

Osová kostra a její spojení Pánev jako celek, roviny a rozměry pánevní

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Anatomický ústav 2. LF UK, 2016

Nové vědomosti?



Chci je znát všechny!!

Columna vertebralis

vertebrae, os sacrum, os coccygis

Skeleton thoracis

costae, sternum

VERTEBRAE

Vertebra:

Corpus vertebrae

Arcus vertebrae

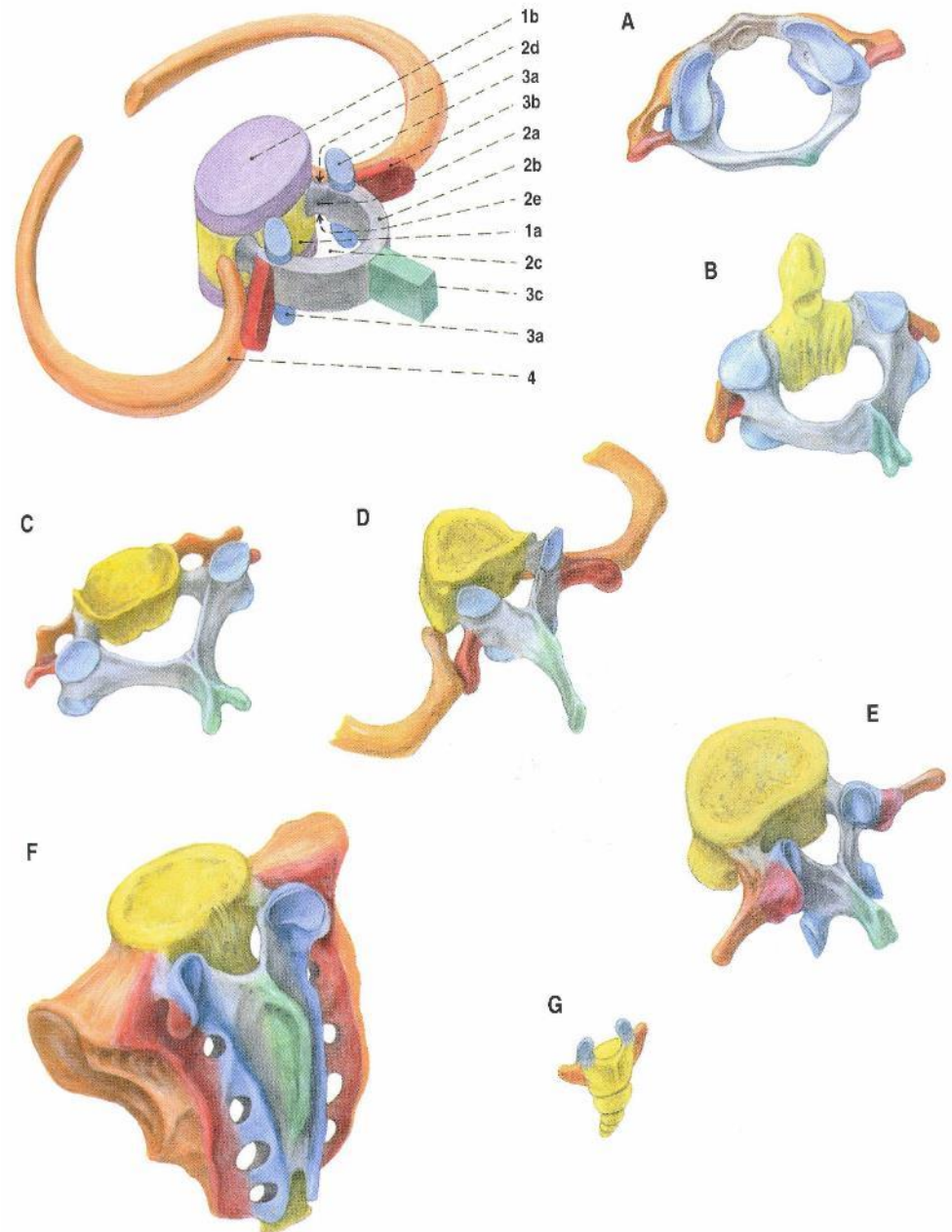
Processus vertebrae:

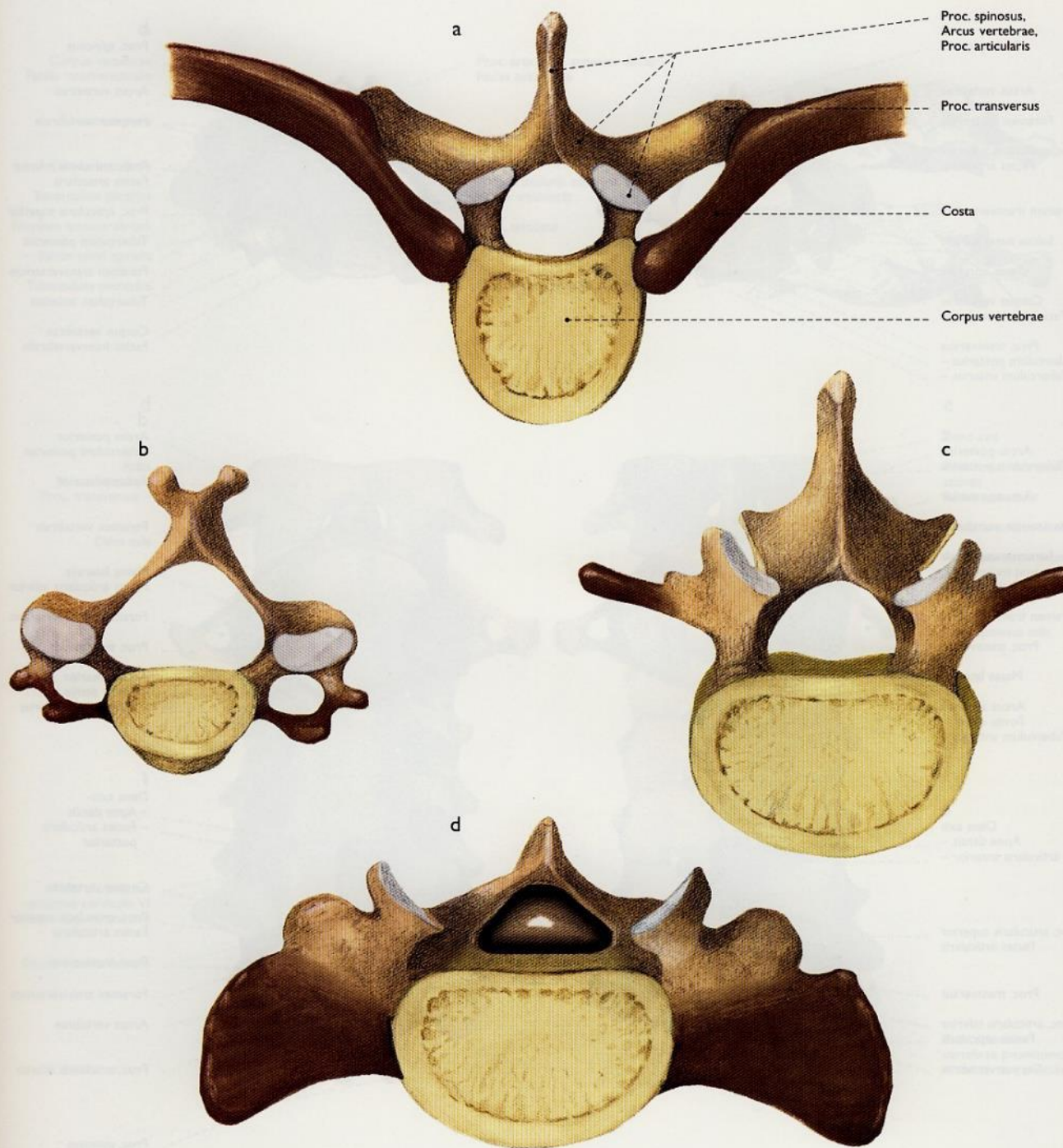
1x proc. spinosus

2x procc. transversi

2x procc. articulares sup.

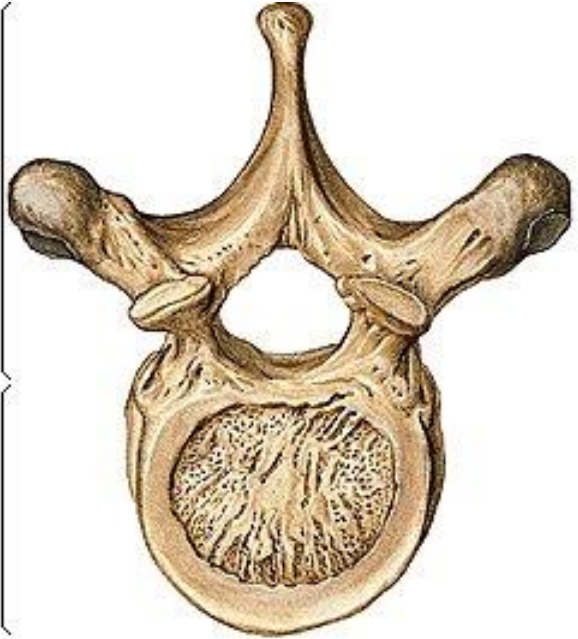
2x procc. articulares inf.

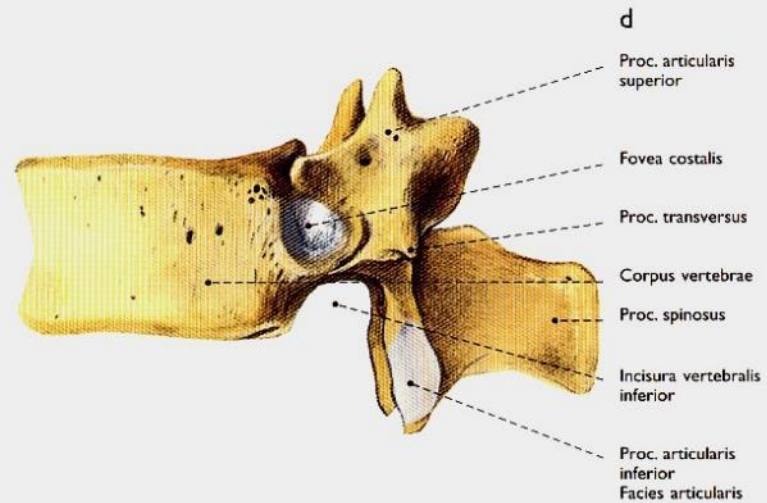
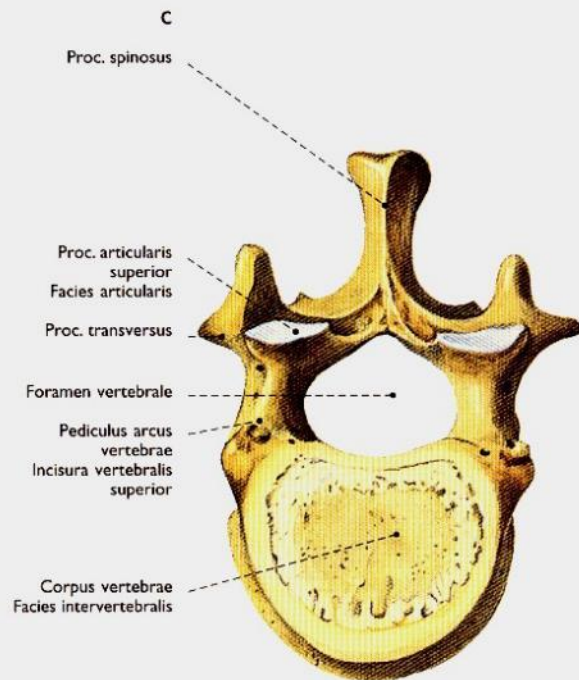
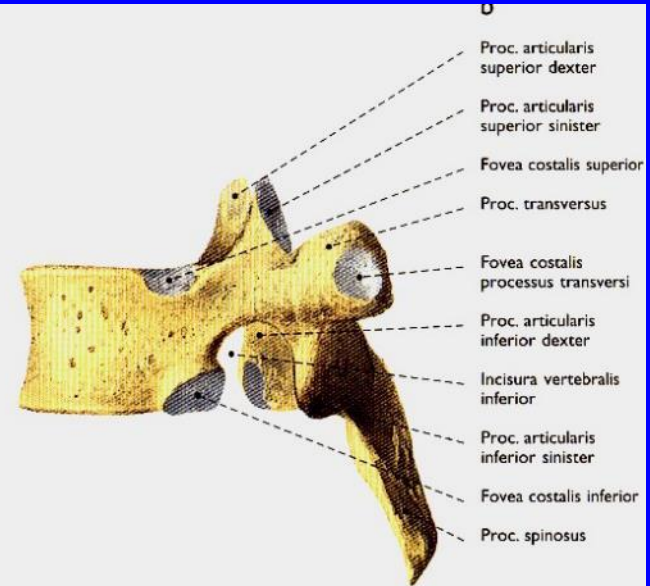
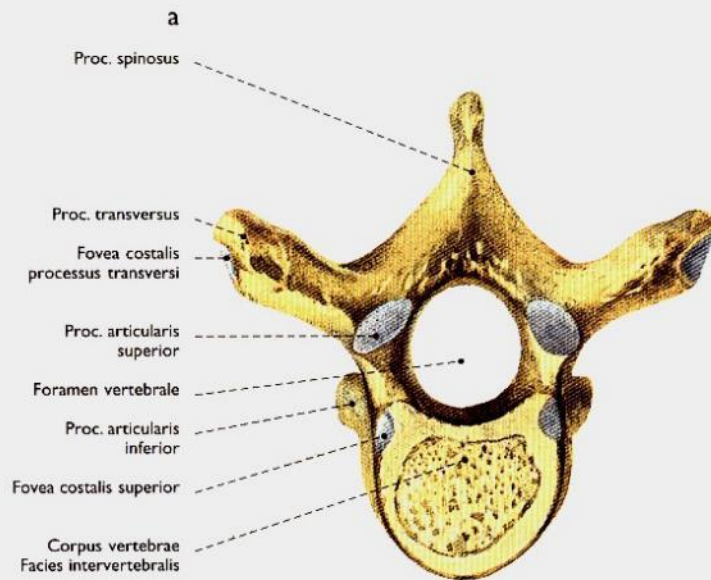




Hrudní obratle – 12x

Vertebrae thoracicae

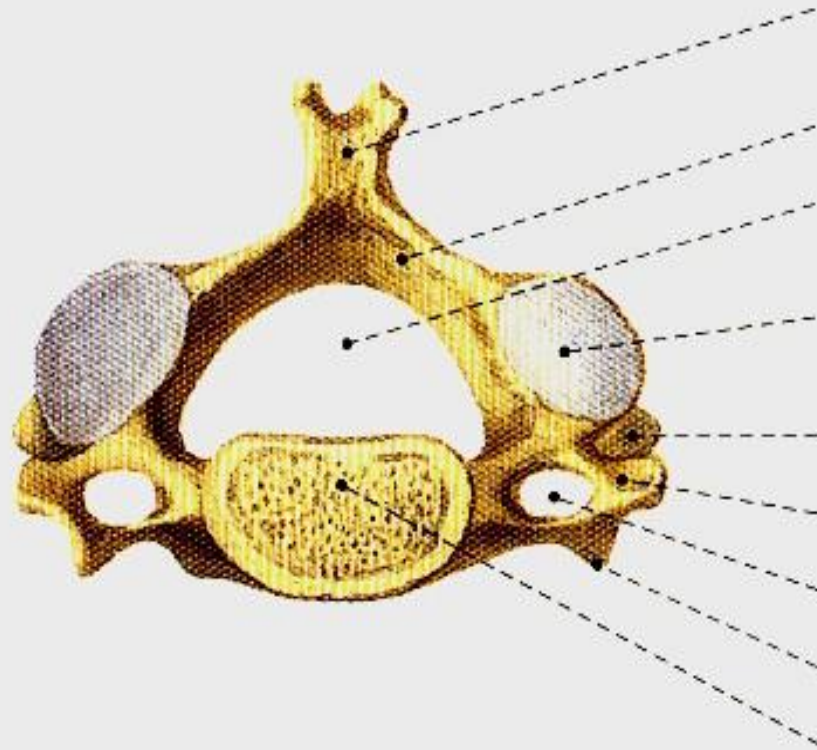
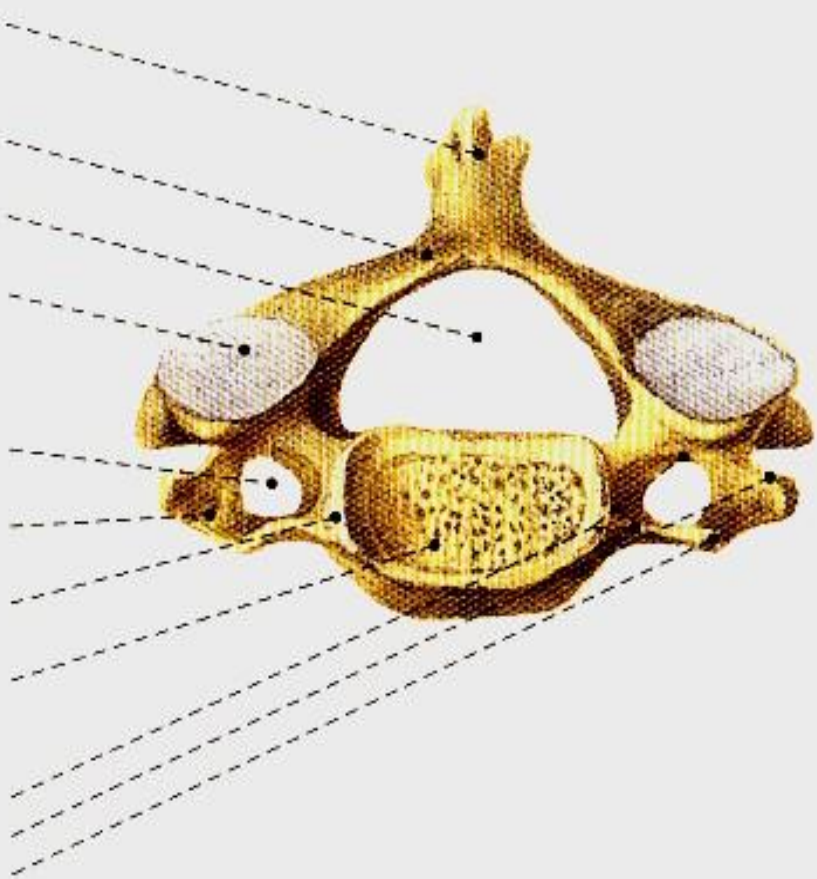




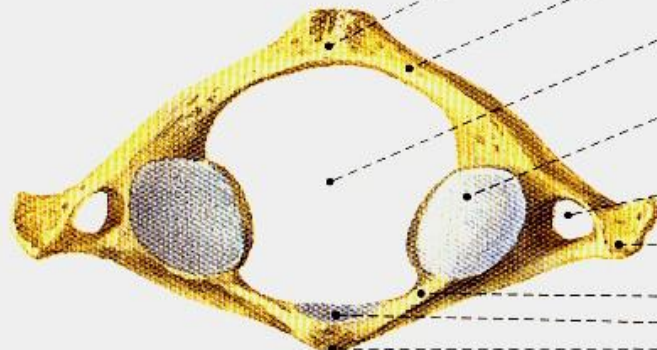
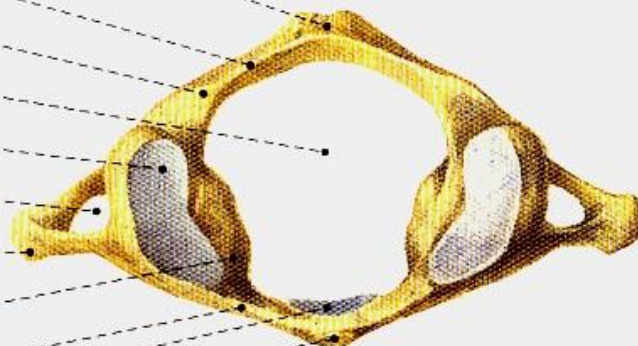
Krční obratle – 7x

Vertebrae cervicales

a
us
ae
le
or
is
m
lis
ris
ae
lis
us
-
-



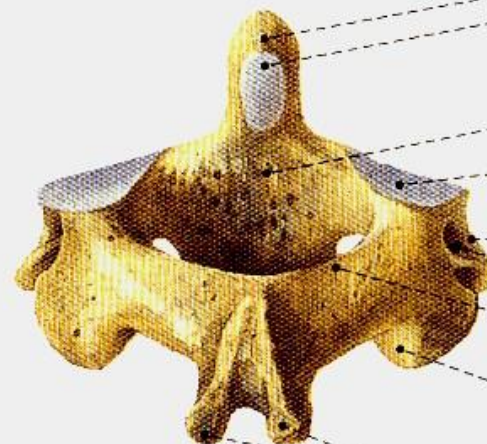
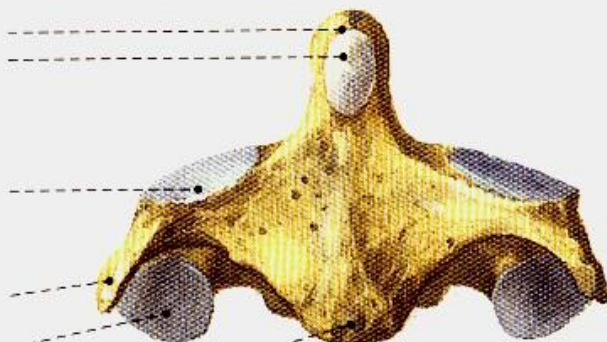
c
 Arcus posterior
 Tuberculum posterius
 Arcus posterior
 Sulcus arteriae vertebralis
 Foramen vertebrale
 Facies articularis superior
 Foramen transversarium
 Proc. transversus
 Massa lateralis
 Arcus anterior
 Fovea dentis –
 Tuberculum anterius –



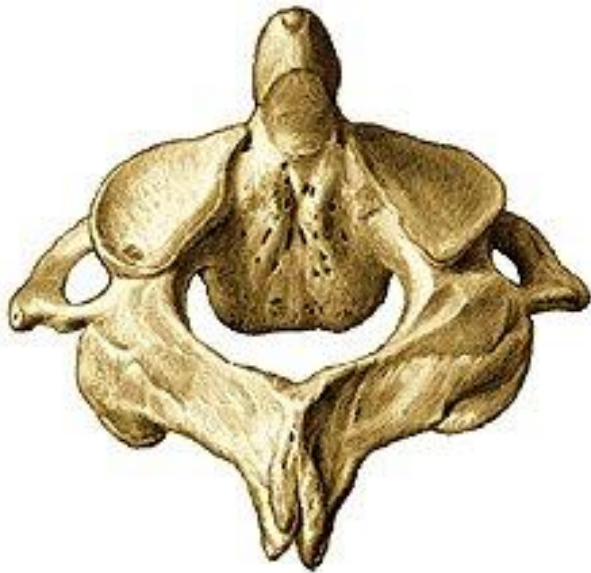
d
 Arcus posterior
 Tuberculum posterius
 Arcus posterior
 Foramen vertebrale
 Massa lateralis
 Facies articularis inferior
 Foramen transversarium
 Proc. transversus
 Arcus anterior
 – Fovea dentis
 – Tuberculum anterius

e
 Dens axis
 Apex dentis –
 Facies articularis anterior –

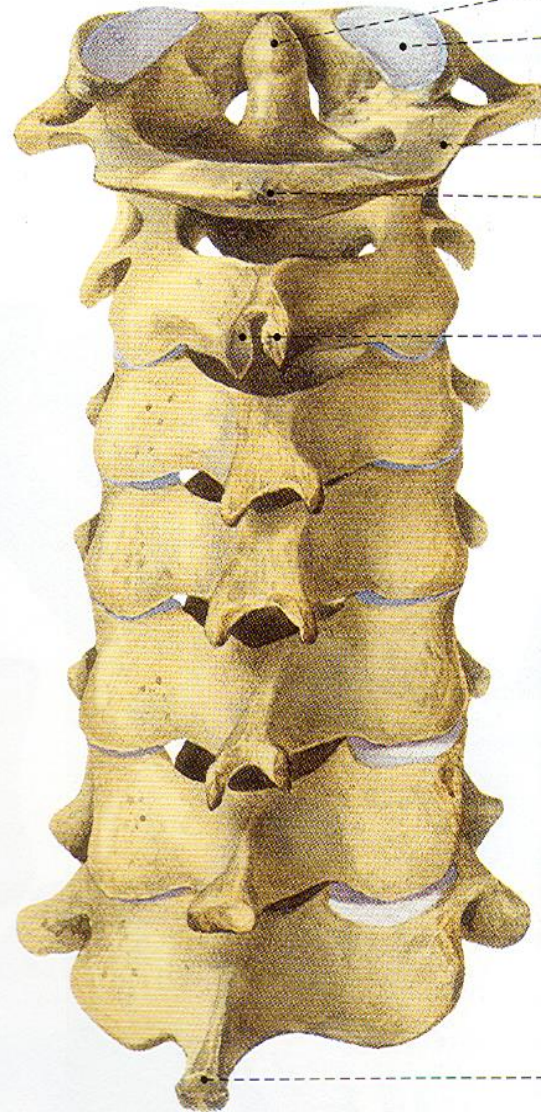
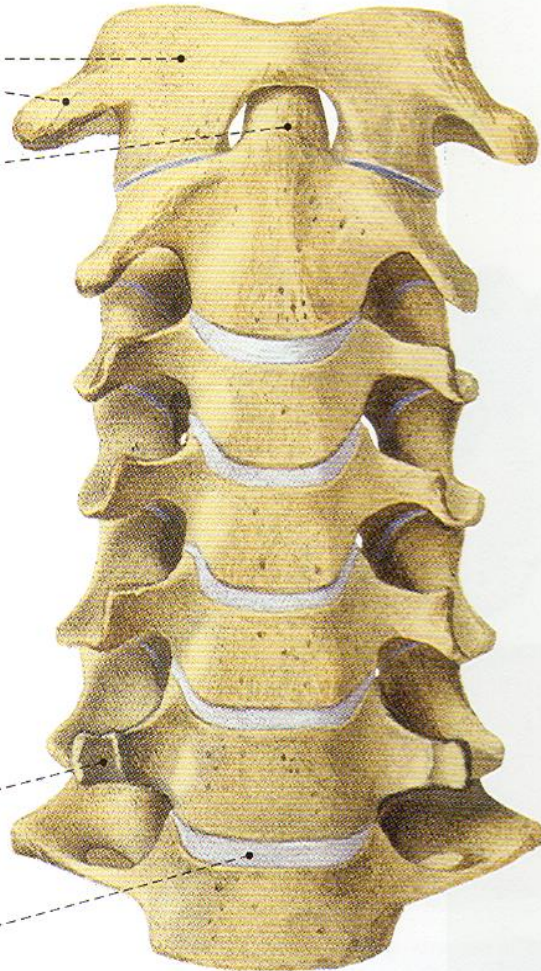
Proc. articularis superior
 Facies articularis
 Proc. transversus
 Proc. articularis inferior
 Facies articularis
 Corpus vertebrae



f
 Dens axis
 – Apex dentis
 – Facies articularis posterior
 Corpus vertebrae
 Proc. articularis superior
 Facies articularis
 Proc. transversus
 Foramen transversarium
 Arcus vertebrae
 Proc. articularis inferior
 Proc. spinosus



d



Atlas
Arcus anterior –
Arcus posterior –

Axis
Dens axis –
Proc. spinosus –
Corpus vertebrae –

Mandibula

Proc. articularis inferior
vertebrae cervicalis IV

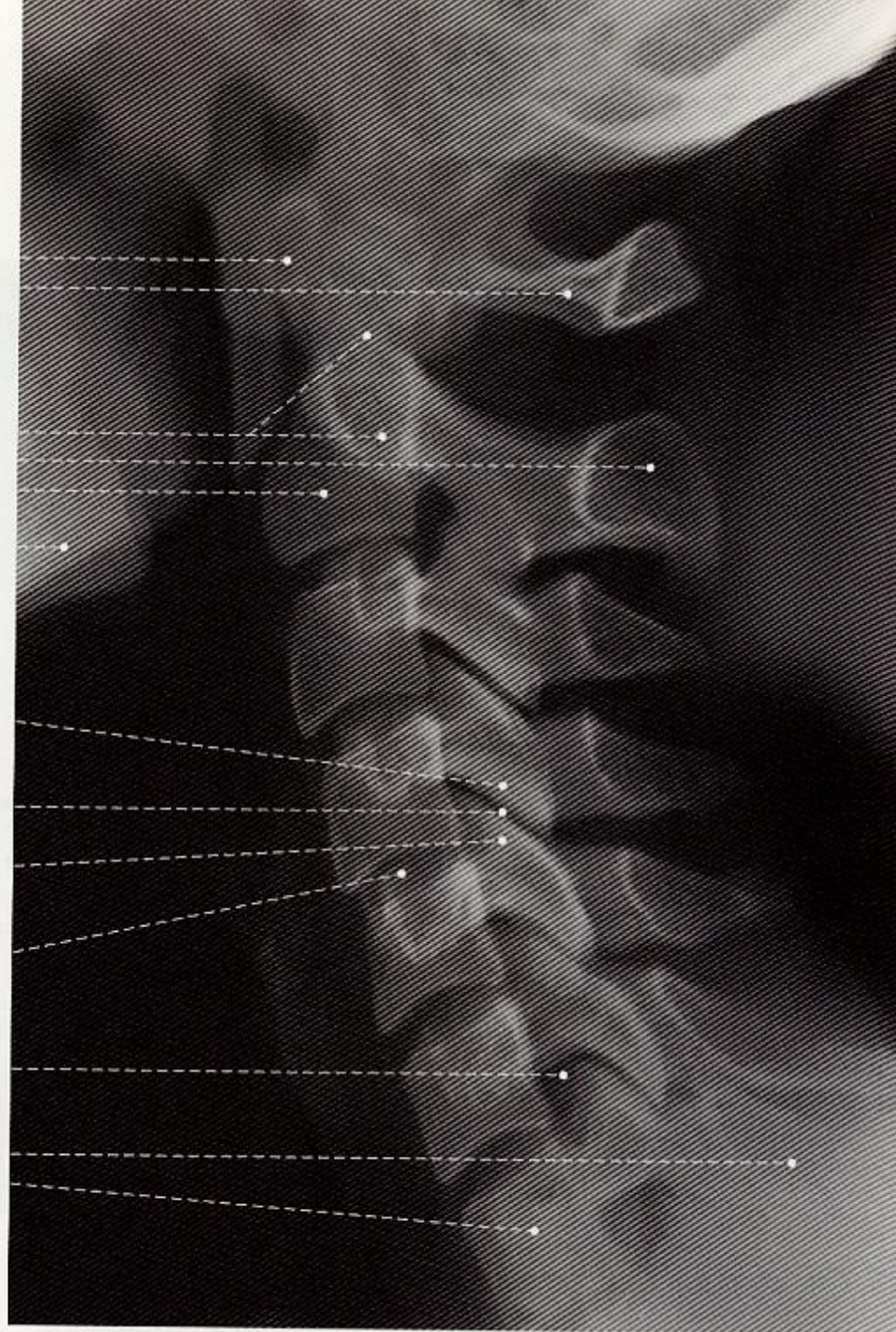
Articulatio zygapophysialis

Proc. articularis superior
vertebrae cervicalis V

Discus intervertebralis

Foramen intervertebrale

Vertebra cervicalis VII
Proc. spinosus –
Corpus vertebrae –



Bederní obratle – 5x

Vertebrae lumbales



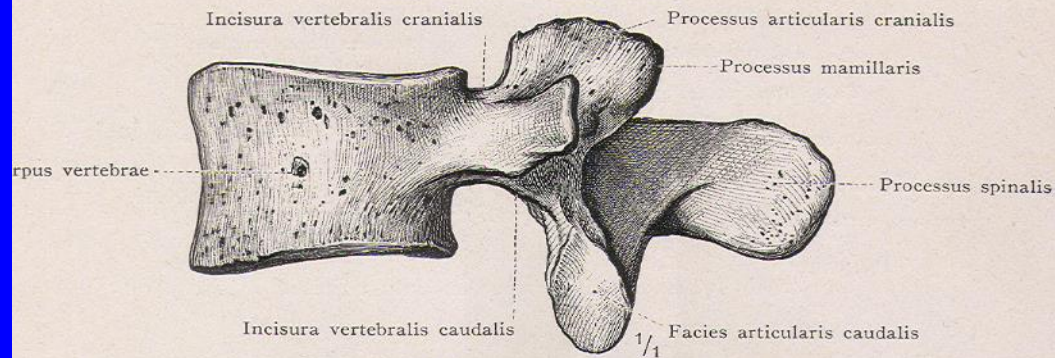


Fig. 46. Ansicht von der linken Seite.

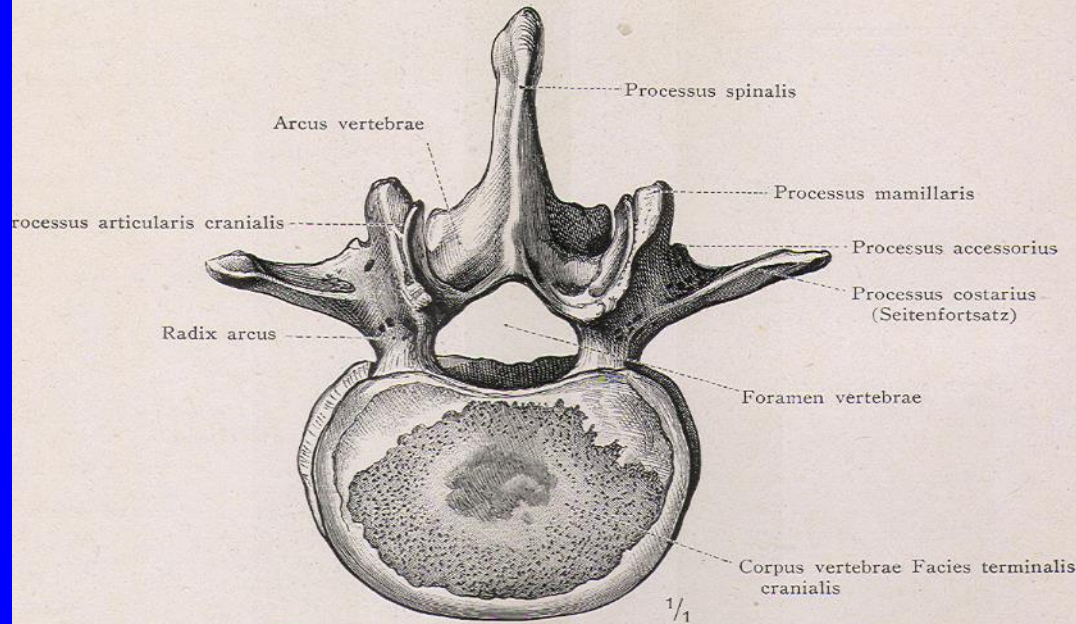


Fig. 47. Ansicht von der kranialen Seite.

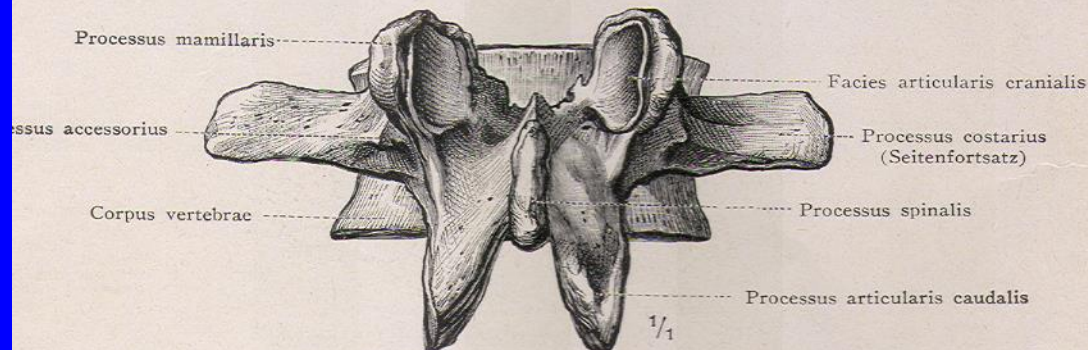
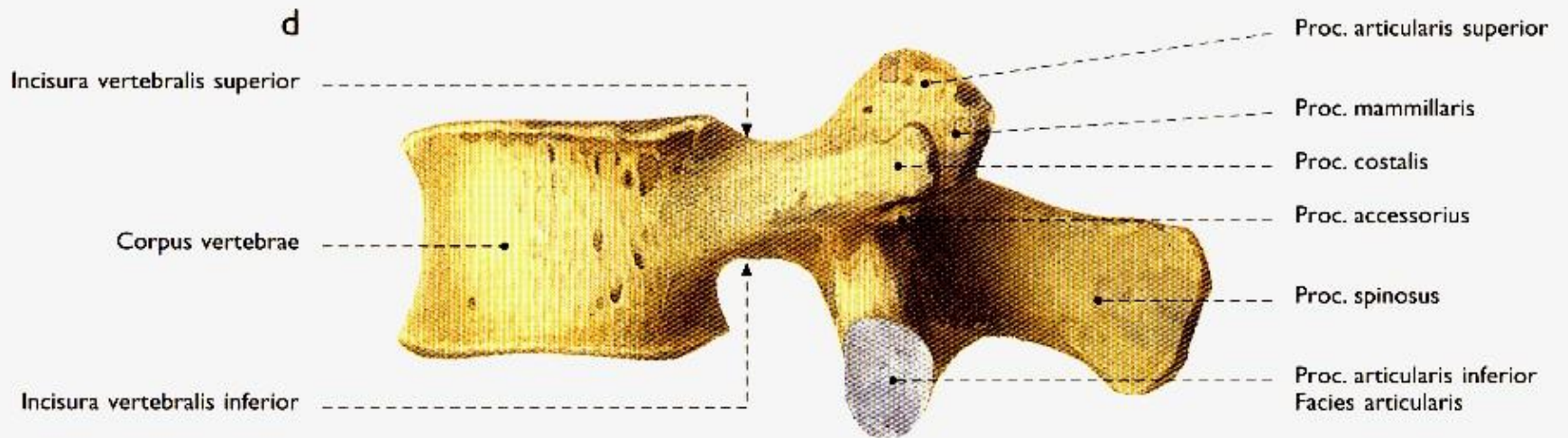
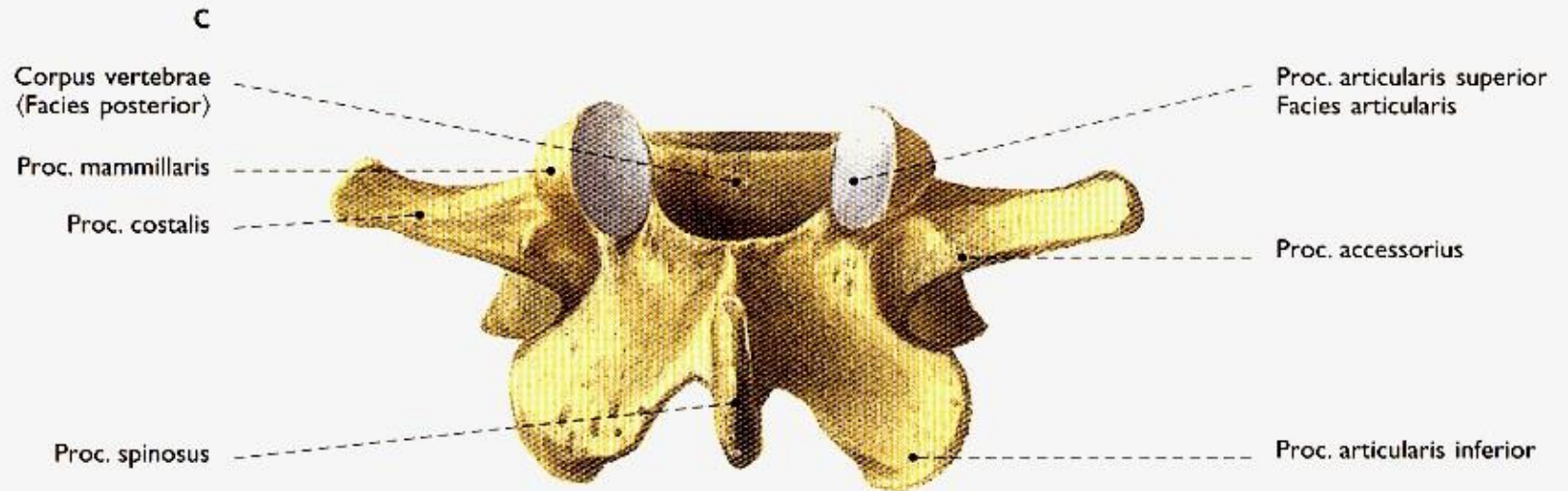


Fig. 48. Ansicht von der kaudalen Seite.





Vertebra thoracica XII

Costa XII

Vertebra lumbalis I

Discus intervertebralis

Vertebra lumbalis III
 – Proc. articularis superior
 – Proc. costalis
 – Corpus vertebrae
 – Proc. spinosus
 – Proc. articularis inferior

Proc. articularis superior
 ossis sacri

Articulatio sacroiliaca

Os sacrum

Foramina sacralia anteriora

Vertebra coccygea I

Vertebra thoracica XII

Costa XII

Vertebra lumbalis I

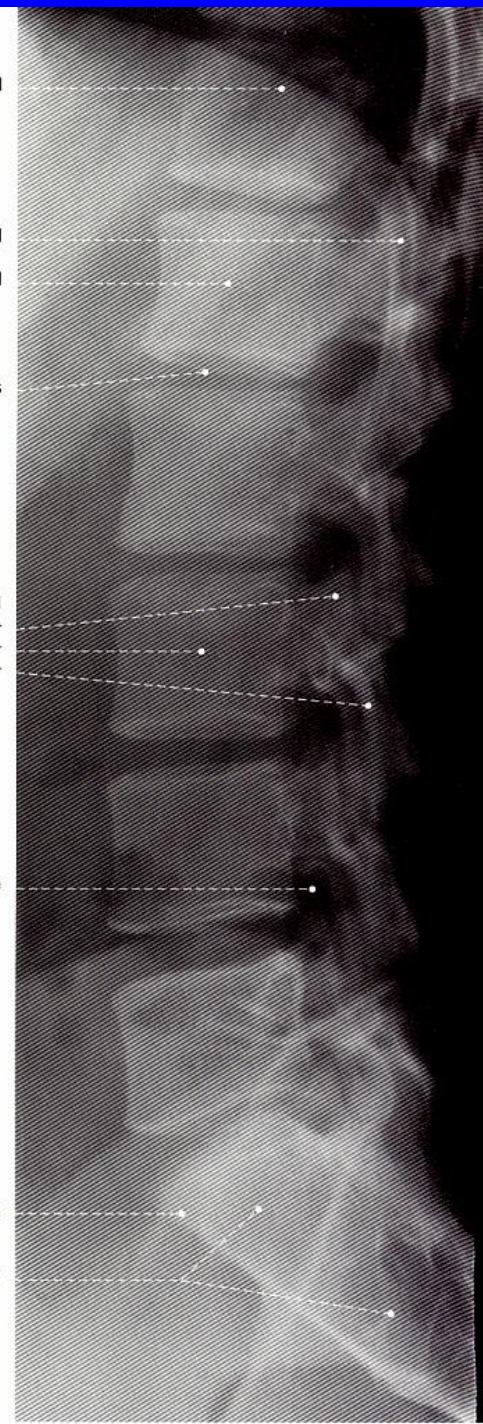
Discus intervertebralis

Vertebra lumbalis III
 Proc. articularis superior –
 Corpus vertebrae –
 Proc. articularis inferior –

Foramen intervertebrale

Promontorium

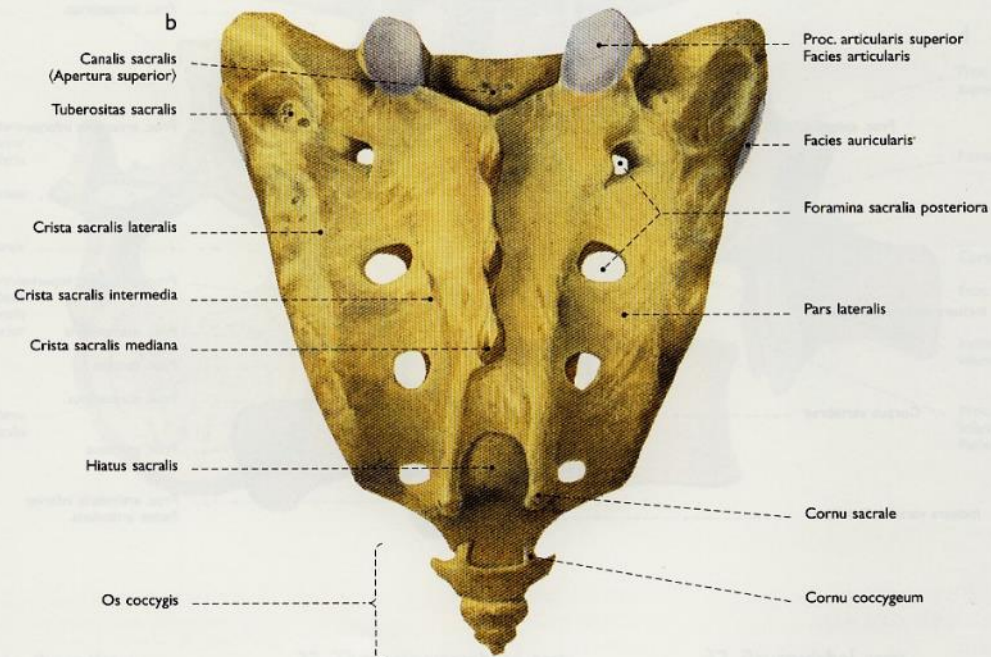
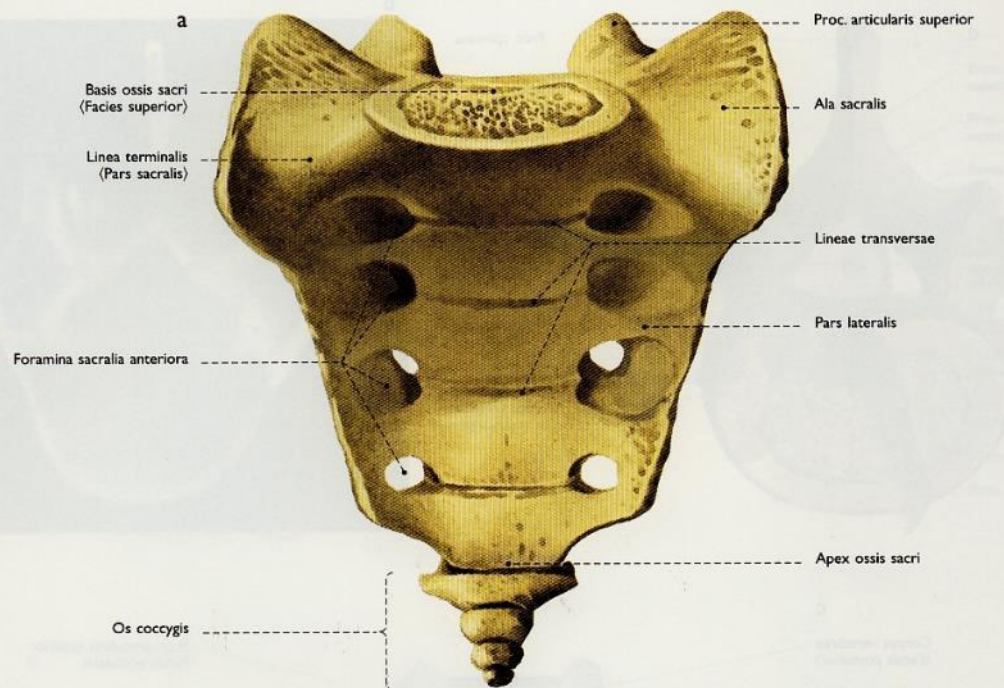
Os sacrum

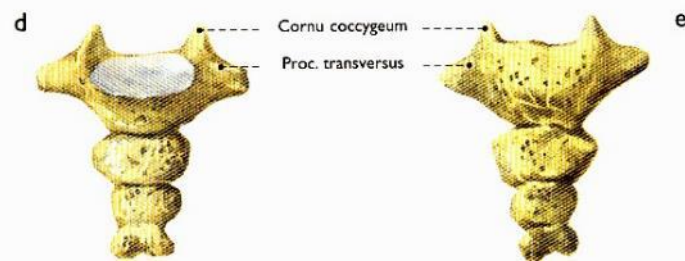
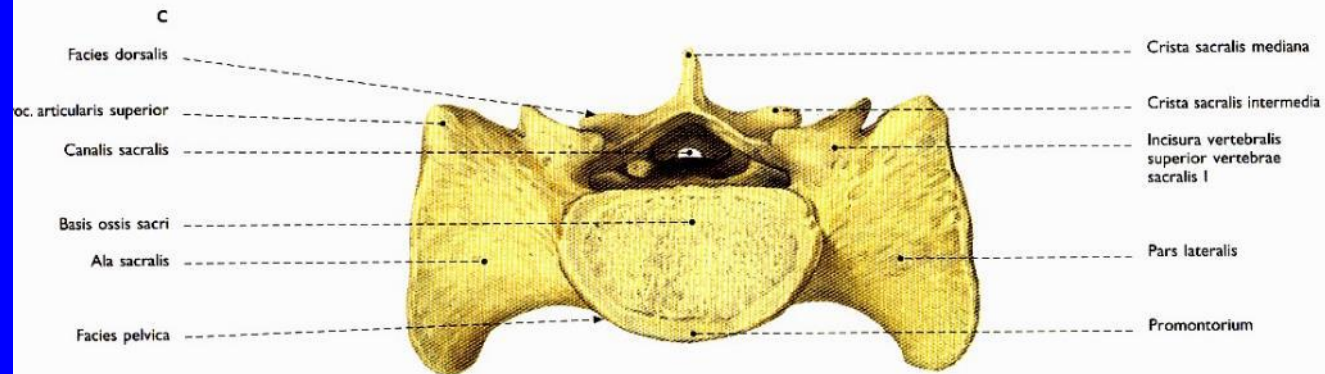
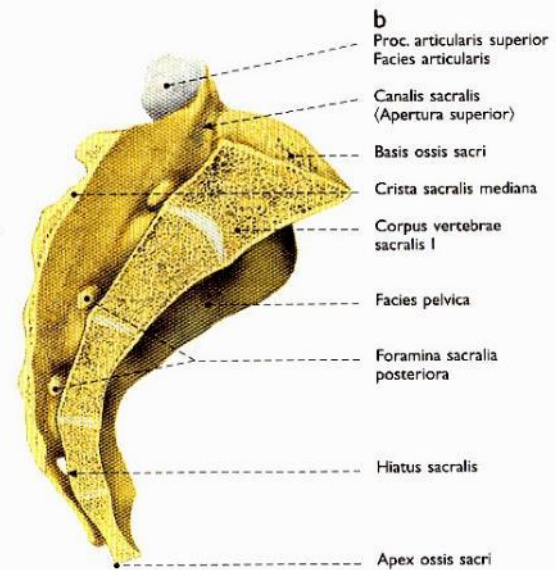
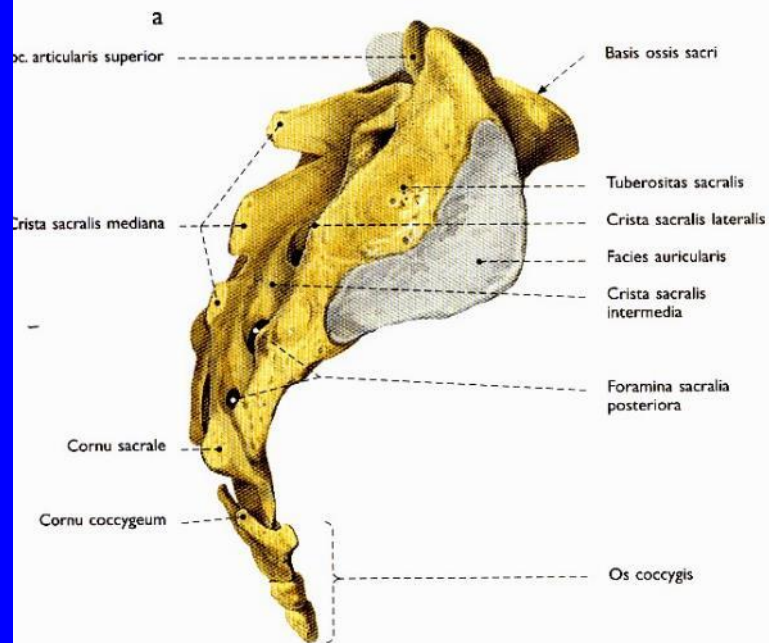




Křížová kost a kostrč

Os sacrum, os coccygis







Spojení obratlových těl

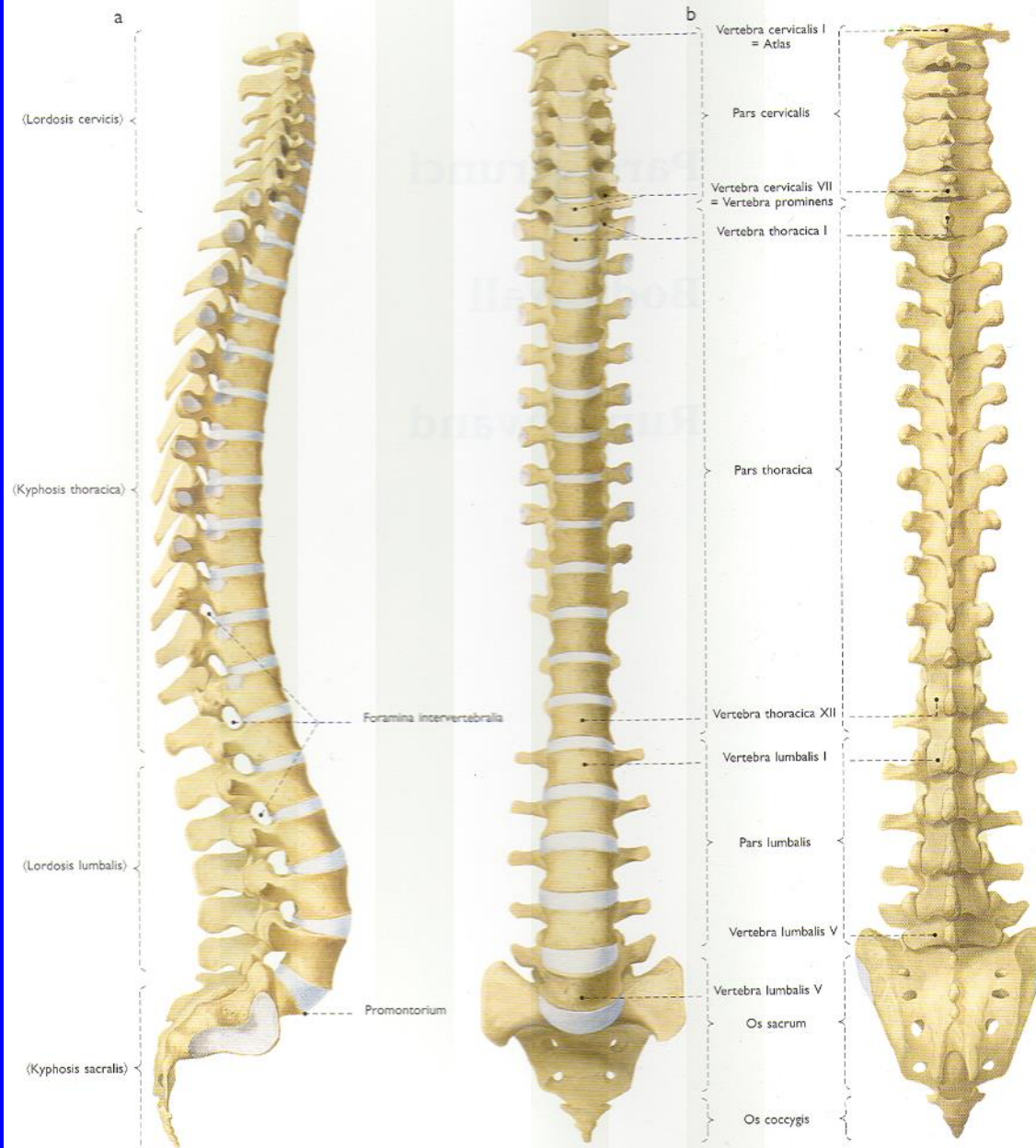
- Symphysis intervertebralis

Disci intervertebrales – meziobratové ploténky – 23x

Anulus fibrosus: vnější zóna - kolagenní vlákna
vnitřní zóna – vazivová chrupavka)

Nucleus pulposus: rosolovitý, vodnatý, mukoidní materiál

- Ligamentum longitudinale anterius et posterius
- Ligamentum sacrococcygeum anterius, posterius profundum et superficiale



28 Columna vertebralis

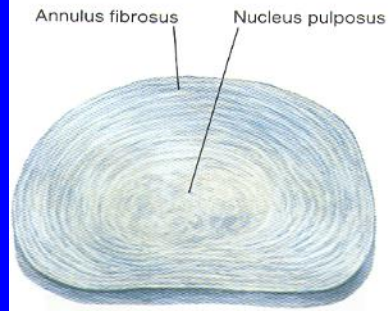
28 Vertebral column (30%)

- a Right lateral aspect
- b Ventral aspect
- c Dorsal aspect

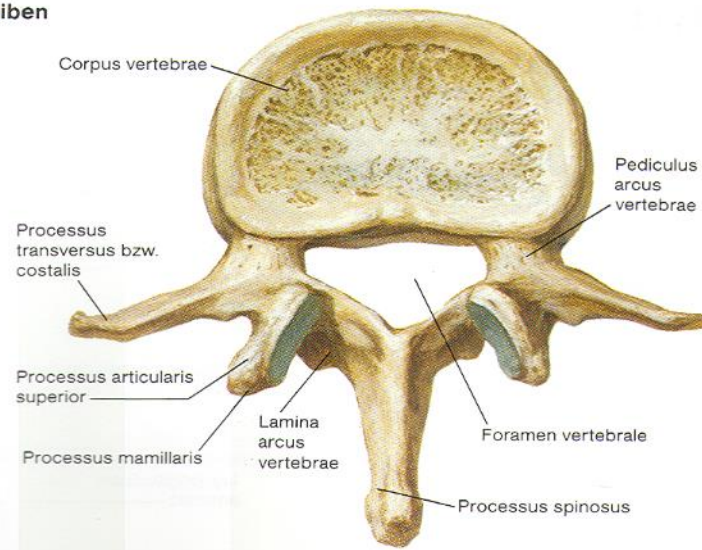
28 Wirbelsäule (30%)

- a Rechte Seitenansicht
- b Ventralansicht
- c Dorsalansicht

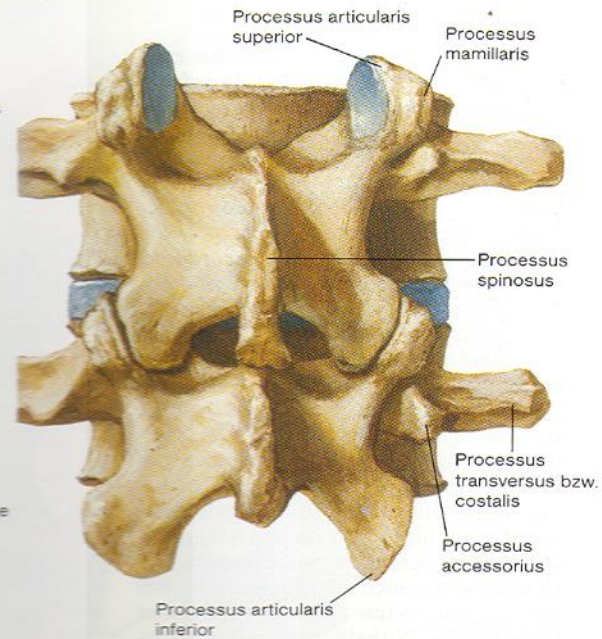
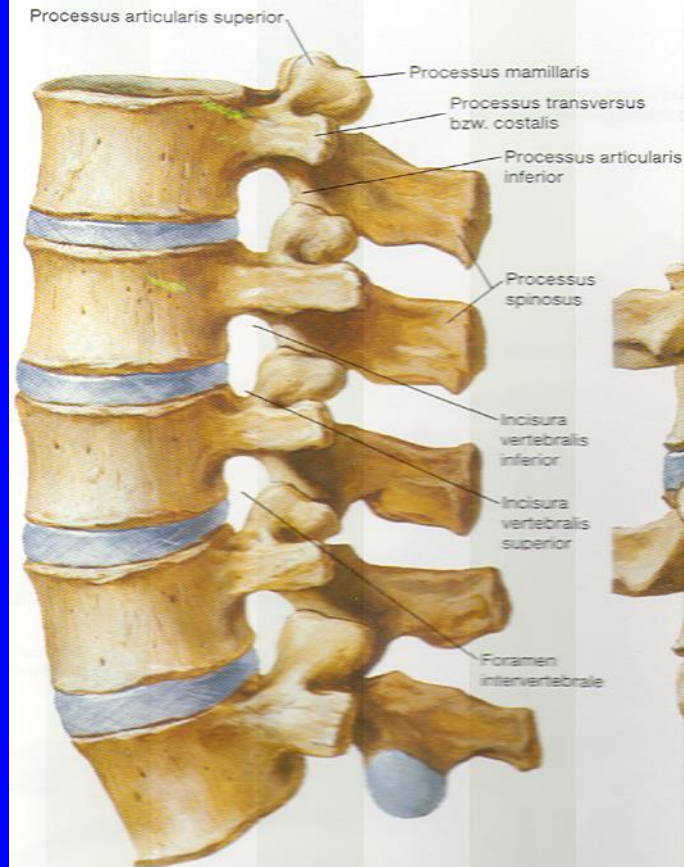
Lendenwirbel und Zwischenwirbelscheiben



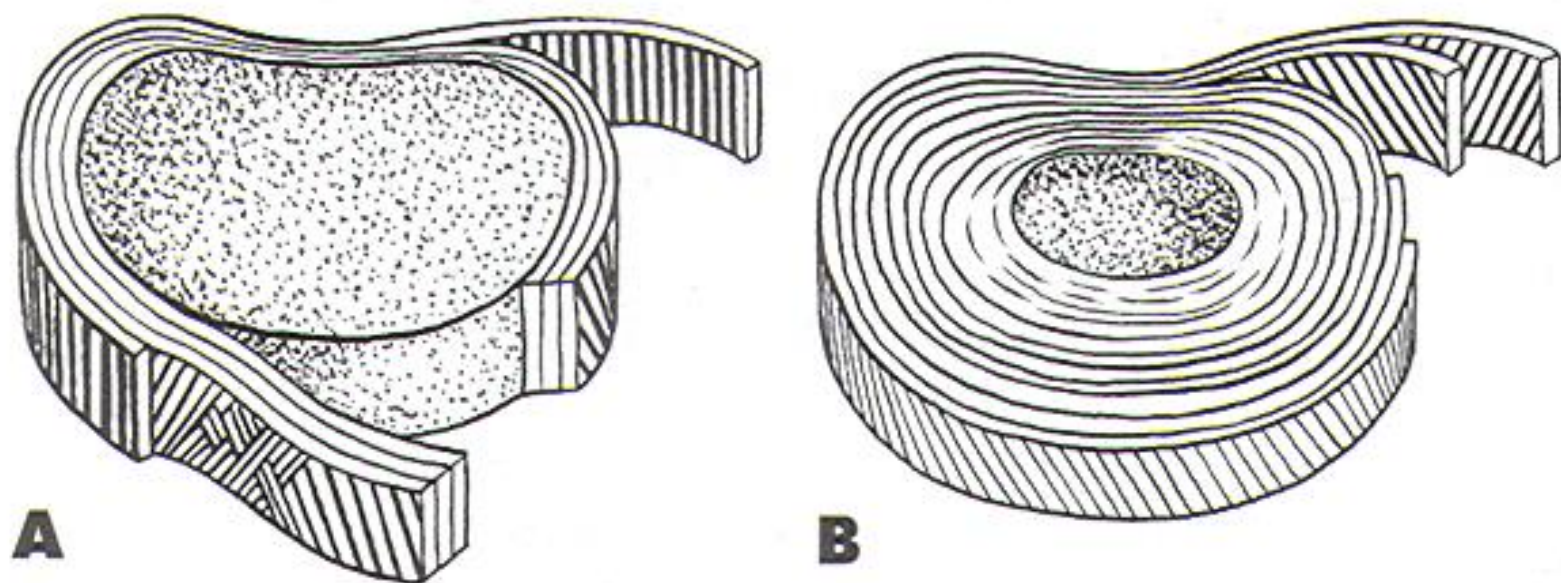
Discus intervertebralis



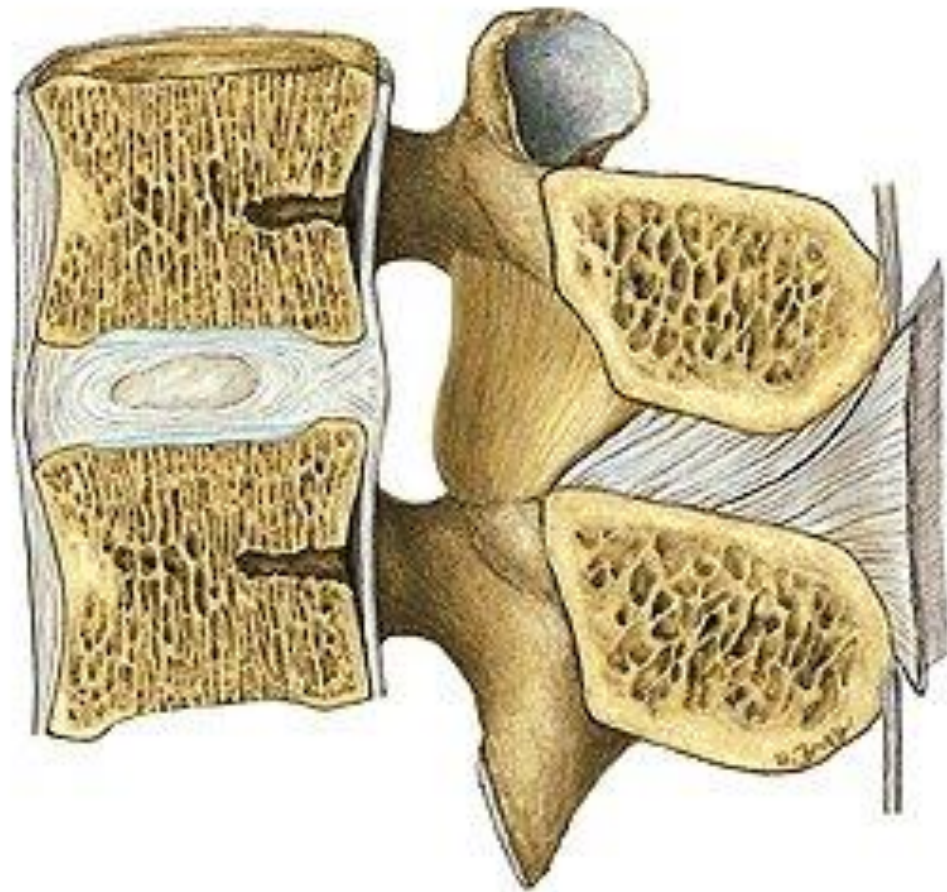
2. Lendenwirbel
(von oben)



3. und 4. Lendenwirbel
(von hinten)



Obr. 1.21. Stavba meziobratlové ploténky v krční (A) a bederní (B) páteři. Je patrná rozdílná velikost nucleus pulposus a anulus fibrosus. Anulus fibrosus se liší i uspořádáním svazků kolagenních fibril v lamelách



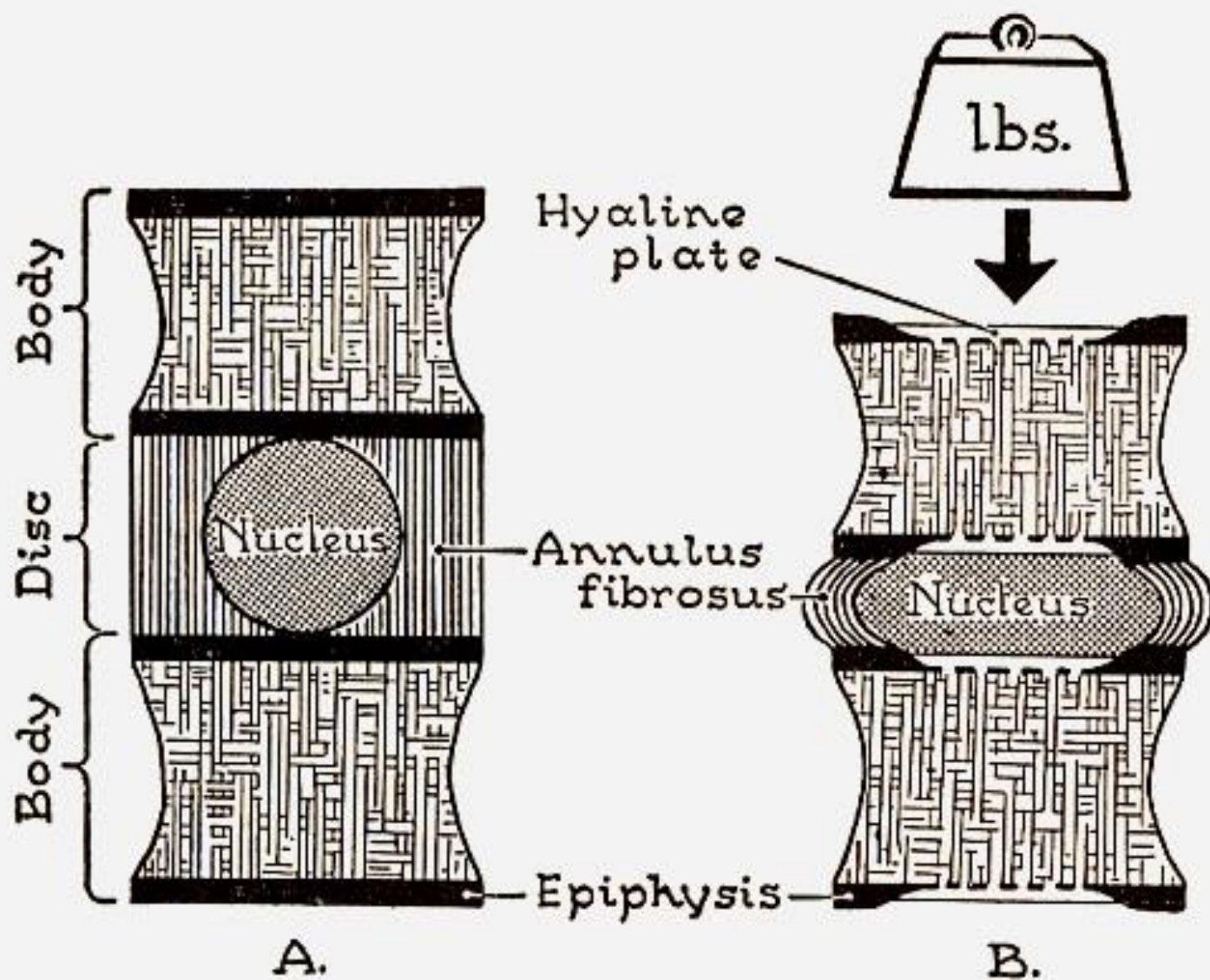
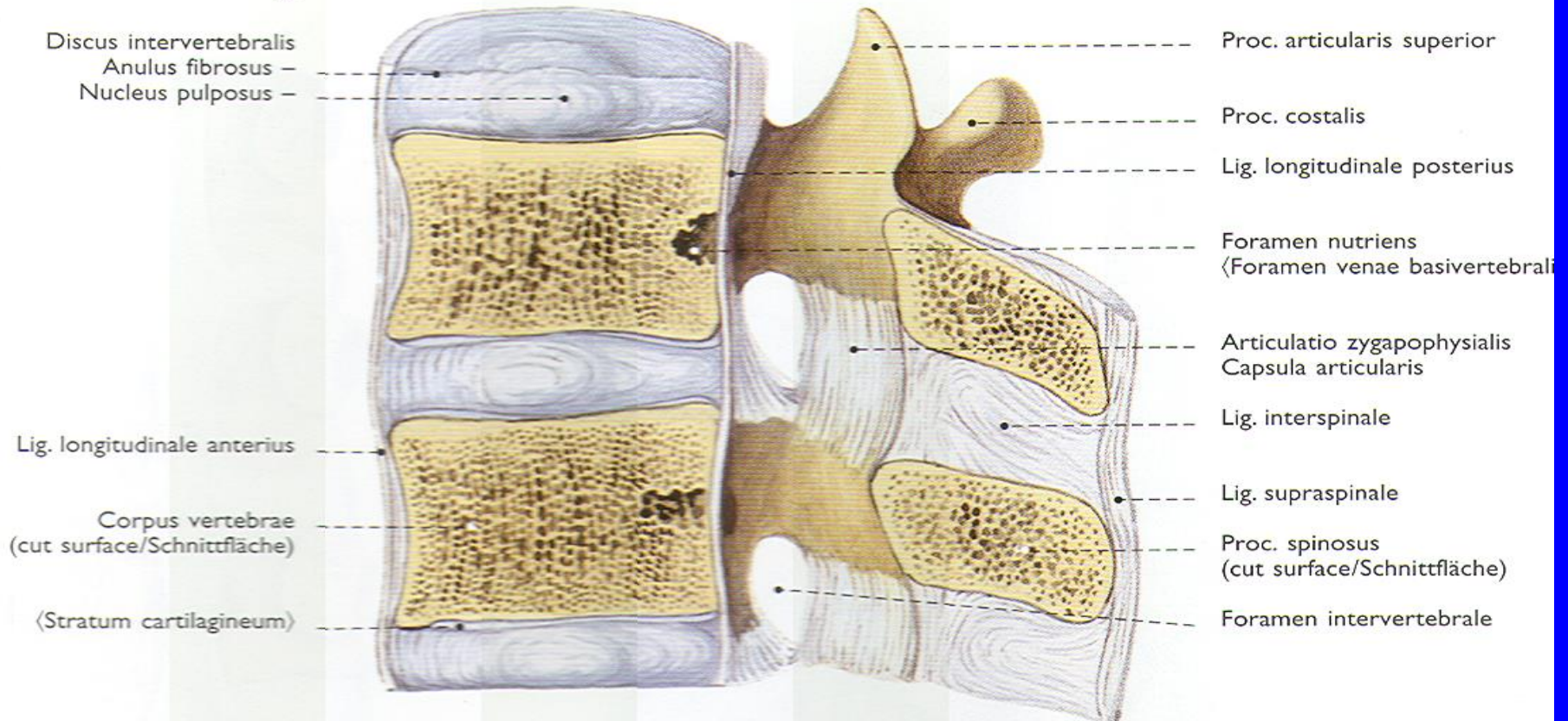
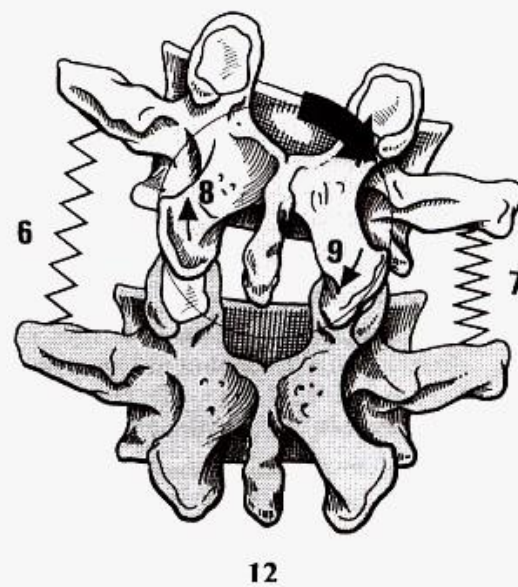
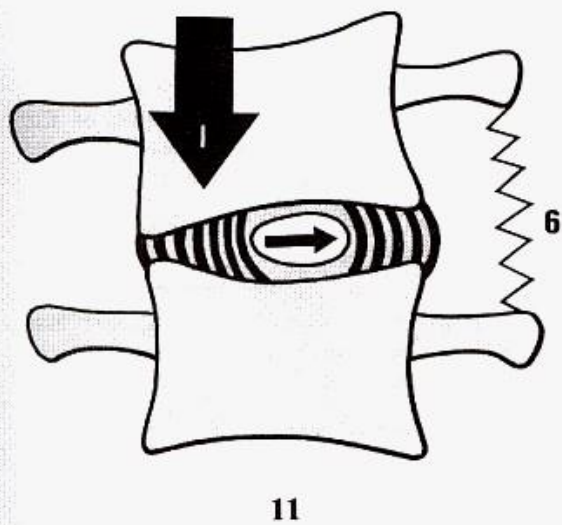
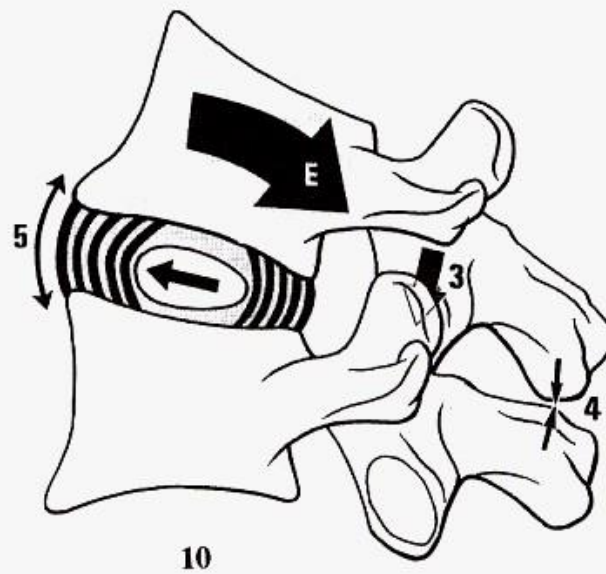
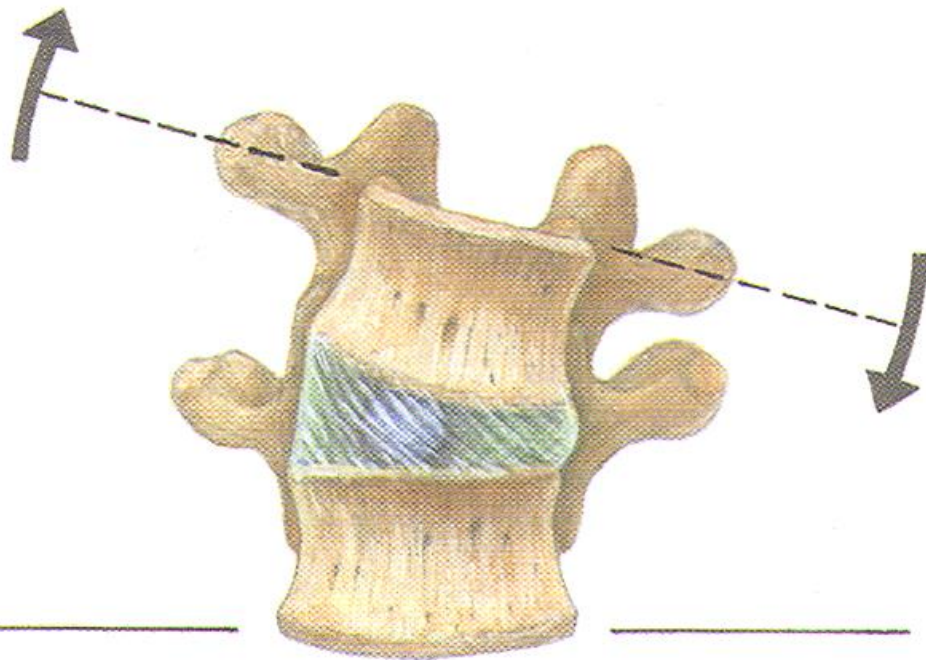
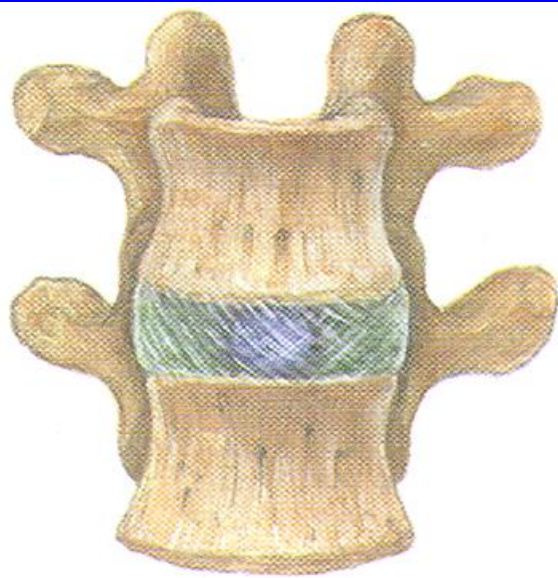


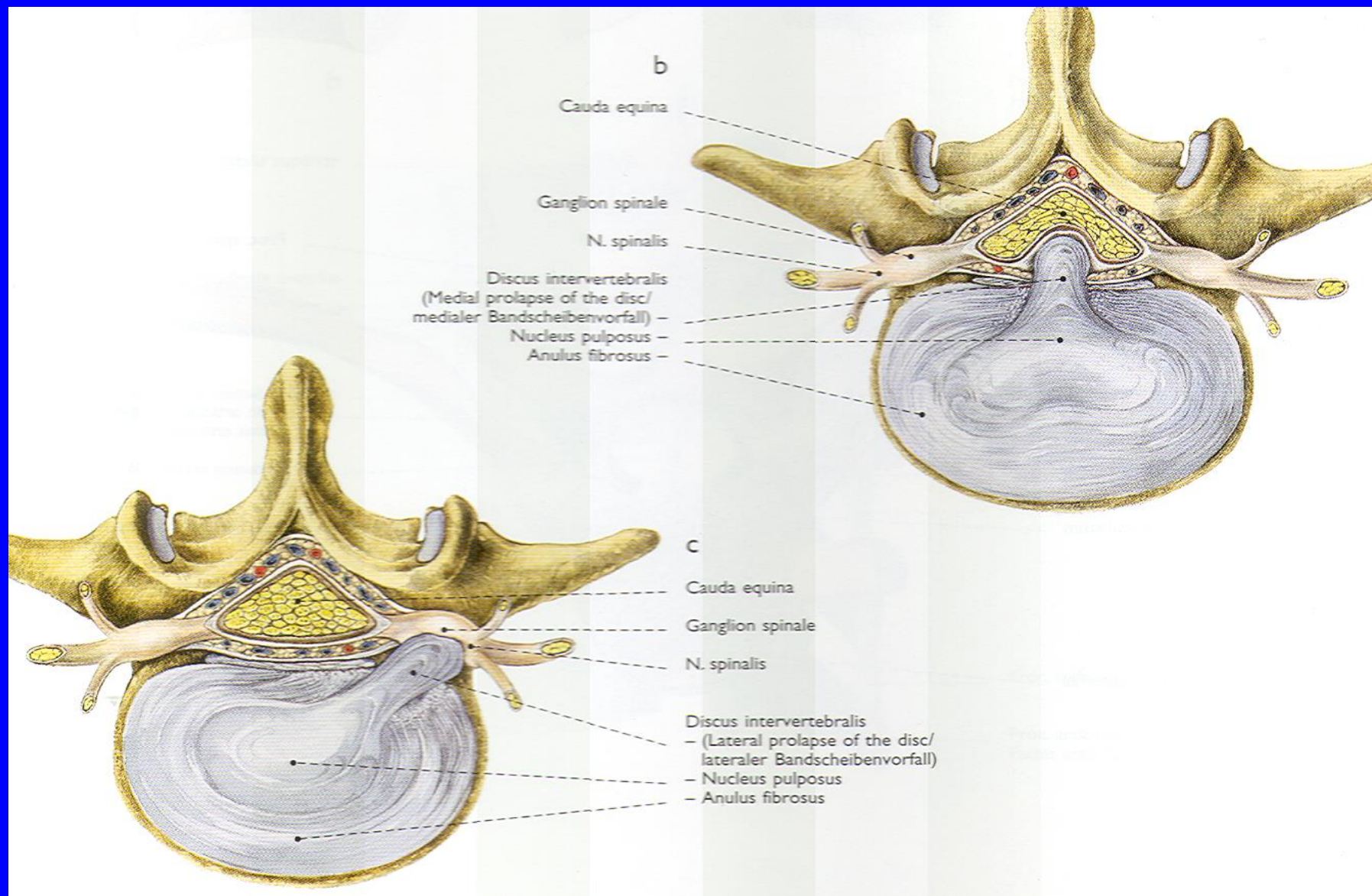
FIG. 26. Scheme of an intervertebral disc (*Annulus*, old terminology = *Anulus*, N.A.)

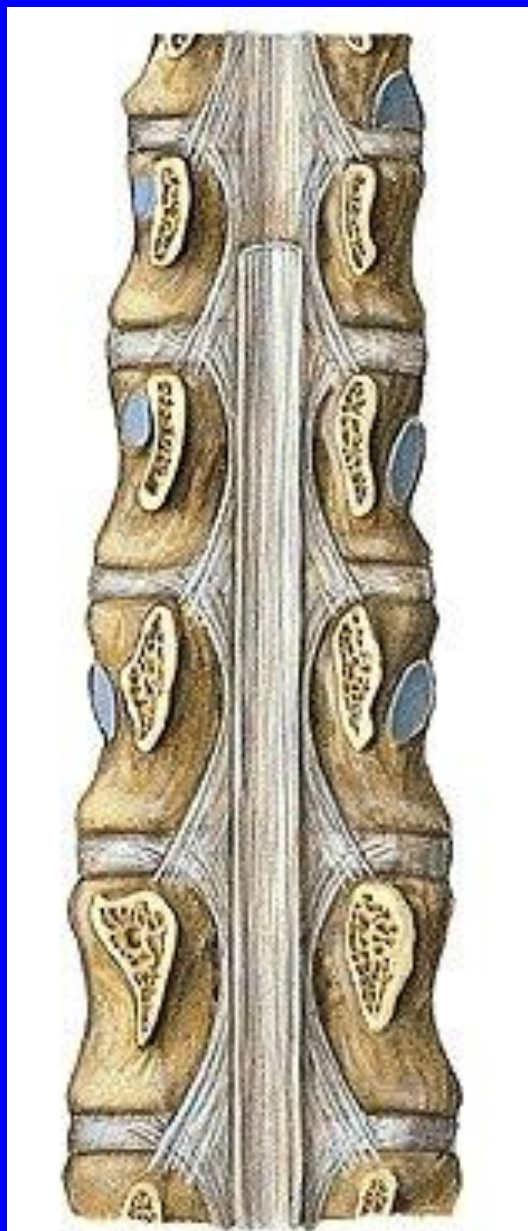
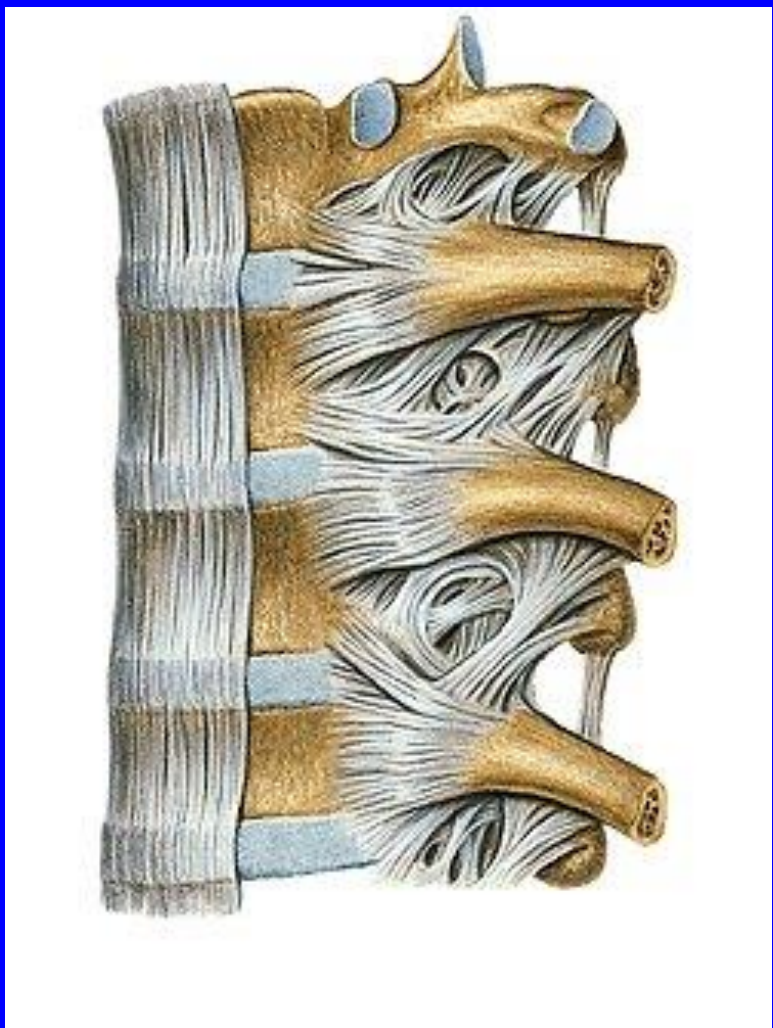
a



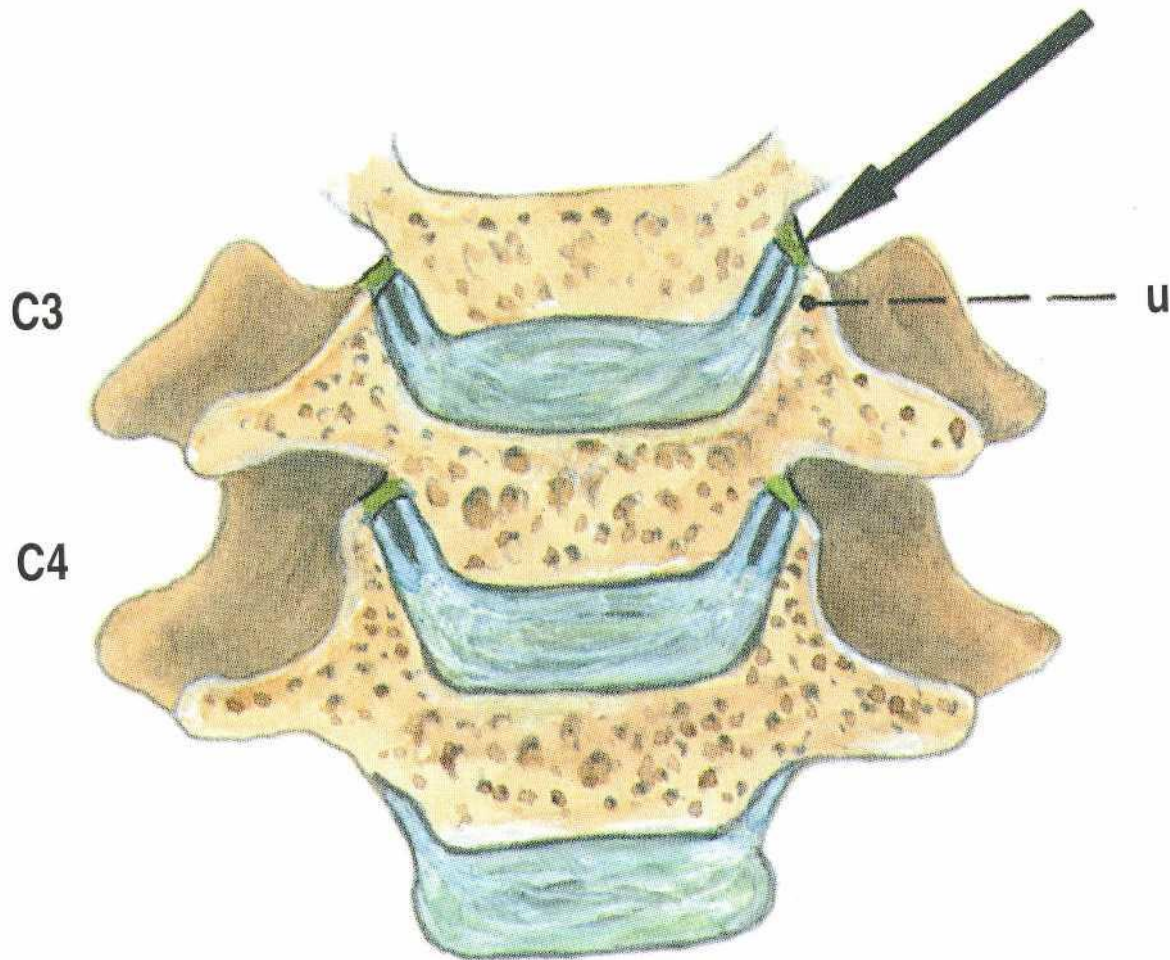








Articulaciones uncovertebrales



Spojení obratlových oblouků

Articulationes zygapophysiales
(ploché klouby)

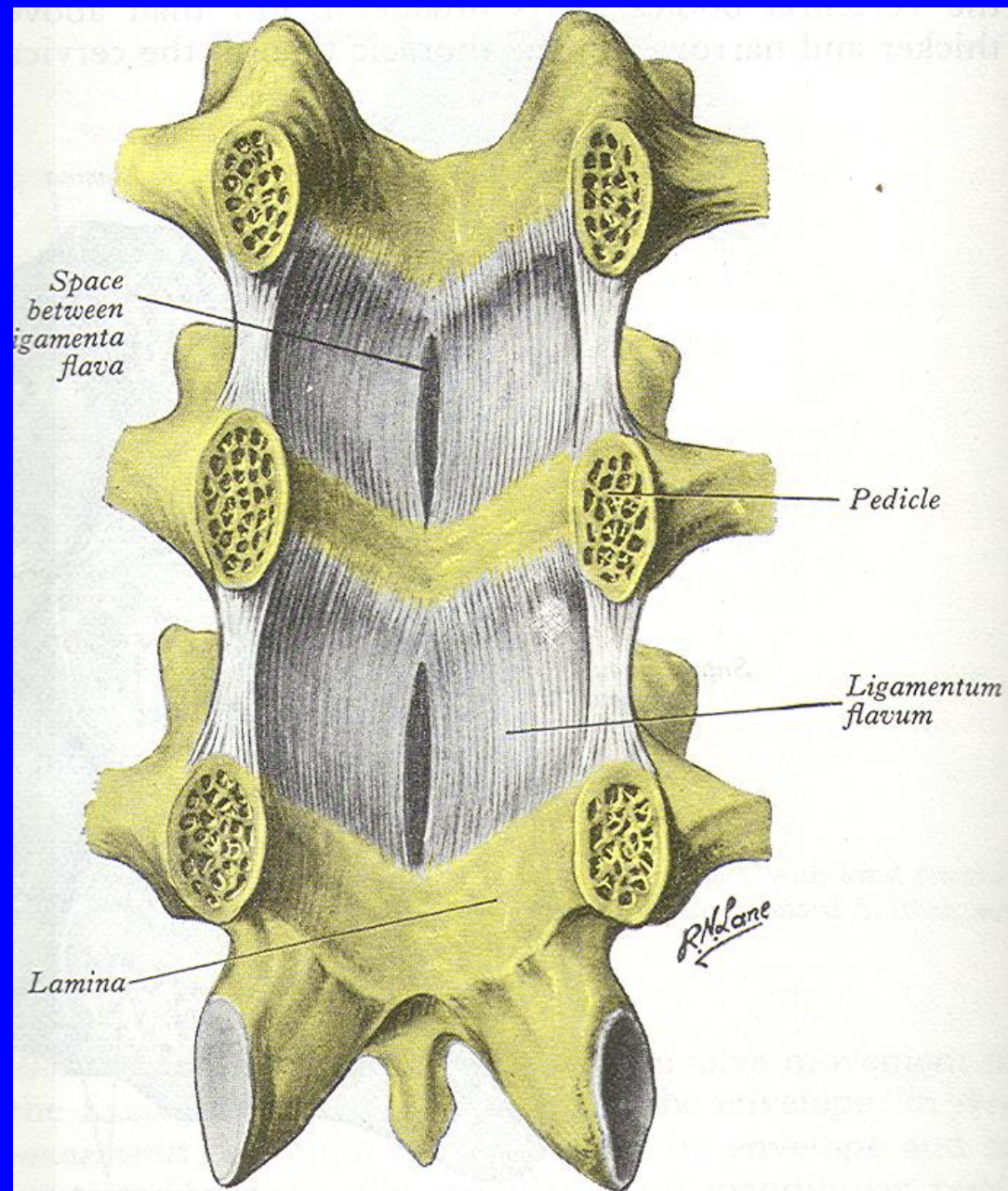
Ligamenta flava

Ligamenta intertransversaria

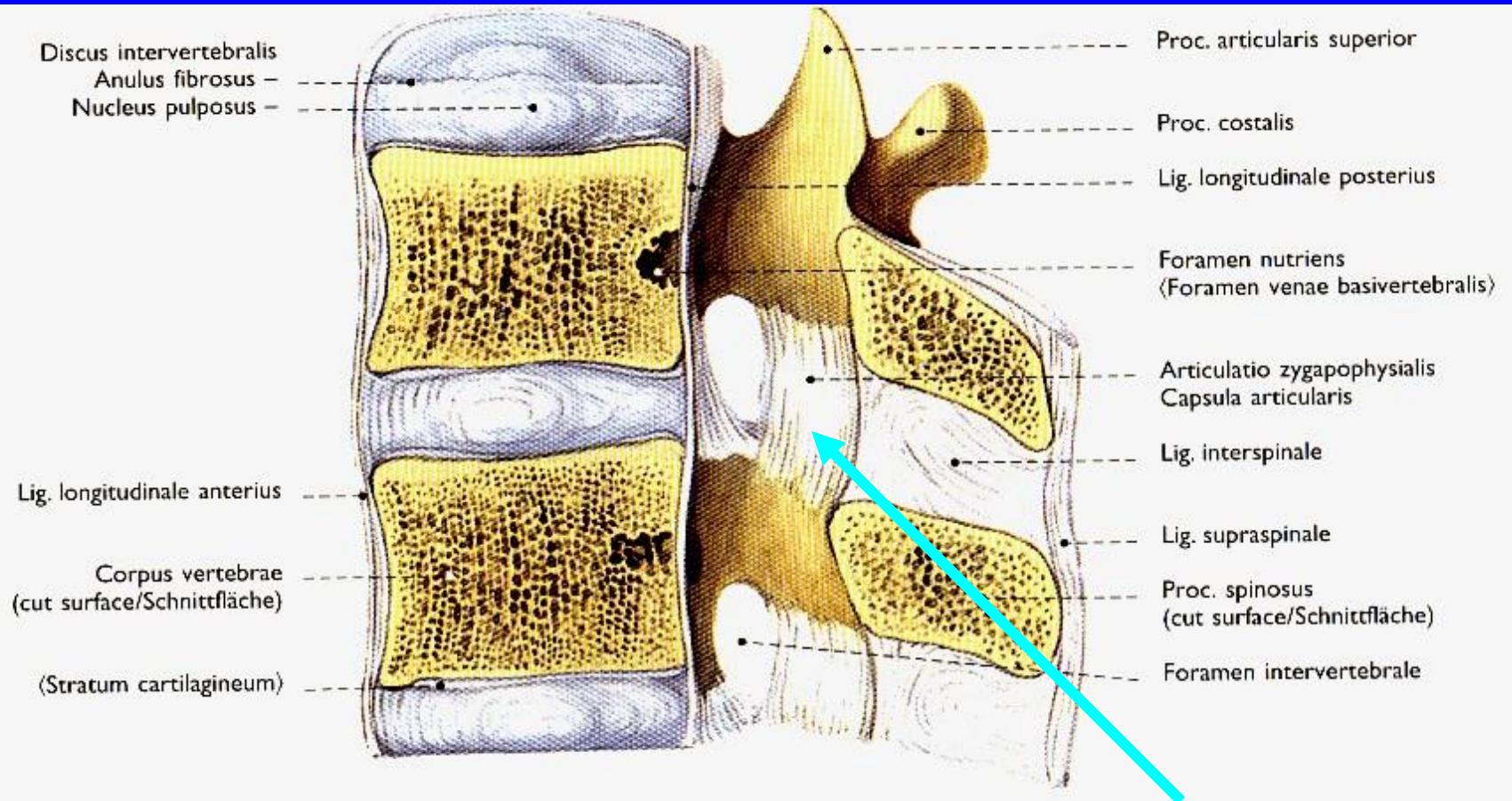
Ligamenta interspinalia

Ligamentum supraspinale

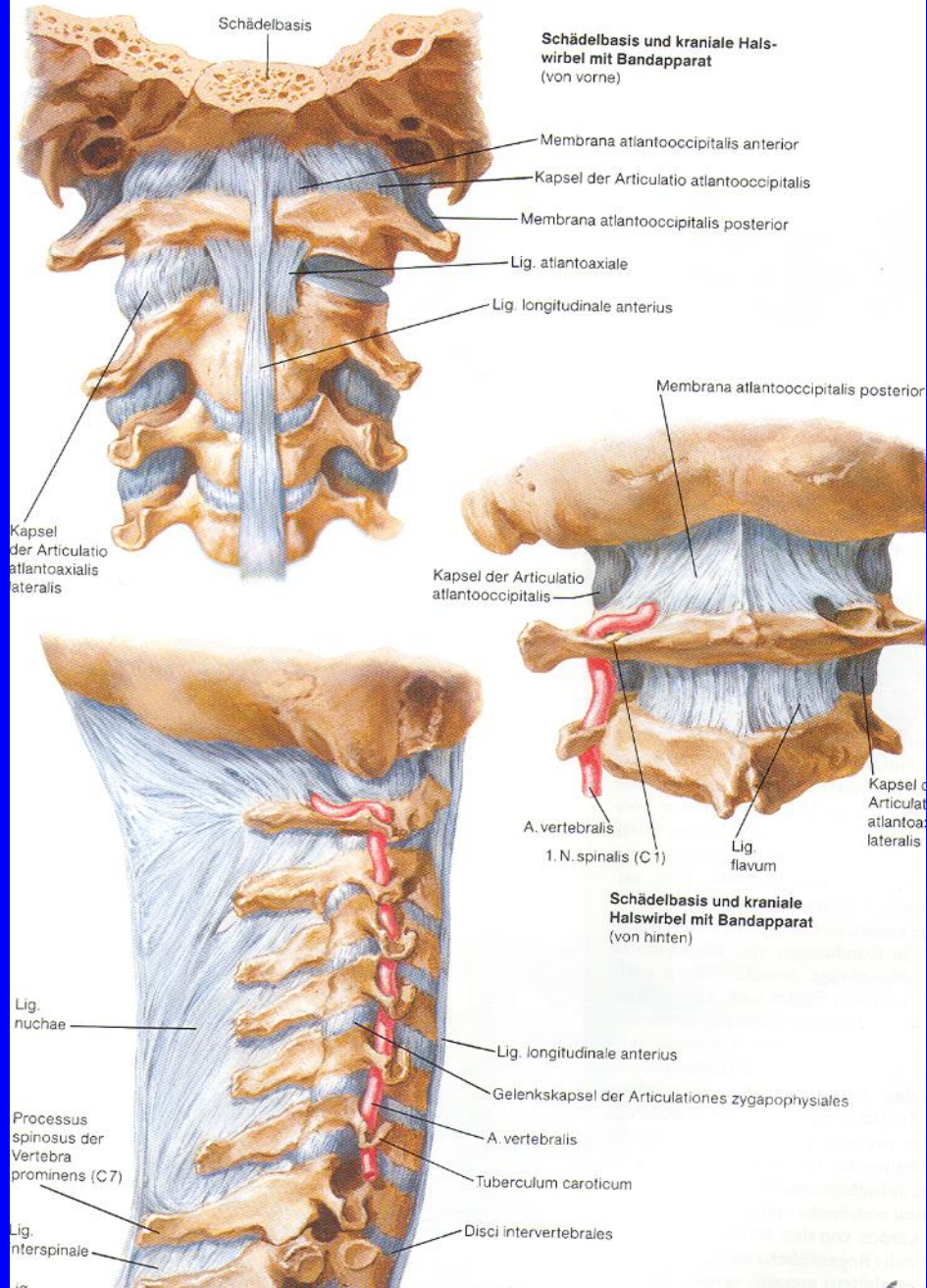
Ligamentum nuchae



4.25 The ligamenta flava of the lumbar region. Anterior aspect.



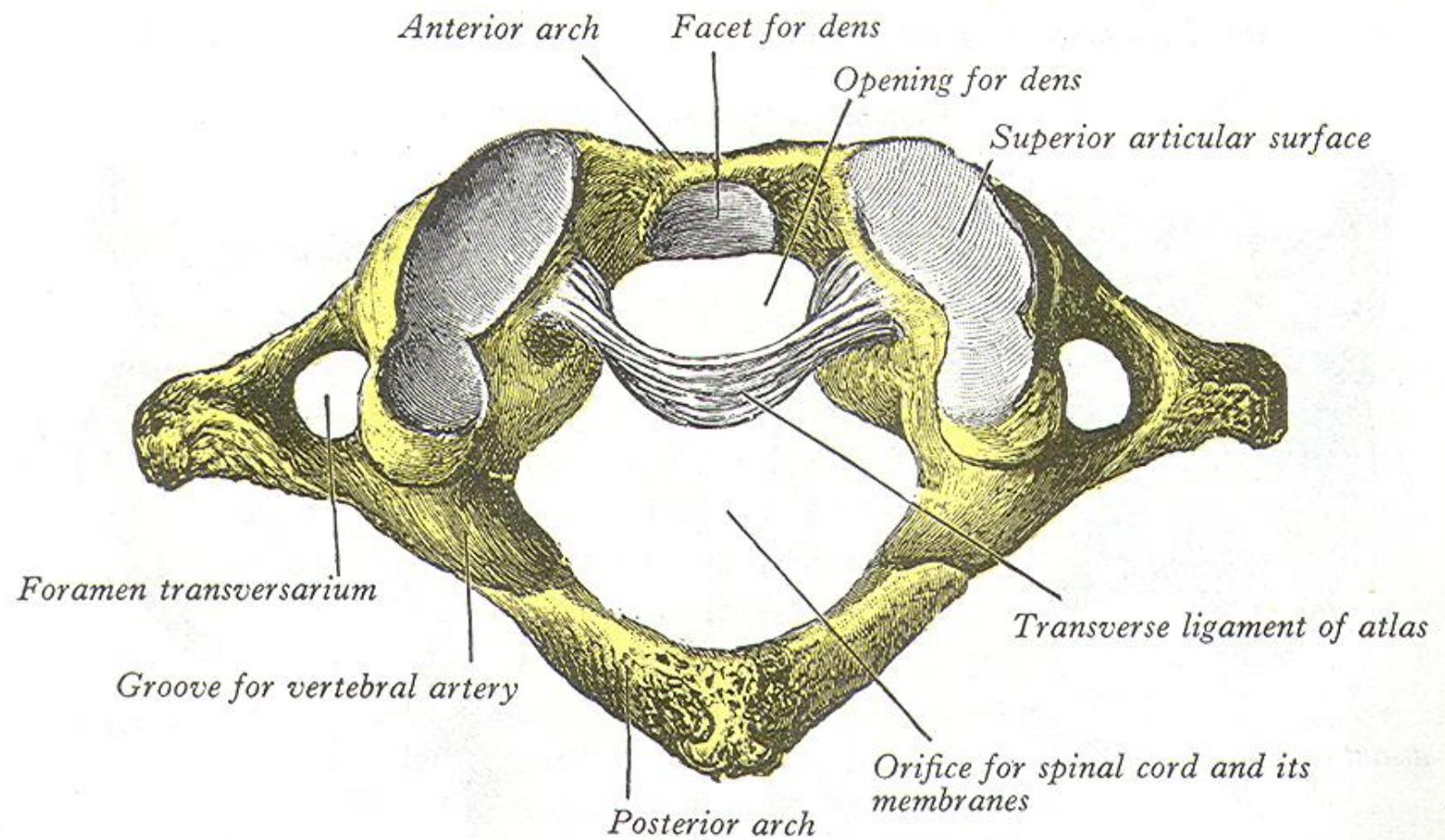
Äußerer kraniozervikaler Bandapparat

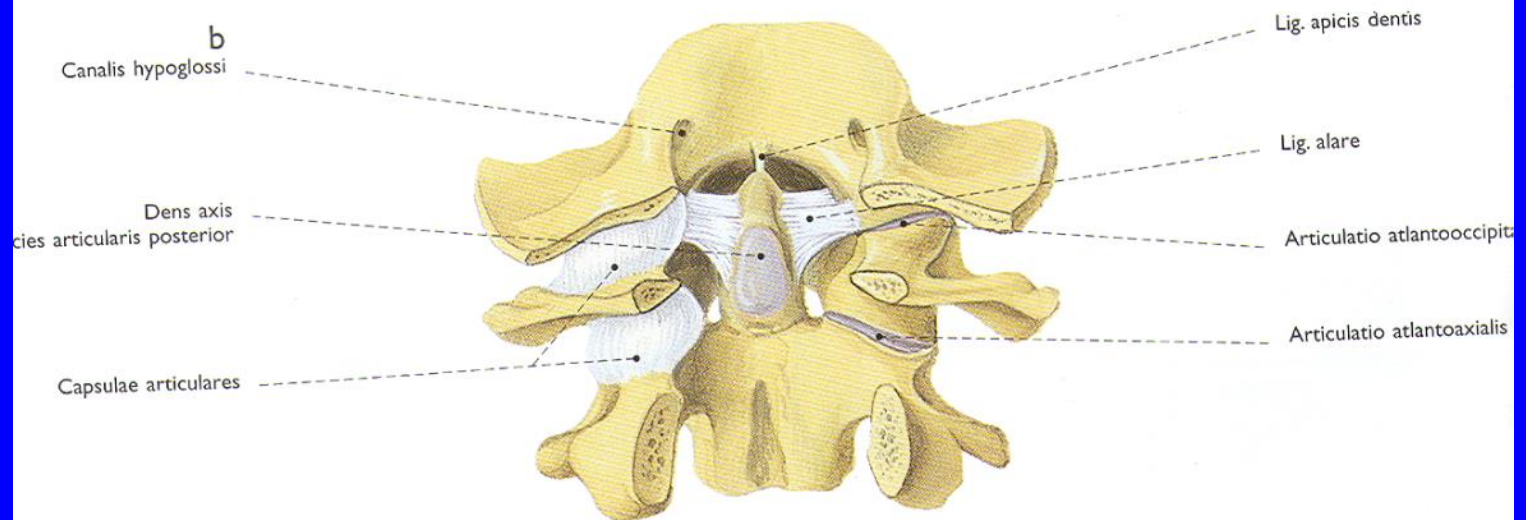
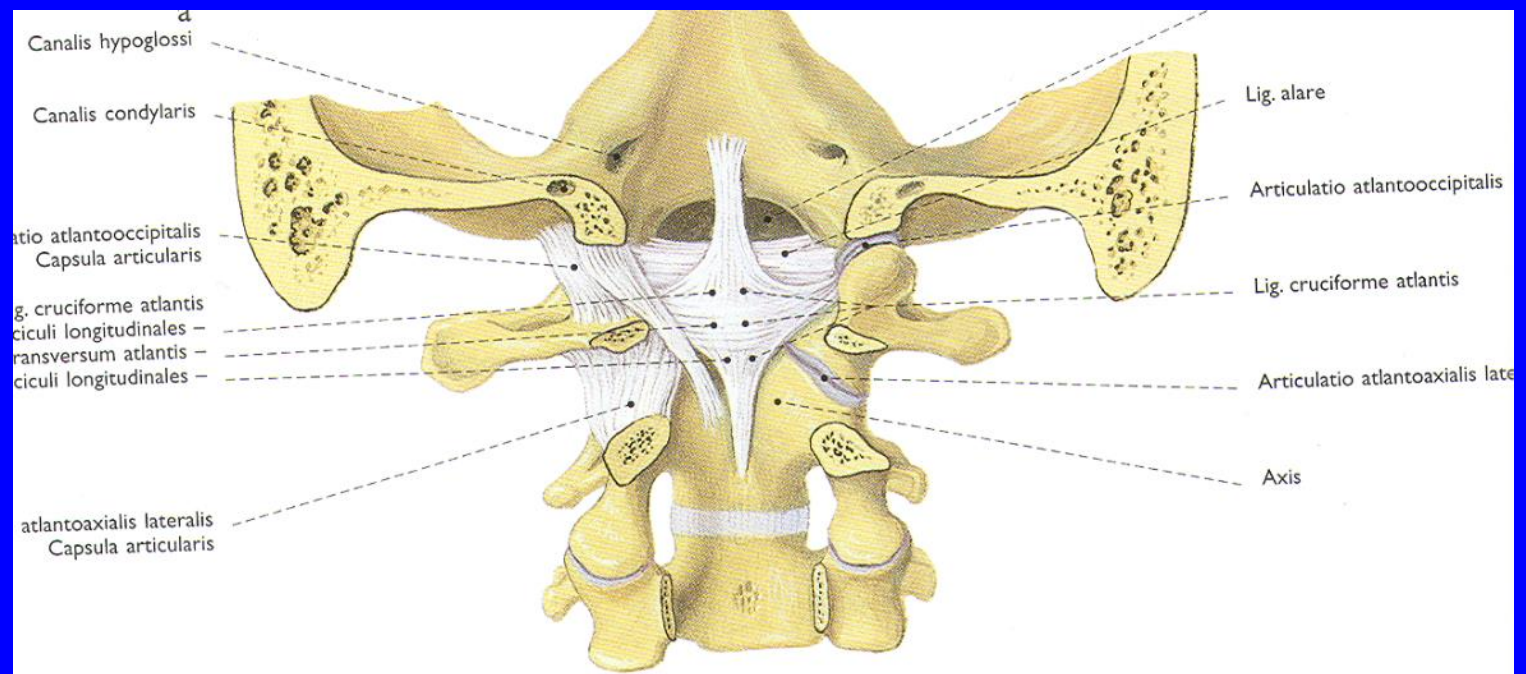


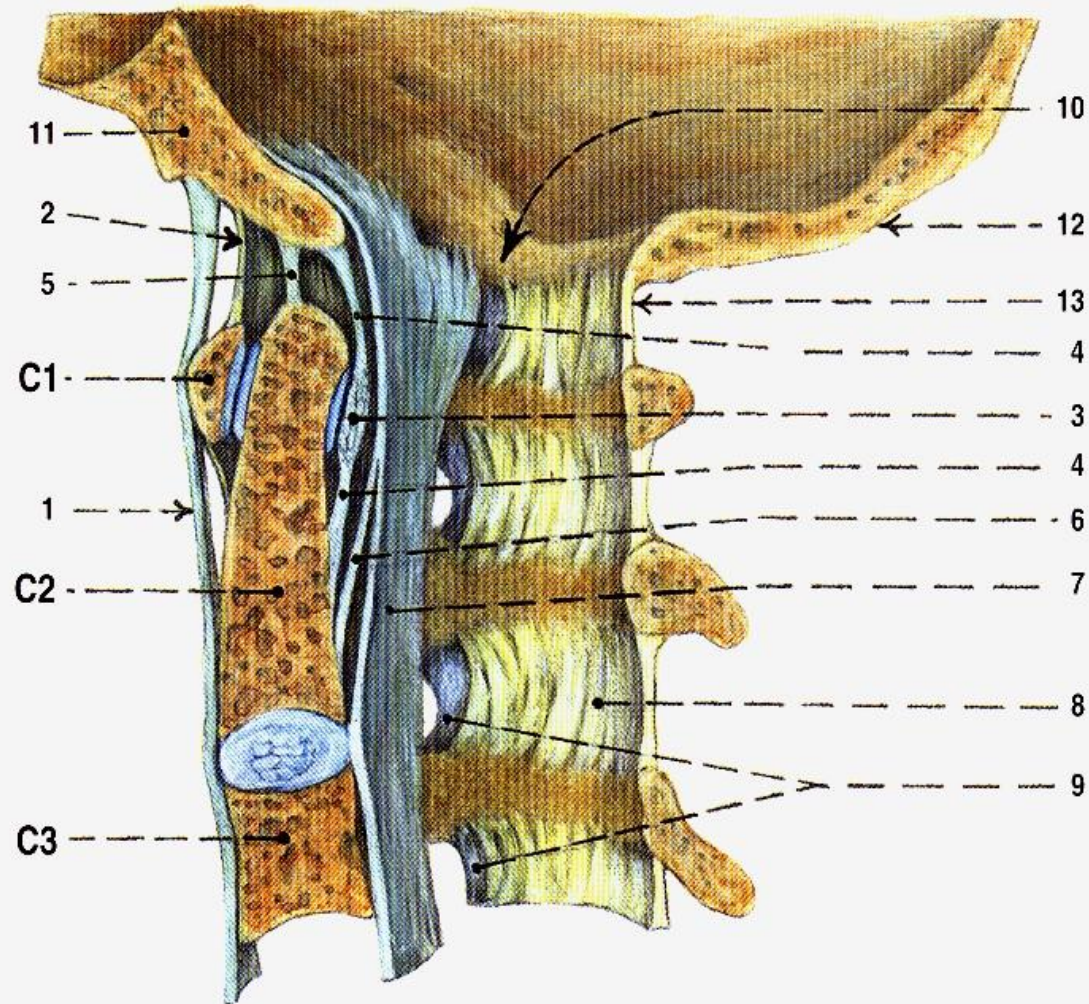
Kraniovertebrální spojení

Articulatio atlantooccipitalis

Articulatio atlantoaxialis lateralis et mediana





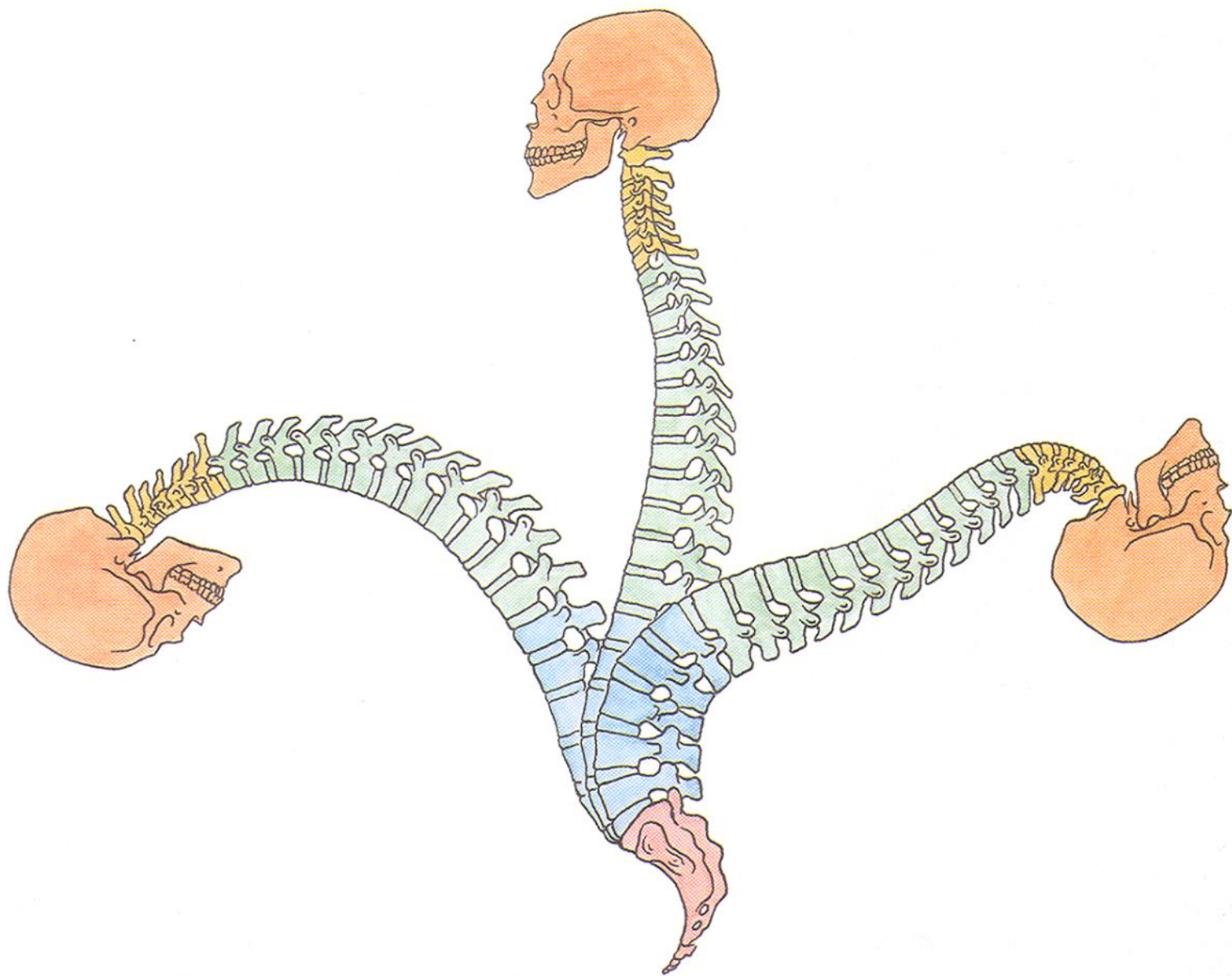


Obr. 140. PODÉLNÝ ŘEZ KRANIOVERTEBRÁLNÍM SPOJENÍM
až po obratel C3; pohled zleva

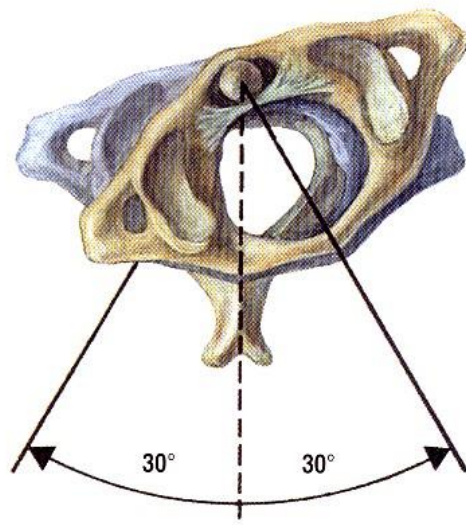
- 1 ligamentum longitudinale anterius
- 2 membrana atlantooccipitalis anterior
- 3 ligamentum transversum atlantis
- 4 podélné snopce ligamentum cruciforme
- 5 ligamentum apicis dentis
- 6 membrana tectoria

- 7 ligamentum longitudinale posterius
- 8 ligamenta interarcualia
- 9 pouzdra meziobratlových kloubů
- 10 okraj foramen magnum
- 11 tělo kosti týlní
- 12 šupina kosti týlní
- 13 membrana atlantooccipitalis posterior

Pohyblivost páteře

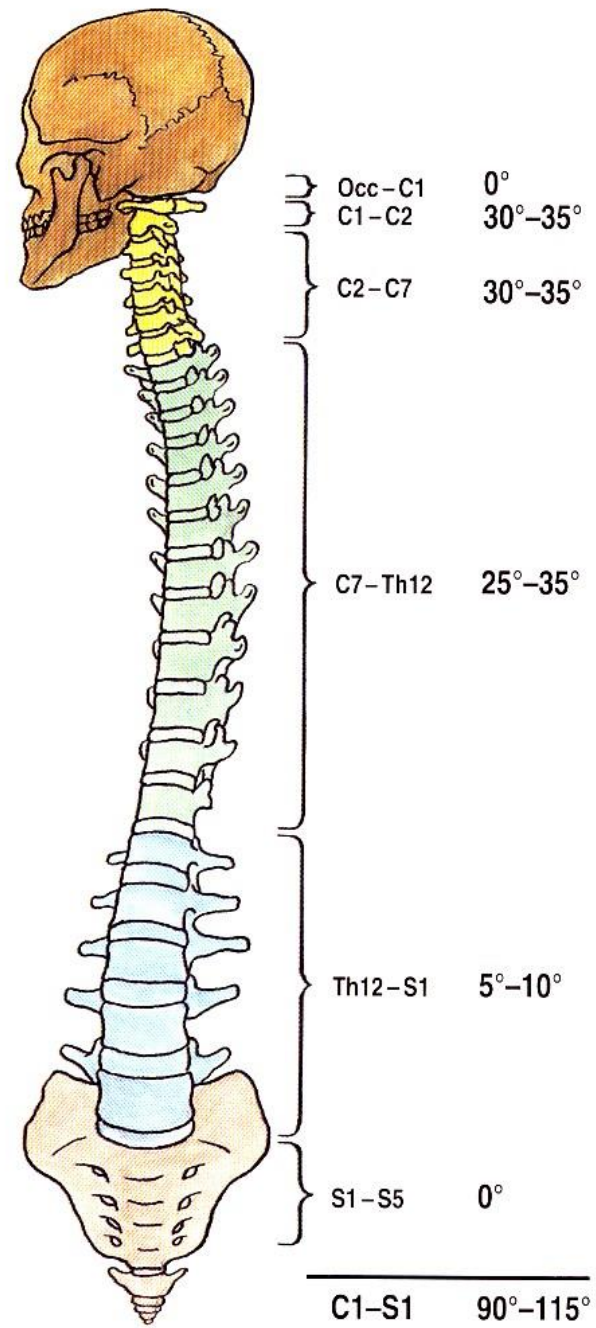


Obr. 144. PŘEDKLONY A ZÁKLONY PÁTEŘE; schematické znázornění maximálních možností pohybů v jednotlivých úsecích páteře

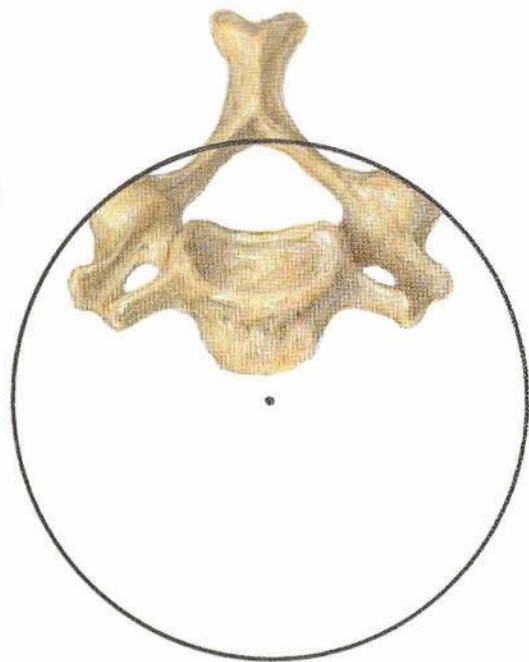


Obr. 145. OTÁČENÍ ATLASU kolem čepu, kterým je dens axis; pohled shora; dvě polohy atlasu znázorněny dvěma barvami

ROTATIONS



A



B



Obr. 149. DVOJÍ MOŽNÉ POSTAVENÍ SPOLEČNÉ OSY ZAKŘIVENÍ pravého a levého meziobratlového kloubu:
 A osa vpředu, v těle obratle nebo před ním
 B osa vzadu, za processus spinosus



Skeleton thoracis

costae, sternum



To ještě není konec????

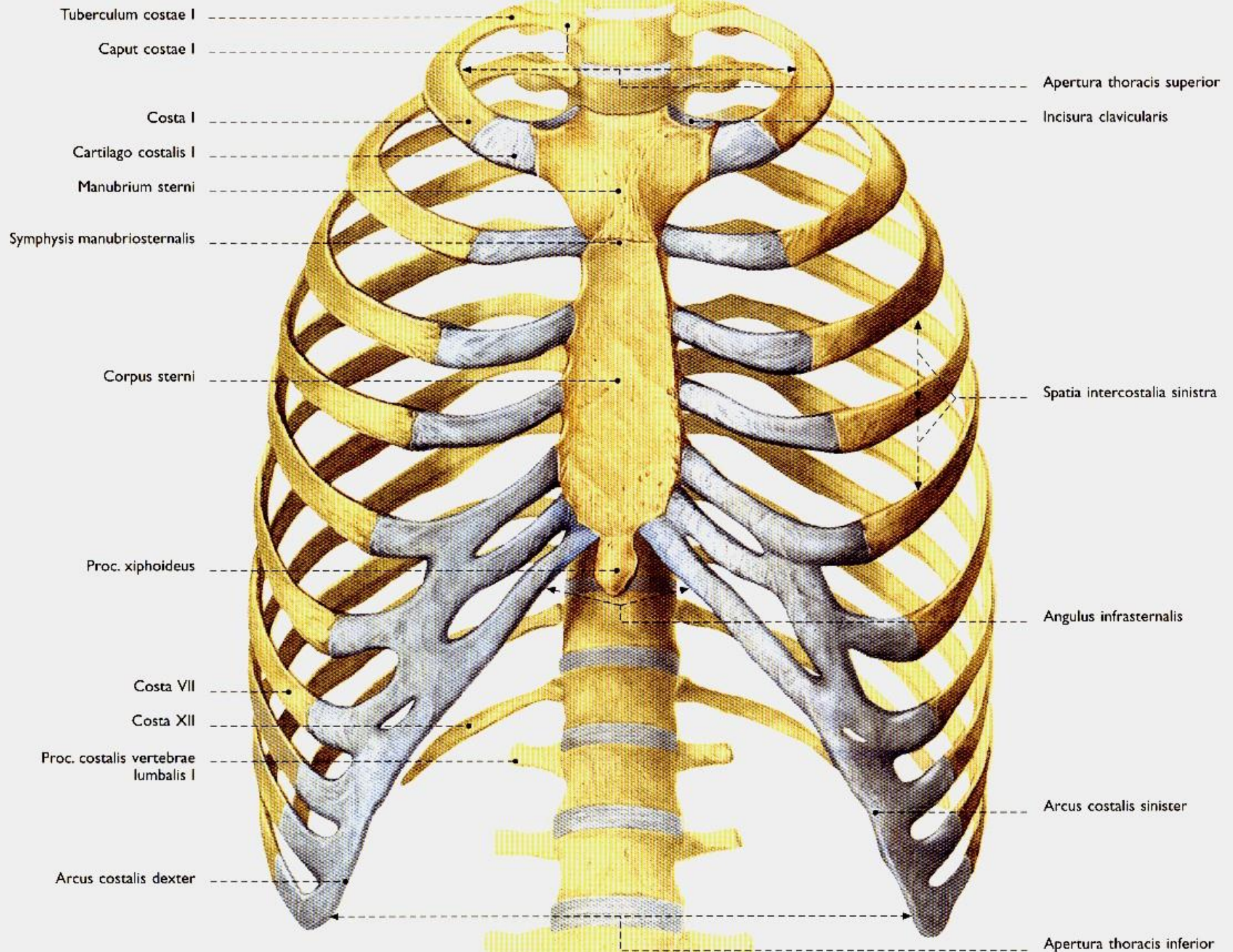
Žebra - Costae

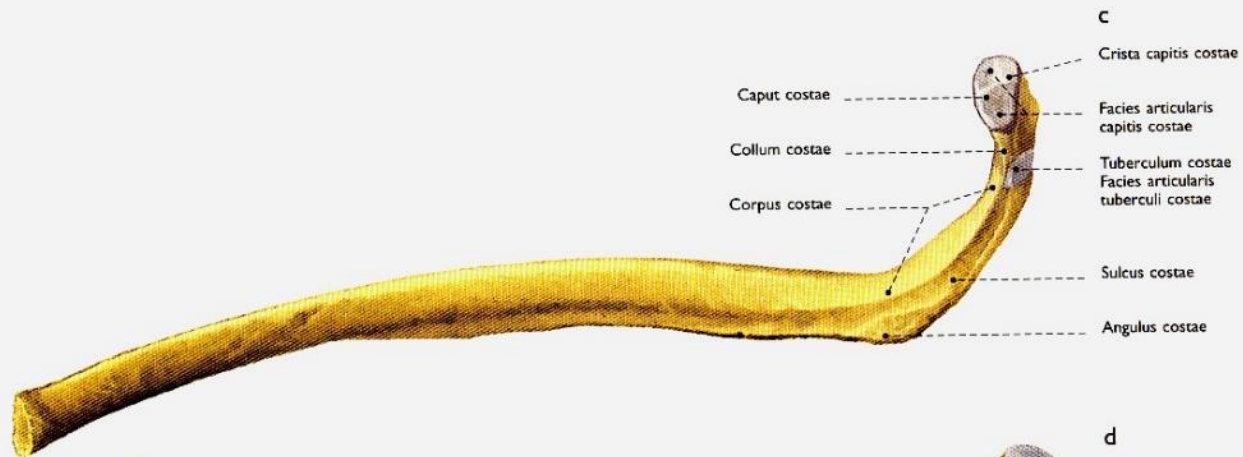
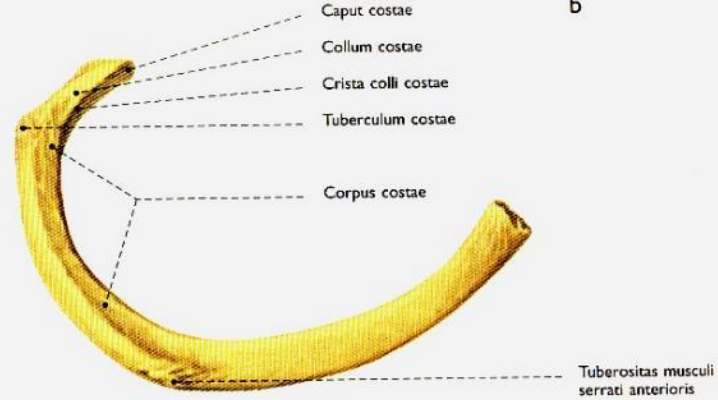
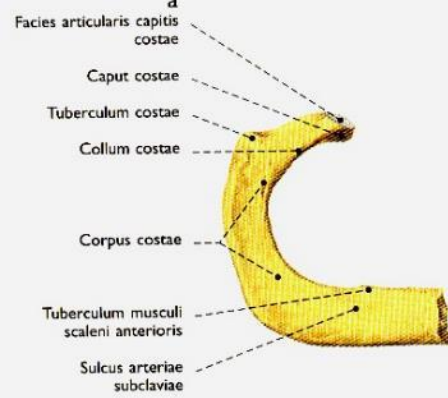
Pravá žebra (costae verae) – 1.–7. (připojená kloubně ke sternu)

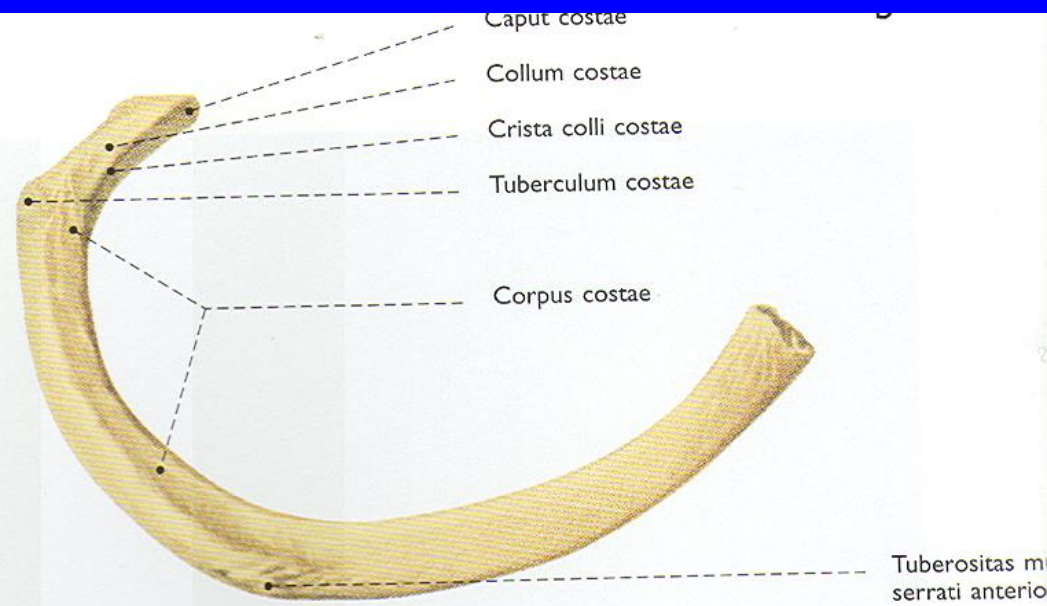
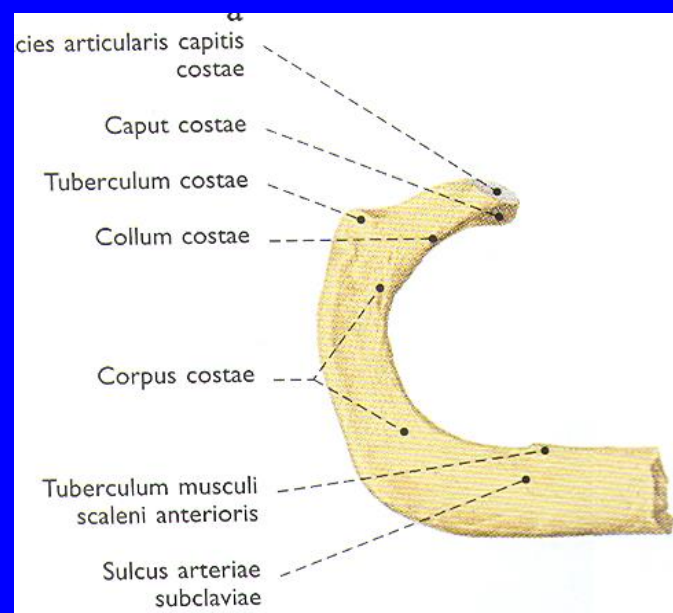
Nepravá žebra (costae spuriae) – 8.–10.
(připojená chrupavkou vždy k předchozímu žebří, ke sternu nedosahují)

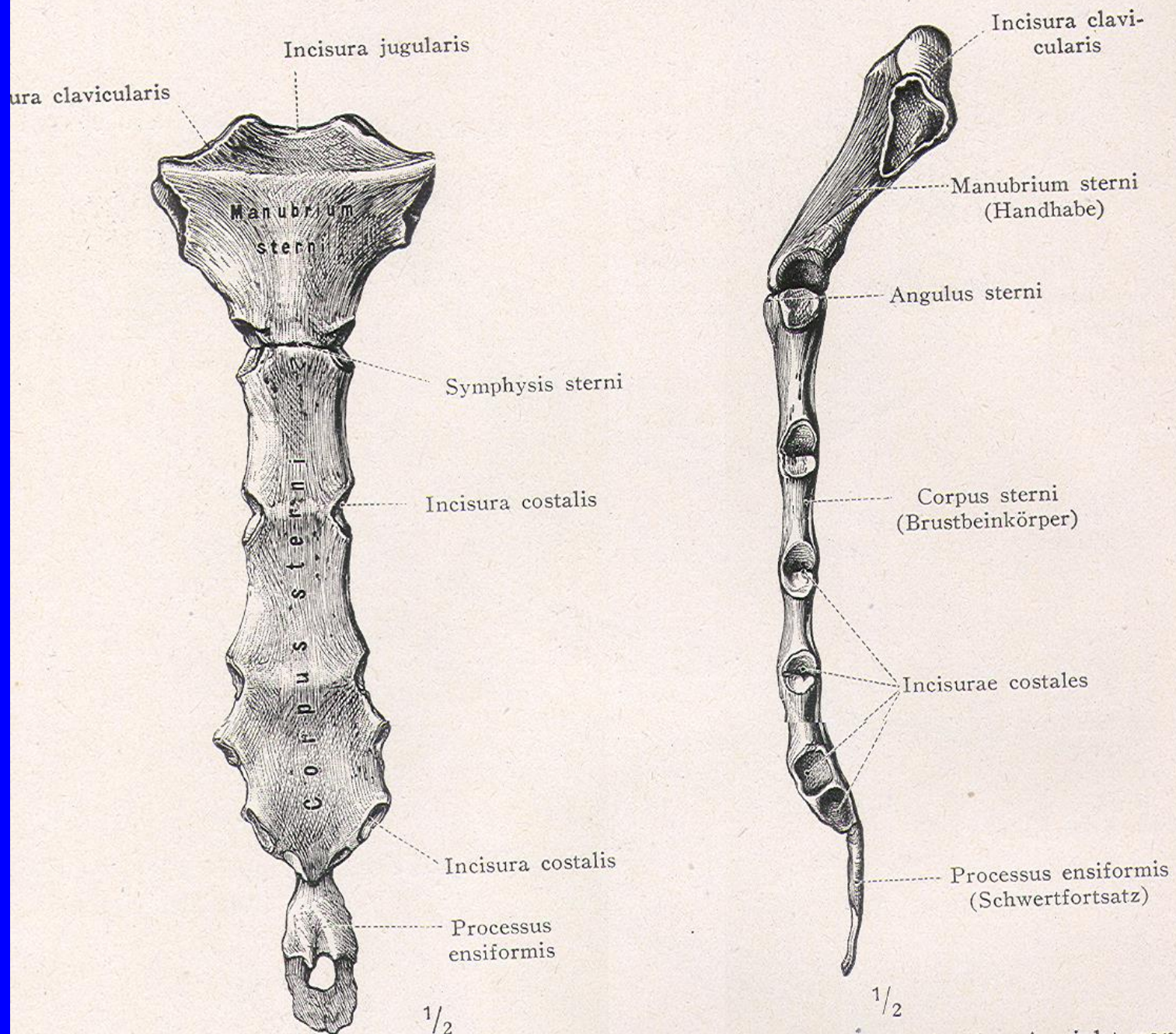
Volná žebra (costae fluctuantes) – 11.–12.
(nedosahují ke sternu, fixovaná v tělní stěně)

a









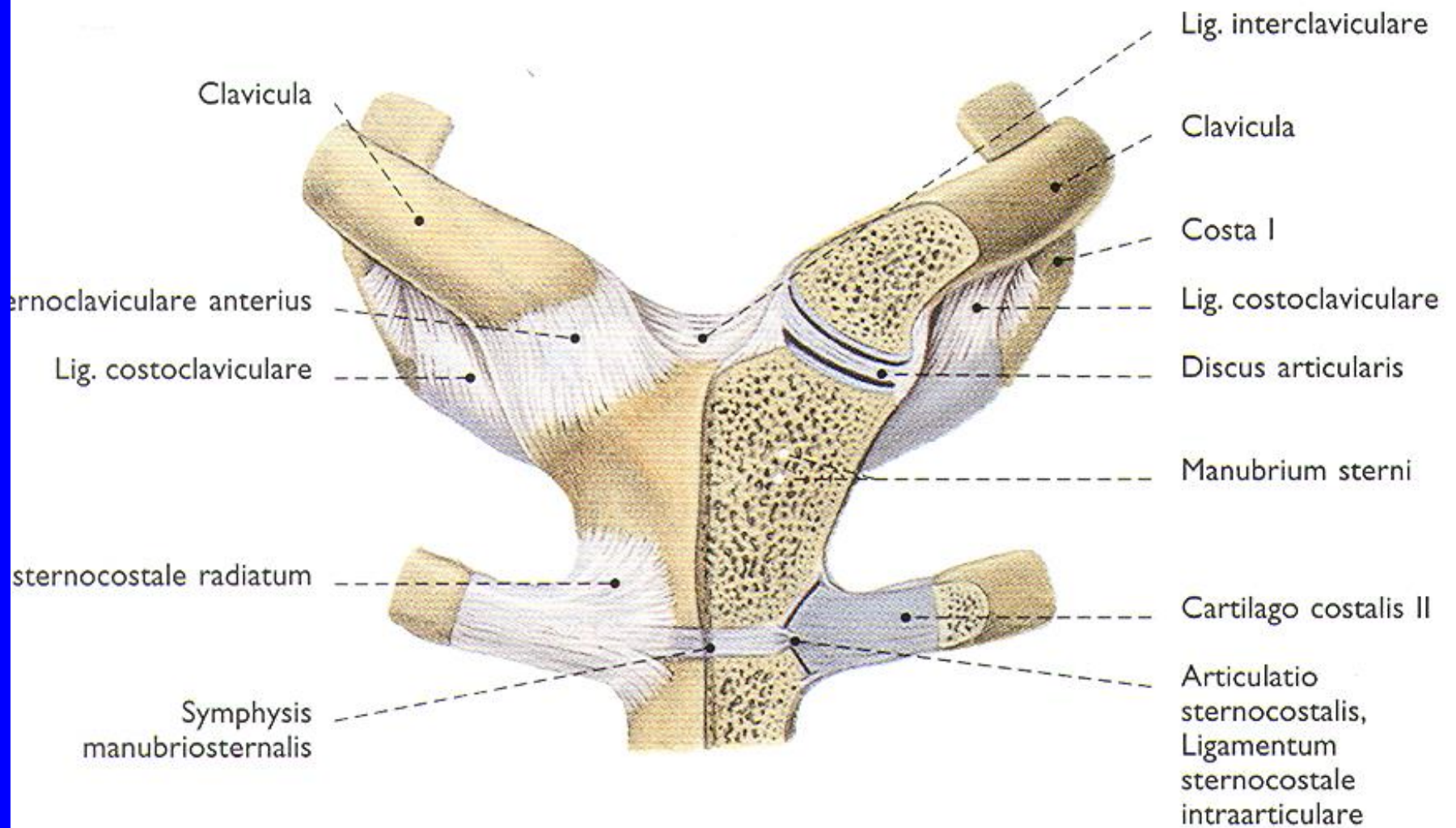
Spojení na hrudníku

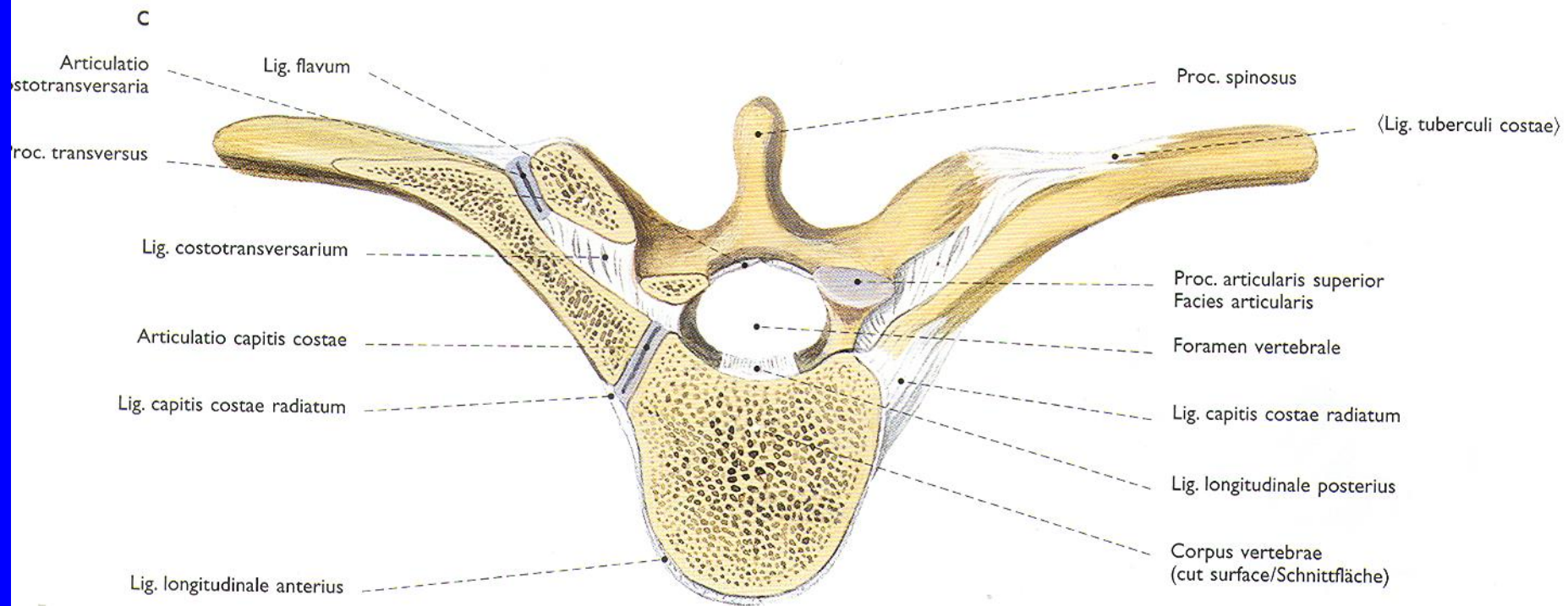
Articulationes costovertebrales

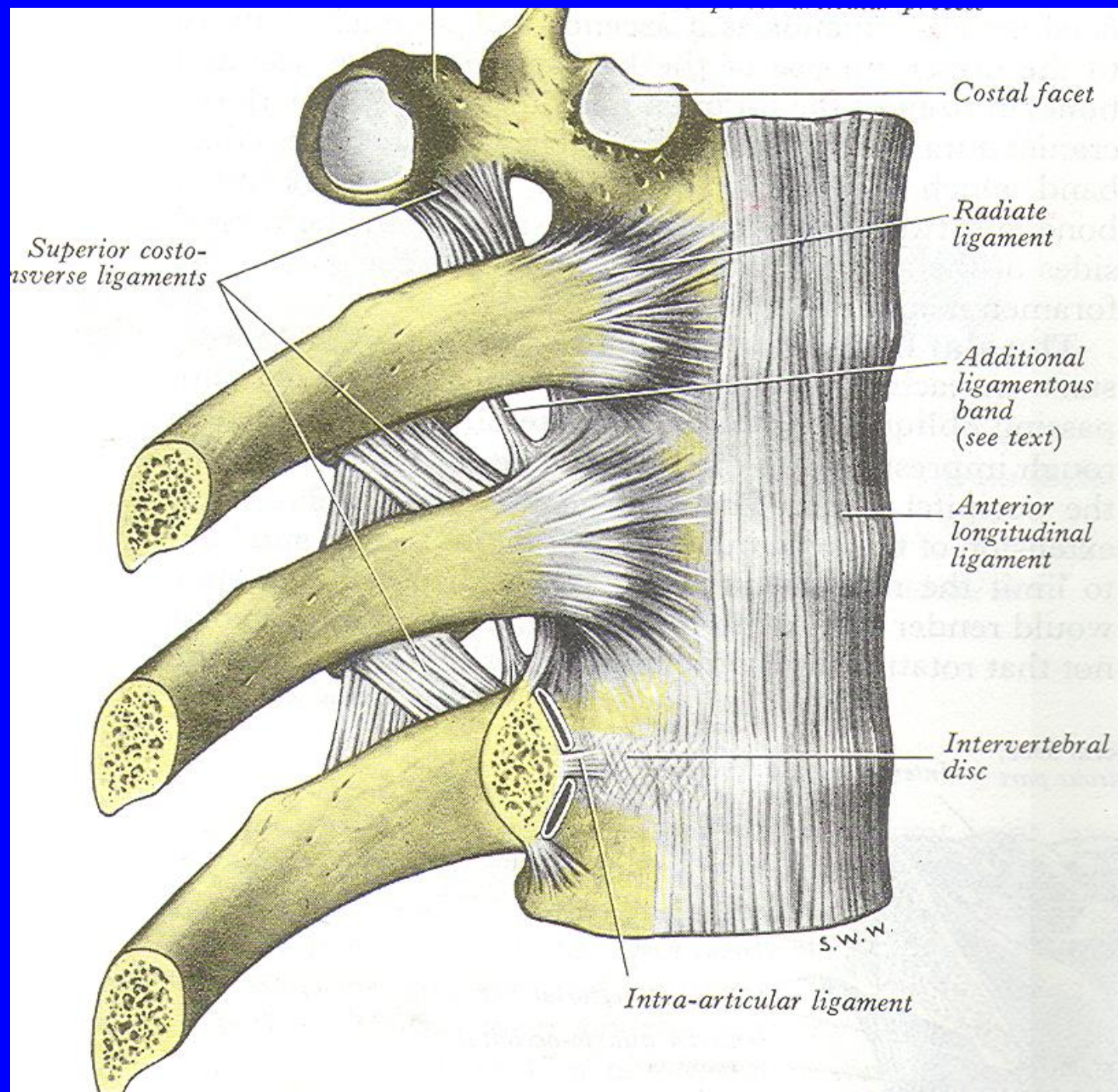
a) articulationes capitum costarum

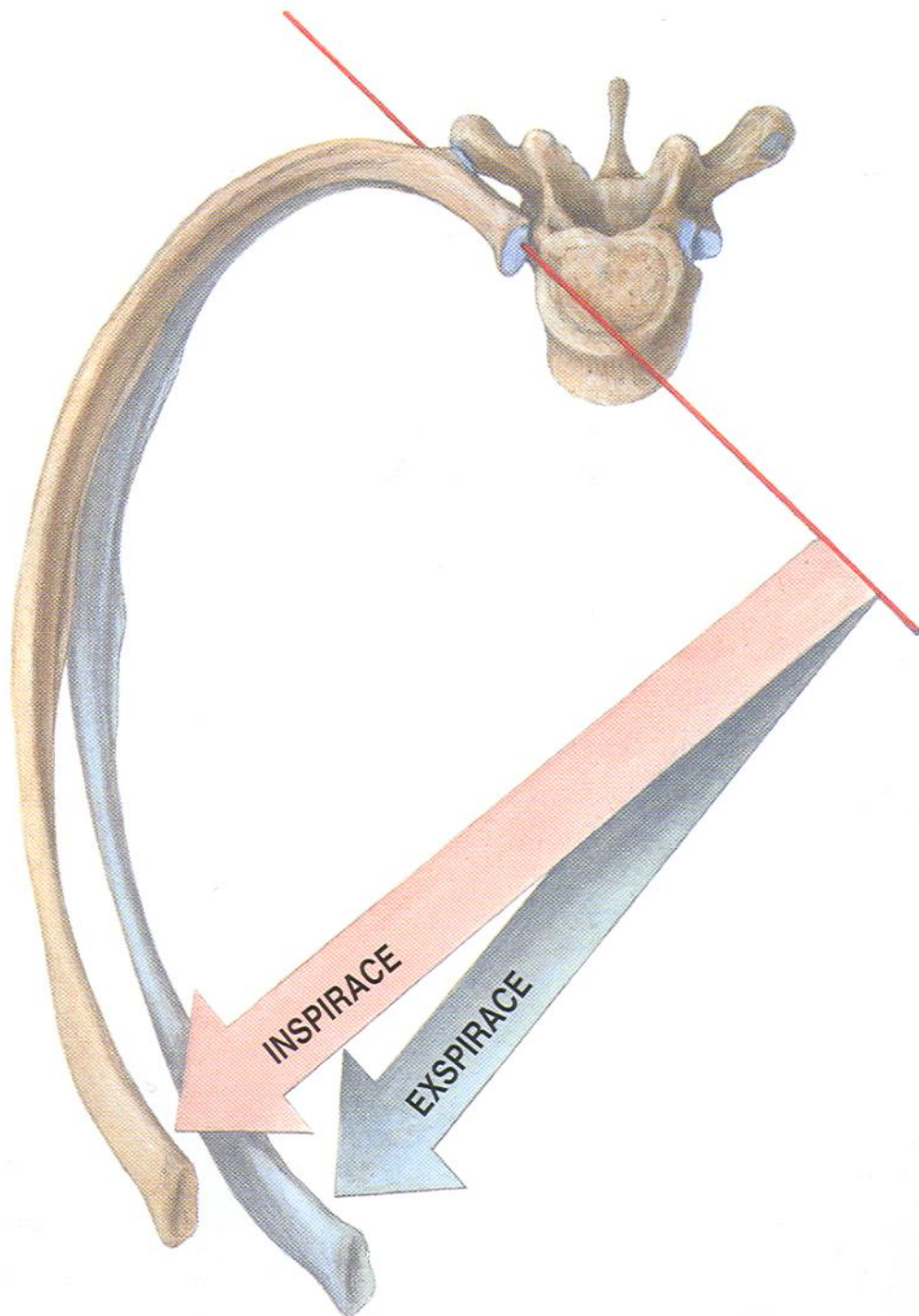
b) articulationes costotransversariae

Articulationes sternocostales







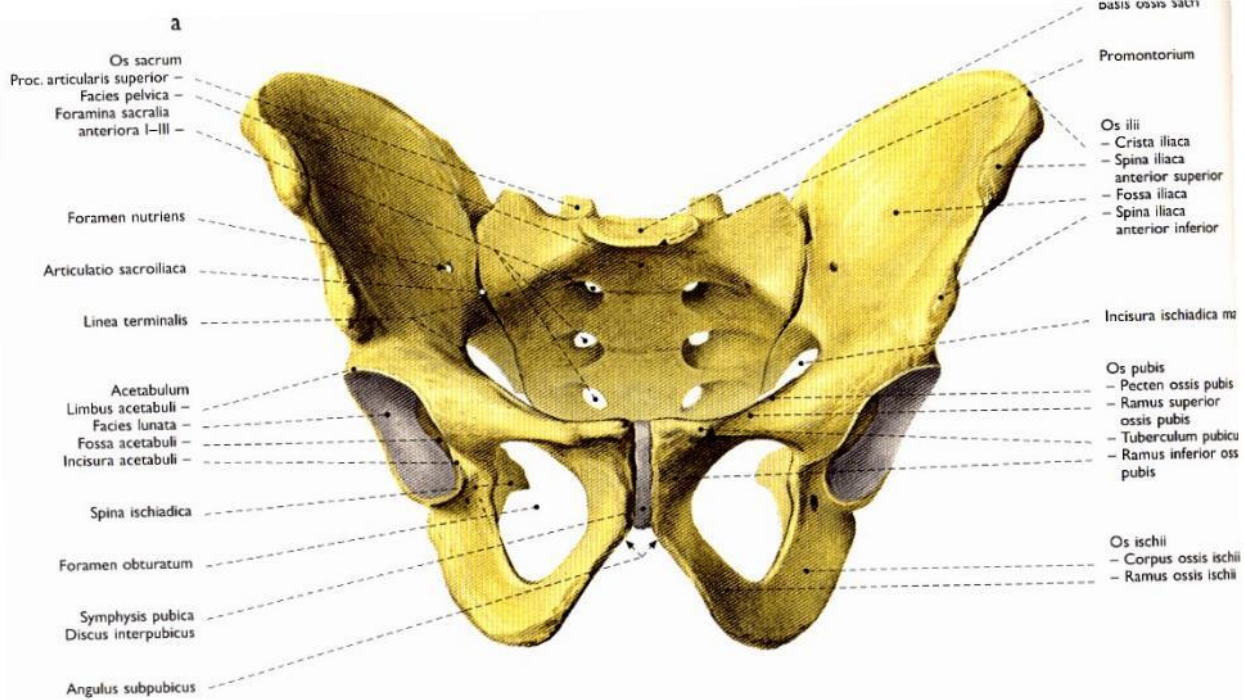


Ženská pánev rozměry a roviny

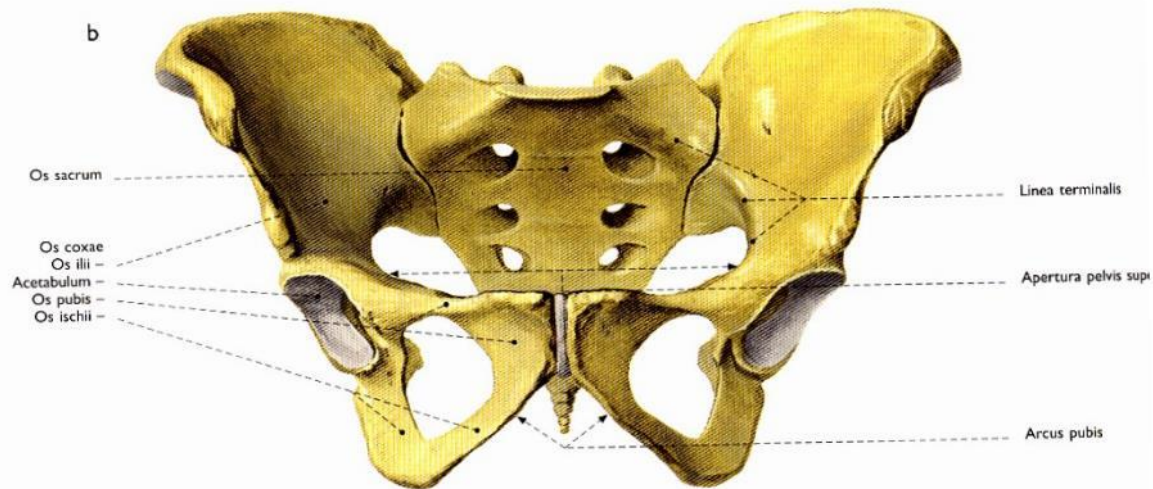
Pelvis major
Pelvis minor

(hranice linea terminalis)

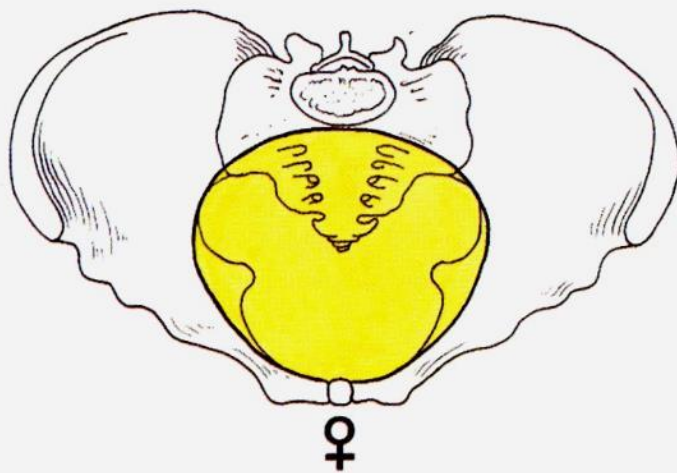
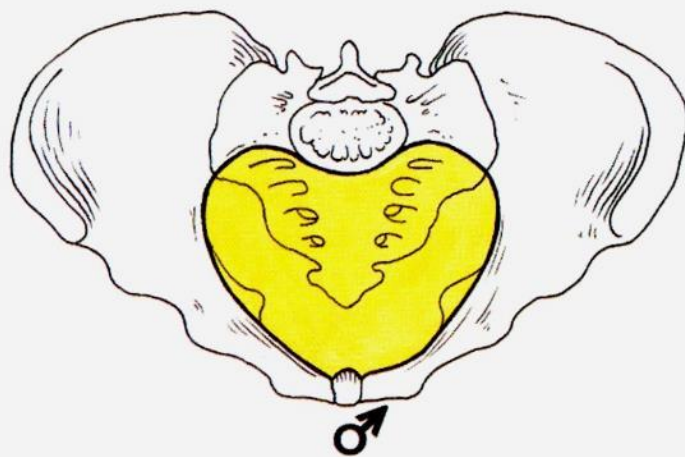
OSSA COXAE SACRUM



b

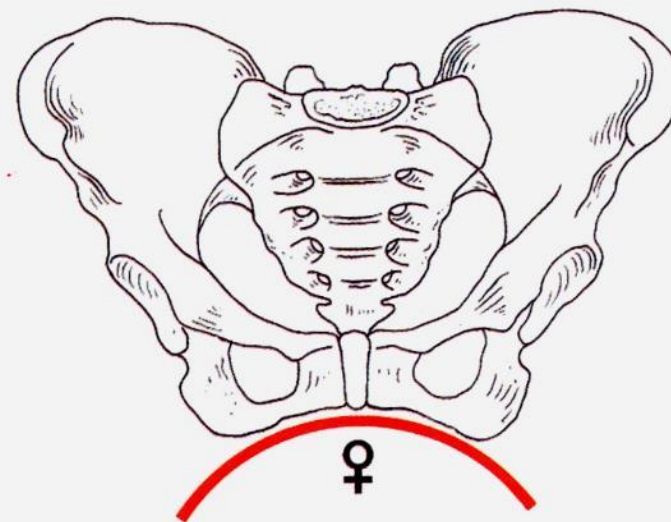
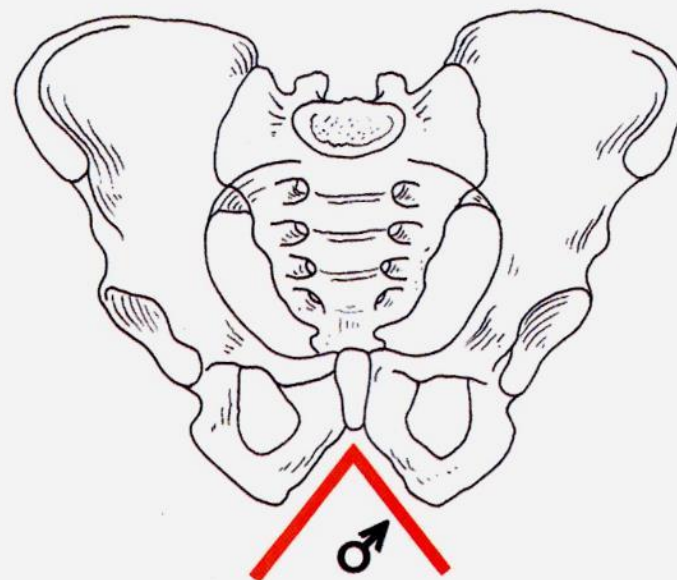


PELVIS

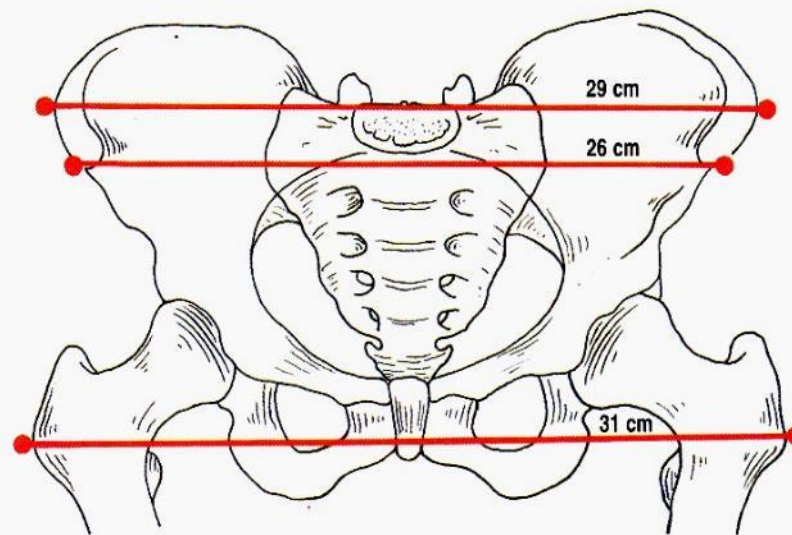


Obr. 296. POHLAVNÍ ROZDÍLY NA PÁNVI; tvar vchodu malé pánve

► Obr. 297. POHLAVNÍ ROZDÍLY NA PÁNVI; angulus pubicus a arcus pubicus (arcus subpubicus)



Vnější pánevní rozměry



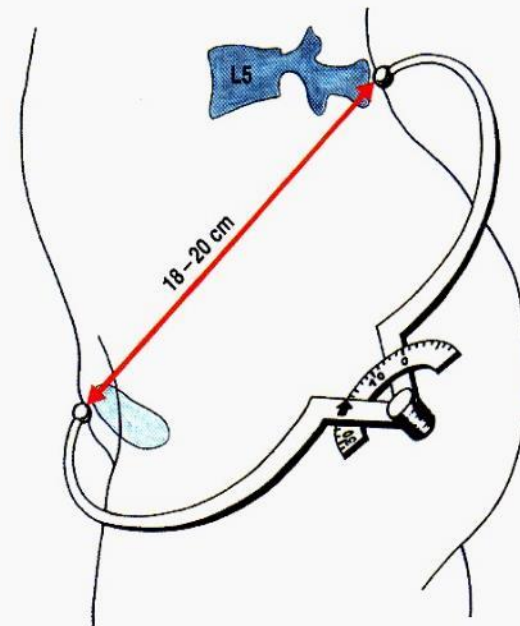
29 cm

26 cm

31 cm

Obr. 303. ZEVNÍ ROZMĚRY PÁNEVNÍ; příčné rozměry –
v kraniokaudálním pořadí:
distantia bicristalis
distantia bispinalis
distantia bitrochanterica
čísla udávají minimální délky pro normální ženskou pánev

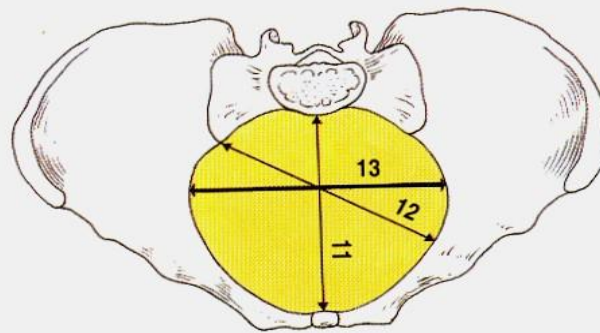
Conjugata externa =
18 – 20 cm



► Obr. 304. ZEVNÍ ROZMĚRY PÁNEVNÍ – CONJUGATA
EXTERNA (diameter Baudelocquei)

Promontorium
=L5/S1

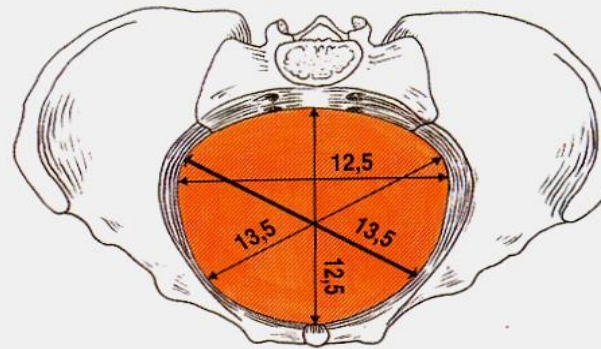
Diameter transversa
= **13 cm**



ADITUS

Promontorium –
linea terminalis
– horní okraj
symfýzy

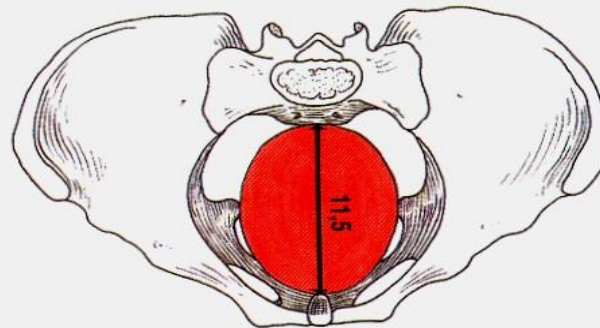
Diameter obliqua :
incisura ischiadica major –
sulcus obturatorius = **13.5 cm**



AMPLITUDO

S2/S3 – střed
acetabula - střed
symfýzy

Diameter recta = **11.5 cm**



ANGUSTIA

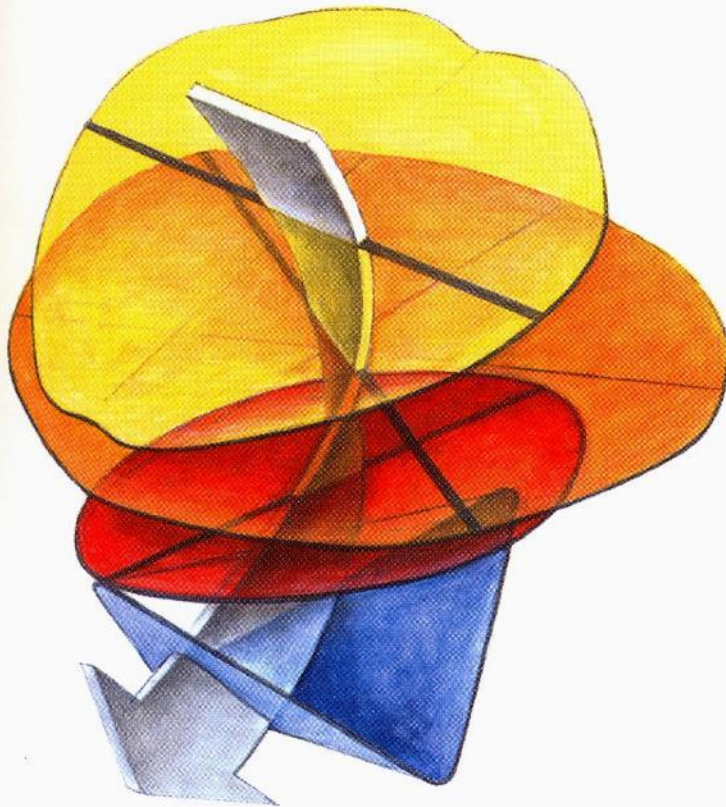
Dolní okraj os
sacrum - spina
ischiadica - dolní
okraj symfýzy

Novorozenecká hlavička

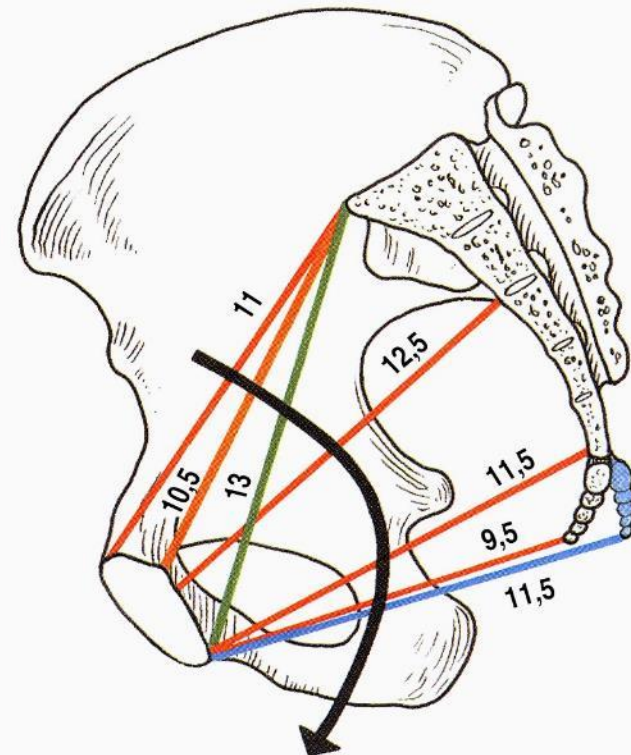
AP = **11 - 11.5 cm**

Exitus pelvis (trigonum urogenitale, anale) hrot kostrče, tubera ischiadica, dolní okraj symfýzy

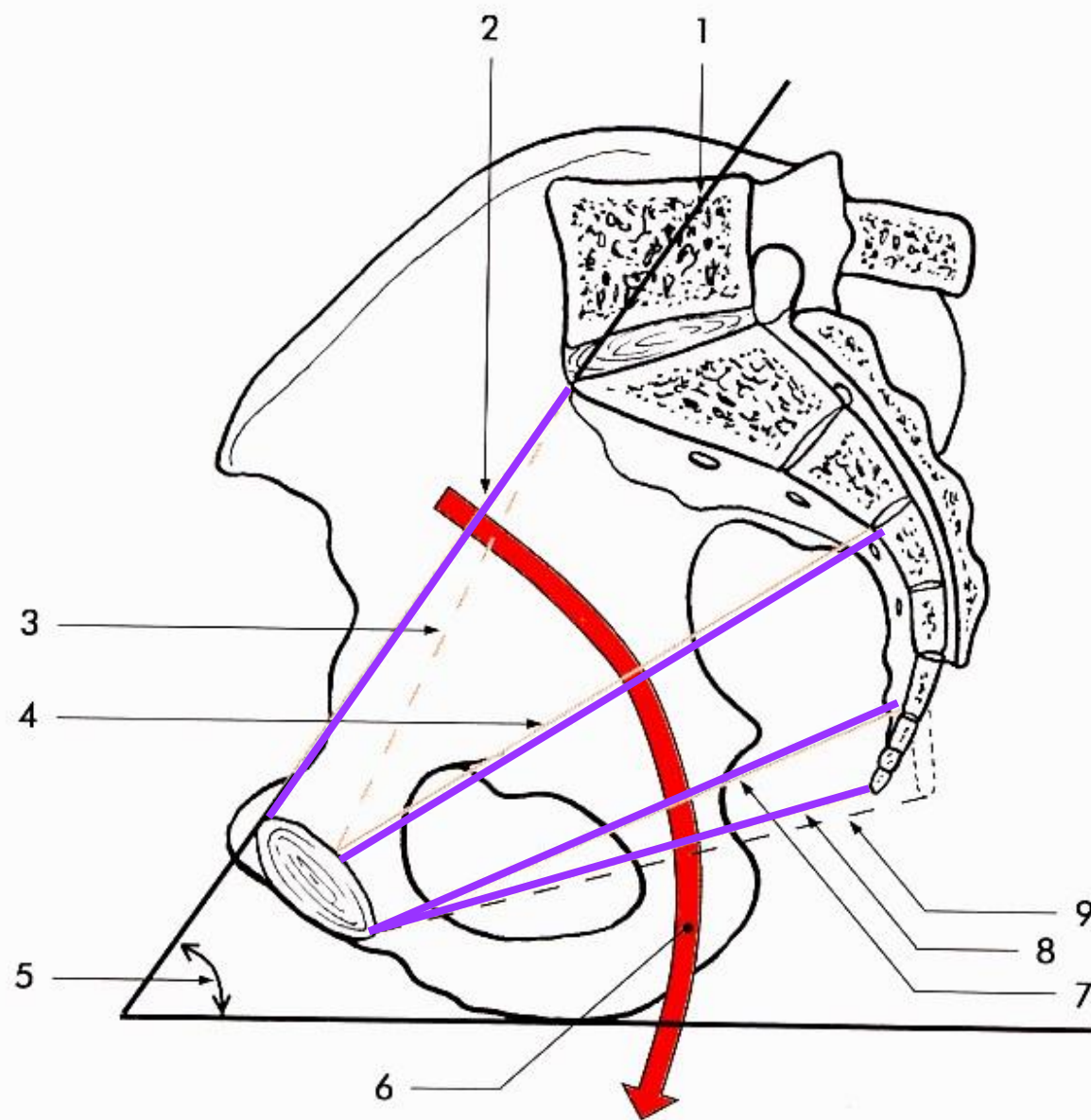
Diameter recta = **9.5 cm (až 11,5 cm)**, diameter transversa = 11 cm



Obr. 301. PŘETÁČENÍ HLAVIČKY PLODU ZA PORODU PODLE NEJDELŠÍHO ROZMĚRU V KAŽDÉ PÁNEVNÍ ROVINĚ (určení rovin – viz text a obr. 299)



Obr. 302. PŘÍMÉ ROZMĚRY ROVIN PÁNEVNÍCH, CONJUGATA OBSTETRICIA A CONJUGATA DIAGONALIS; AXIS PELVIS
červeně – přímé rozměry hlavních rovin
oranžově – conjugata obstetrica (conjugata vera) pánevního vchodu
zeleně – conjugata diagonalis
modře – předozadní rozměr východu pánevního po odklonění kostrče



Obr. 1.83. Sagitální řez pánví s vyznačenými rovinami a přímými rozměry.

- 1 – rovina pánevního vchodu,
- 2 – diameter recta (conjugata) roviny vchodu pánevního (11 cm),
- 3 – conjugata obstetricia (10,5 cm),
- 4 – diameter recta roviny šíře pánevní (12,5 cm),
- 5 – úhel sklonu pánevního (cca 60°),
- 6 – osa pánve (axis pelvis),
- 7 – diameter recta úžiny pánevní (11,5 cm),
- 8 – diameter recta východu pánevního (9,5 cm),
- 9 – diameter recta východu pánevního po odklonu kostrče vzad (dosáhne 11,5 cm)

Konéééééc!!!

