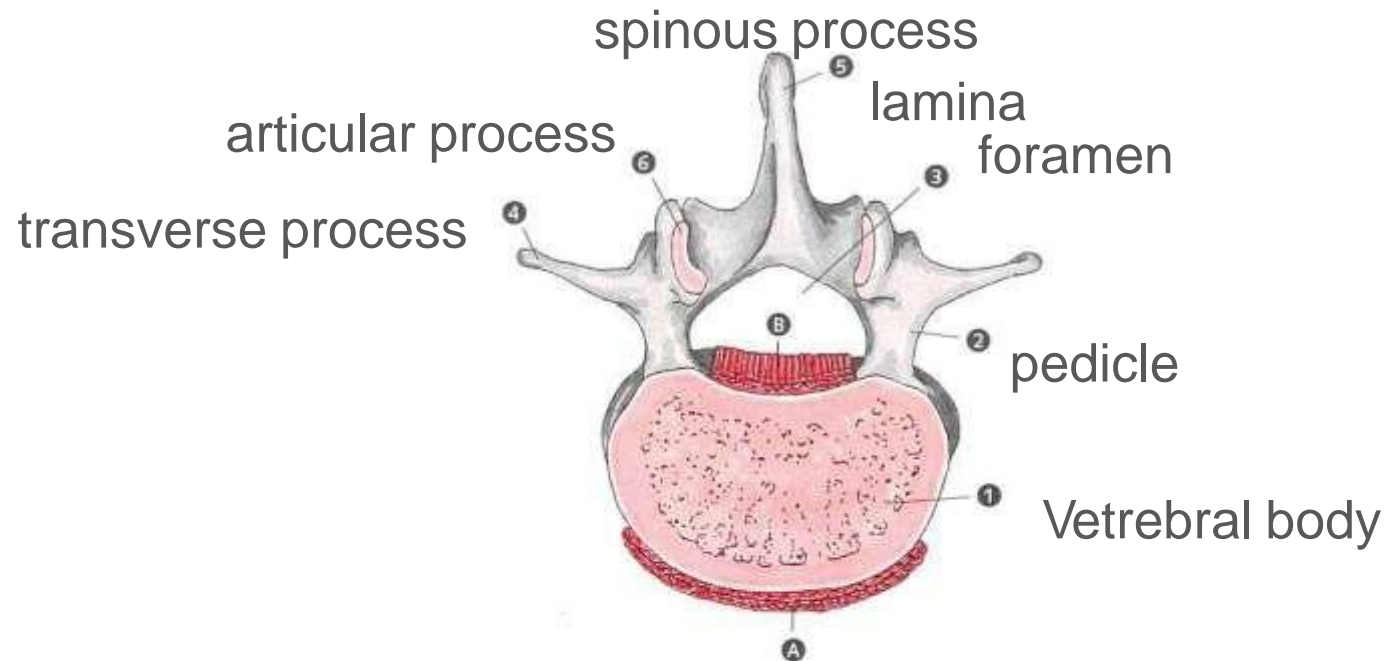


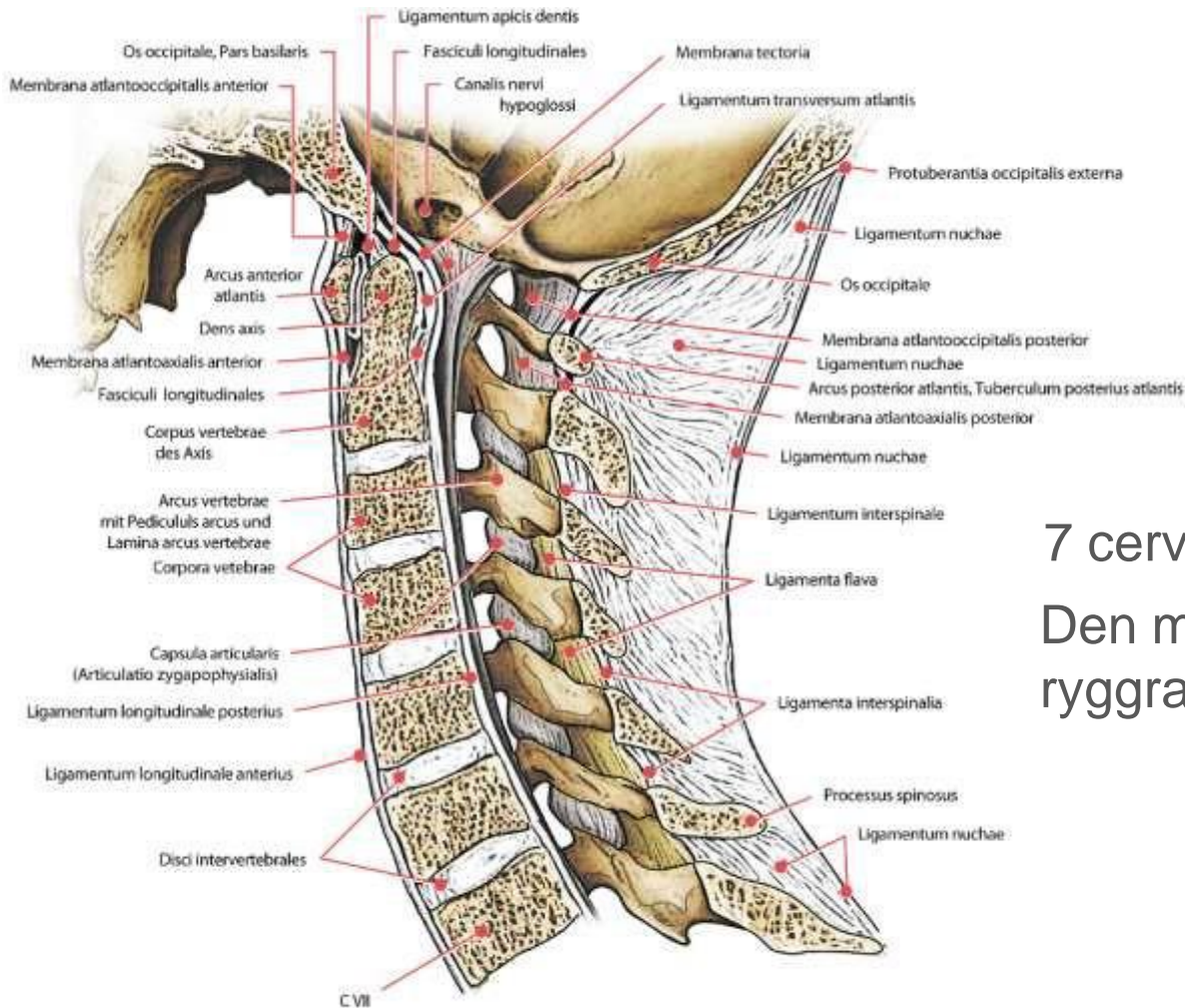
Cervical spine (7)

Thoracic spine (12)

Lumbar spine (5)

Sacrum (5)





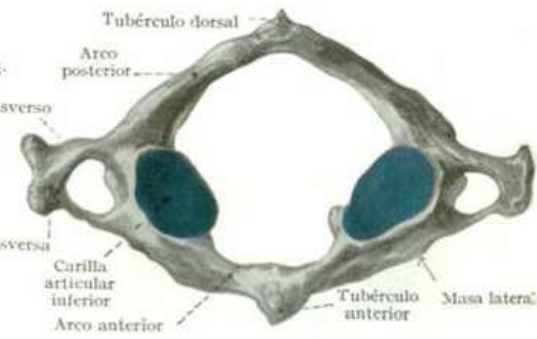
7 cervical vertebrae

Den mest mobile delen av ryggraden



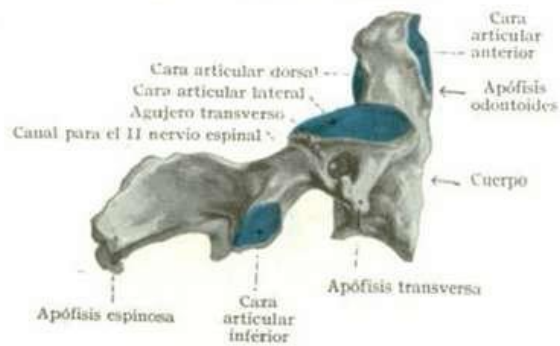
Atlas

Superficie craneal o superior



Atlas

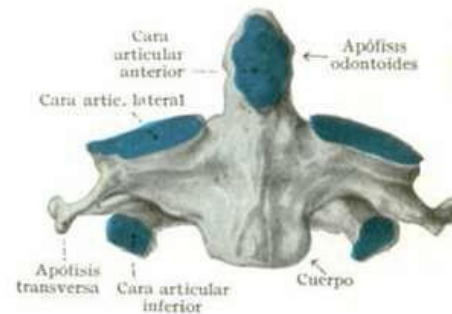
Superficie caudal o inferior



Axis (epistrophus)

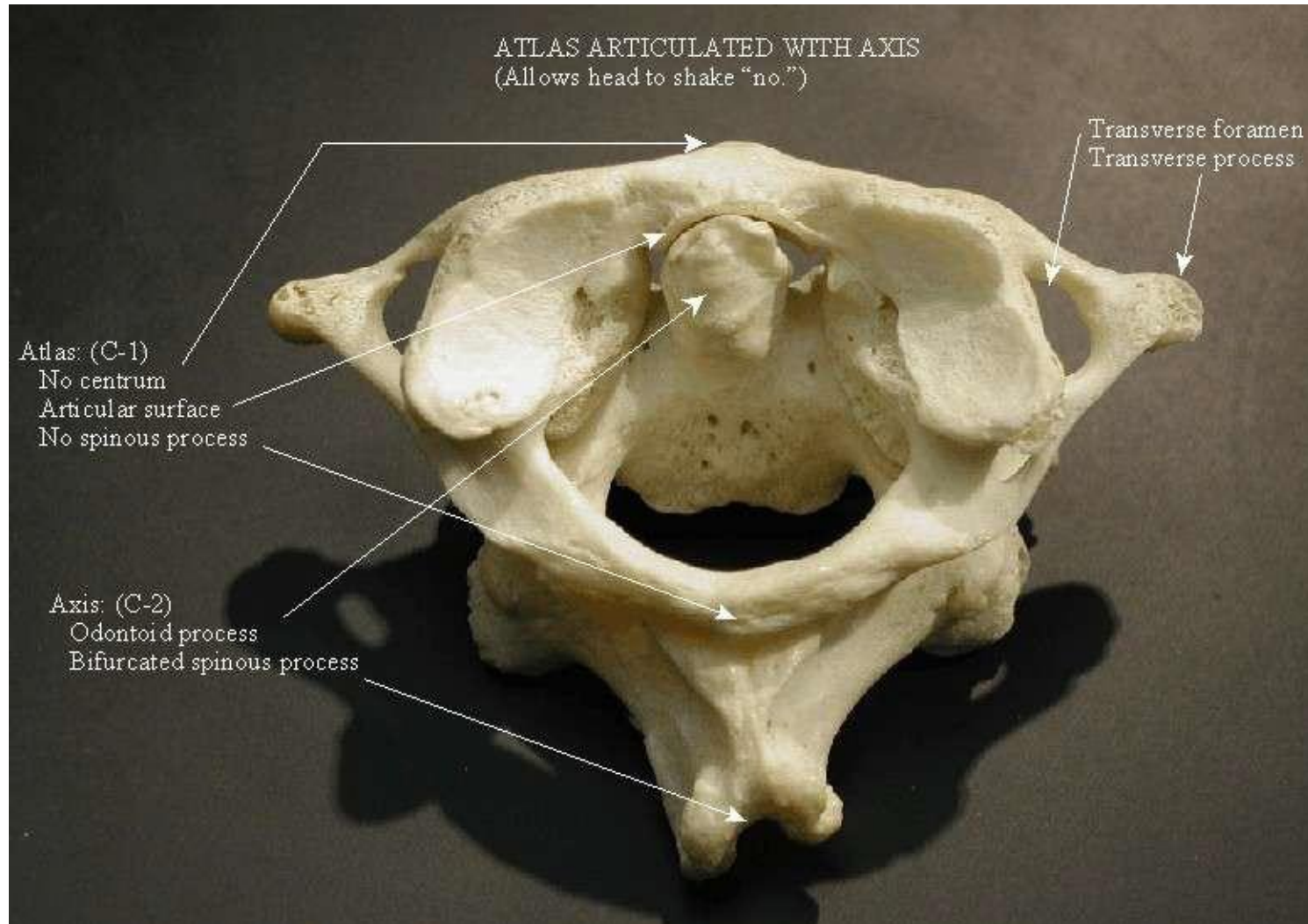
Lado derecho

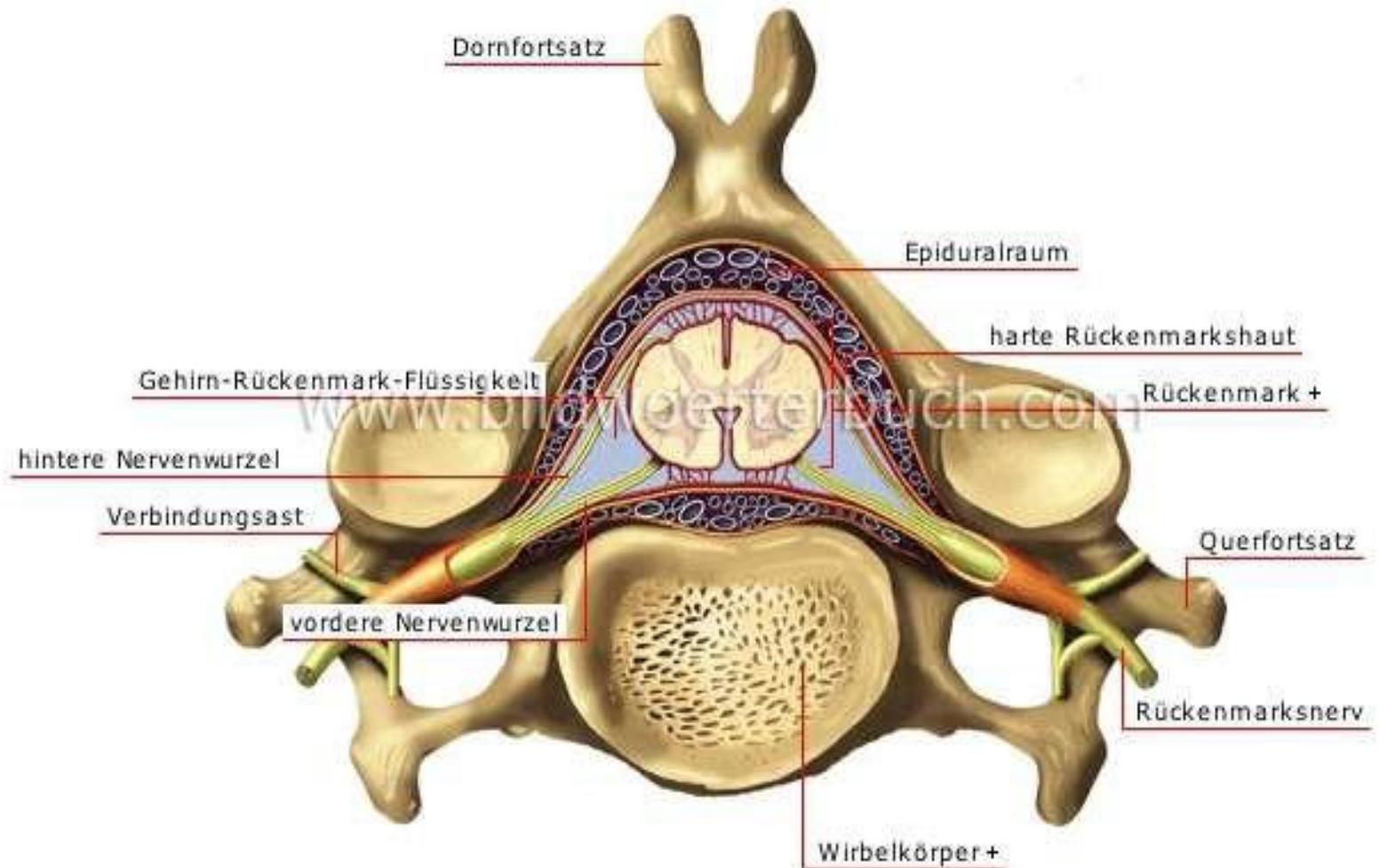
(Las superficies articulares recubiertas de cartilago hialino están teñidas de azul)

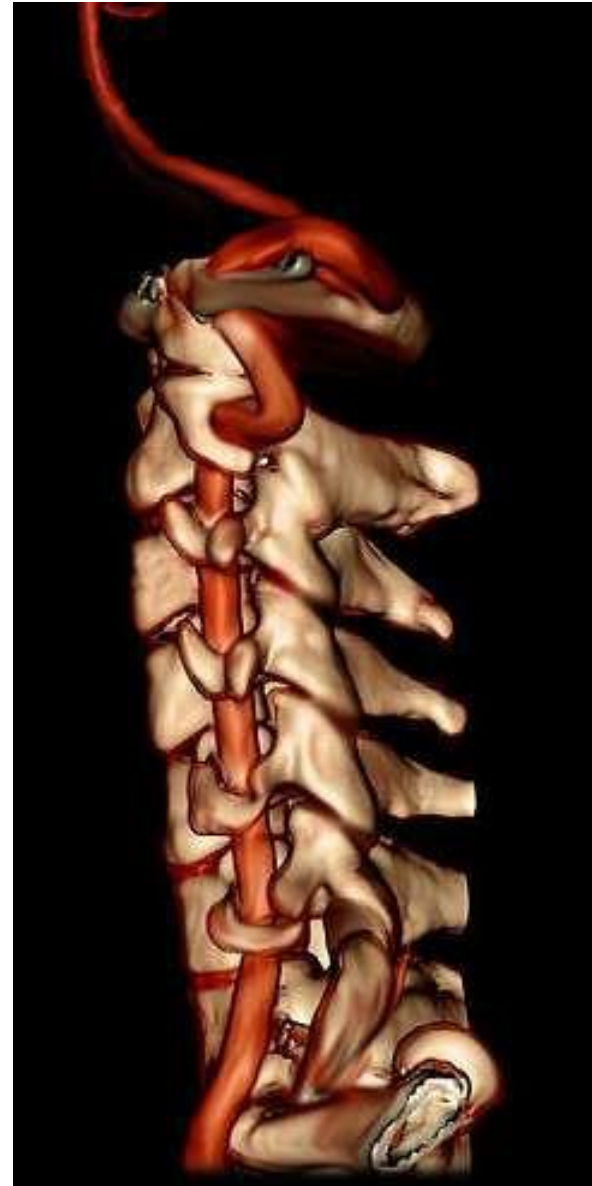


Axis (epistrophus)

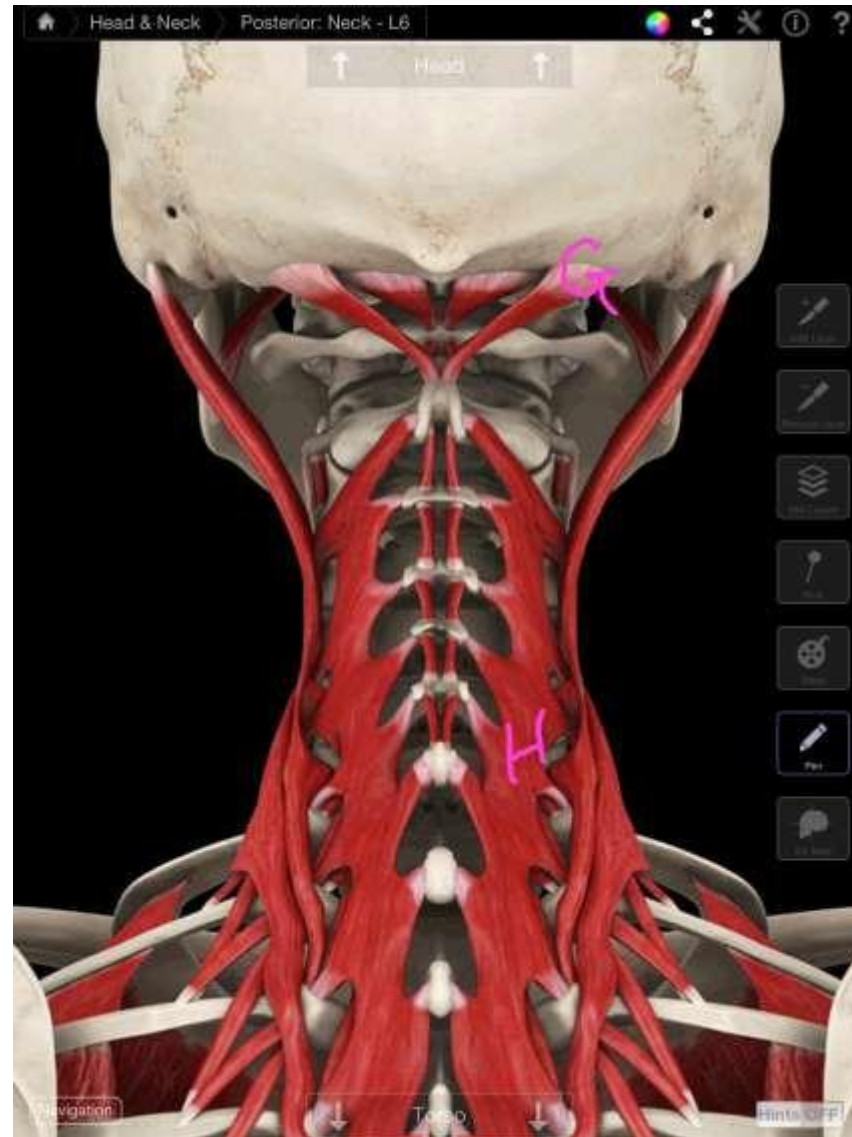
Superficie ventral o anterior



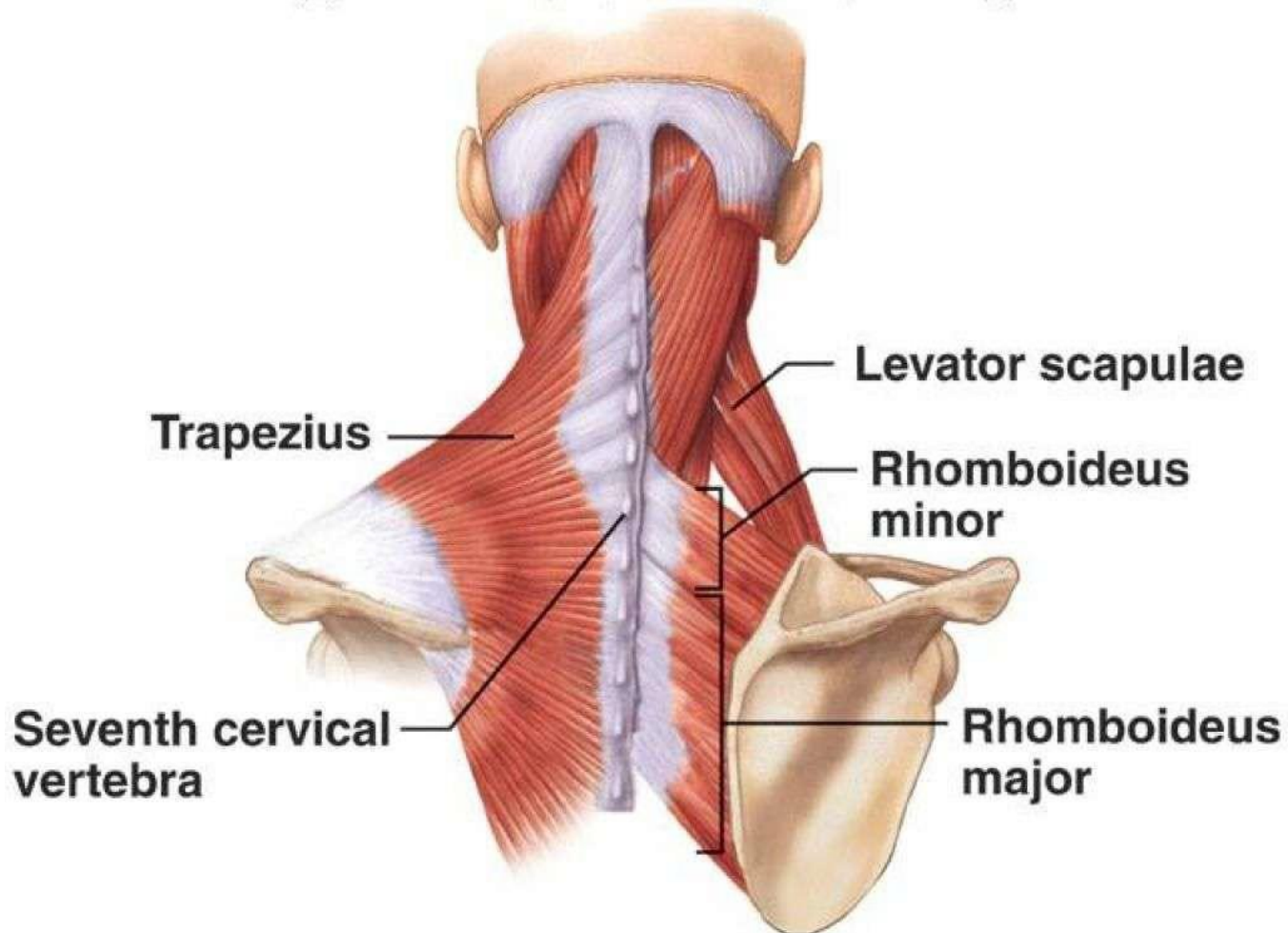


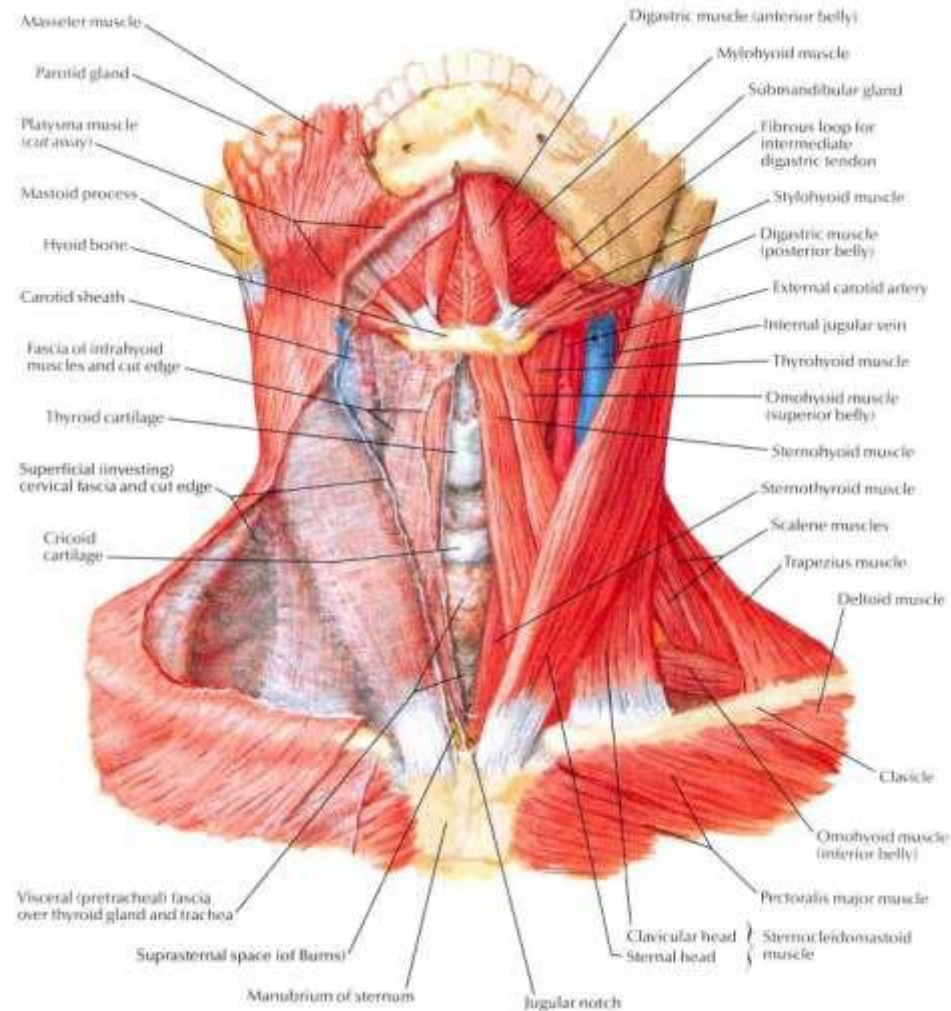




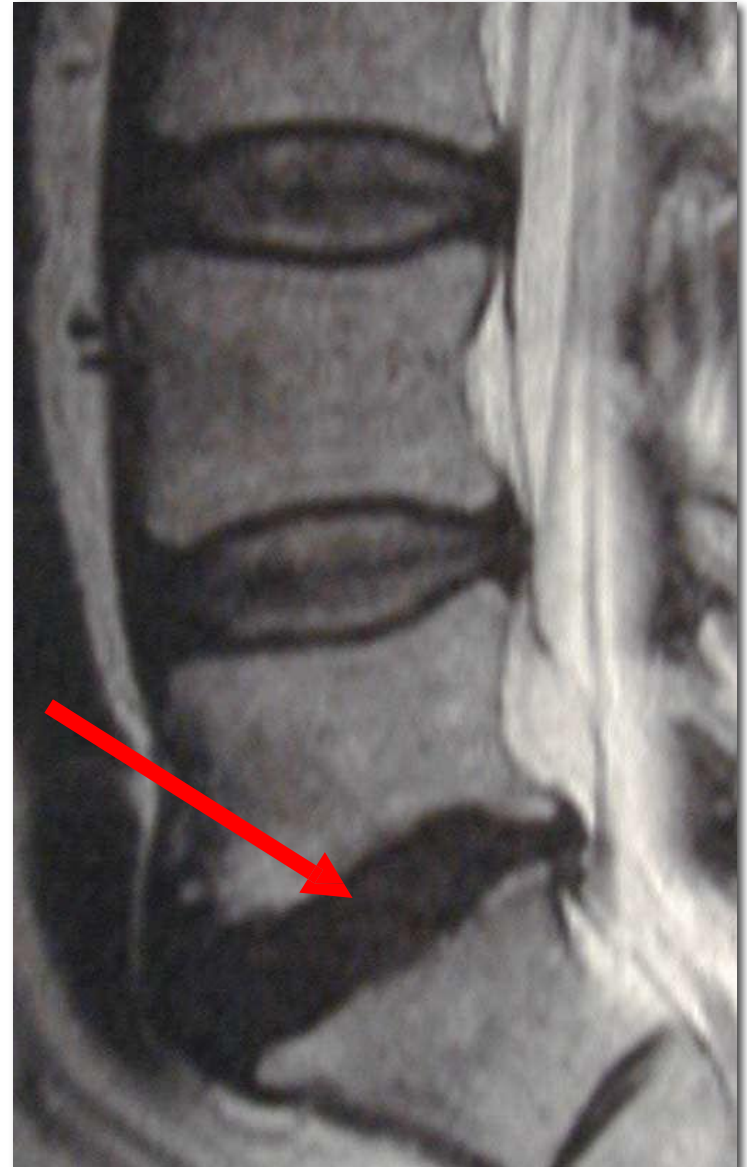


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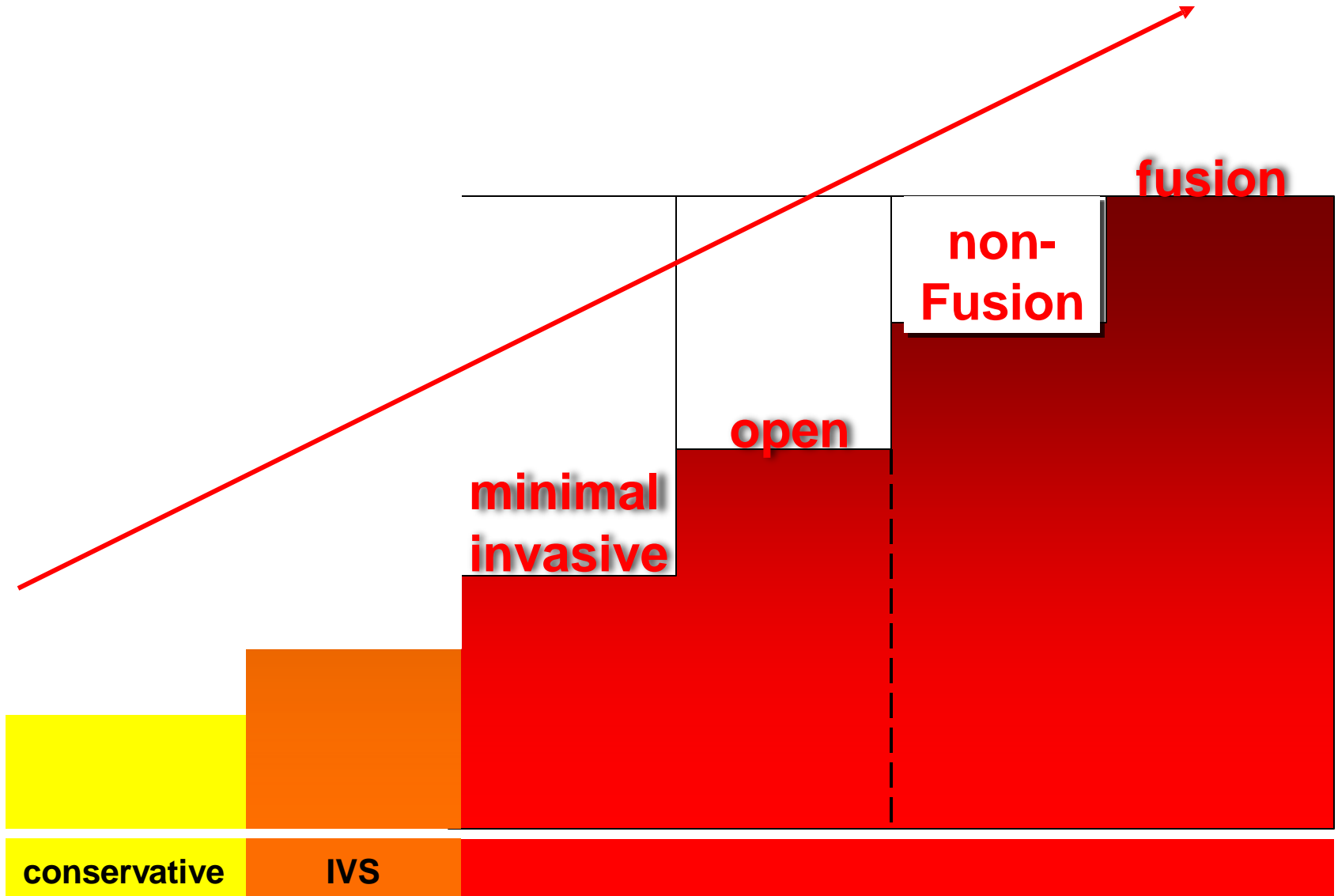




Konservativ behandeln eller kirurgi?

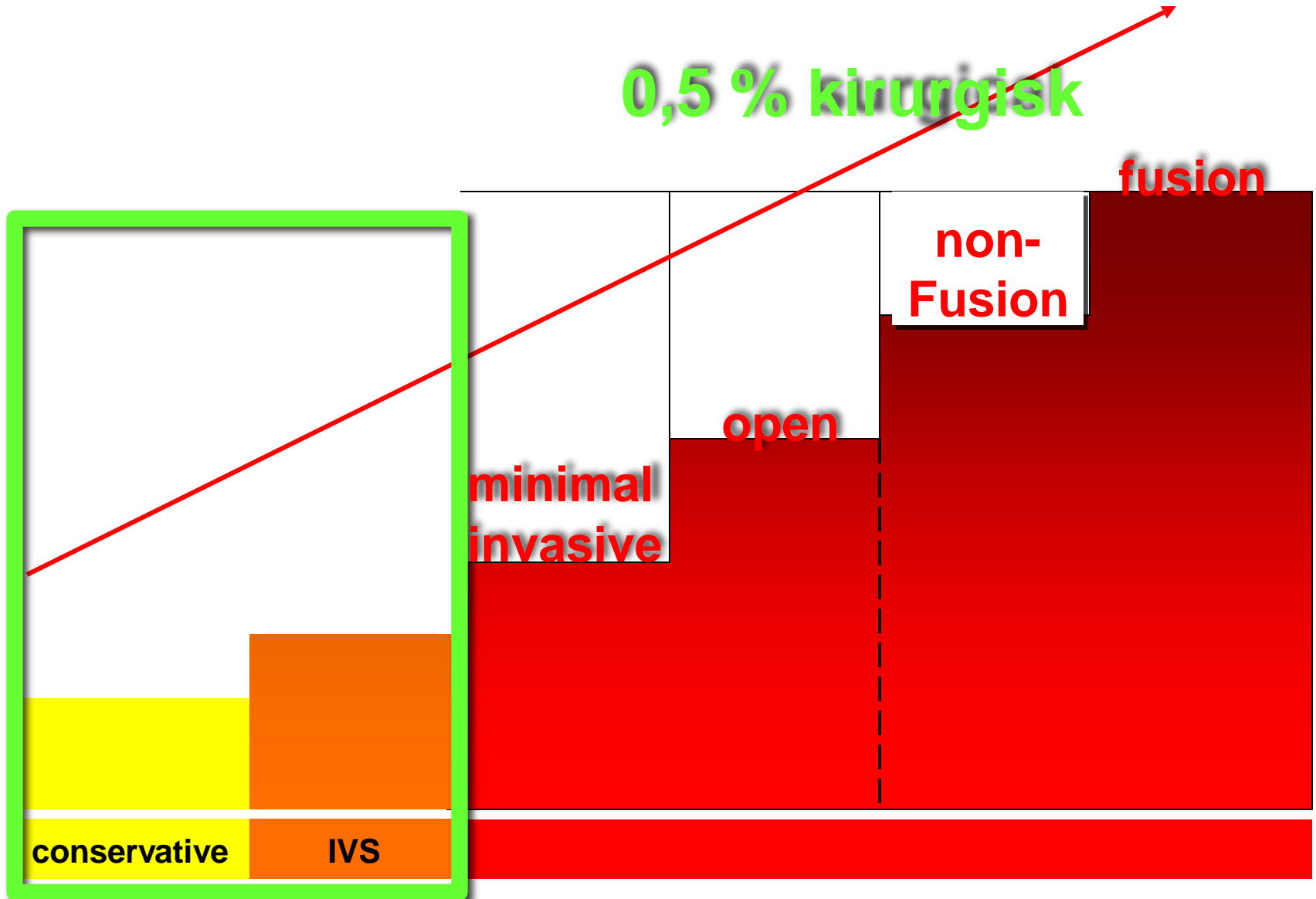


Konservativ behandling eller kirurgi?



Konservativ behandling eller kirurgi?

0,5 % kirurgisk





fysioterapi

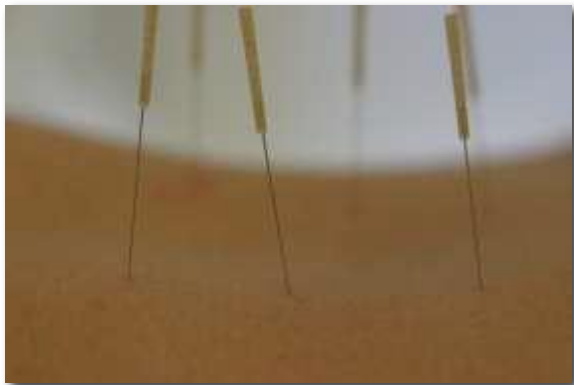
Fysisk terapi



piller



akupunktur



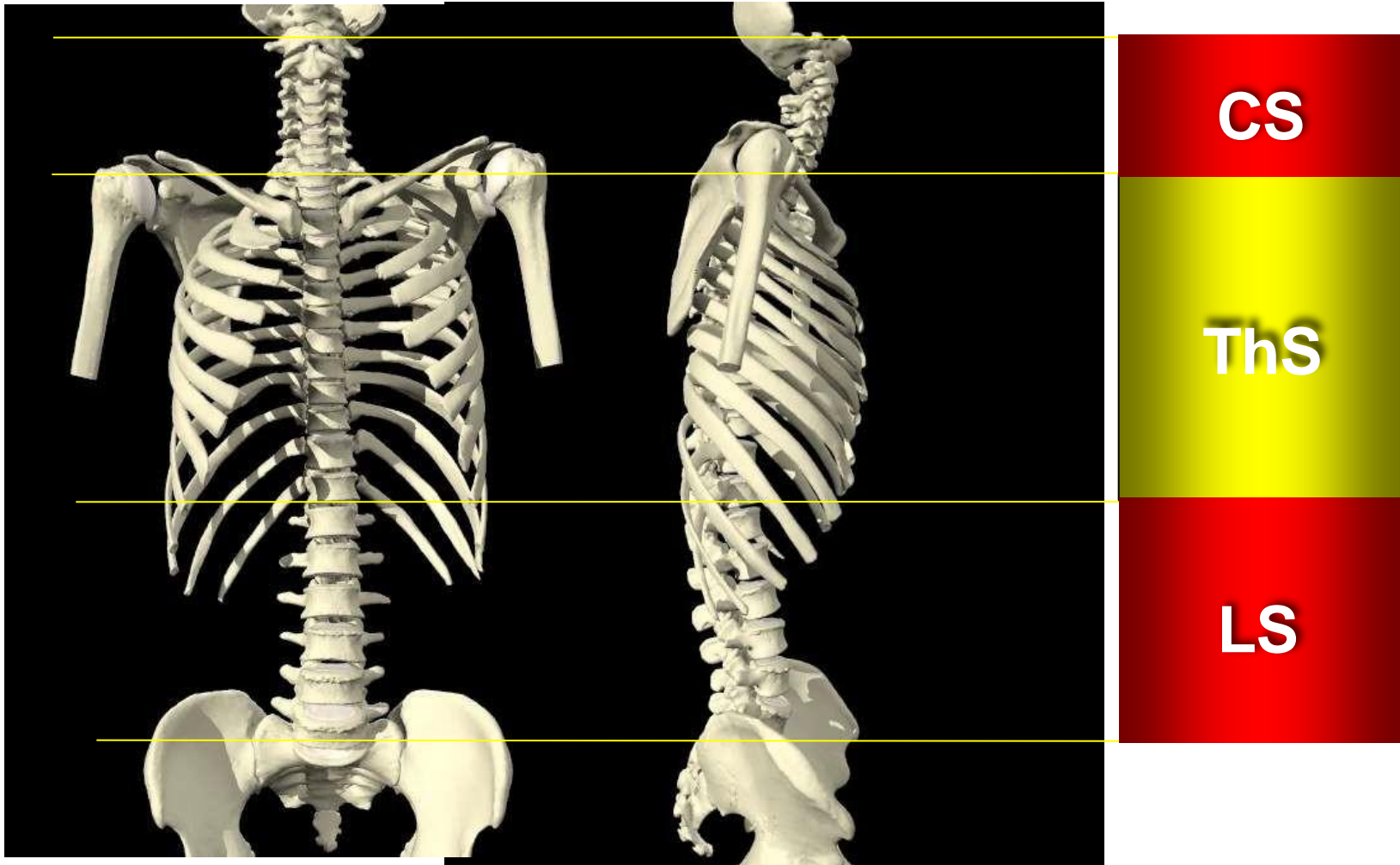
injeksjon



annet



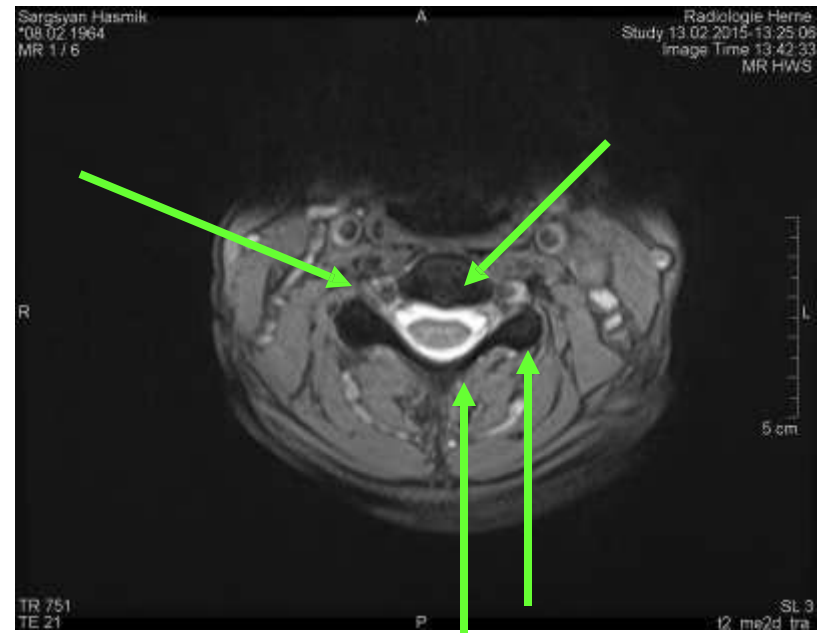
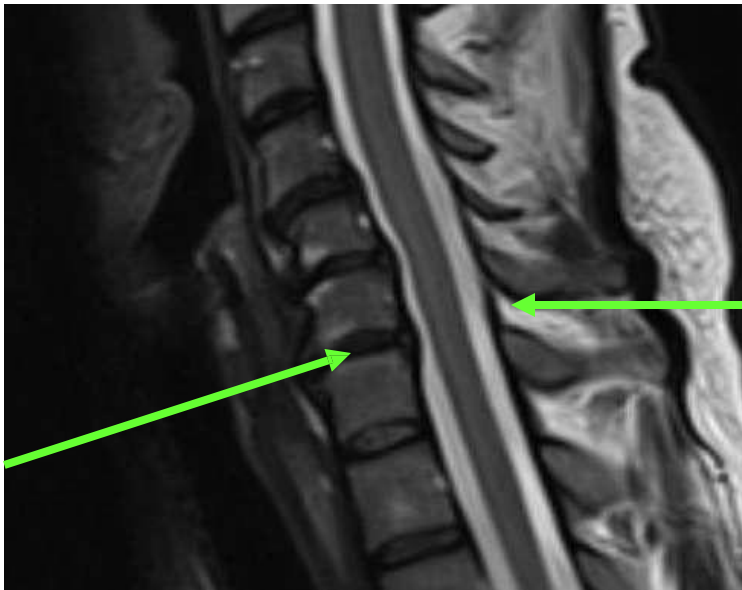
C-Arm Injektionen

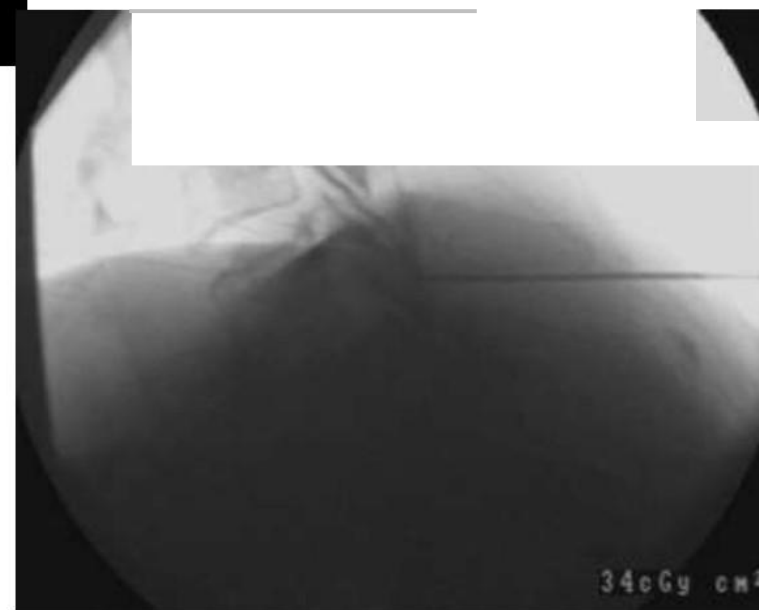


dorsal

transforaminal

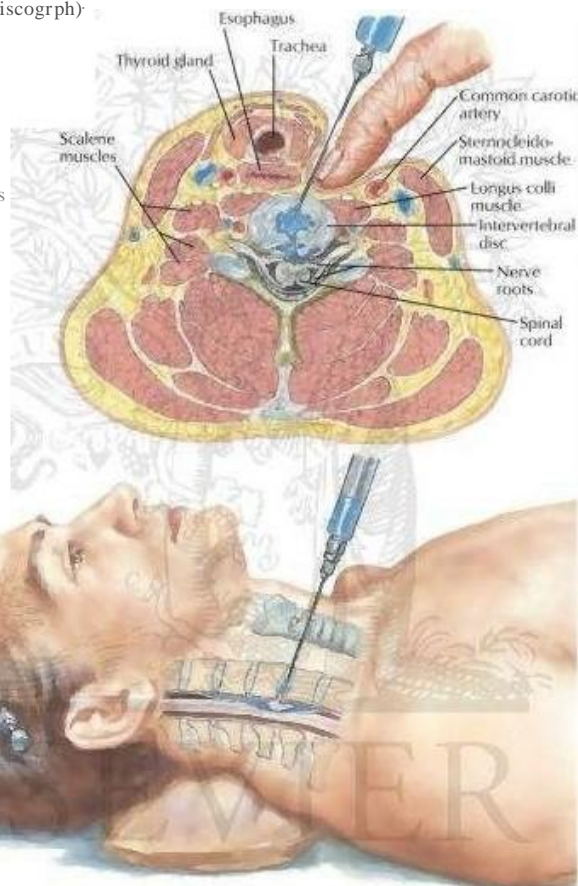
intradiscal





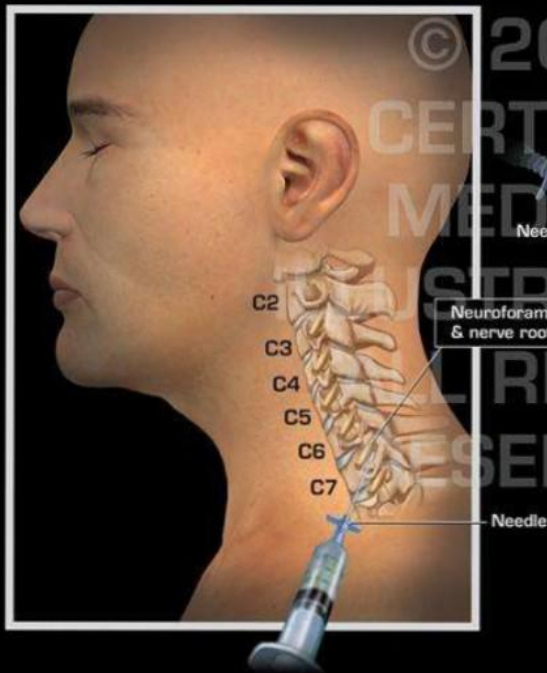
Cervical Epiduralography (Oiscography)

Anterior surface of spine
palpated, diploë in LMh
and
t-ctoti (LMh and in LMh)
ma G muscle to right. Needle
in W-11 cilio to l n t t b t d
104 f (x) dit C-Py m, 0, in
-08 m l Q radio l t t u c m d i u m i s
h p c t c m e d i u m d d r l f a c s
d s w a n 31 h i P . i o s .
N w c p i d u r o g r a m , 1 V m l b
i n i c t m (i u m o o t i s
s p i n a l c a n d . S i n b u t l o s
M r p m b c f t f t f c l c i u
h i n r i f t i n . I I P b e c t v t i
d e m r . " " h k x d l s k i n a W S i m s i a
i A d
> . f f o (C O O u o j

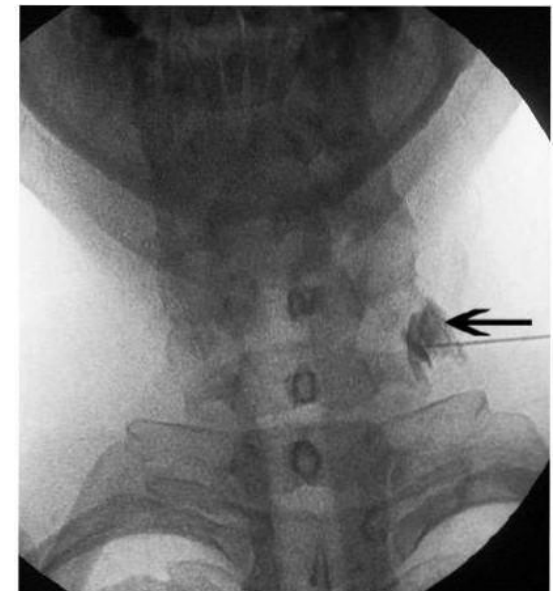
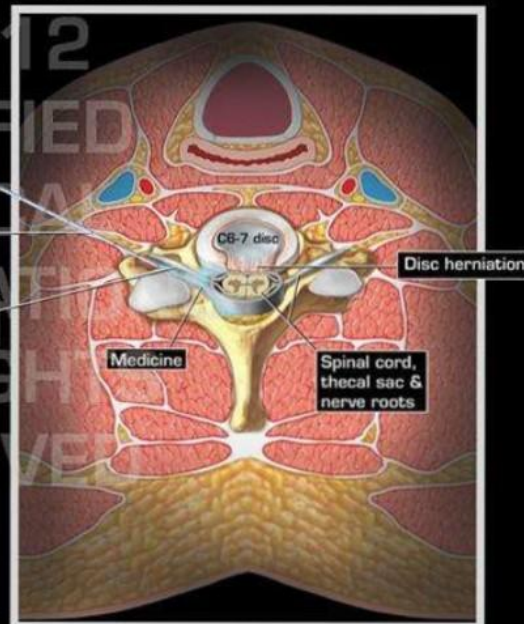


TRANSFORAMINAL EPIDURAL STEROID INJECTION OF CERVICAL SPINE

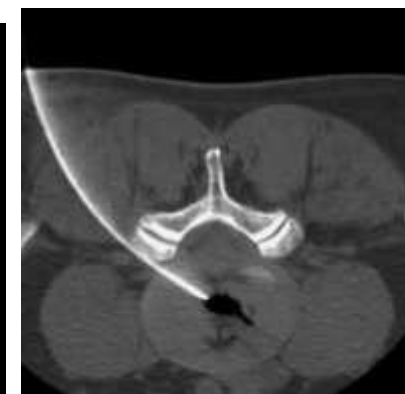
A. Placement of Needle into Left [Right] Neuroforamen at C6-7



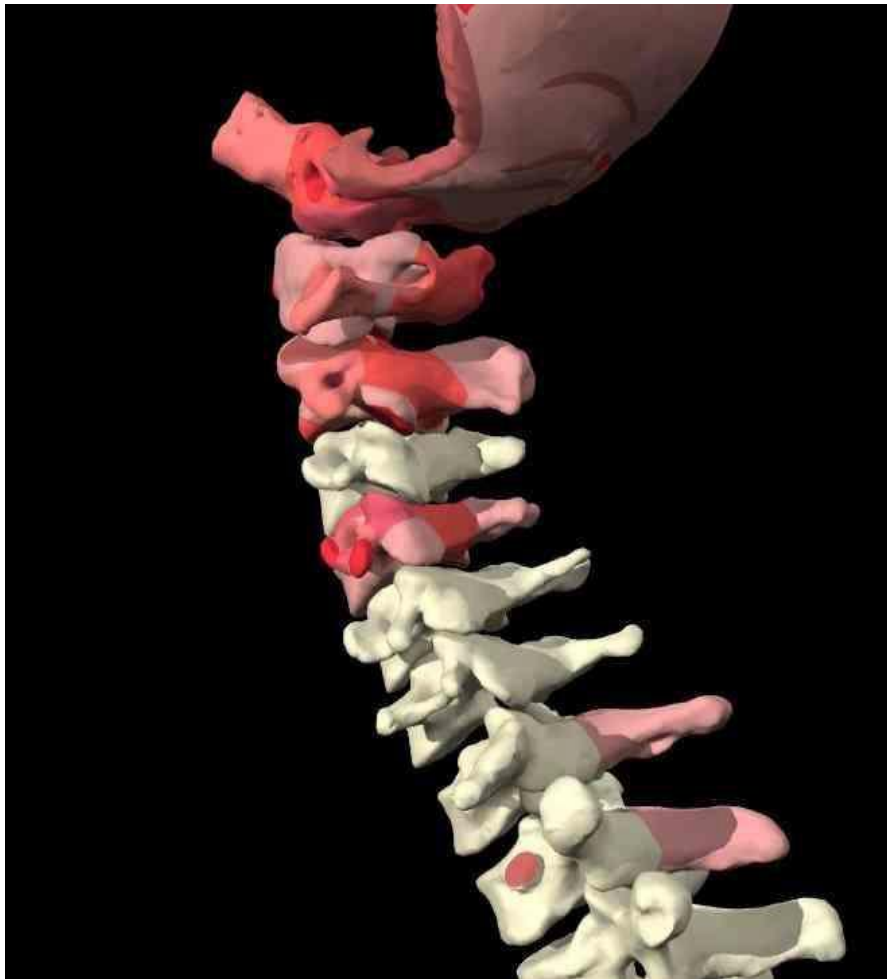
B. Epidurogram & Injection of Steroid into Epidural Space at Left [Right] C6-7, Axial Section



Perkutan (gjennom huden) disc dekompresjon med laser



Kirurgisk behandling av degenerative sykdommer og skader i cervicaldelen av ryggraden



Atlas



Axis



C3



C4



C5



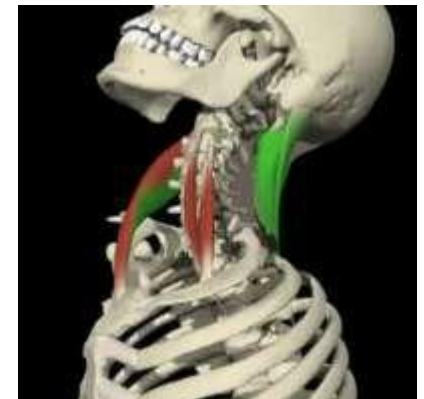
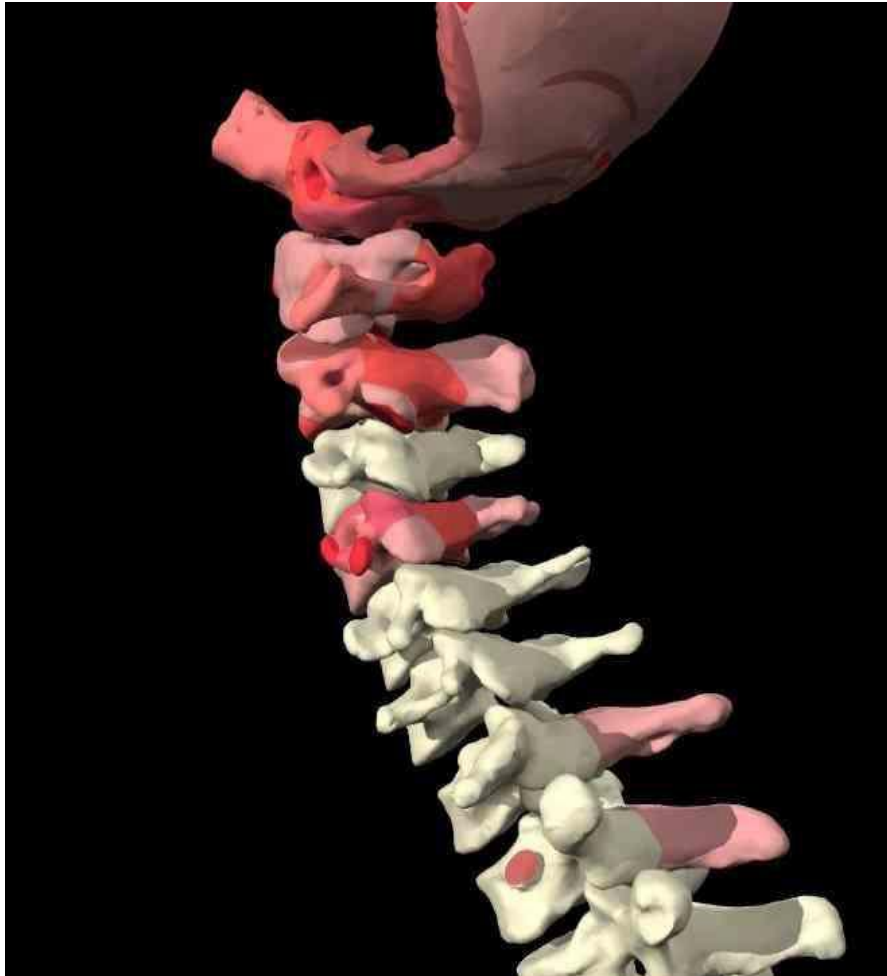
C6



C7



ventral endoskopisk nucleotomy

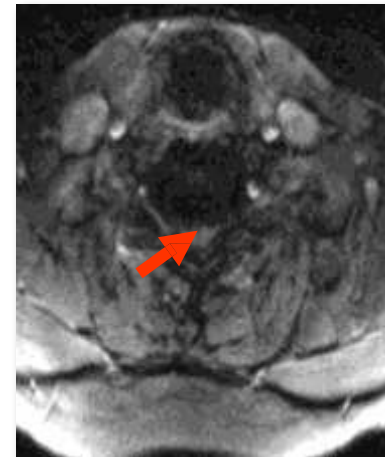




Disc degenerasjon

Osteofytter

Fasett-Artrose



SCS



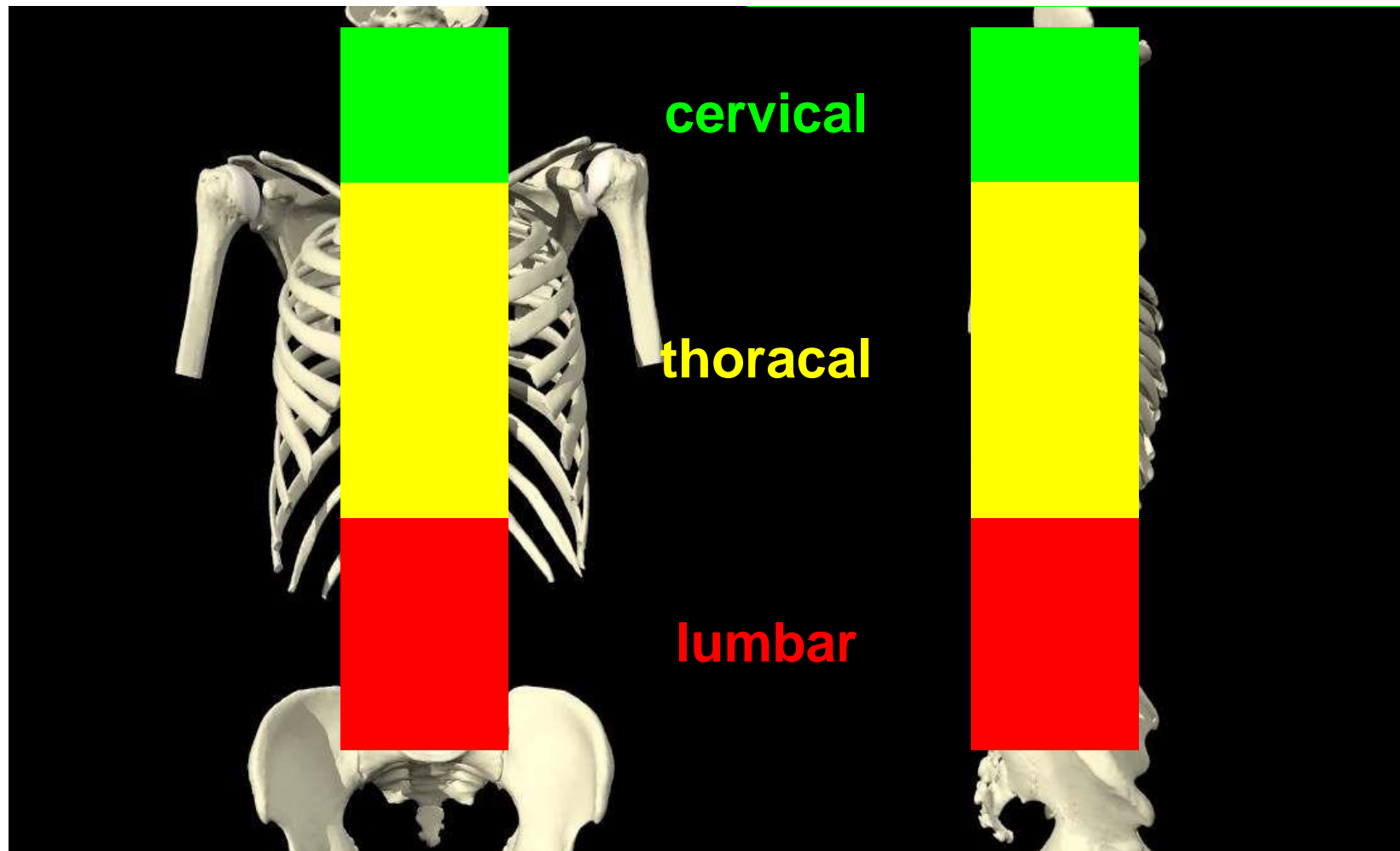
Herniasjon

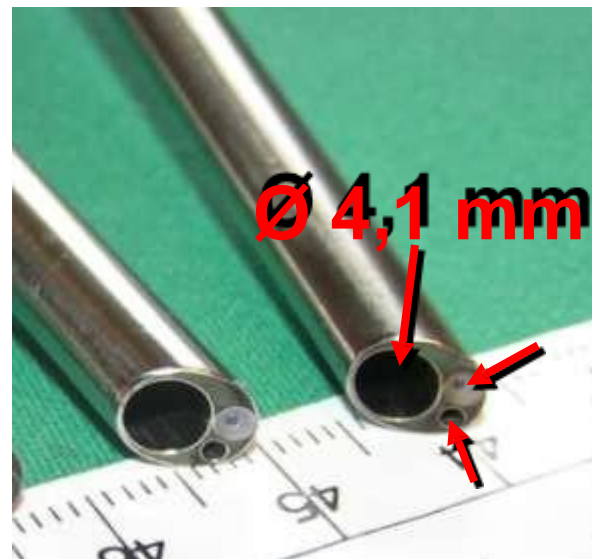
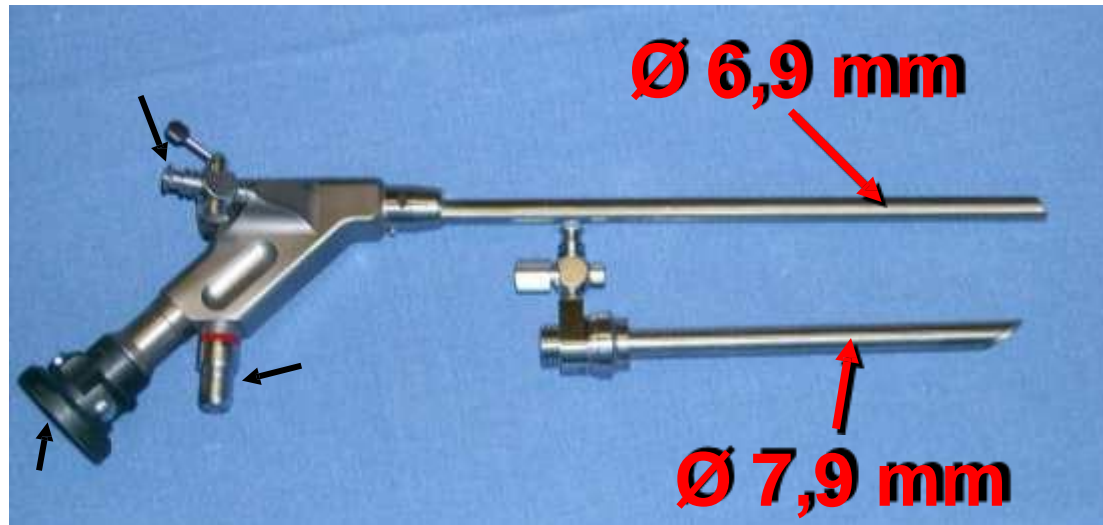
Brudd

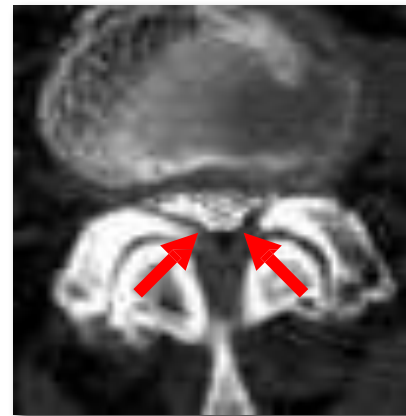


**Inflammasjon/betenn
elses-sykdom**

Fullendoskopische operasjoner





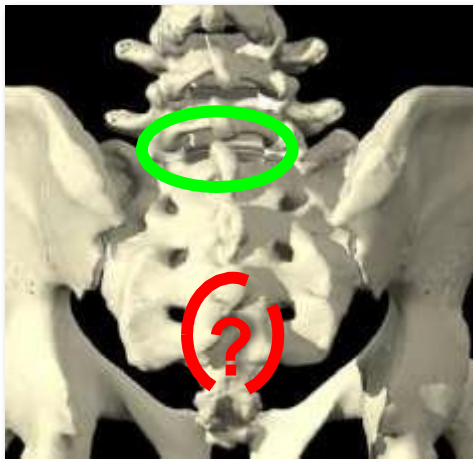


NPP

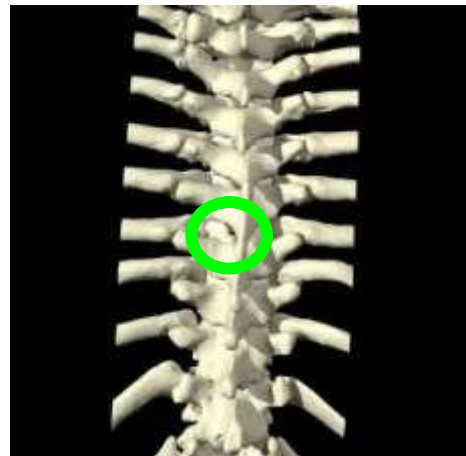
SCS

Radicular Symtoms

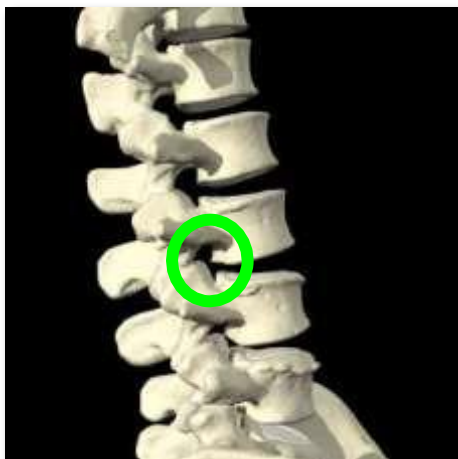
Fullendoskopische operasjoner



interlaminär

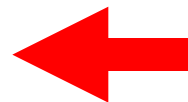
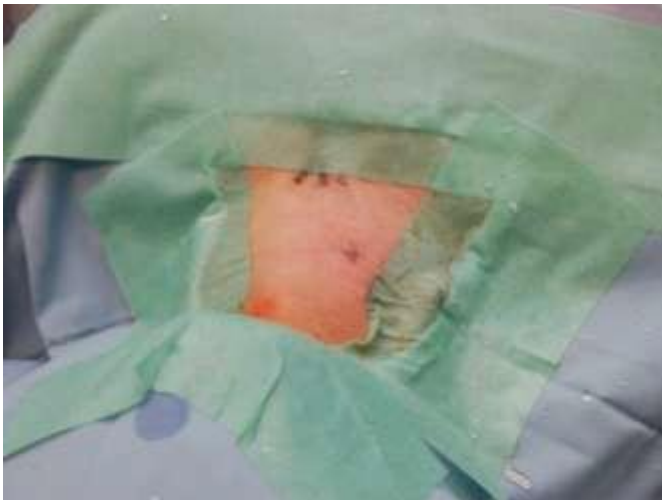
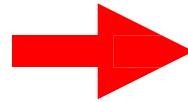


dorsal

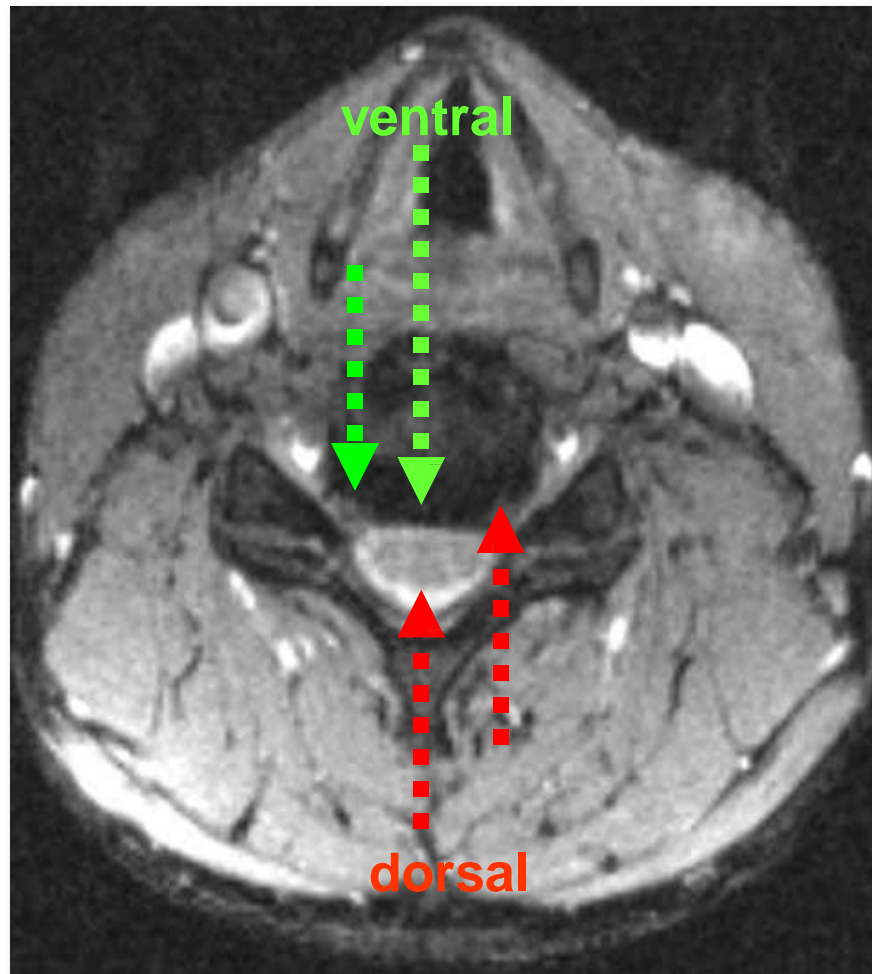


ventral

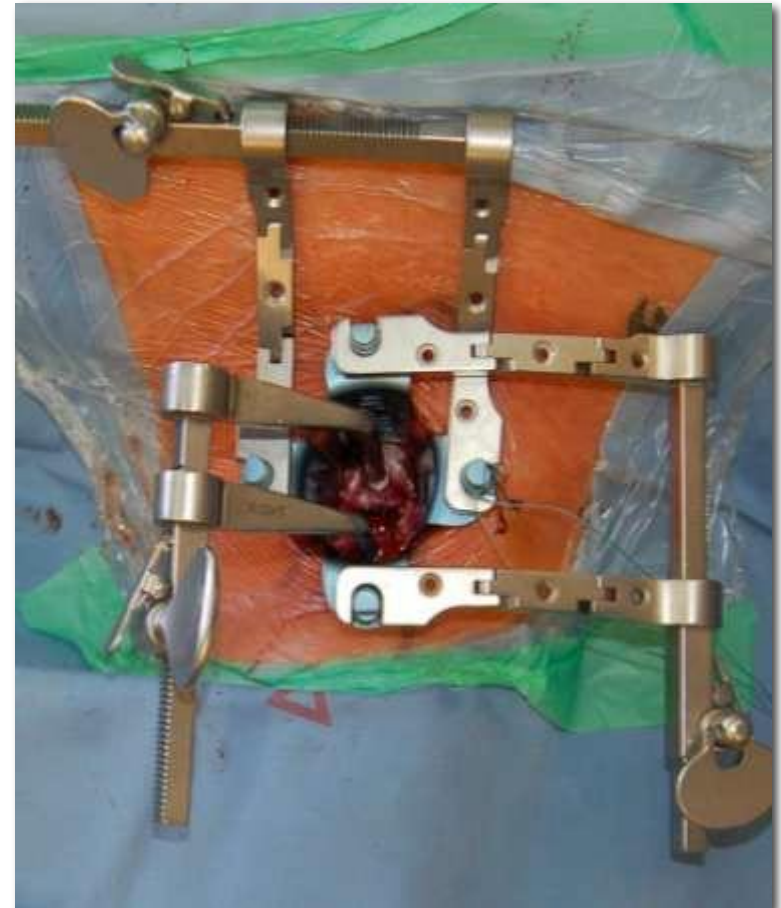
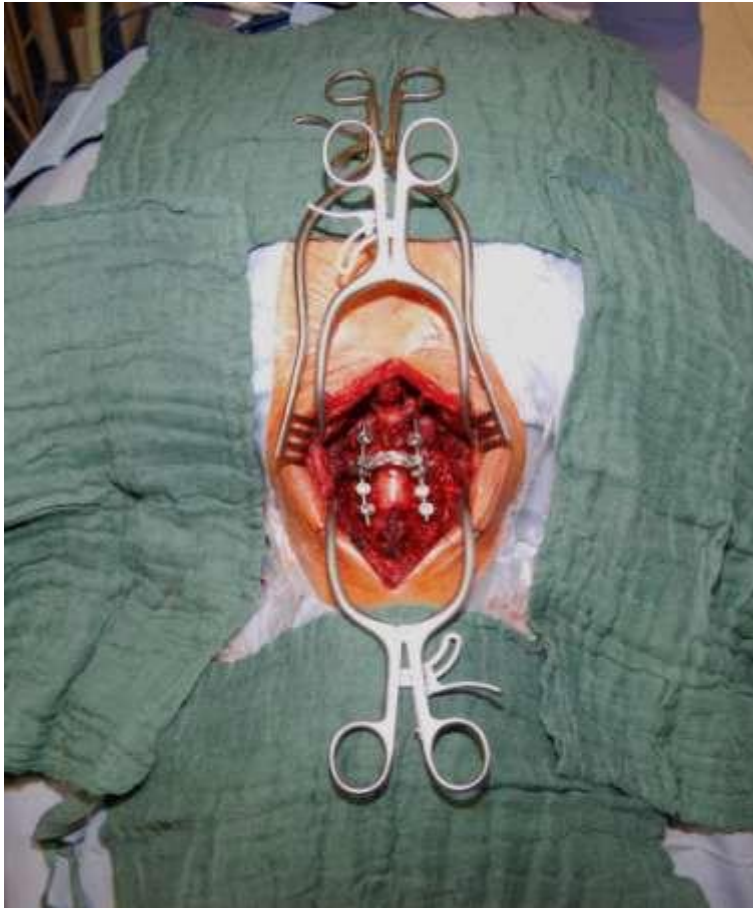
Fullendoskopische operasjoner



ÅPNE OPERASJONSTEKNIKKER



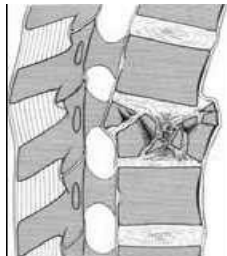
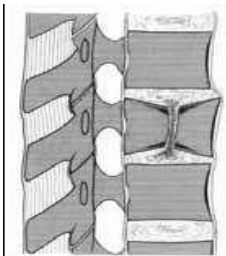
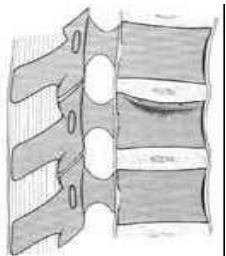
Åpen operasjon dorsal/ventral



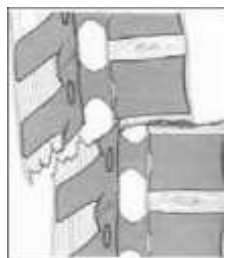
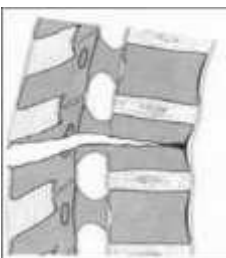
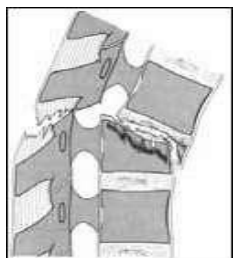


- Bilulykker
- Unge menn
- Høy grad av collaterale brudd

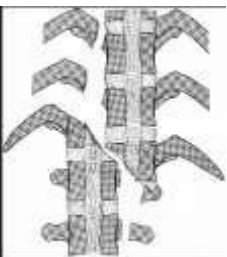
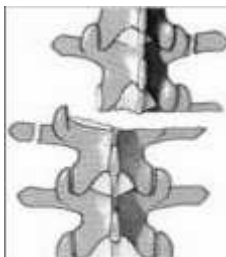
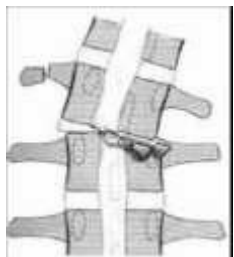
Brudd



Type A : Kompresjonsbrudd

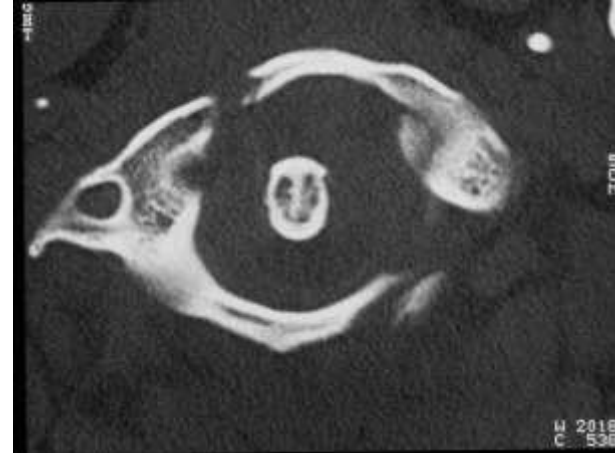


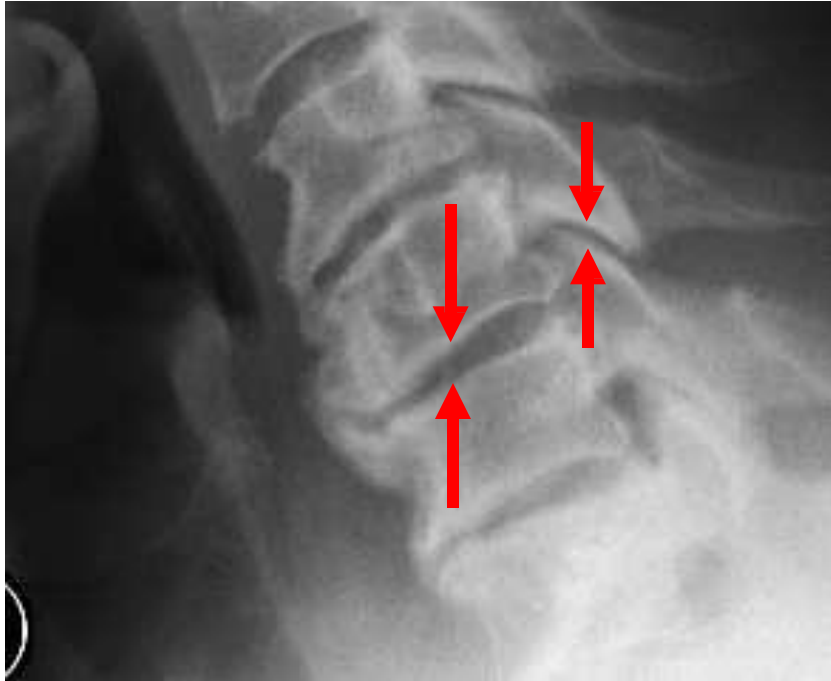
Type B : Distraksjonsbrudd



Type C : Rotasjonsbrudd

Atlasbrudd





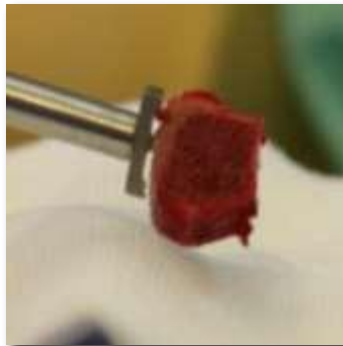
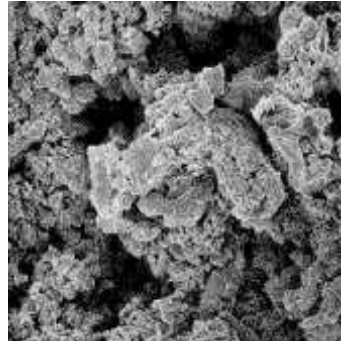
- Reduksjon av høyden/tykkelsen på disken
- facett degenerasjon
- foraminal stenose (forsnevring)

Degenerative sykdommer



**NPP, spinalkanal stenose,
myelonkompresjonssmerte, dysestesi
(hudfølelserforandring), tap av styrke**

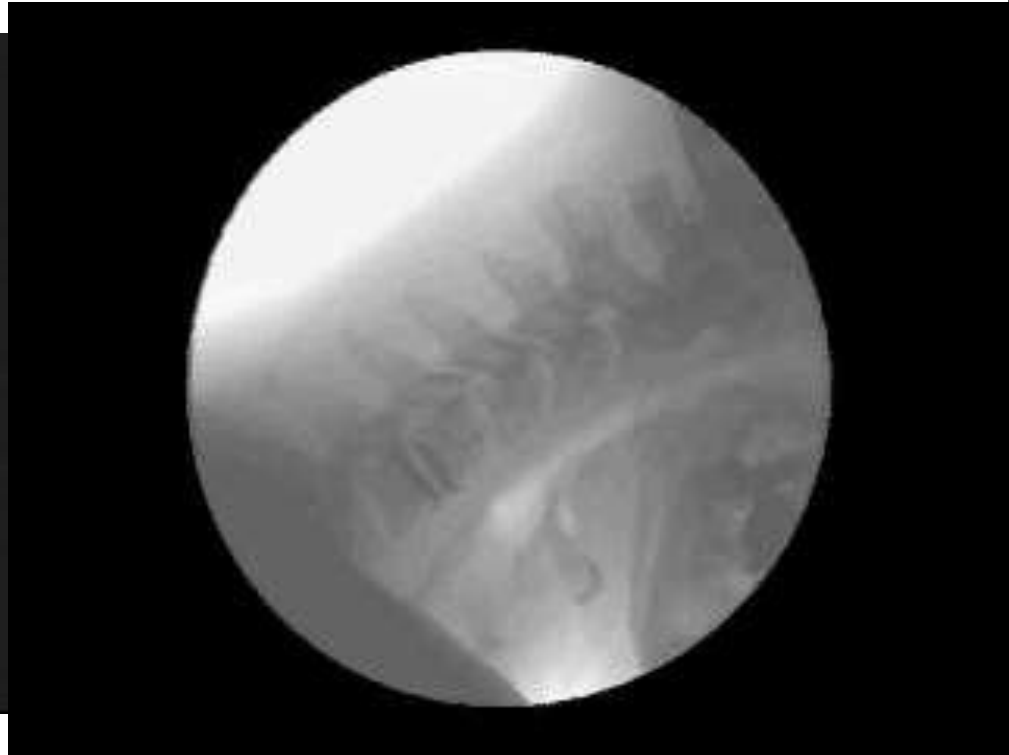
Implantater



Implantater

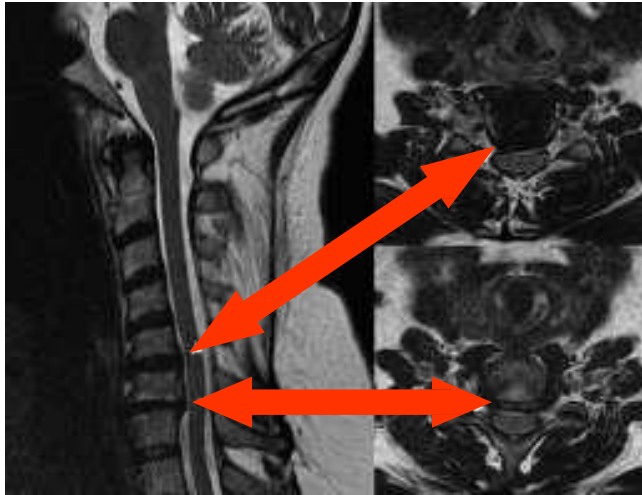


Degenerative sykdommer

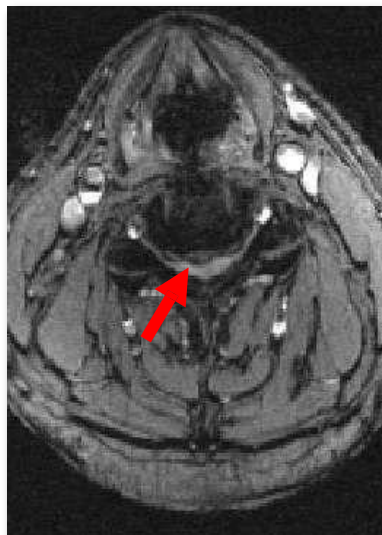


kunstig cervikal disc

Degenerative sykdommer



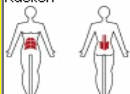


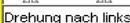
Degenerative sykdommer

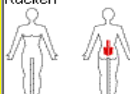
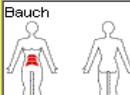






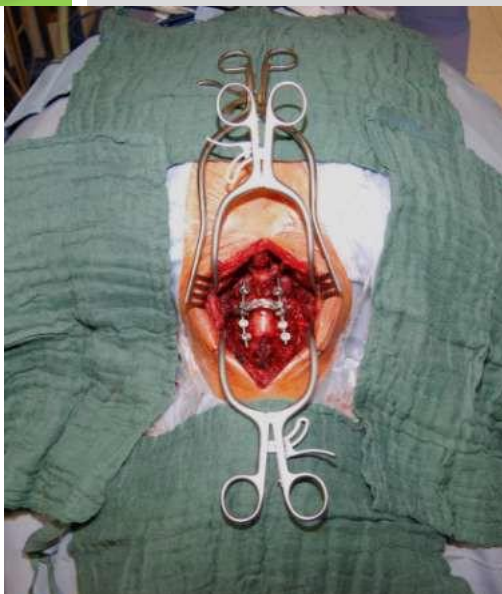
Fysioterapi etter spinalkirurgi

myoskelettal analysis

Muskelgruppe	isometr. Max. Kraft	Verän- derung in %	Dyn. Leist- ung	Kraftverhältnisse
Rücken 	AI 121 Nm	N/A		Bauch stärken Rücken stärken 0,24 0,84 0,73
Bauch 	AI 88 Nm	N/A		Norm: 0,54
Drehung nach rechts 	AI 42 Nm	N/A		Links stärken Rechts stärken 0,4 1,6 0,50
Drehung nach links 	AI 21 Nm	N/A		Norm: 1

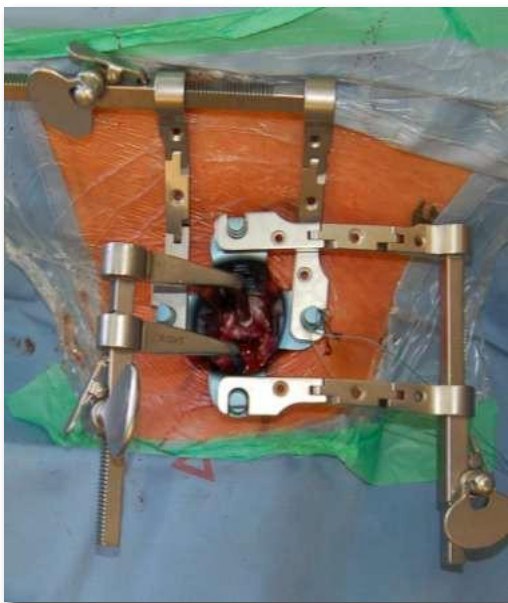
Muskelgruppe	isometr. Max. Kraft	Kraft im Vergleich
Rücken 	AI 121 Nm	0% 200% 62%
Bauch 	AI 88 Nm	0% 200% 84%
Drehung nach links 	AI 21 Nm	0% 200% 26%
Drehung nach rechts 	AI 42 Nm	0% 200% 56%

Quelle der Referenzwerte: A. Denner - Muskuläre Profile der Wirbelsäule, Springer Verlag 1997



?

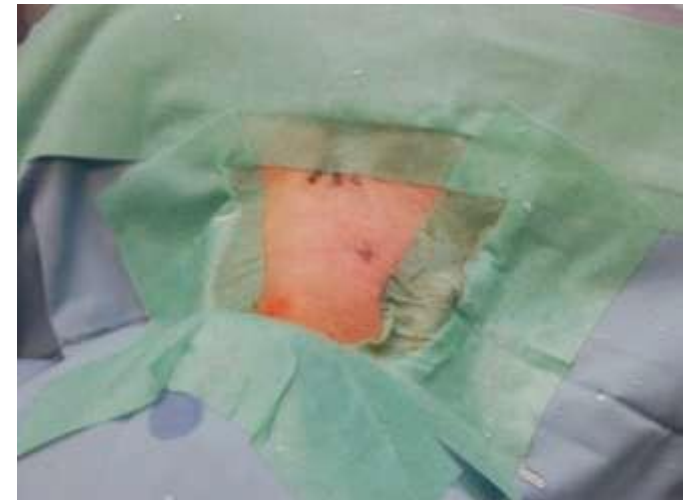
Spør kirurgen...



2 uker



- Tidlig mobilisering
- Beskyttelse av mykt vev
- Mindre post-operative smerter
- Mindre arrvev
- Mindre muskelødeleggelse





3 faser av post-operativ behandling

1. Støttende fase

2. Avvennigsfase

3. Rehabiliteringsfase



3 faser av post-operativ behandling

1. Støttende fase

- Krage må bæres hele tiden
- Kan fjernes i forbindelse med kroppshygiene

2. Avvenningsfase

3. Rehabiliteringsfase



3 faser av post-operativ behandling

1. Støttende fase

2. Avvenningsfase

- Krage kan tidvis tas av
- Pasienten bestemmer når kragen kan tas av i lengre perioder

3. Rehabiliteringsfase



3 faser av post-operativ behandling

1. Støttende fase

2. Avvenningsfase

3. Rehabiliteringsfase

- Ingen krage nødvendig



Pasienthåndtering

ST. ELISABETH GRUPPE 
KATHOLISCHE KLINIKEN RHEIN-RUHR

- Forklar hvorfor krage er nødvendig
- Forklar håndteringen av krage
- Vis pasientene hva de kan gjøre
- Forklar ADLs
- Forsøk å støtte pasienten slik at han/hun ikke blir engstelig og redd

**Pasienten må føle seg godt
informert**



Pasienthåndtering

- Kragen kan tas av ved dusjing osv.
- Etter MIS er bevegelse av nakken tillatt
- Daglige gjøremål er tillatt
- Tunge løft skal unngås
- Ekstreme nakkerotasjoner skal unngås

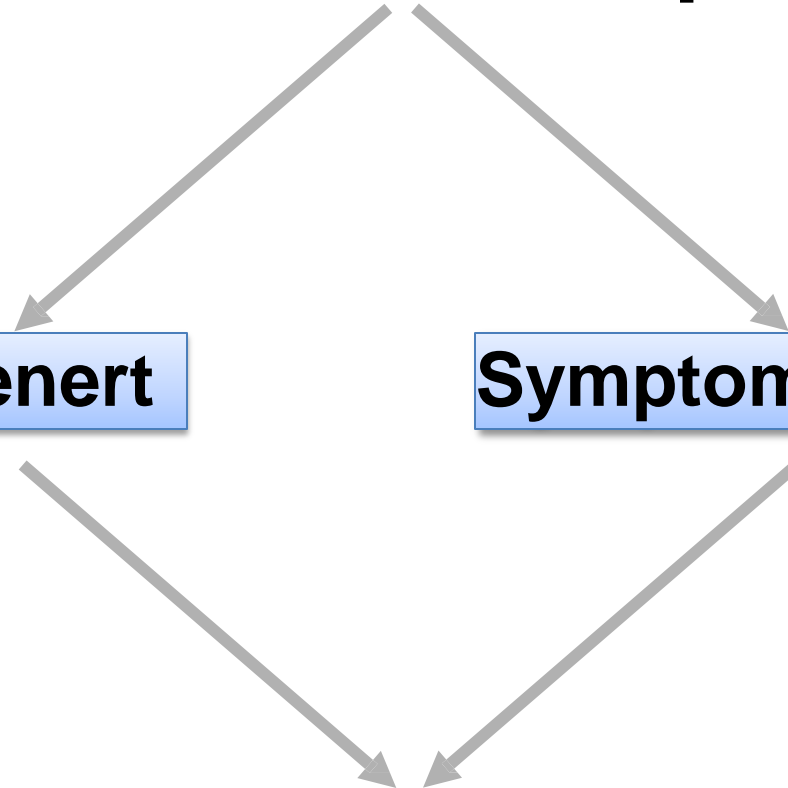
Pasienten bør lytte til signaler
Kroppen vil gi signaler om ting gjøres riktig

Individuel terapi

Pasientorientert

Symptomorientert

smertereduksjon



Fysisk terapi

- Smertereduksjon
- muskelelektroterapi



Korreksjon av holdning for å unngå smerte

- Massasje av smertefulle musklers
- Tøying av forkortede muskler
- Korrigering av ganglag



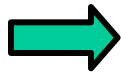
Mykgjøring av arrvev

Ikke glem resten av ryggraden

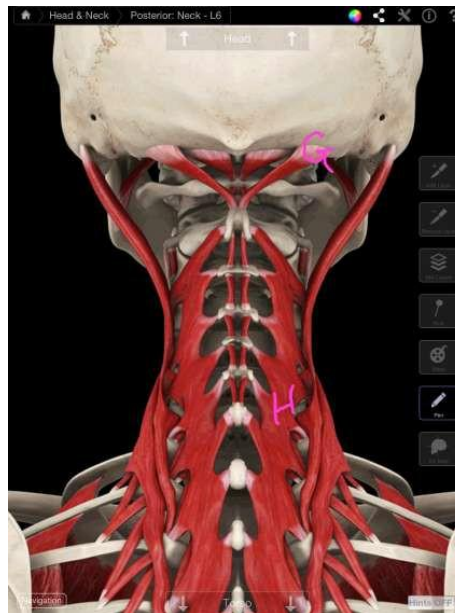
- thorakal/lumbar del
- ileosacralleddene
- M.m. Piriformis



Aktivering av segmentelle muskler i ryggraden



smertereduksjon



Karakteristikk

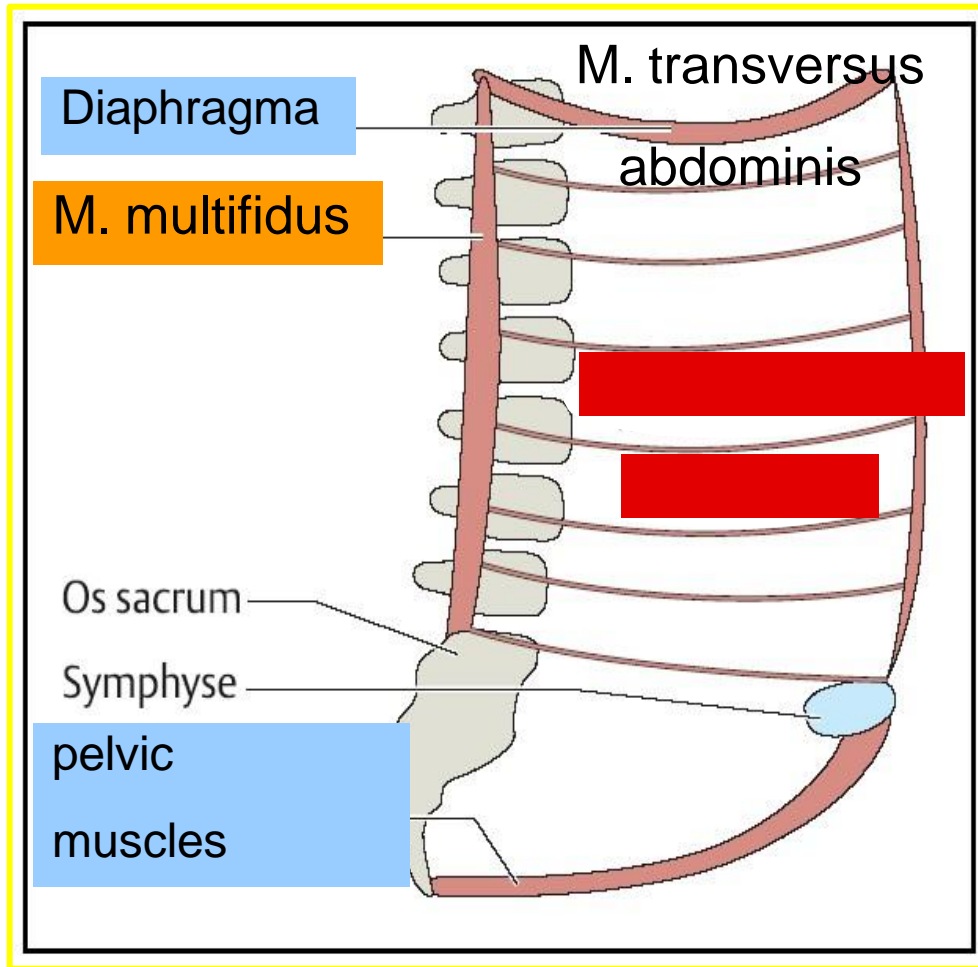
- Monosegmental
- Plassert på dorsal del av ryggraden
- Kort vektarm ➞ Lavt dreiemoment
  Ingen bevegelse generert
- Aksial stabilisering av fasettledd
- ➞ Ryggradsstabilisering
 ➞ Motorisk bevegelseskontroll

Aktiv stabilisering

Stabilisering av ryggraden via buktrykket


Viktig å opprettholde intra-abdominalt trykk

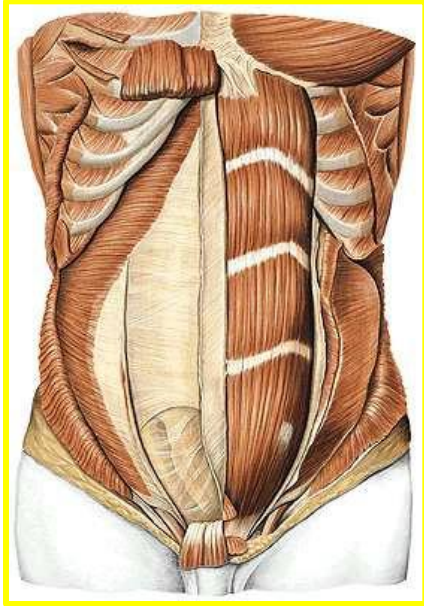
Cervikaldelen av ryggraden stabiliseres av segmentale muskler





Karakteristikk:

- Polysegmental
- Plassert på dorsal og ventral del av ryggraden
- lang vektarm \Rightarrow høyt dreiemoment
 \Rightarrow  Forårsaker bevegelse
- Ingen segmental stabilisering



M. rectus abd.

M. obliquus abd. ext.

M. obliquus abd. int.

M. semispinalis

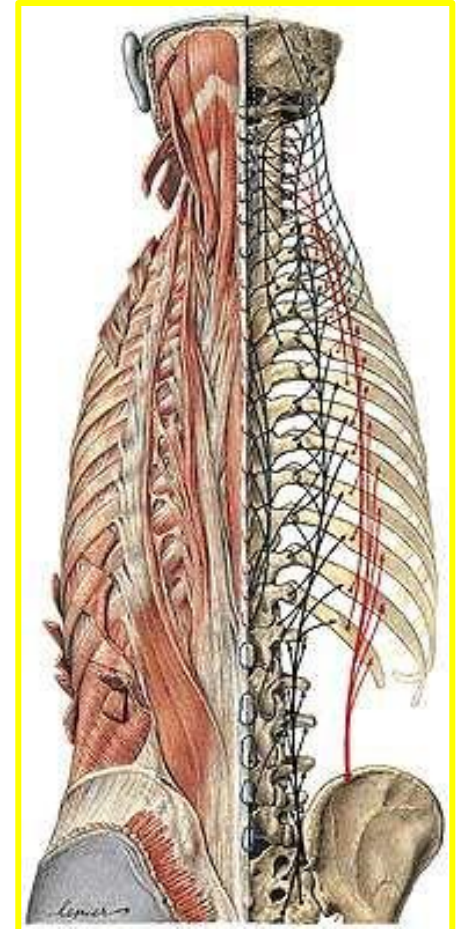
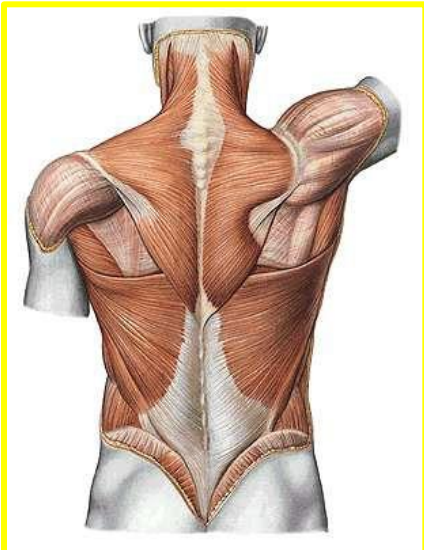
M. iliocostales

M. splenii

M. scaleni

M. latissimus dorsi

M. quadratum lumborum





Viktig for stabil bevegelse

ST. ELISABETH GRUPPE 
KATHOLISCHE KLINIKEN RHEIN-RUHR

**Stabiliseringsmusklene
må aktiveres før
bevegelsesmusklene**

1. Aktiviering av stabiliseringsmusklene før bevegelsesmusklene

Segmental stabilitet

2. Bevare stabilitetsmuskulaturen aktivert når bevegelsesmusklene aktiveres

Global stabilitet

3. Lære å bruke global stabilitet i hverdagens gjøremål

Funksjonell stabilitet

Støttende fase

Avvenningsfase

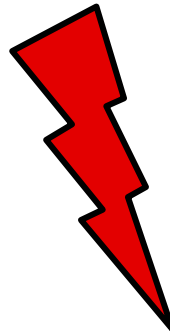
Rehabiliteringsfase

segmental stabilitet

globalstabilitet

funksjonellstabilitet

Smerte under trening:



utilstrekkelig eller mangelfull stabiliseringstrening



















