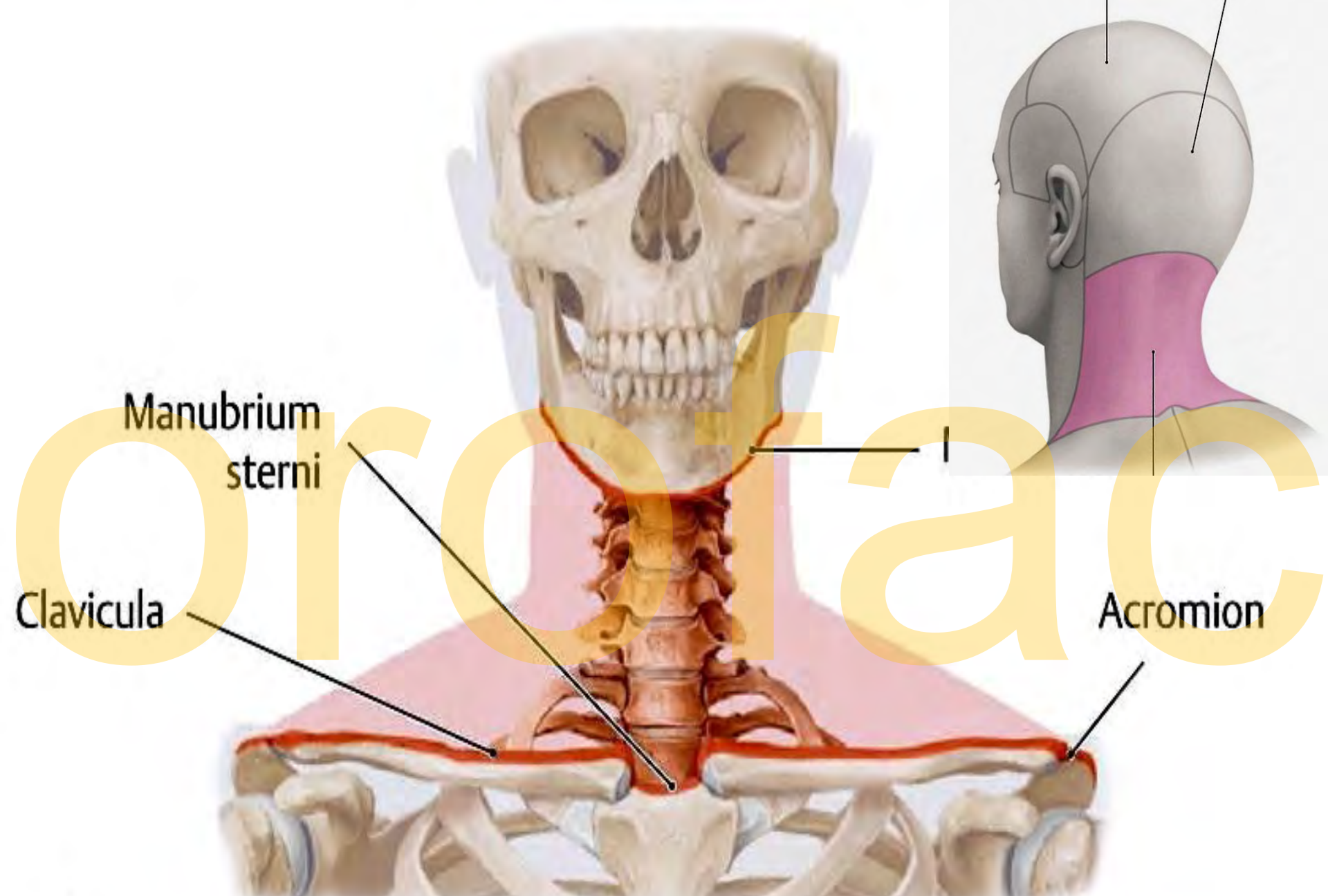


Neck formation and growth. MAIN TOPOGRAPHIC
REGIONS IN NECK. ANATOMICAL
BACKGROUND FOR URGENT LIFE SAVING
PERFORMANCES.

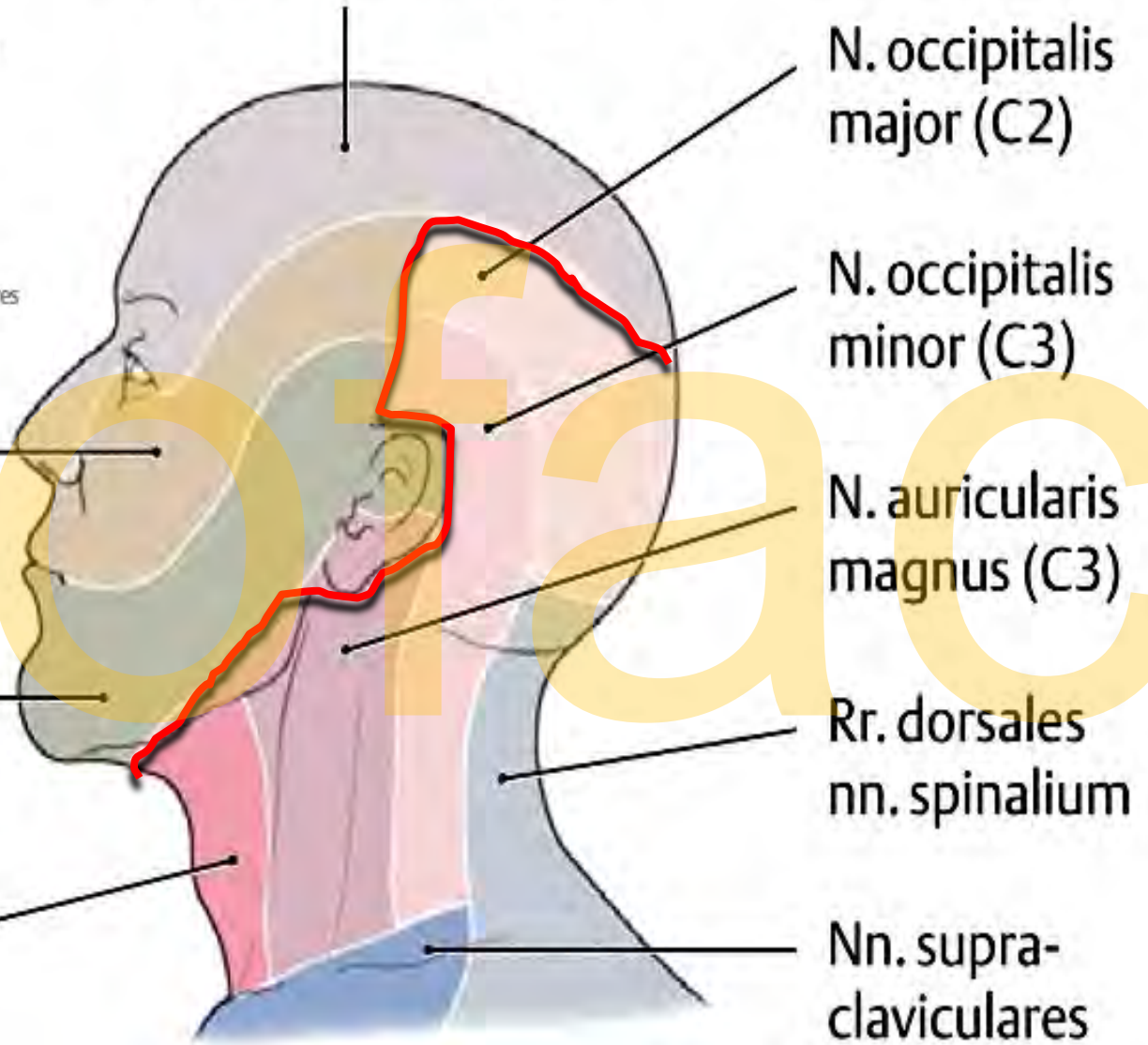
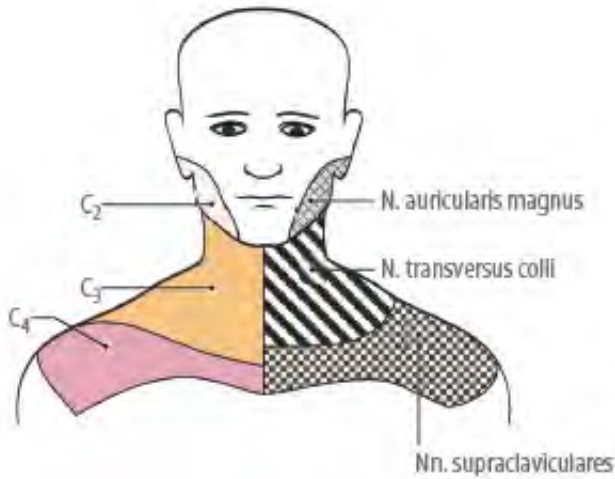


Ivo Klepáček



Vymezení oblasti krku Extent of the neck region

N. trigeminus, **Sensitivní oblasti V1, V2, V3.,**
N. ophthalmicus (V₁) **V3.,** plexus cervicalis



N. trigeminus,
N. maxillaris (V₂)

N. trigeminus,
N. mandibularis (V₃)

N. transversus
colli (C3)

N. occipitalis
major (C2)

N. occipitalis
minor (C3)

N. auricularis
magnus (C3)

Rr. dorsales
nn. spinalium

Nn. supra-
claviculares

Atlas



Axis



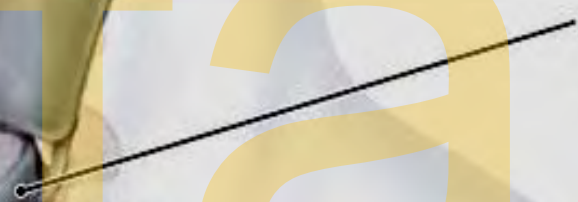
Os hyoideum



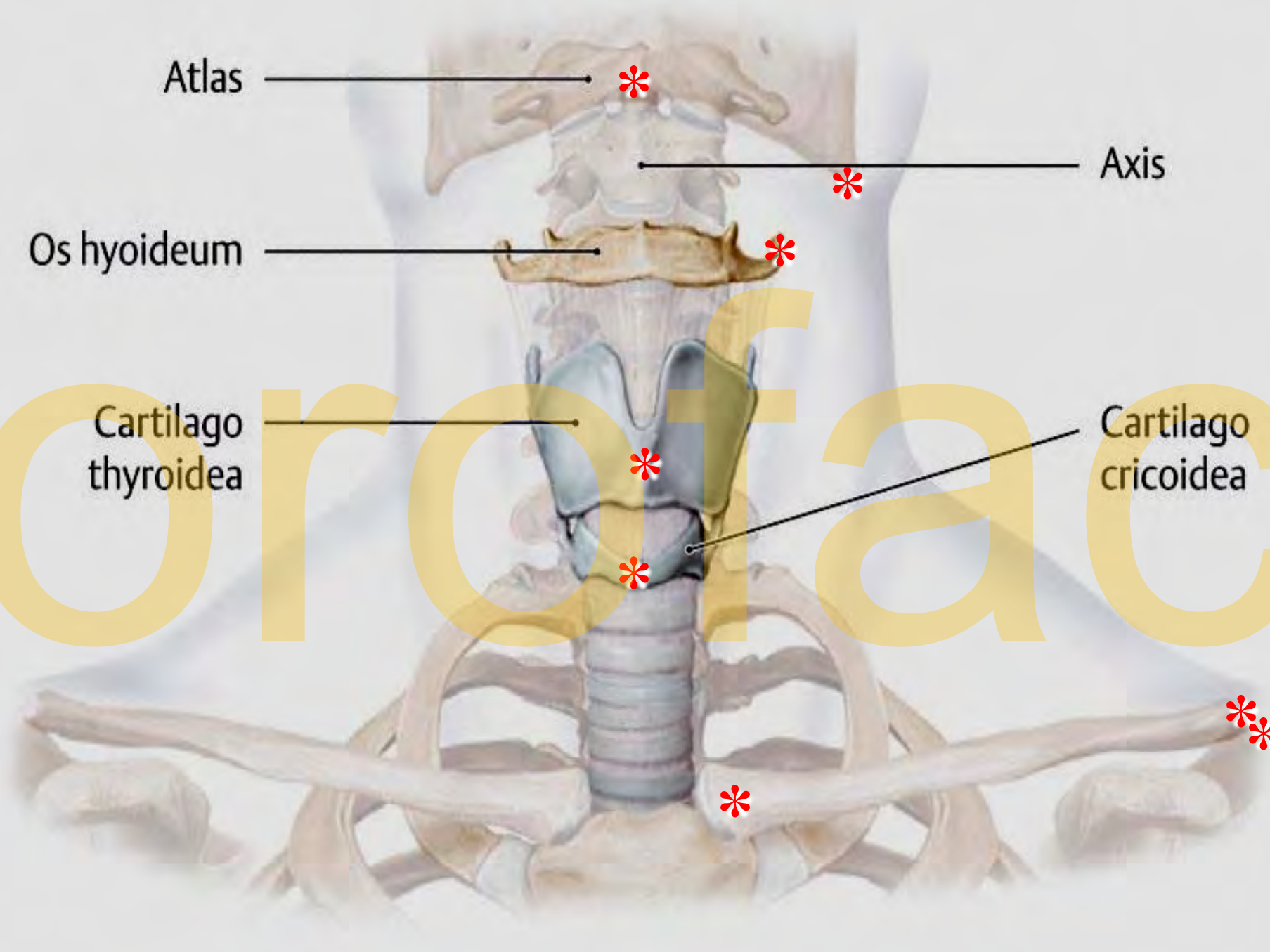
Cartilago thyroidea



Cartilago cricoidea



oro-fac



A. carotis externa

A. thyroidea superior

- [Ramus infrahyoideus]
- Ramus sternocleidomastoideus
- A. laryngea superior
- Ramus cricothyroideus
- Ramus glandularis anterior
- Ramus glandularis posterior
- Ramus glandularis lateralis

A. pharyngea ascendens

- [A. meningea posterior]
- [Rami pharyngeales]
- [A. tympanica inferior]

A. lingualis (Abb. 2.71)

A. facialis (Abb. 2.42)

A. occipitalis (Abb. 2.54)

- [Ramus mastoideus]
- [Ramus auricularis]
- [Rami sternocleidomastoidei]
- [Rami occipitales]
- [Ramus meningeus (Var.)]
- Ramus descendens

[A. temporalis superficialis]

(Abb. 2.42)

[A. maxillaris] (Abb. 2.52)

A. subclavia (Abb. 6.70)

A. vertebralis (Abb. 3.31)

A. thoracica interna

(Abb. 4.96)

Truncus thyrocervicalls

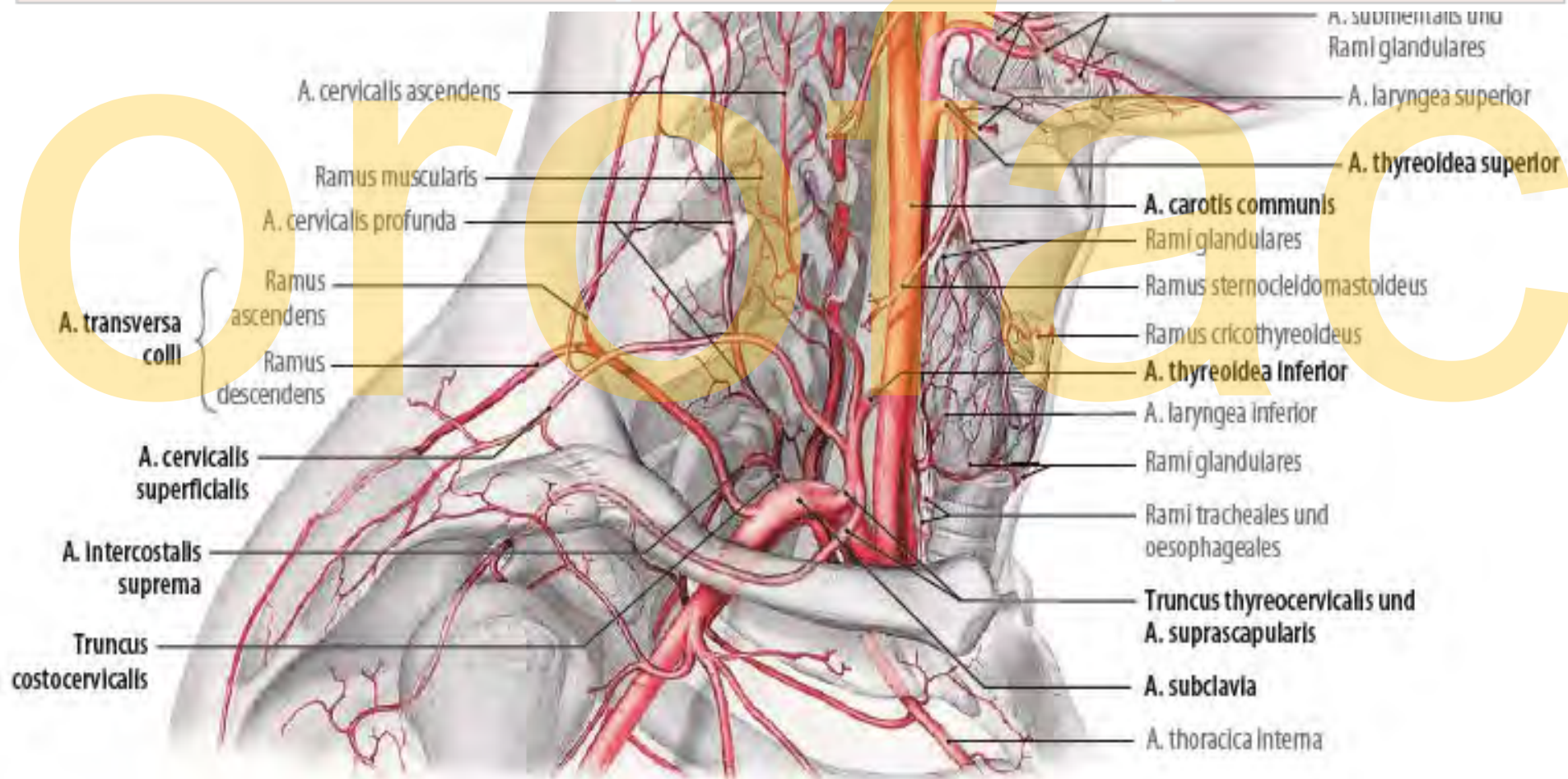
- A. thyroidea inferior
- A. laryngea inferior
- Rami glandulares
- [Rami pharyngeales]
- Rami oesophageales
- Rami tracheales
- A. cervicalis ascendens
- [Rami spinales]

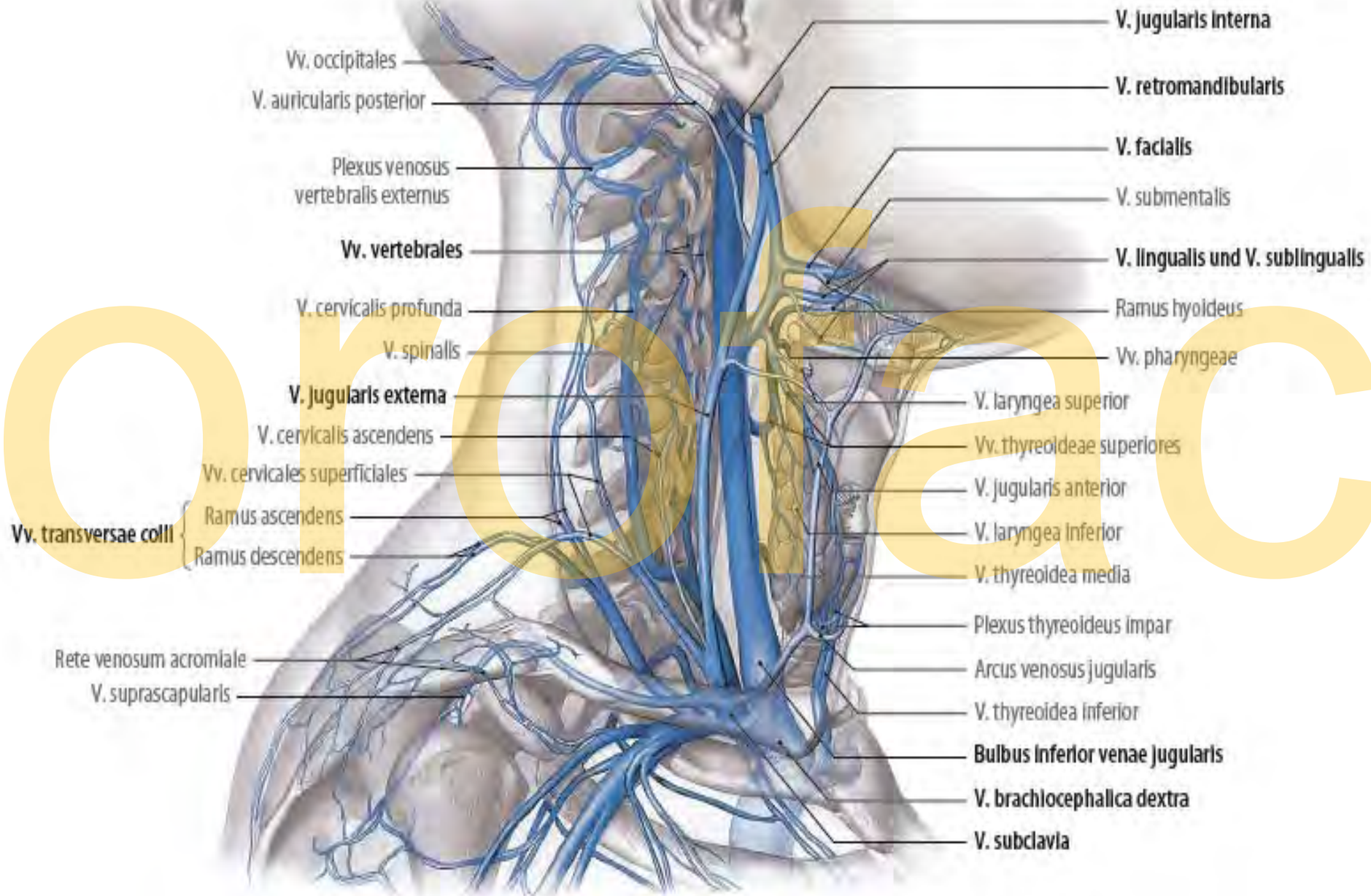
[] nicht sichtbar

Varianten im Bereich der A. transversa colli:

A. transversa colli

- Ramus superficialis = A. cervicalis superficialis bei eigenständigem Abgang
 - Ramus ascendens
 - Ramus descendens
- Ramus profundus = A. dorsalis scapulae bei eigenständigem Abgang





Vv. occipitales
V. auricularis posterior

Plexus venosus
vertebralis externus

Vv. vertebrales

V. cervicalis profunda

V. spinalis

V. Jugularis externa

V. cervicalis ascendens

Vv. cervicales superficiales

Ramus ascendens

Ramus descendens

Vv. transversae collii

Rete venosum acromiale

V. suprascapularis

V. Jugularis Interna

V. retromandibularis

V. facialis

V. submentalis

V. Lingualis und V. sublingualis

Ramus hyoideus

Vv. pharyngeae

V. laryngea superior

Vv. thyroideae superiores

V. Jugularis anterior

V. laryngea inferior

V. thyroidea media

Plexus thyroideus impar

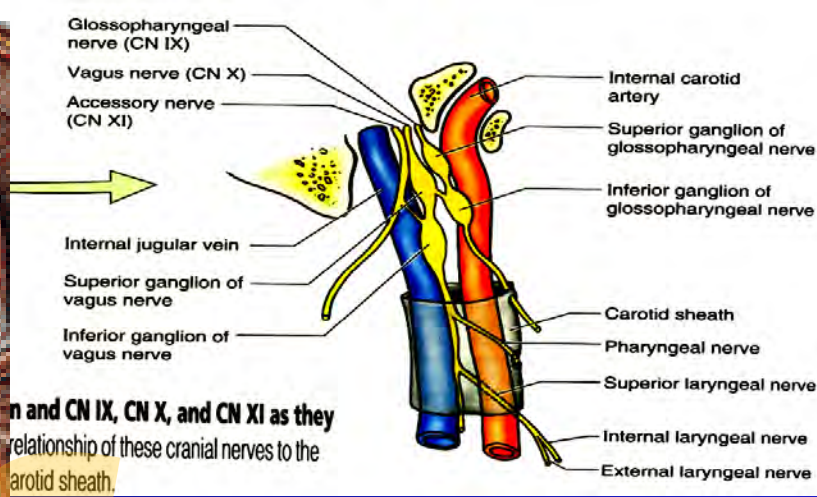
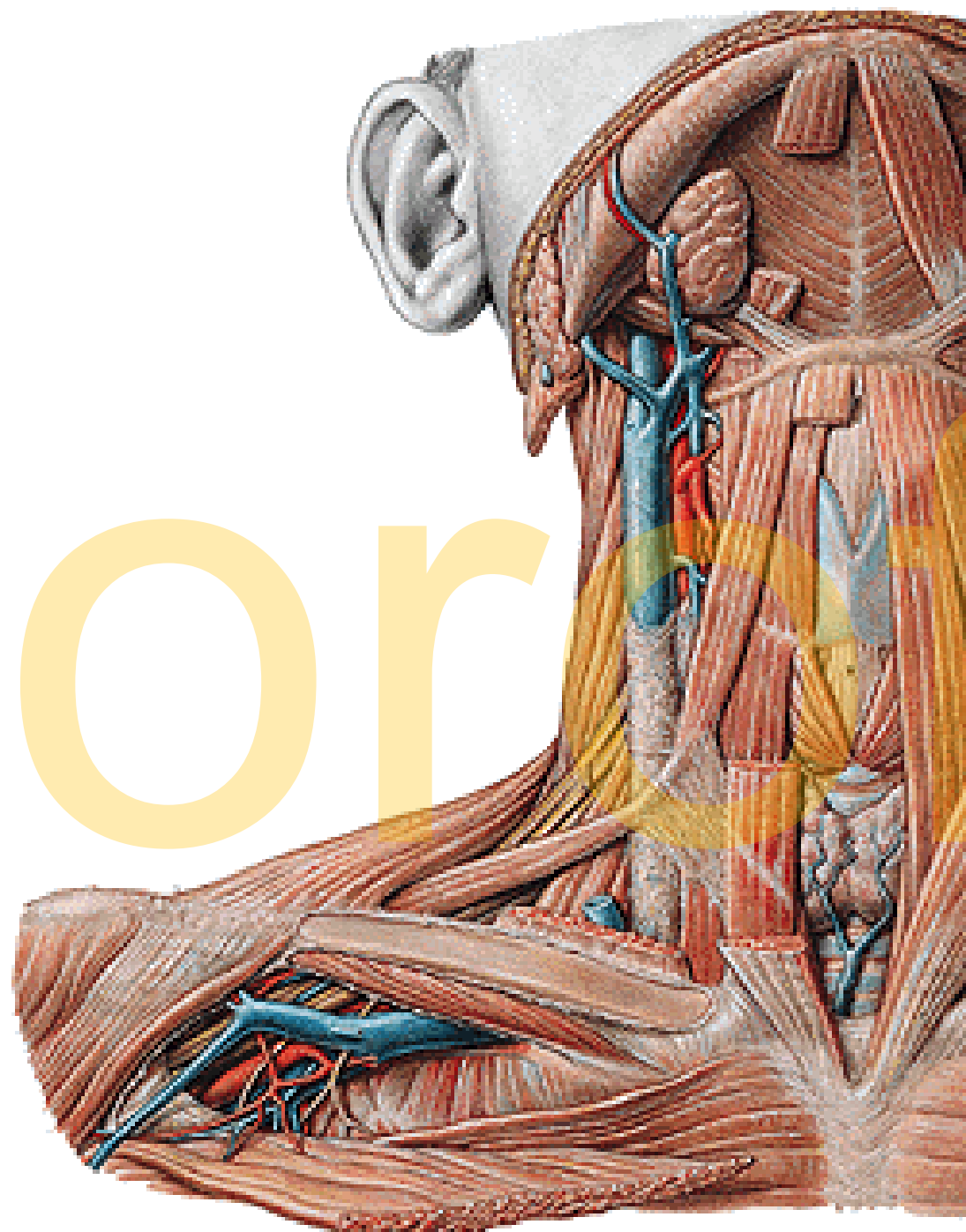
Arcus venosus jugularis

V. thyroidea inferior

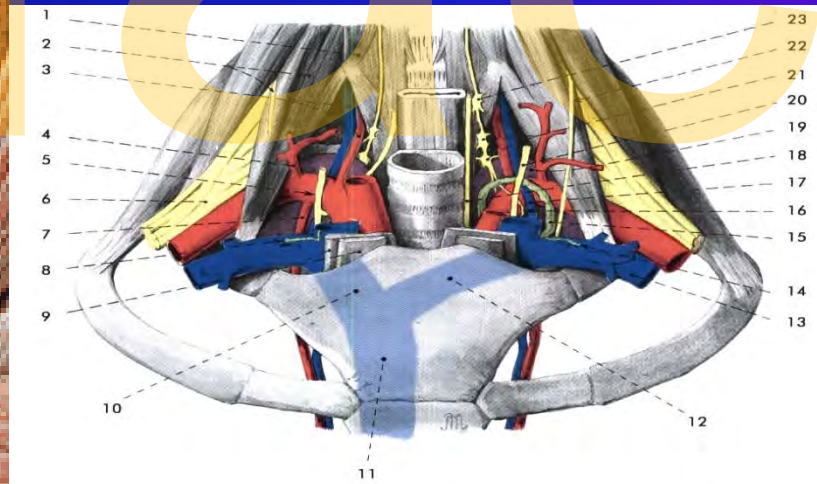
Bulbus inferior venae jugularis

V. brachiocephalica dextra

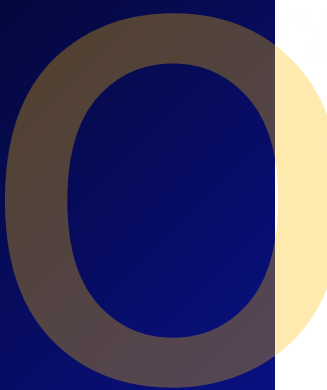
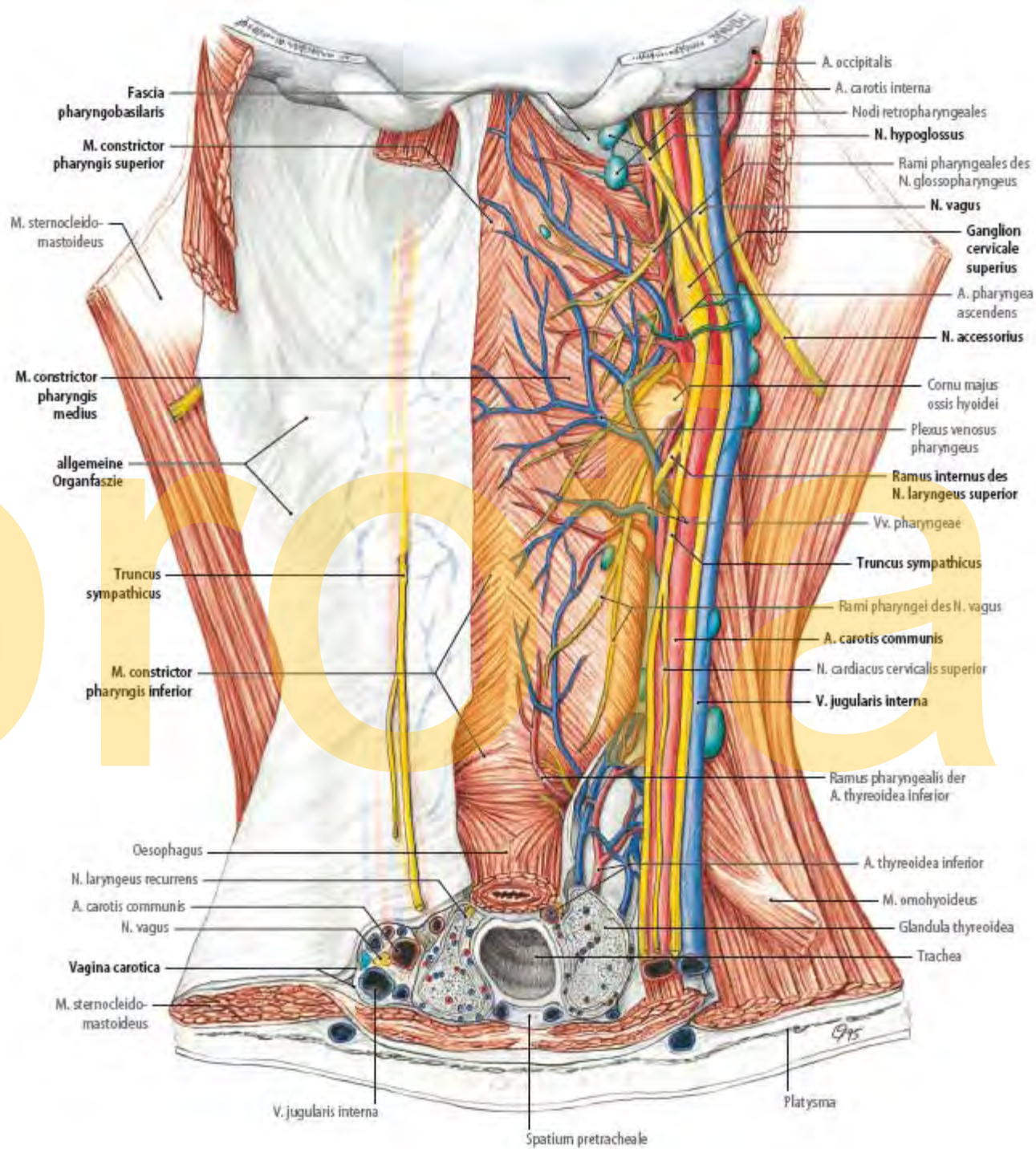
V. subclavia

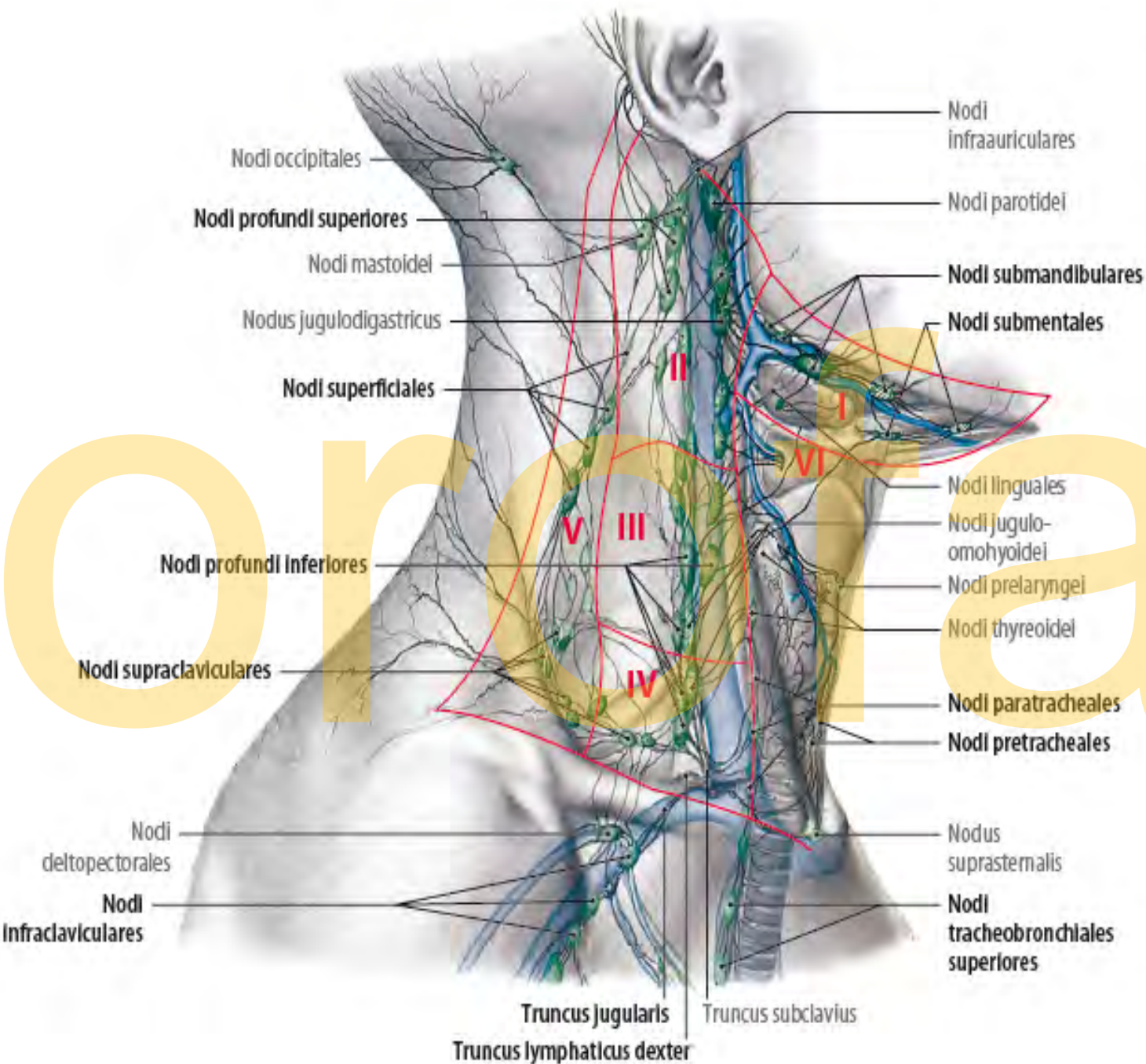


...n and CN IX, CN X, and CN XI as they
relationship of these cranial nerves to the
carotid sheath.



Obr. 14.9. Fissura scalenorum, trigonum scalenovertebrale a cervicotorakálný přechod. 1 – m. longus capitis, 2 – m. scalenus anterior a n. phrenicus, 3 – a. et v. vertebralis, 4 – truncus thyrocervicalis, 5 – n. vagus, 6 – plexus brachialis, 7 – a. thoracica interna, 8 – truncus subclavius dexter, 9 – m. sternohyoideus et m. sternothyroideus, 10 – v. brachiocephalica dextra, 11 – v. cava superior, 12 – v. brachiocephalica sinistra, 13 – v. subclavia sinistra, 14 – truncus subclavius sinister, 15 – ductus thoracicus, 16 – ansa subclavia, 17 – v. vertebralis, 18 – n. laryngeus recurrens, 19 – cupula pleurae, 20 – n. vagus, 21 – ganglion cervicale medium, 22 – n. phrenicus, 23 – ganglion vertebrale (odštěpený část ggl. cervicale medium)





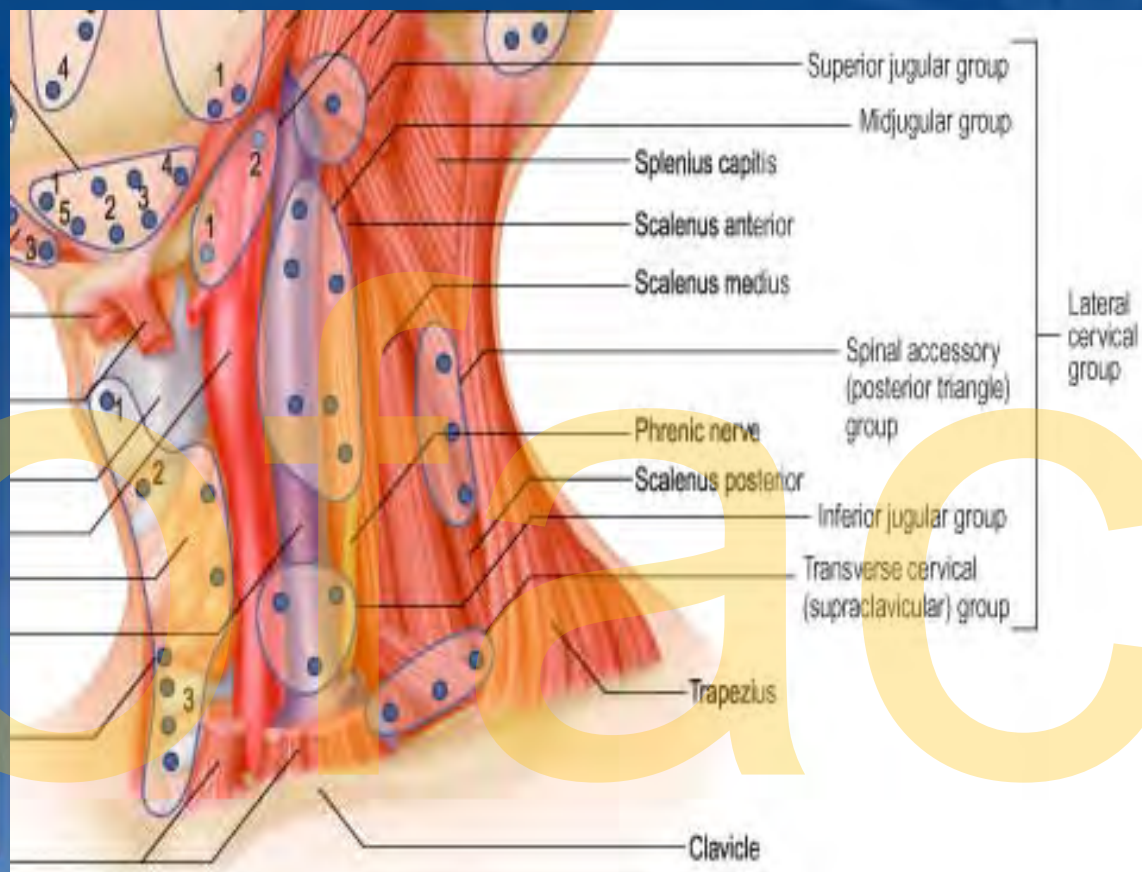
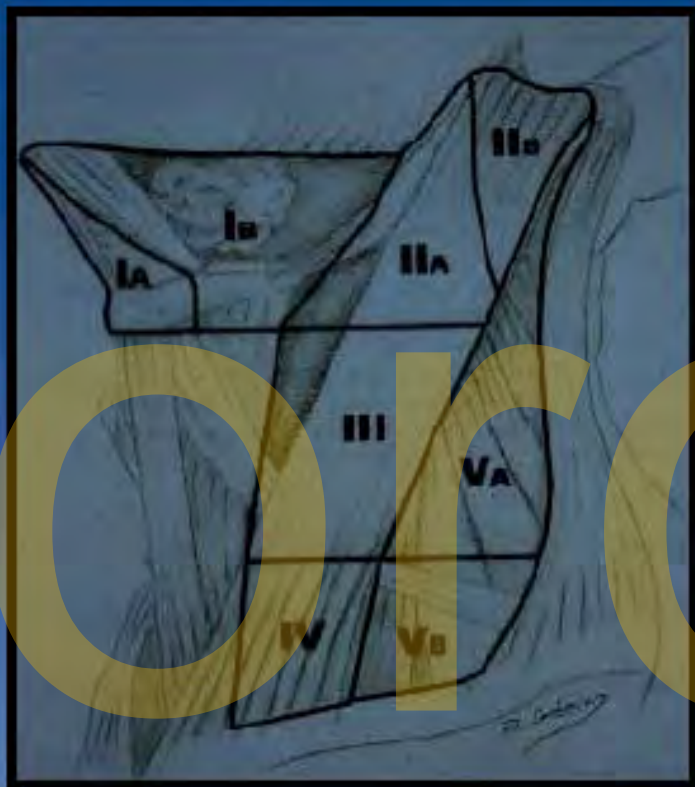
Nodi colli anteriores

- Nodi superficiales**
- Nodi profundi**
 - [Nodi infrahyoidei]
 - Nodi prelaryngei
 - Nodi thyreoides
 - Nodi pretracheales
 - Nodi paratracheales
 - [Nodi retropharyngeales]

Nodi colli laterales

- Nodi superficiales**
- Nodi profundi superiores**
 - Nodus jugulodigastricus
 - [Nodus lateralis]
 - [Nodus anterior]
- Nodi profundi inferiores**
 - Nodi juguloomohyoidei
 - [Nodus lateralis]
 - [Nodi anteriores]
- Nodi supraclaviculares**
- [Nodi accessorii]
- [Nodi retropharyngeales]
- [] nicht sichtbar

Clinical classification of neck lymph nodes



Clinical classification of neck lymphatic nodes: I - VI

Nodi lymphatici out of regiones above:

Perifacial, periparotid, retroauricular, suboccipital, retropharyngeal

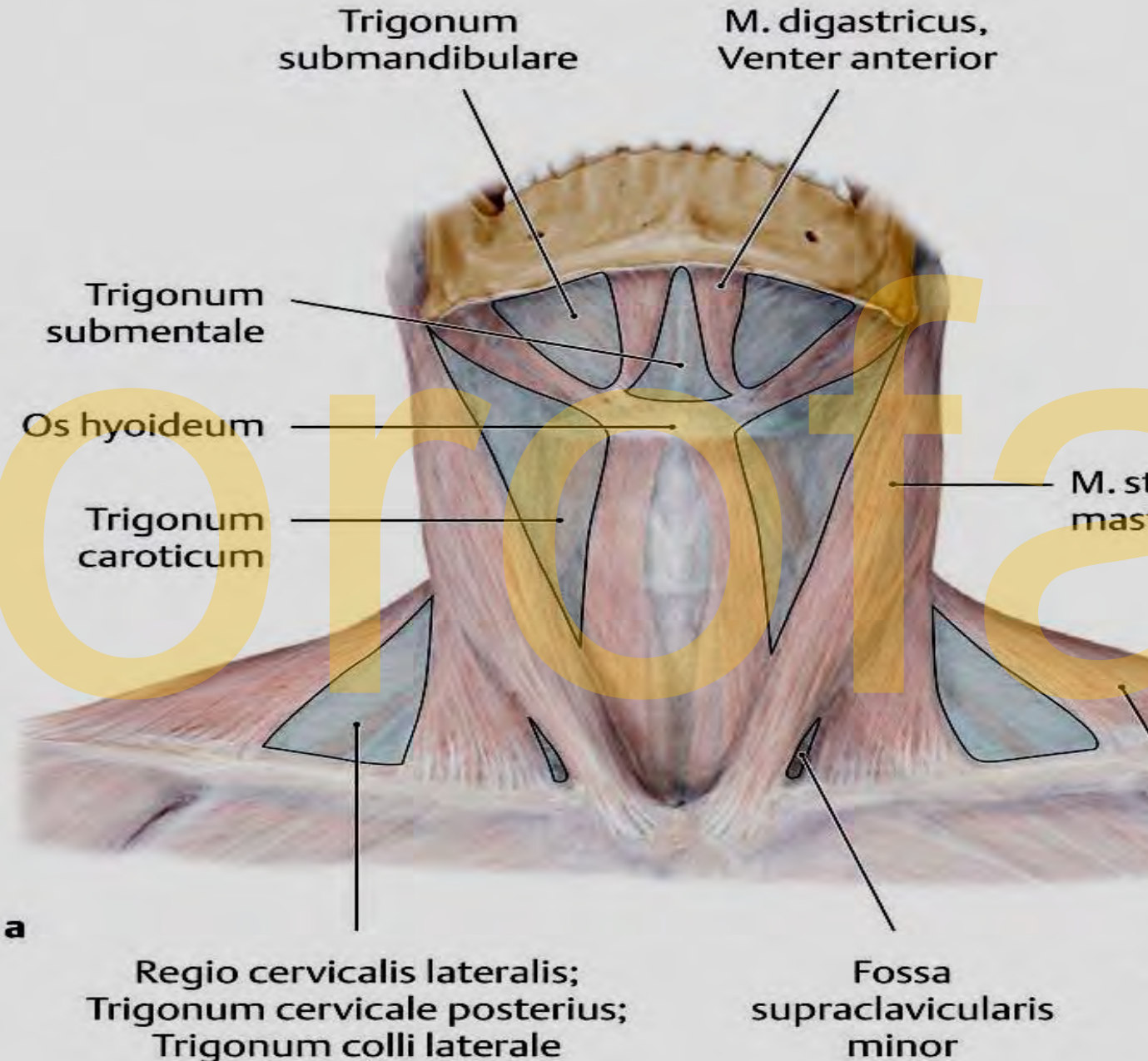


Metastasa
v krčných
uzlinách

Metastasis
in cervical
lymphonodi

TOPOGRAPHIC REGIONS and SPACES

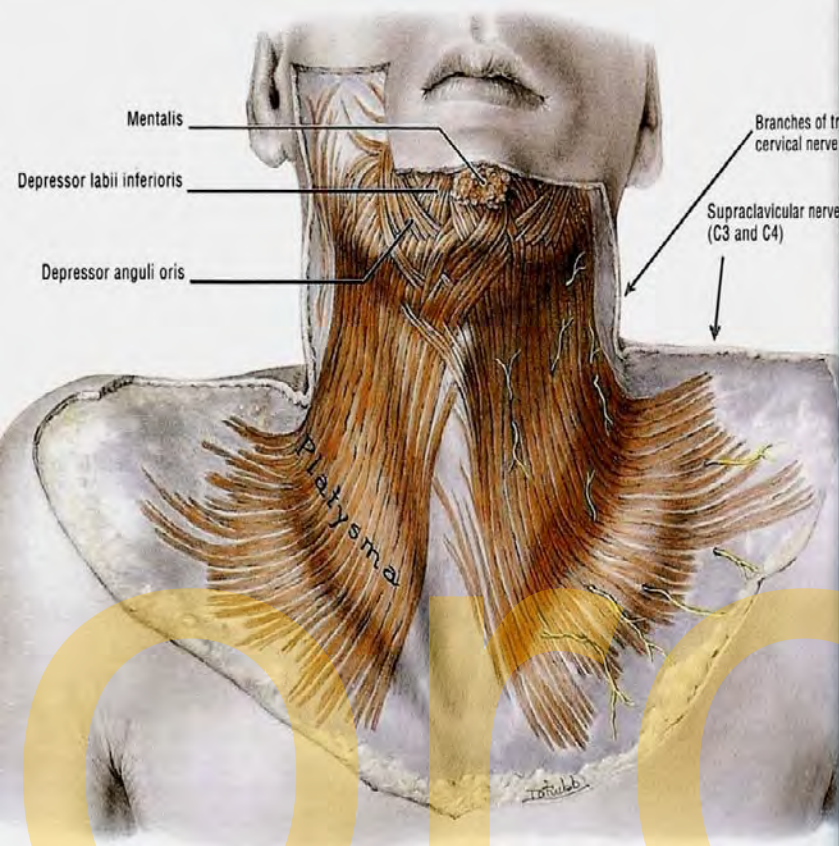
Regio colli anterior anterior neck triangle



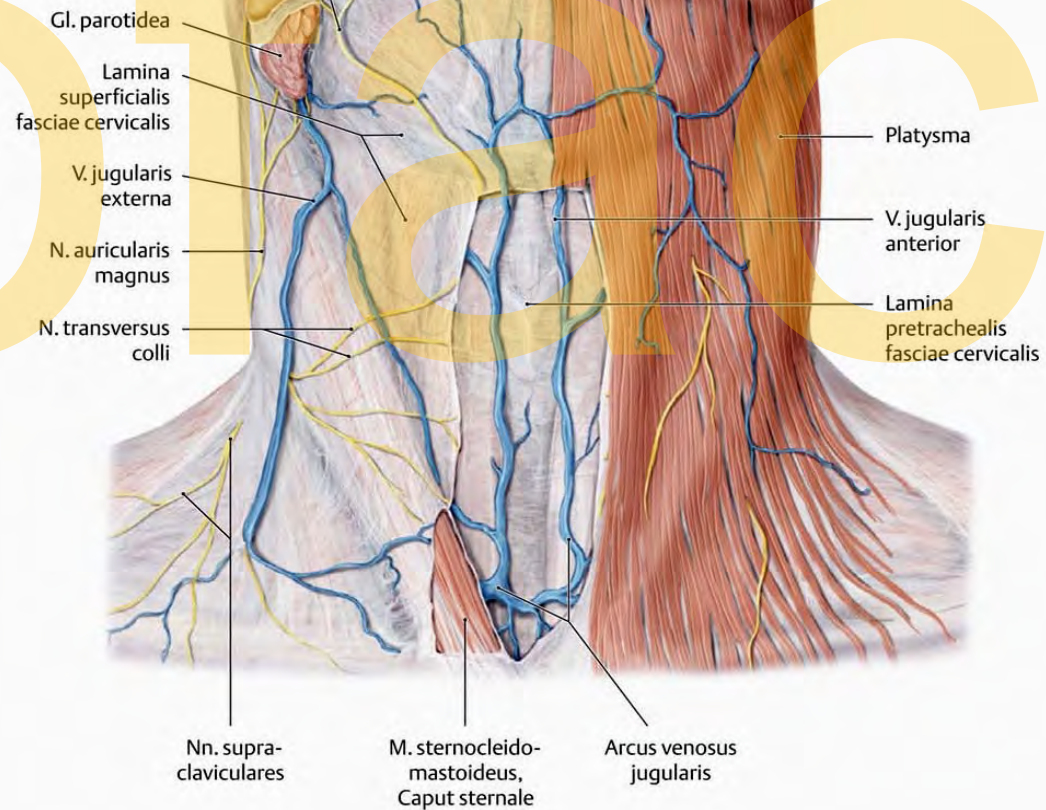
Trigonae :
submentale,
submandibulare,
caroticum
(musculare), regio
suprasternalis

Triangles :
submental,
submandibular,
carotic (muscular),
suprasternal region

- ❖ podkožní sval
- ❖ na povrchové krční fascii
- ❖ r. colli nervi facialis
- ❖ ovládá napětí kůže krku

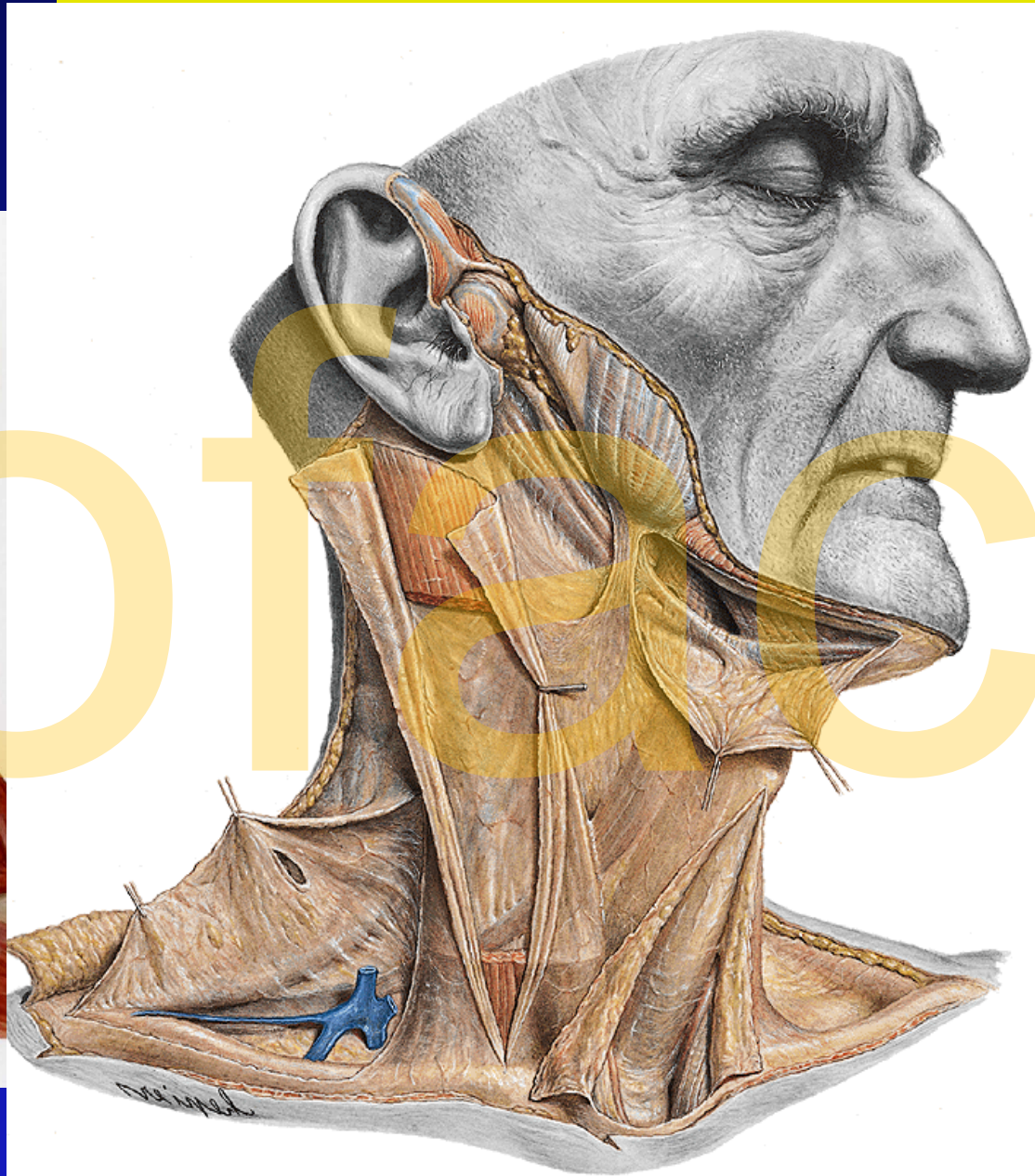
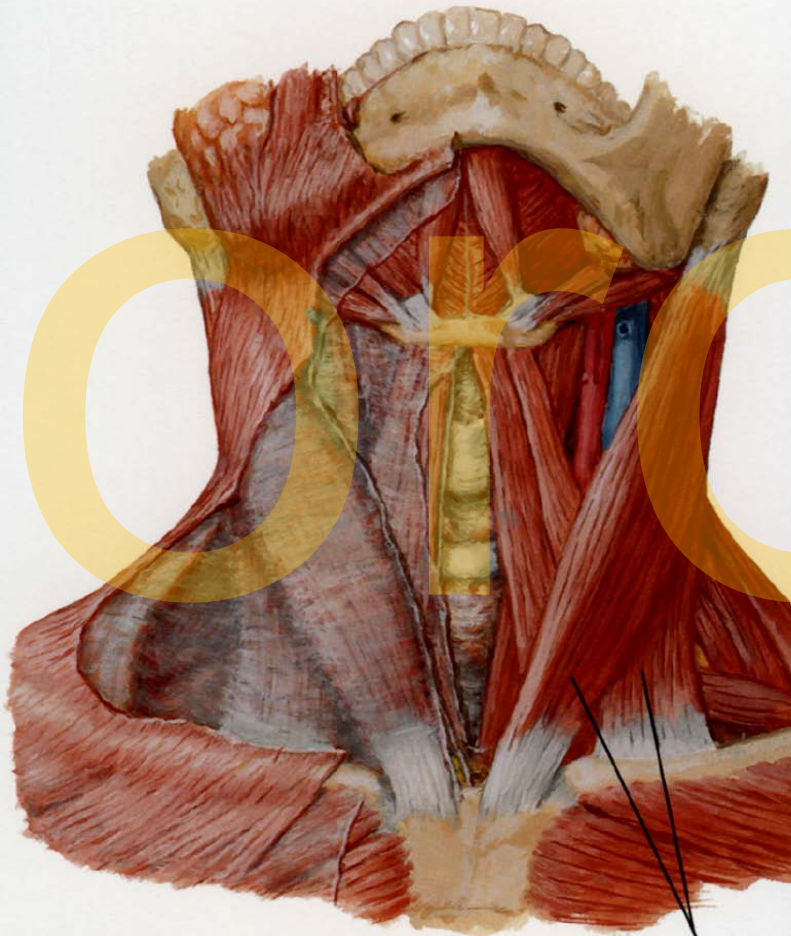


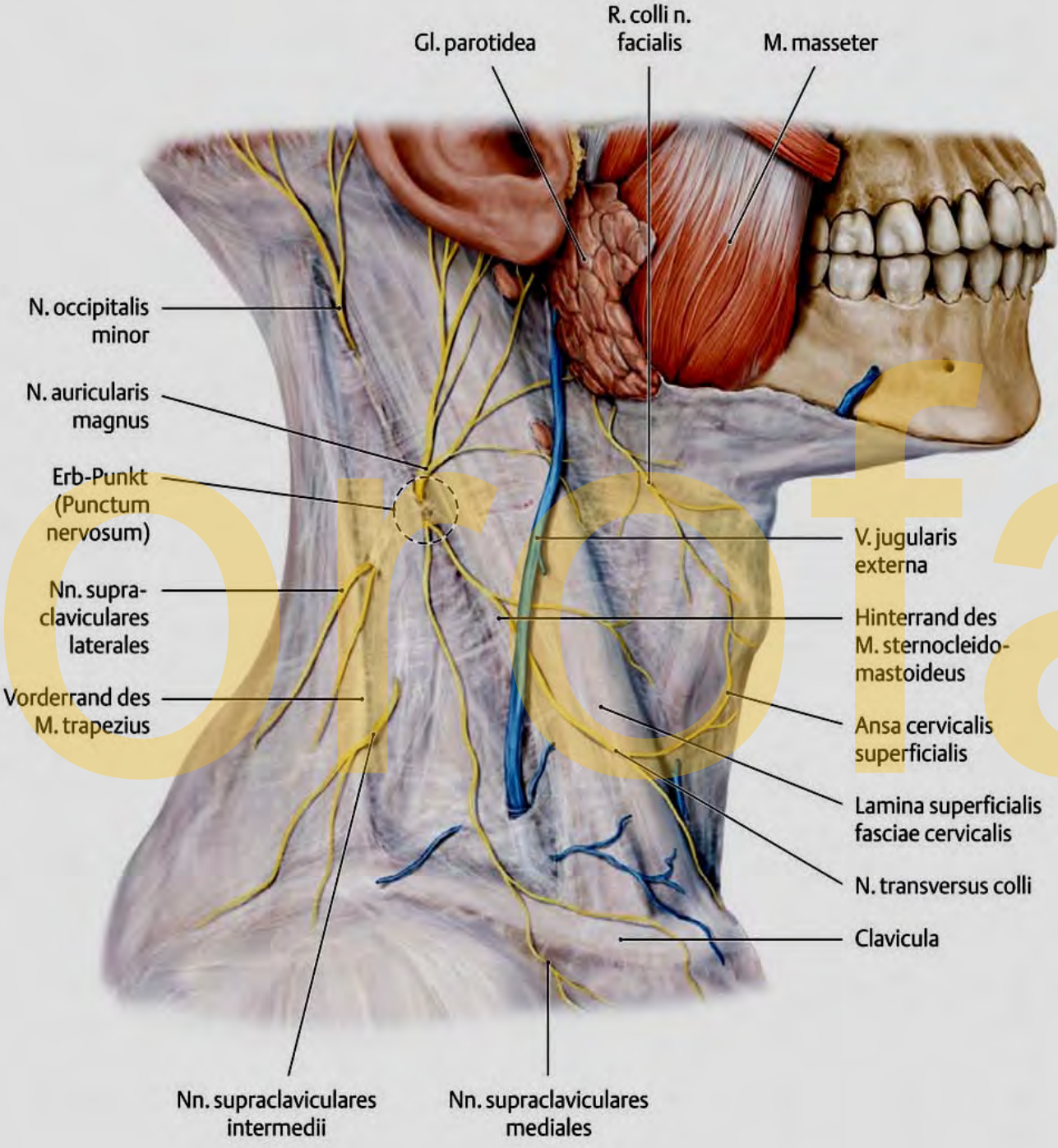
Platysma



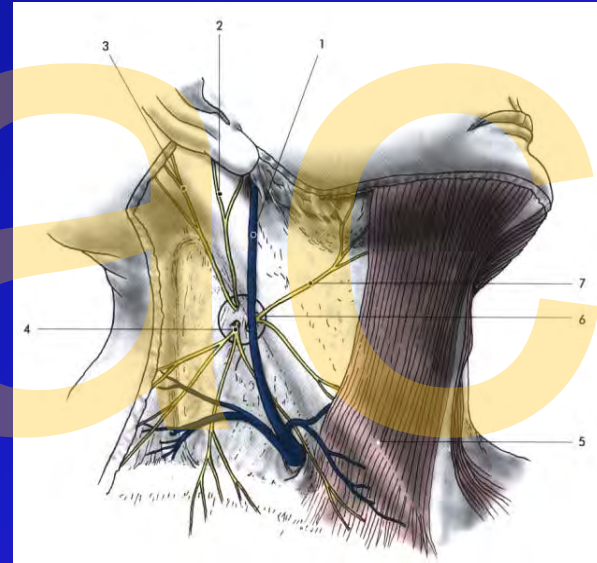
proc. mastoideus
manubrium sterni, clavicula
n.accessorius (XI) + branches
from plexus cervicalis

Sternocleidomastoid m.

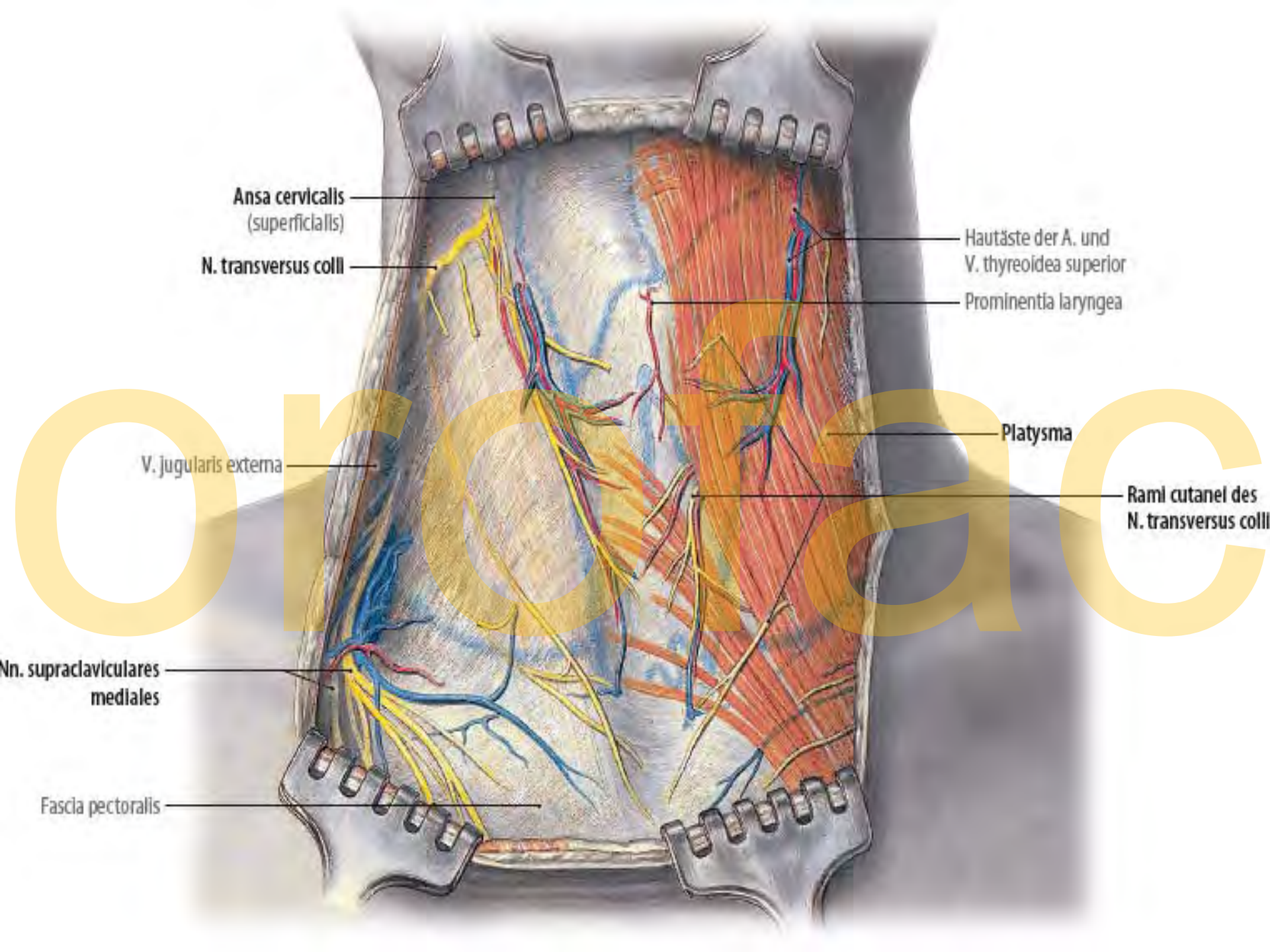




Punctum nervosum
 (Erb 's point) : there
C5 and C6 nerves are
 connected, + branches from
 suprascapulari and subclavian nerves



Wilhelm Heinrich
Erb (1840 - 1921),
 German neurologist



Ansa cervicalis
(superficialis)

N. transversus colli

V. jugularis externa

Nn. supraclaviculares
mediales

Fascia pectoralis

Hautäste der A. und
V. thyroidea superior

Prominentia laryngea

Platysma

Rami cutanei des
N. transversus colli

A. und V. thyroidea superior

V. Jugularis Interna

Ansa cervicalis (profunda)

M. omohyoideus

M. sternohyoideus

V. Jugularis anterior

Vv. thyroideae imae

Ansa cervicalis (superficialis)

N. transversus colli

Lamina media = pretrachealis der Fascia colli

Caput sternale

Caput claviculare

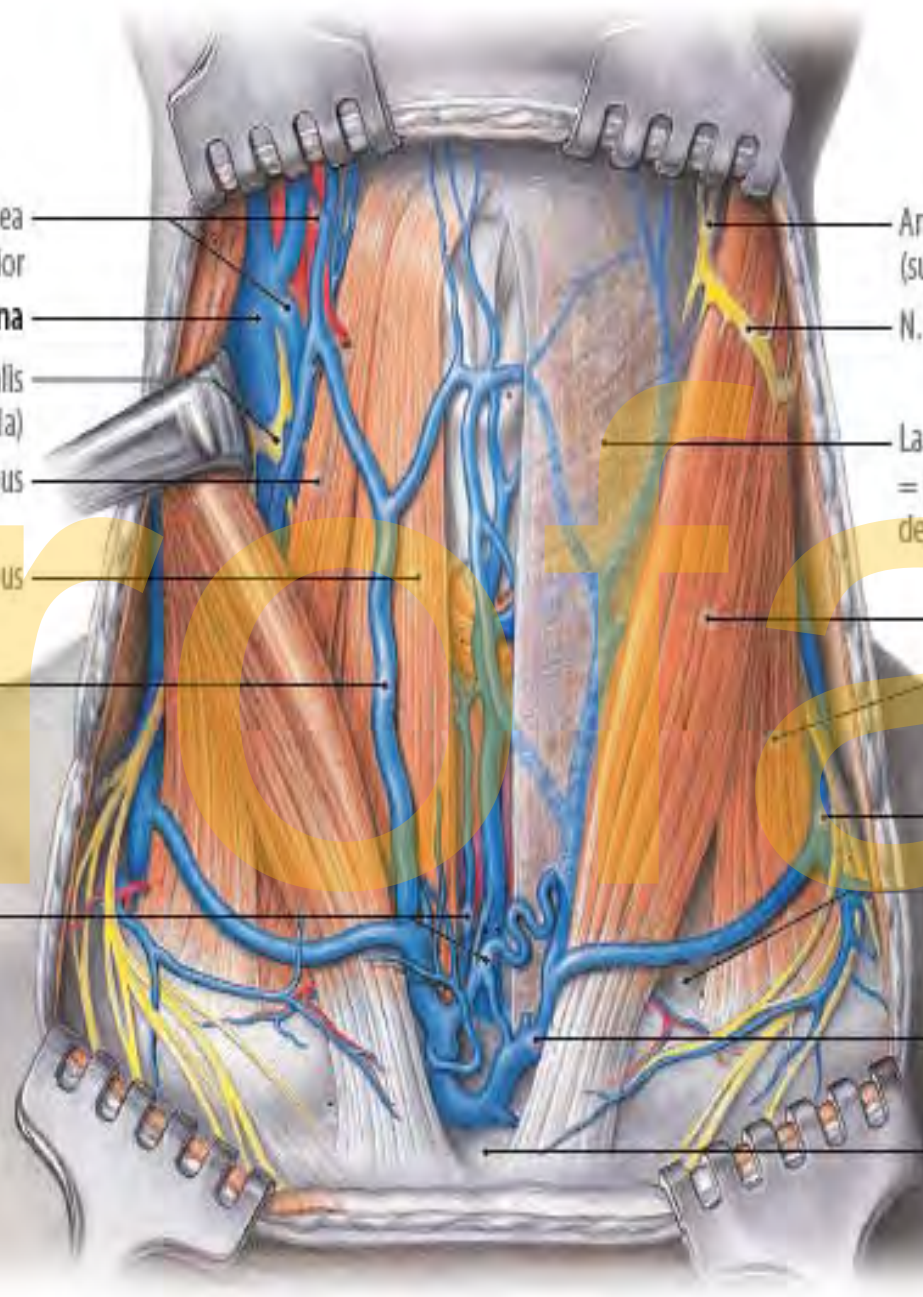
M. sternocleidomastoideus

V. Jugularis externa

Fossa supraclavicularis minor

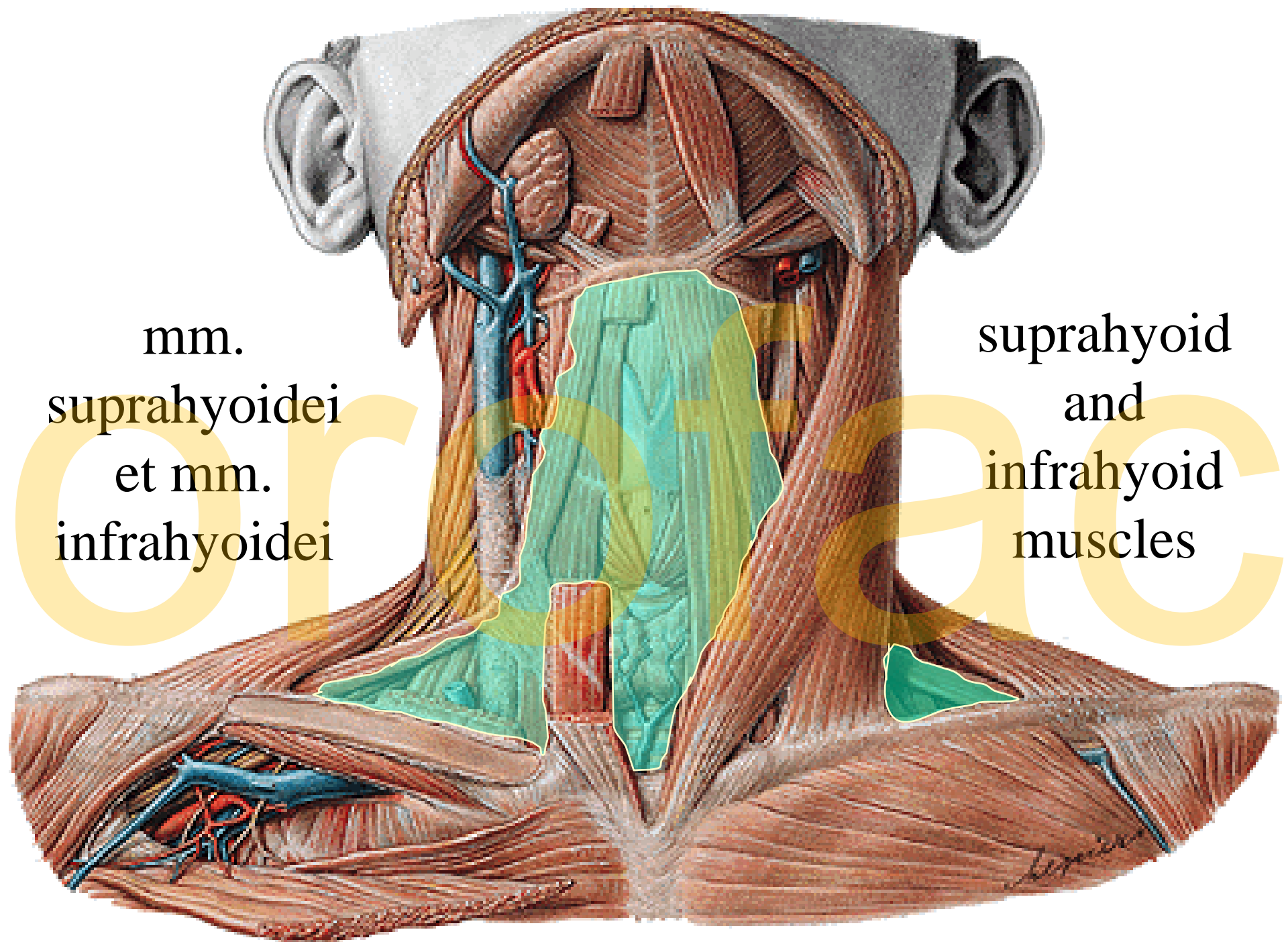
Arcus venosus Jugularis

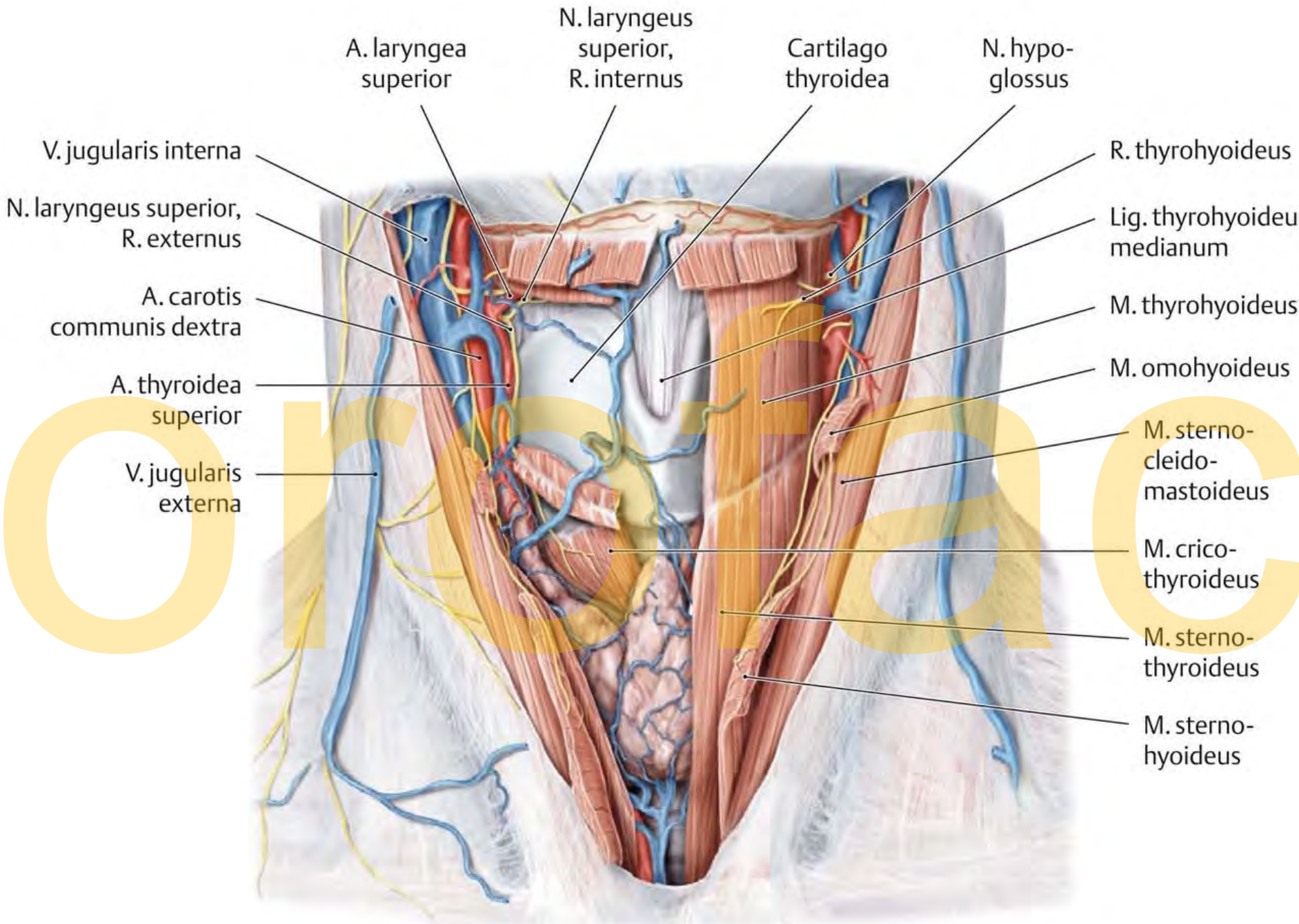
Incisura Jugularis sterni



mm.
suprahyoidei
et mm.
infrahyoidei

suprahyoid
and
infrahyoid
muscles





A. laryngea superior

N. laryngeus superior, R. internus

Cartilago thyroidea

N. hypoglossus

V. jugularis interna

R. thyrohyoideus

N. laryngeus superior, R. externus

Lig. thyrohyoideum medianum

A. carotis communis dextra

M. thyrohyoideus

A. thyroidea superior

M. omohyoideus

V. jugularis externa

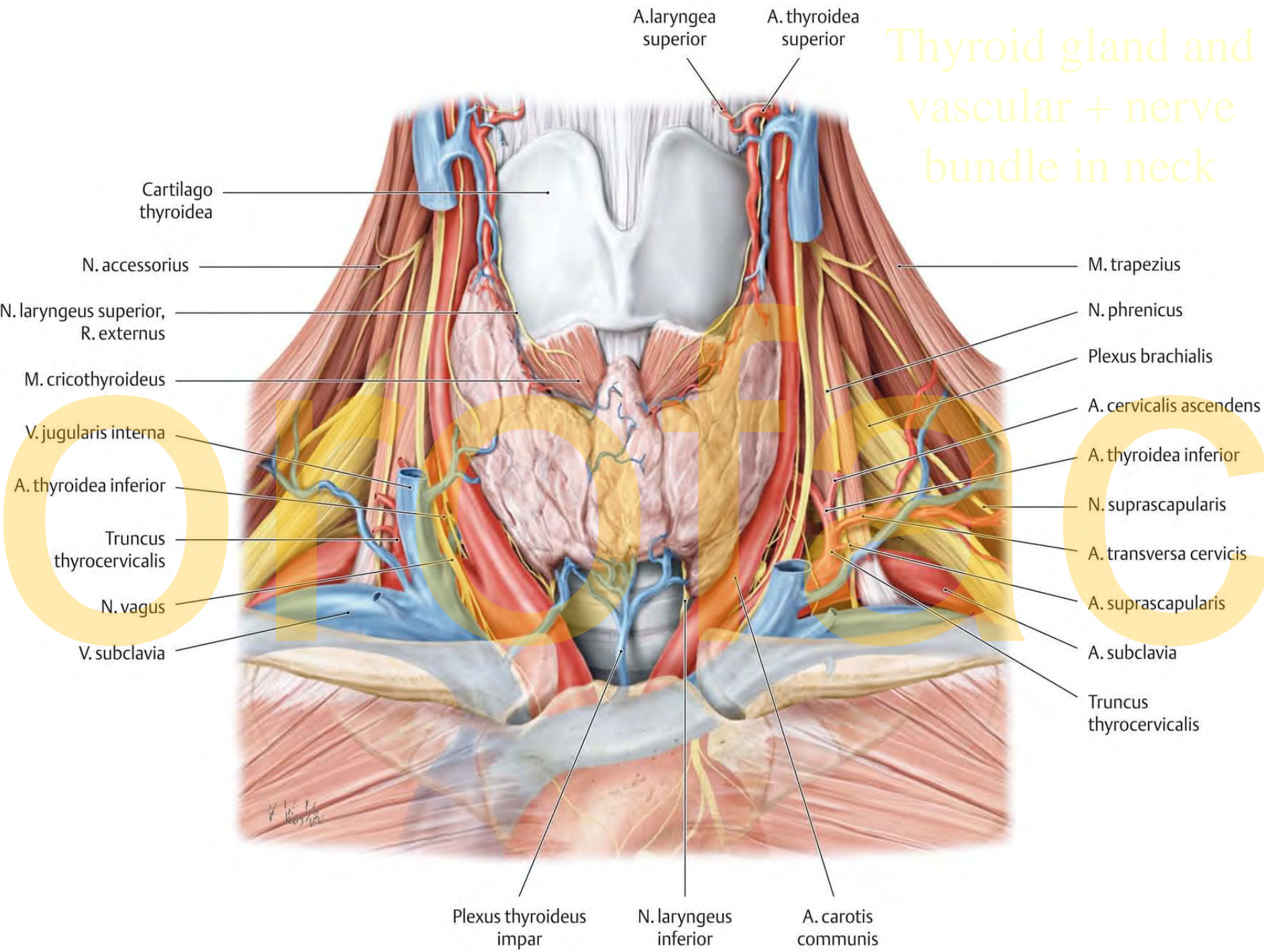
M. sternocleidomastoideus

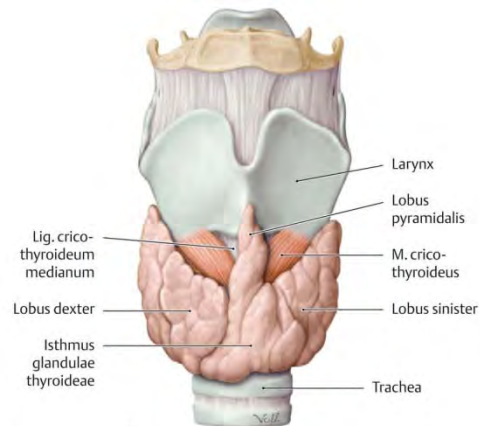
M. cricothyroideus

M. sternothyroideus

M. sternohyoideus

Thyroid gland and vascular + nerve bundle in neck





hyoidea superior

A. thyroidea inferior

Truncus thyro-cervicalis

N. laryngeus recurrens dexter

A. carotis externa

A. carotis interna

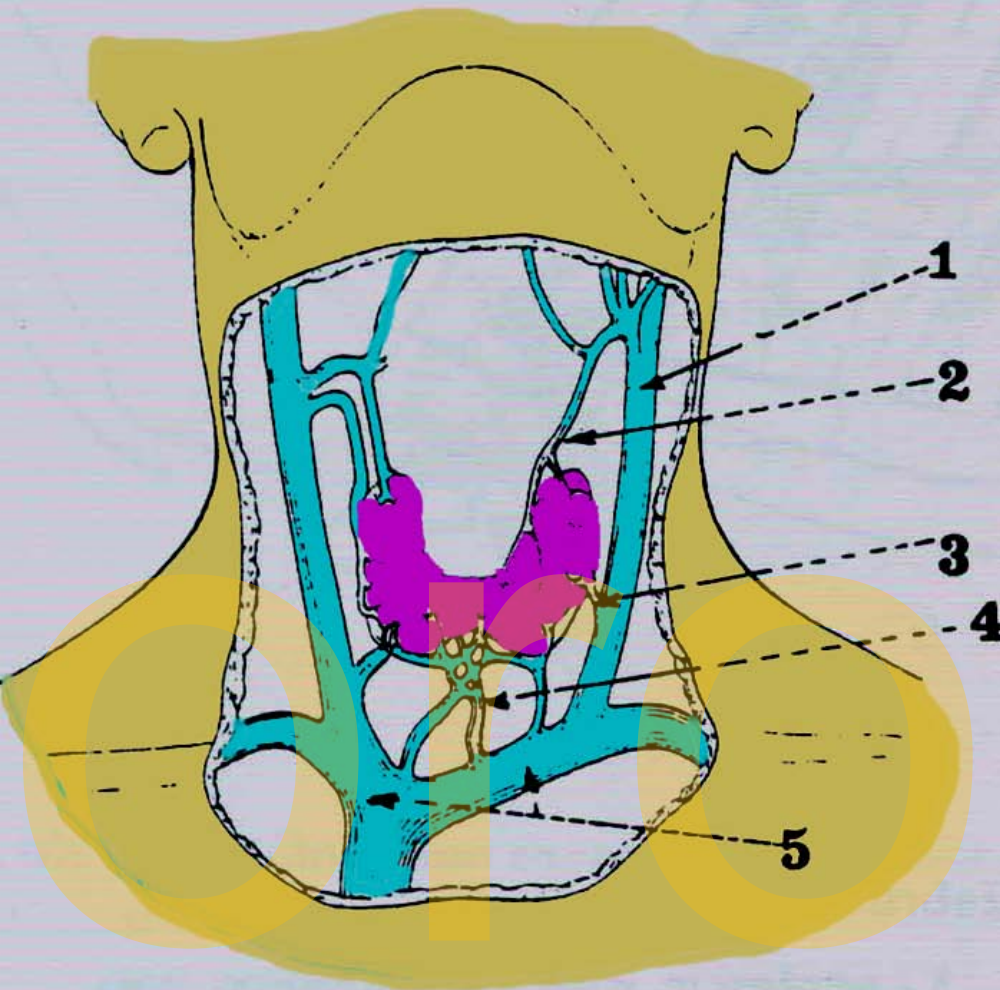
N. vagus

N. laryngeus inferior

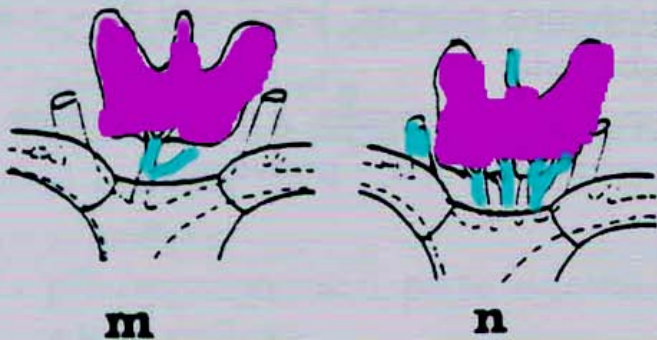
N. laryngeus recurrens sinister

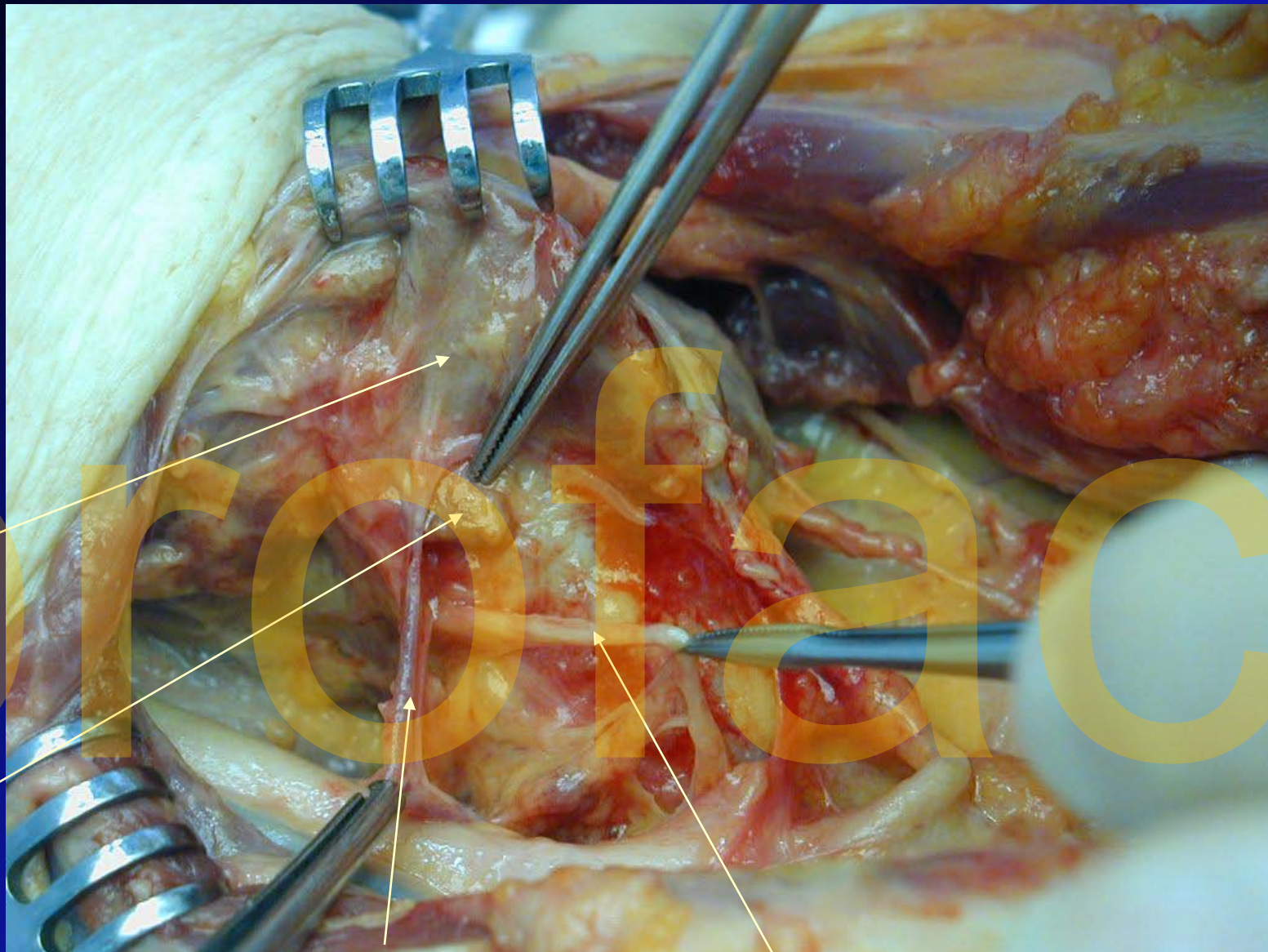
a

Žíly veins



- 1 - v. jugularis interna
 - 2 - v. thyroidea sup.
 - 3 - v. thyroidea media
 - 4 - plexus thyroideus impar (vv. thyroideae inferiores)
 - 5 - vv. brachiocephalicae
- Variabilita vv. thyroideae inferiores (důležité i pro tracheotomii)
- m - odtok představovaný jednou vénou
n - až několika vénami

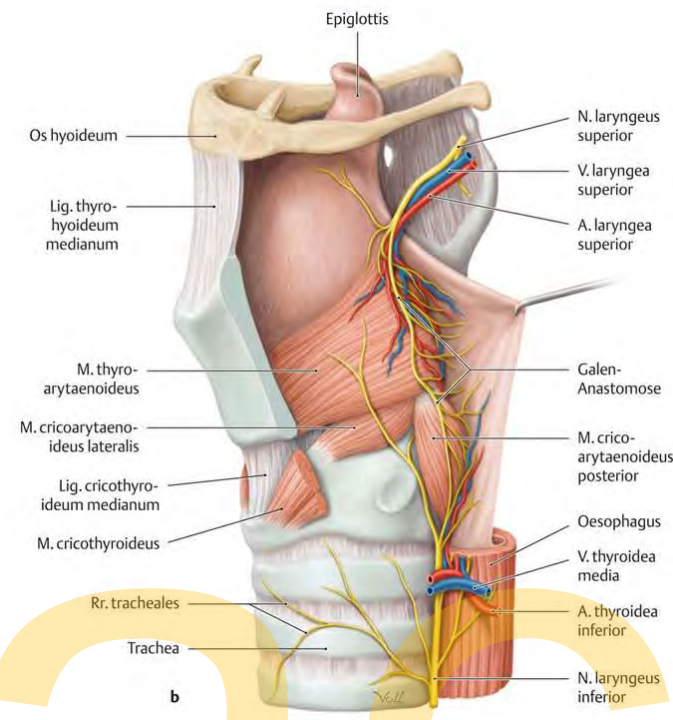
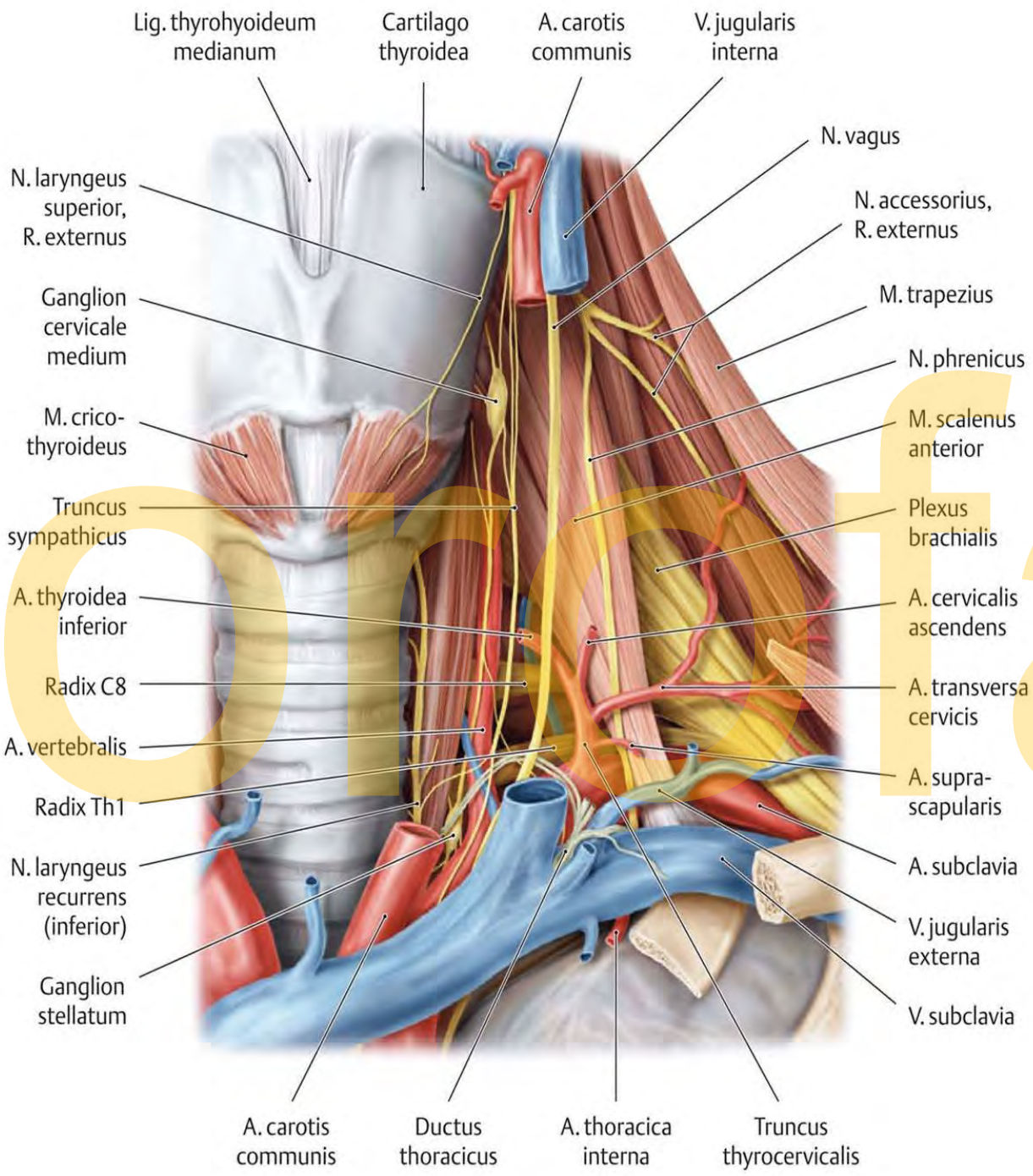




štítná
žláza

příštitné
tělísko

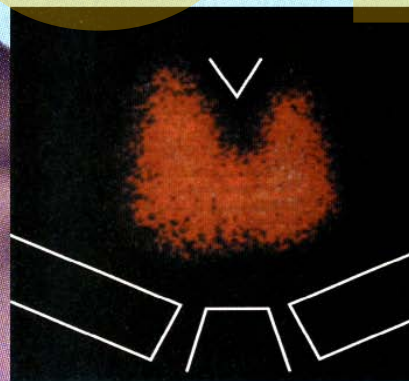
a. thyroidea inferior n. laryngeus inferior
(z n.reccurens)



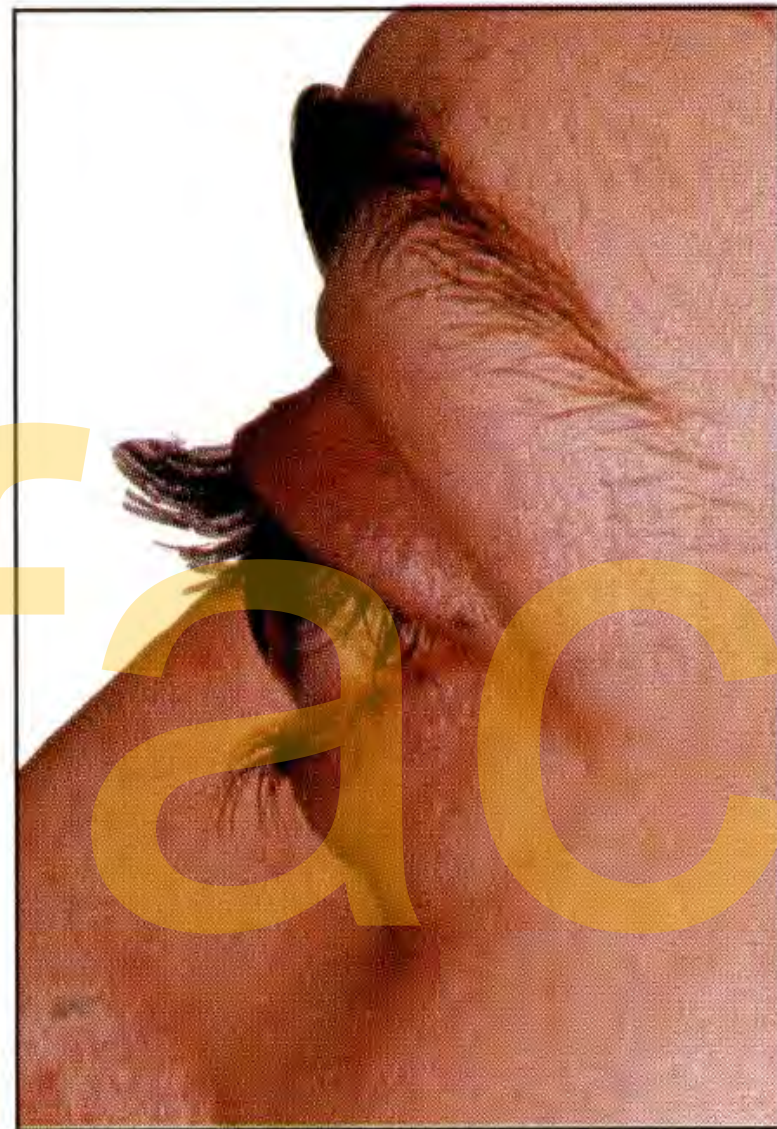
Prostor a struktury
za štítnou žlázou
Space and
structures dorsally
of thyroid gland
lobe



Goiter

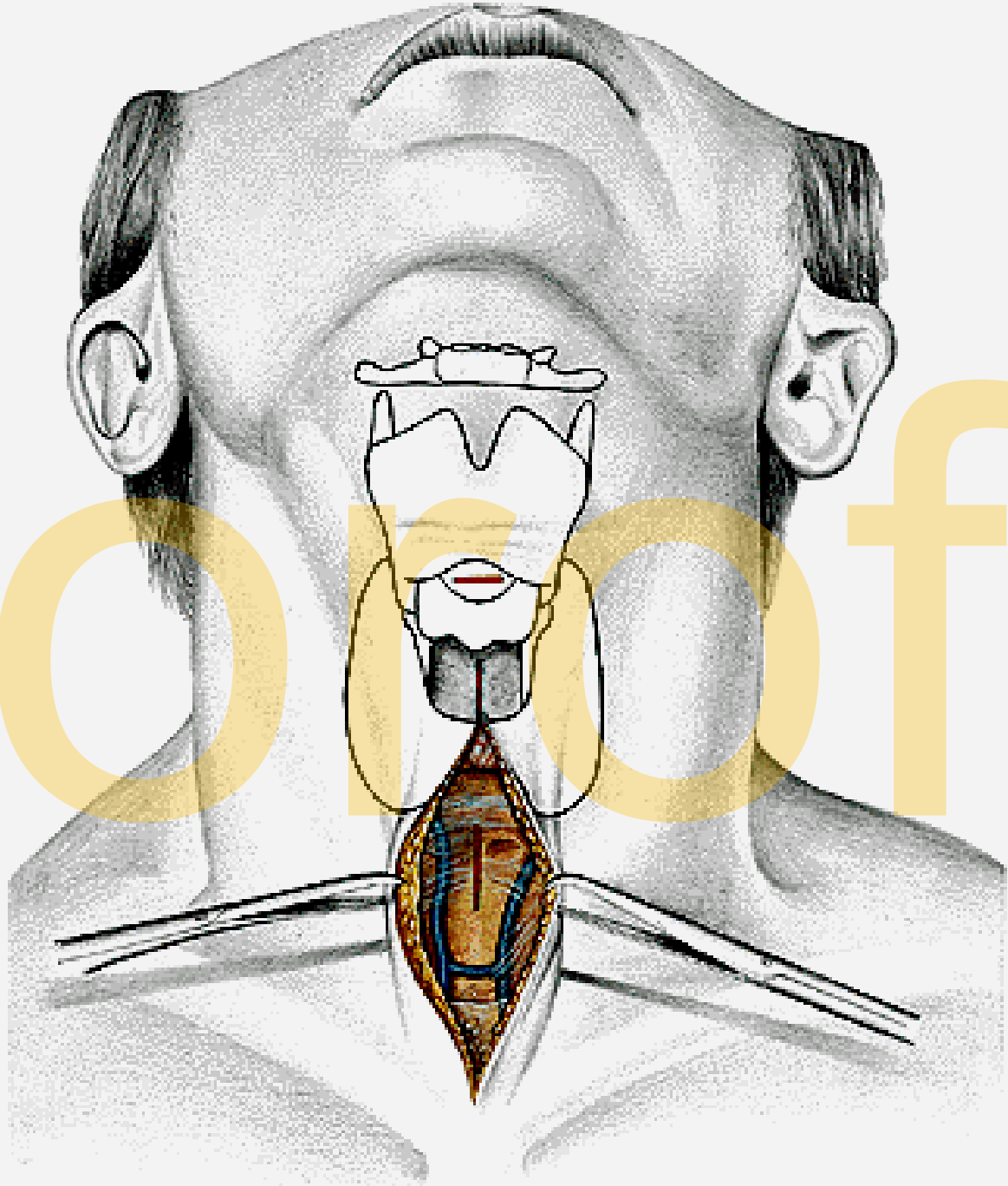


(B) Scintigram showing diffuse, enlarged thyroid gland

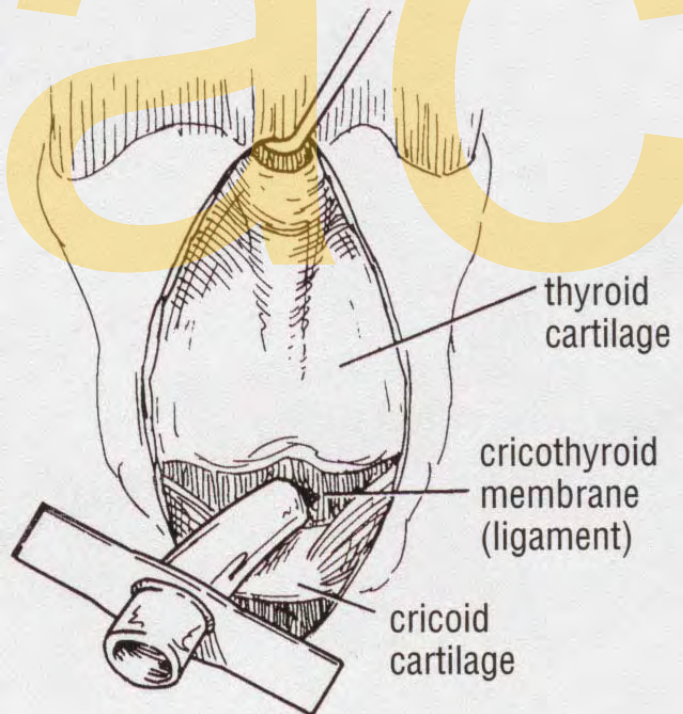


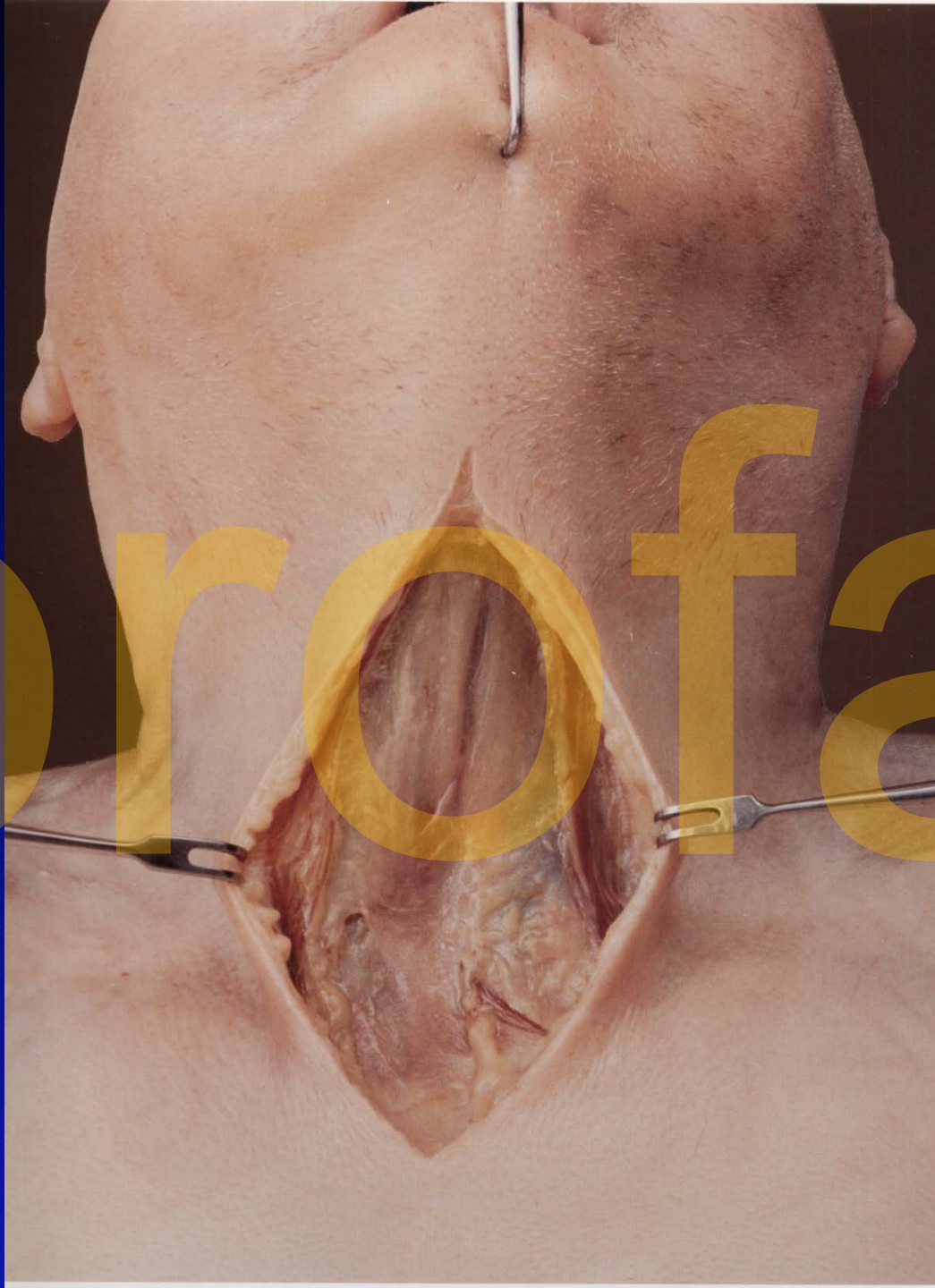
Appearance of the eyes in hyperthyroidism – proptosis, lid retraction, chemosis

A)



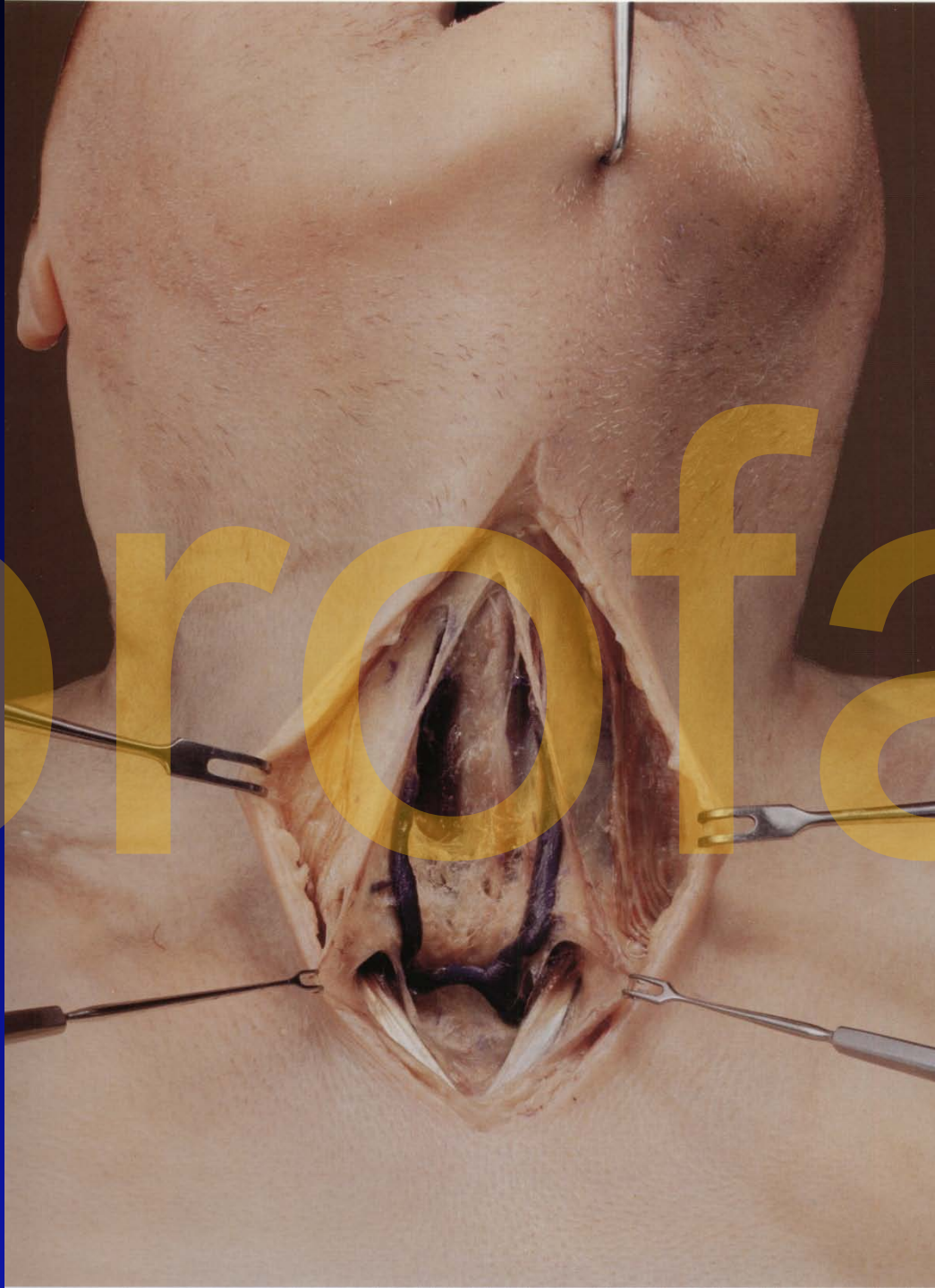
koniotomy
tracheostomy





Fascia superficialis
Investing fascia

oro-facial



Fascia superficialis
Investing fascia

Prot'ata
cut



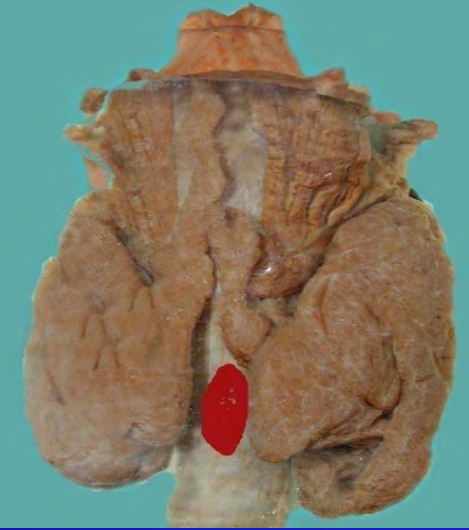
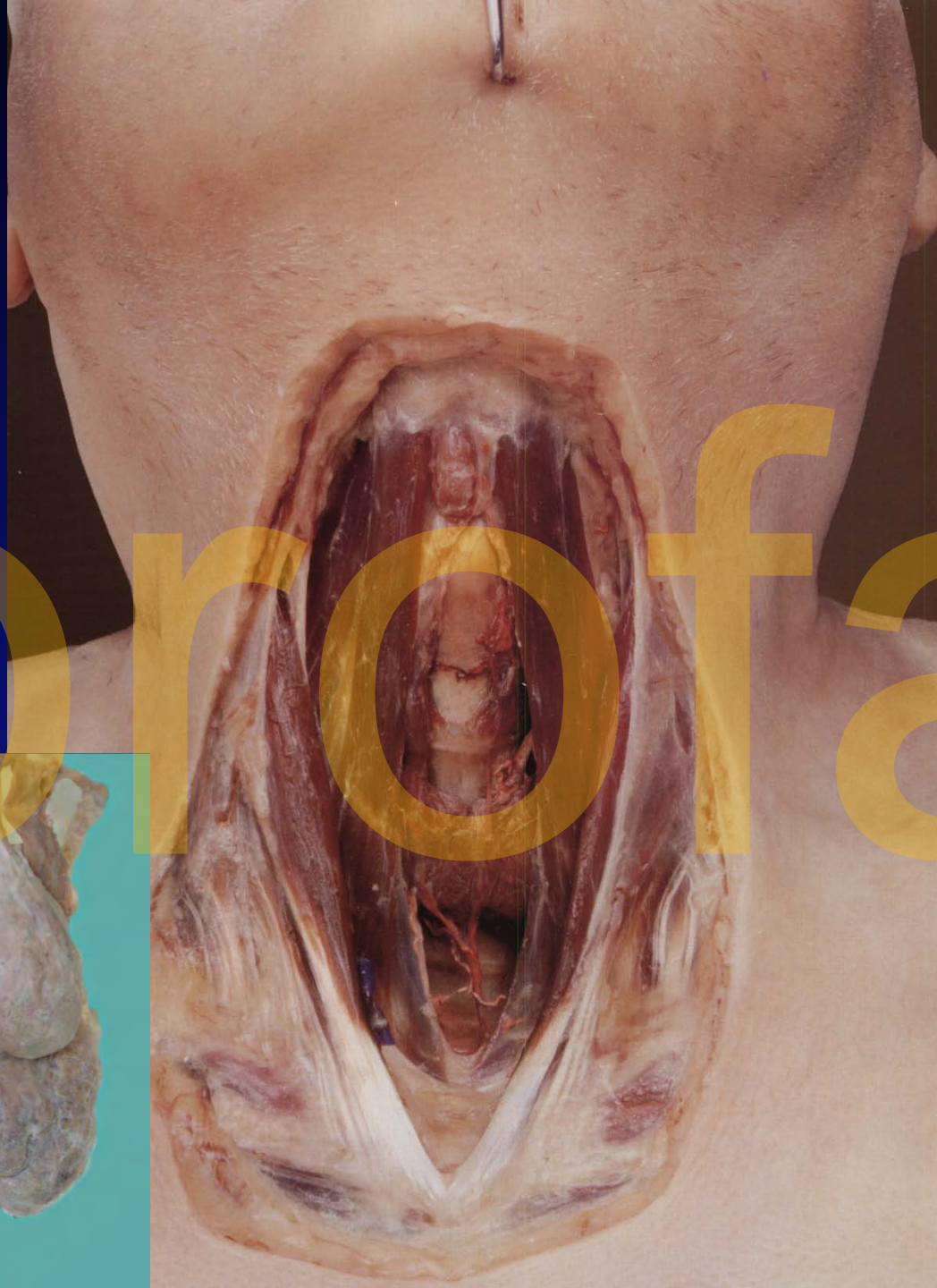
Fascia pretrachealis
Pretracheal fascia

S otvorem
windowed



Fascia pretrachealis
pretracheal fascia

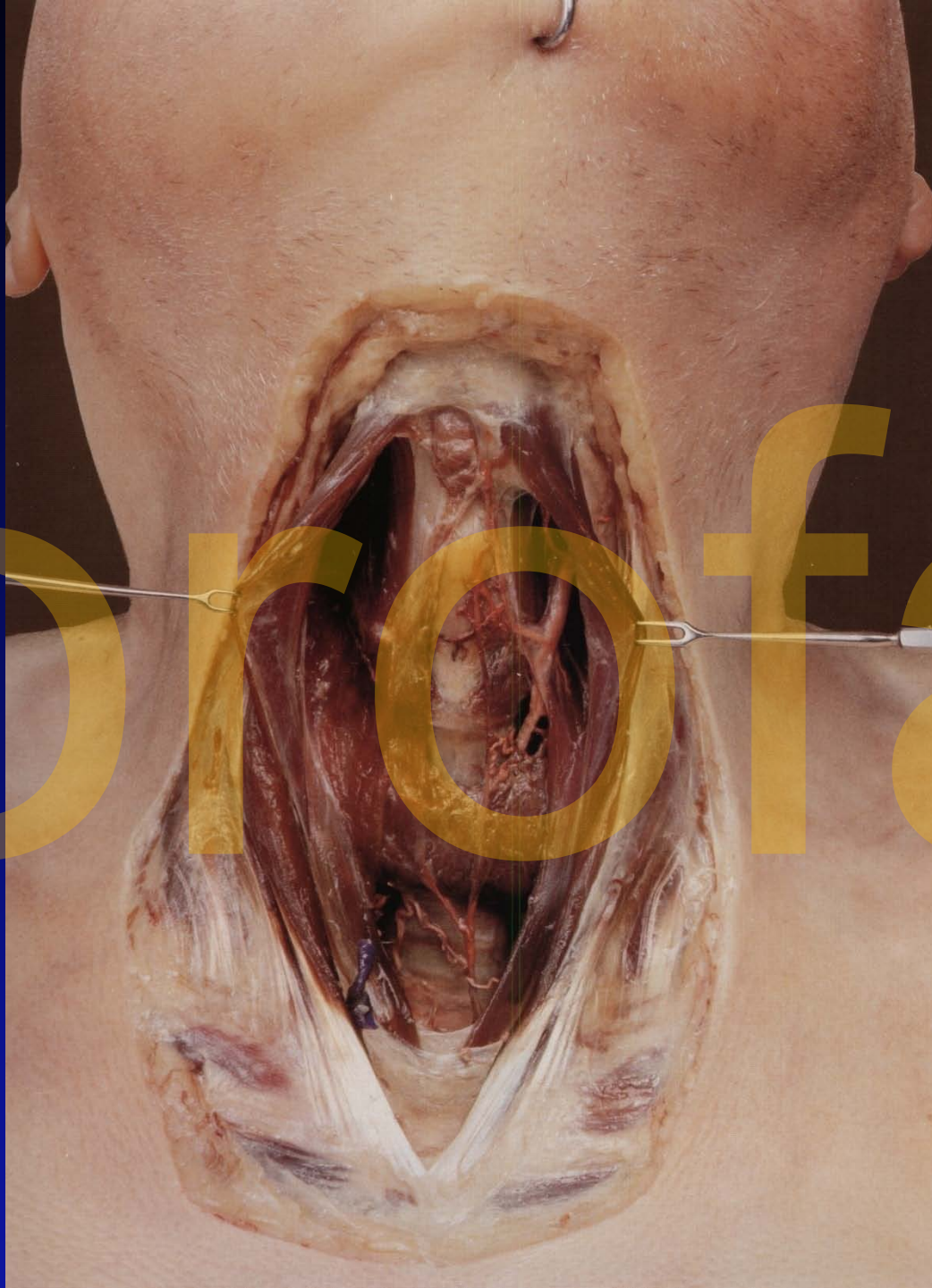
Široce otevřena
Widely cut



Isthmus gl.
thyroideae

Thyroid gland
isthmus



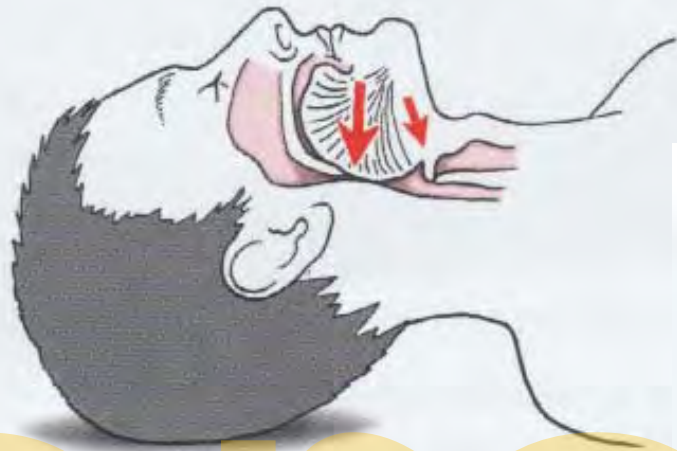


a. thyroidea superior

Superior thyroid a.

Tracheální chrupavky

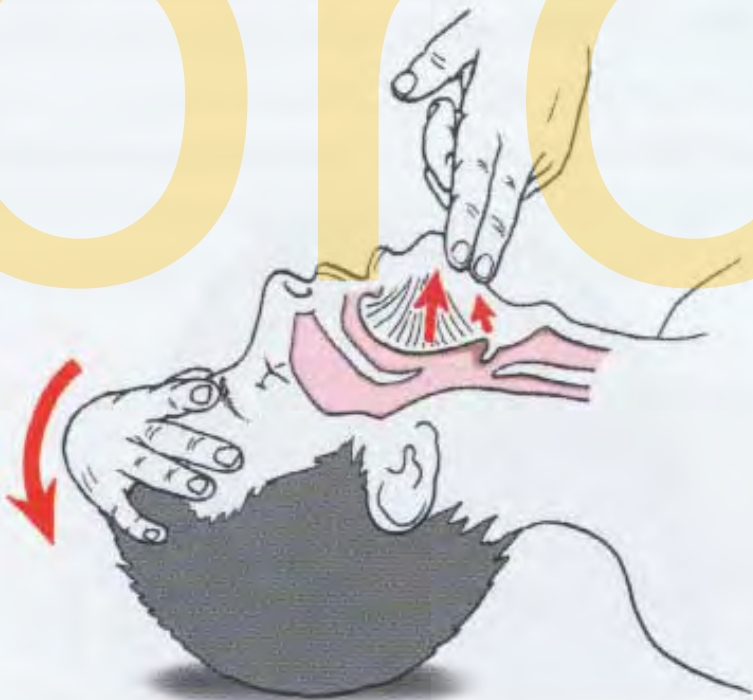
Tracheal rings



Esmarch manœuvre

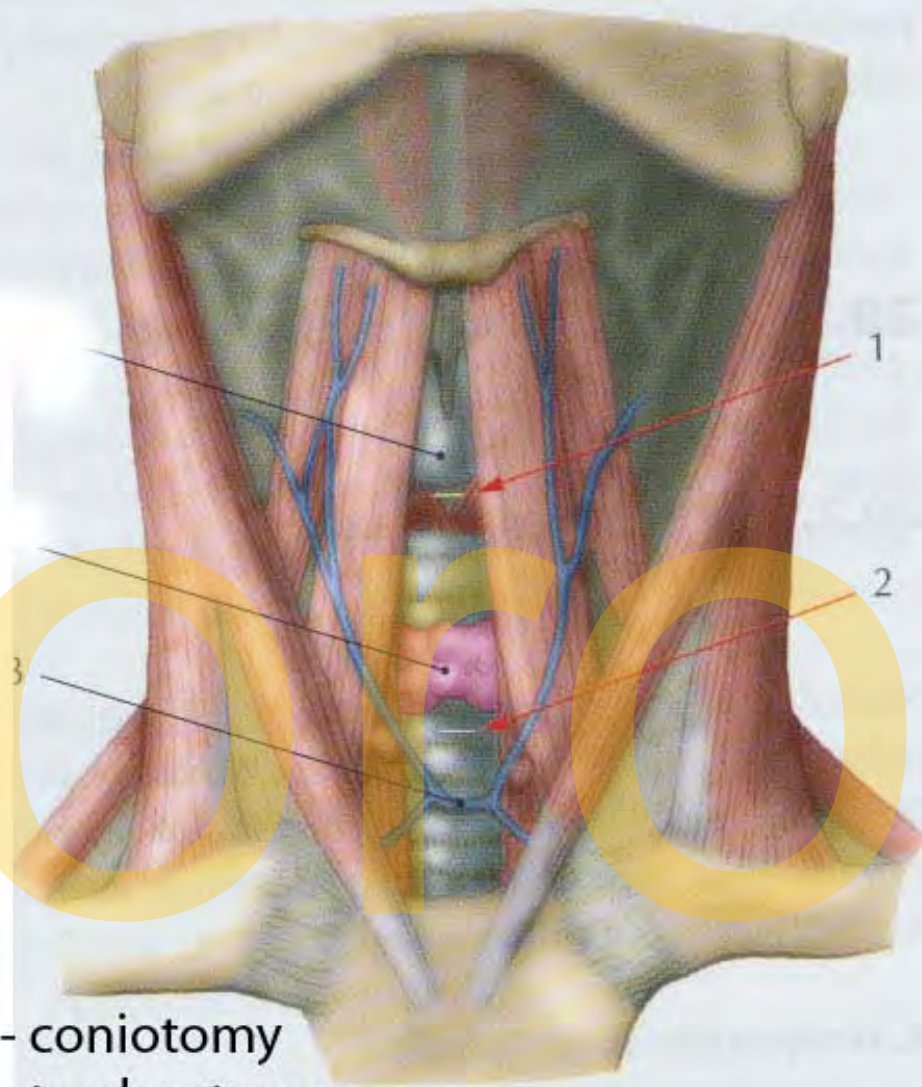


helps to open laryngeal vestibule



oro

fac



- 1 - cricoid cartilage
- 2 - trachea
- 3 - jugular venous arch

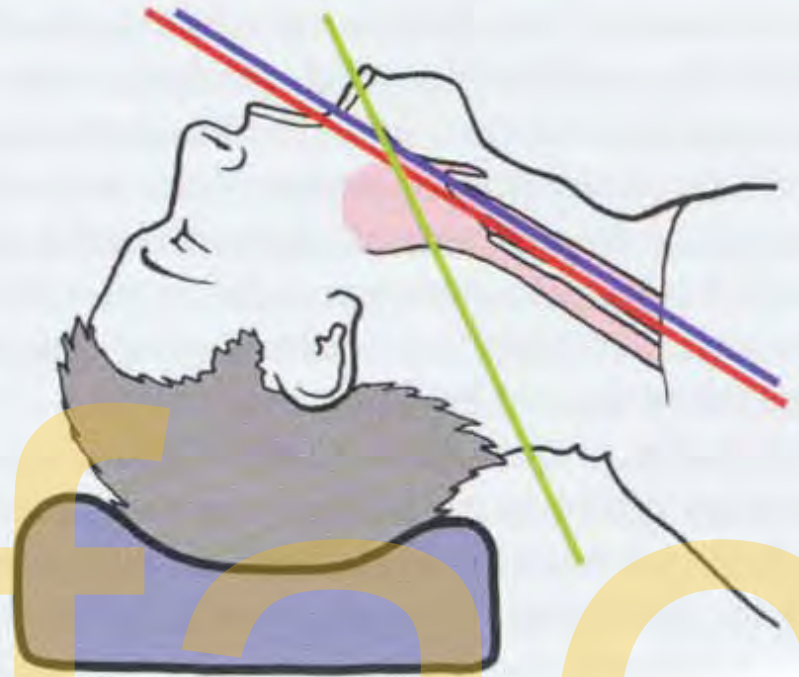
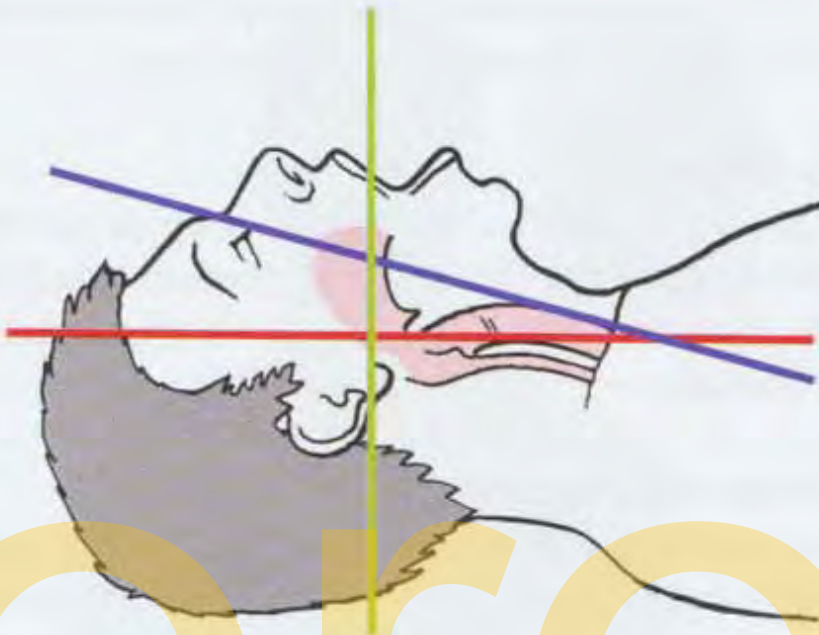
what it is cut through intubation

Obregion
where
koniotomy
and
tracheotomy
can be made



Sellick manoeuvre

helps us to compress esophagus!
no aspiration

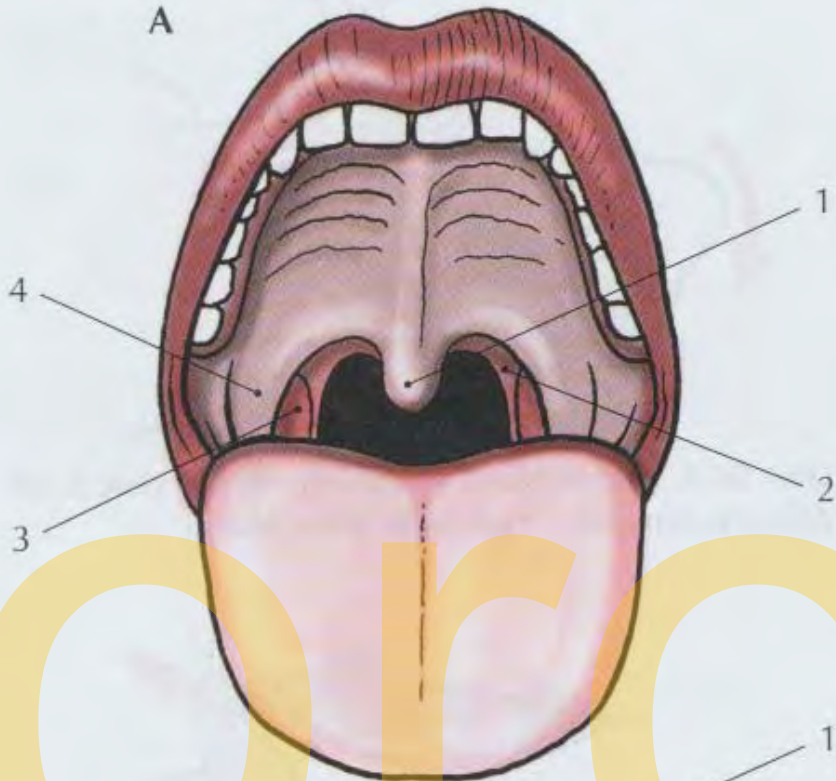


Position for intubation procedure

Poloha pro intubaci

Intubation position

A



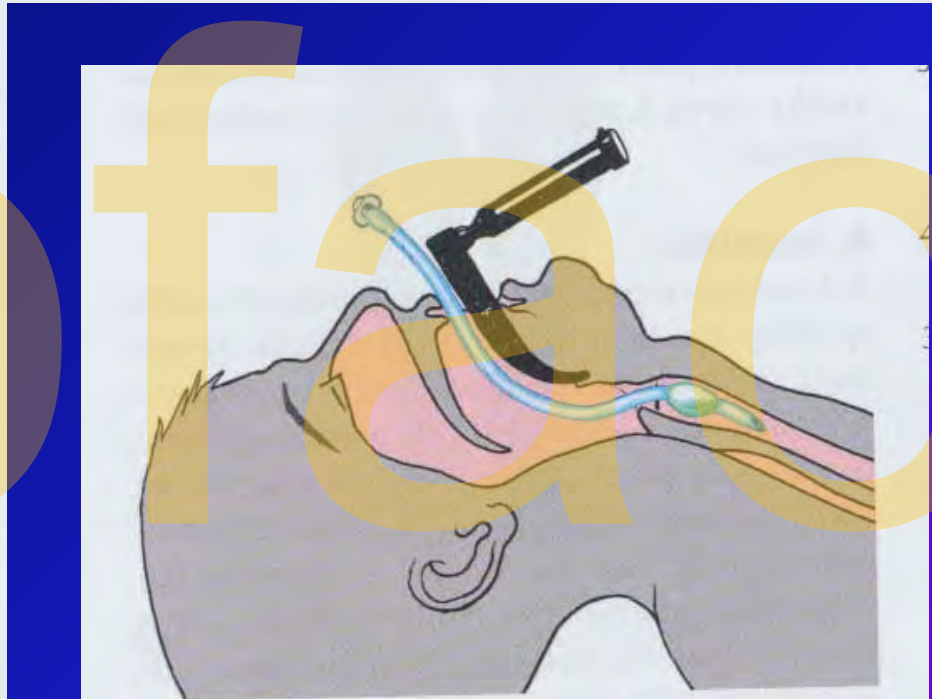
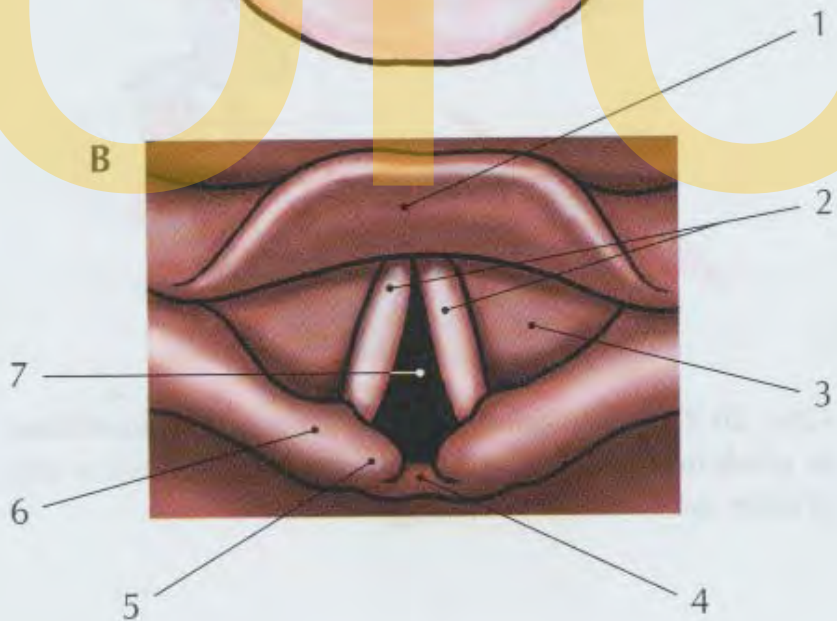
A

- 1 – patrový čípek
- 2 – arcus palatopharyngeus
- 3 – tonsilla palatina
- 4 – arcus palatoglossus

B

- 1 – epiglottis
- 2 – plicae vocales
- 3 – plica vestibularis
- 4 – incisura interarytenoidea
- 5 – tuberculum corniculatum
- 6 – tuberculum cuneiforme
- 7 – hlasivková štěrbina (rima glottidis)

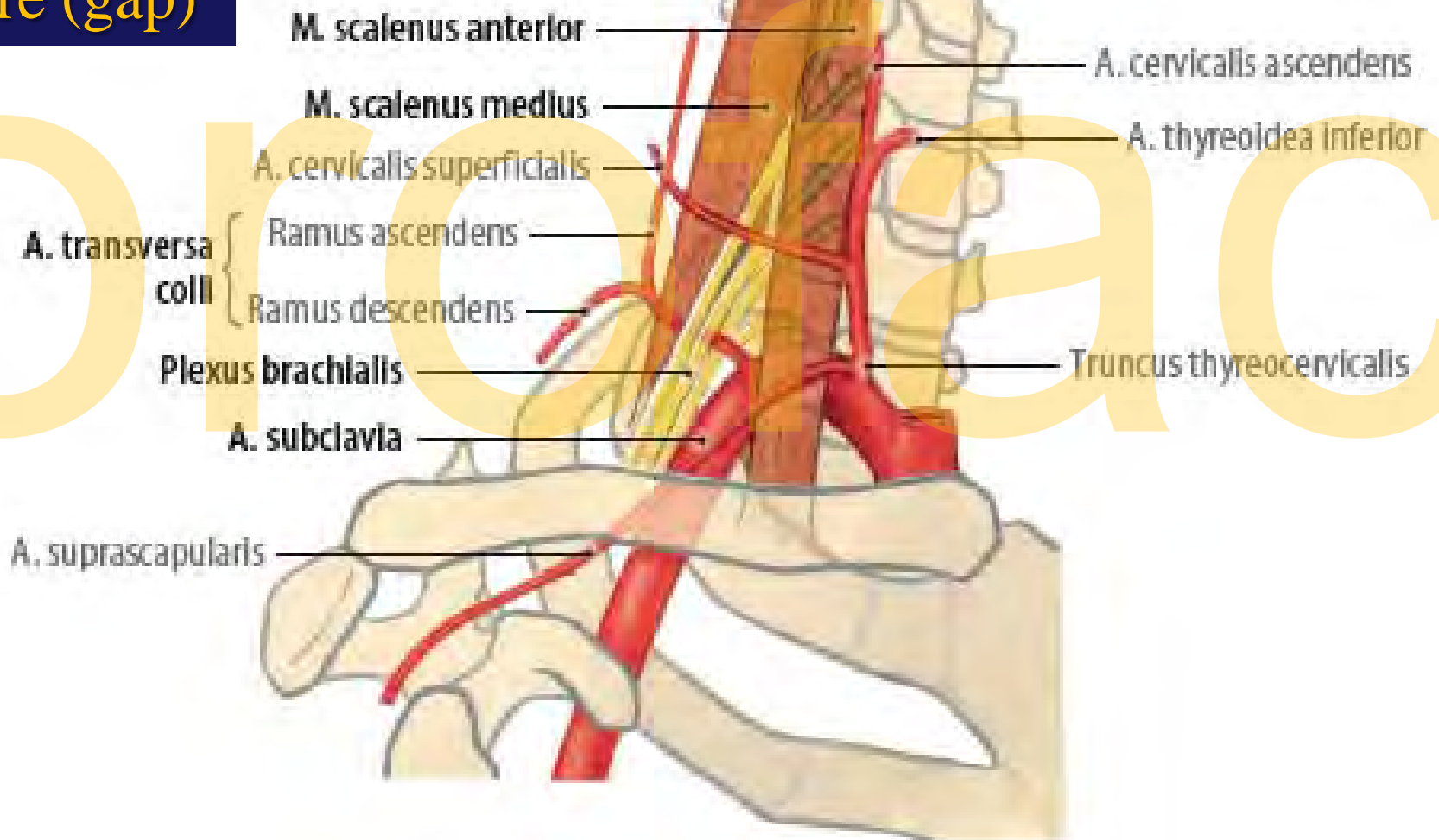
B



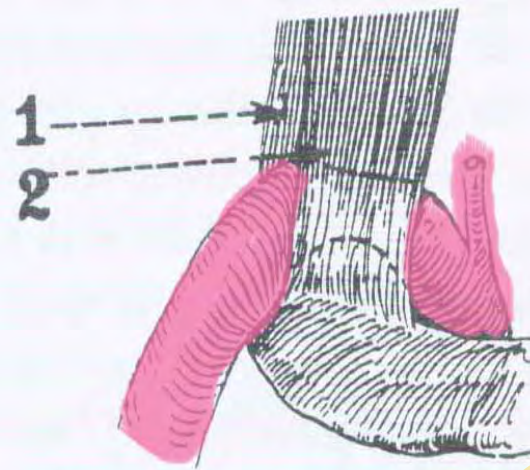
Endotracheal cannula is pushed through larynx to trachea
 Tongue root is compressed

Fissura scalenorum

Scalenic
fissure (gap)



Subclavian artery
is compressed
between anterior
and middle
scalenus muscles



A

A - počáteční stadium komprese a. subclavia mezi musculi scaleni anterior a medius (1 a 2)

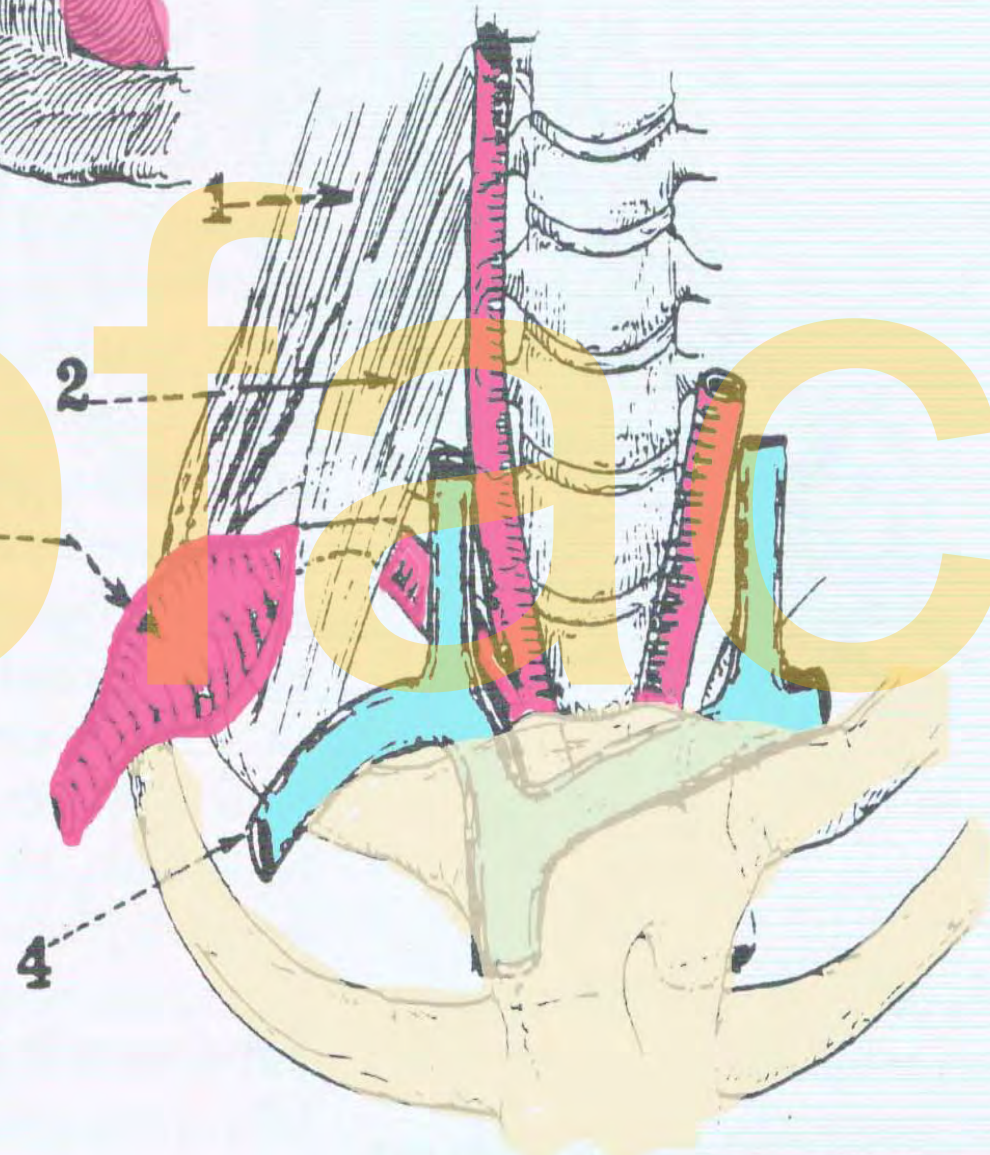
B - pokročilé stadium komprese tepny

1 - m. scalenus medius + posterior

2 - m. scalenus anterior

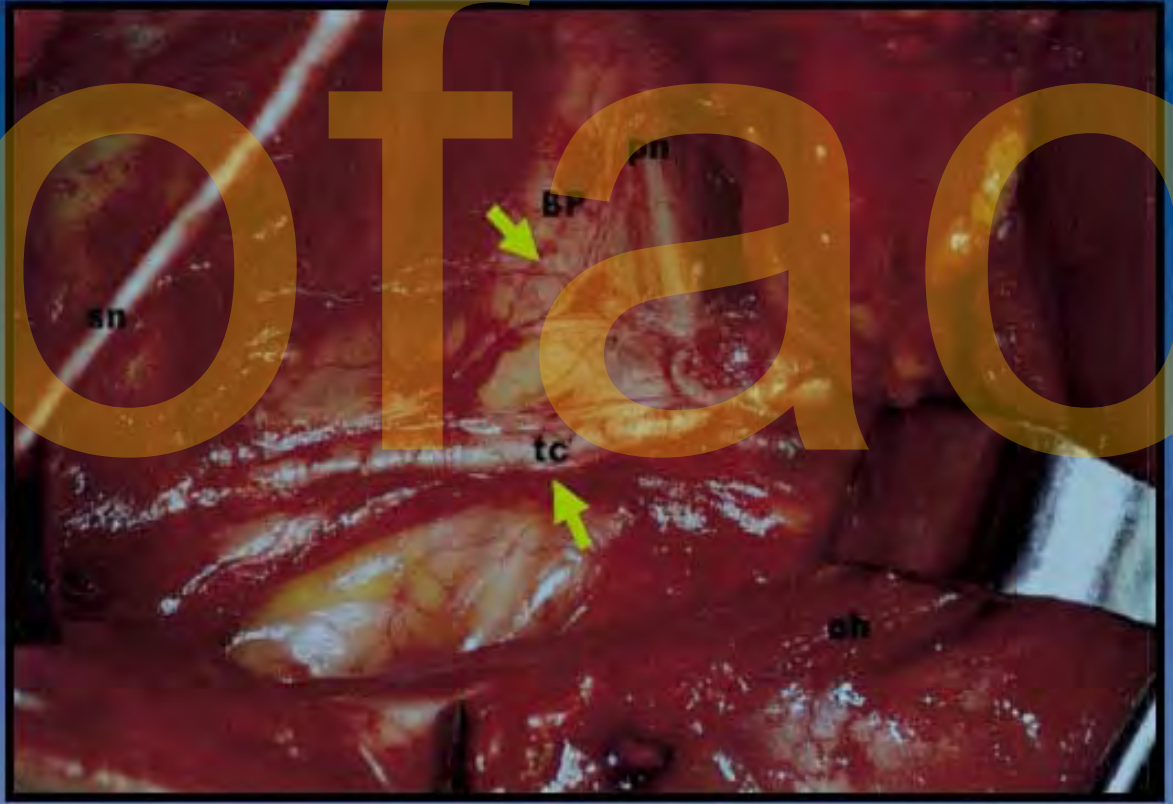
3 - poststenotická dilatace a. subclavia, s tvorbou trombu a možností embolie

4 - v. subclavia

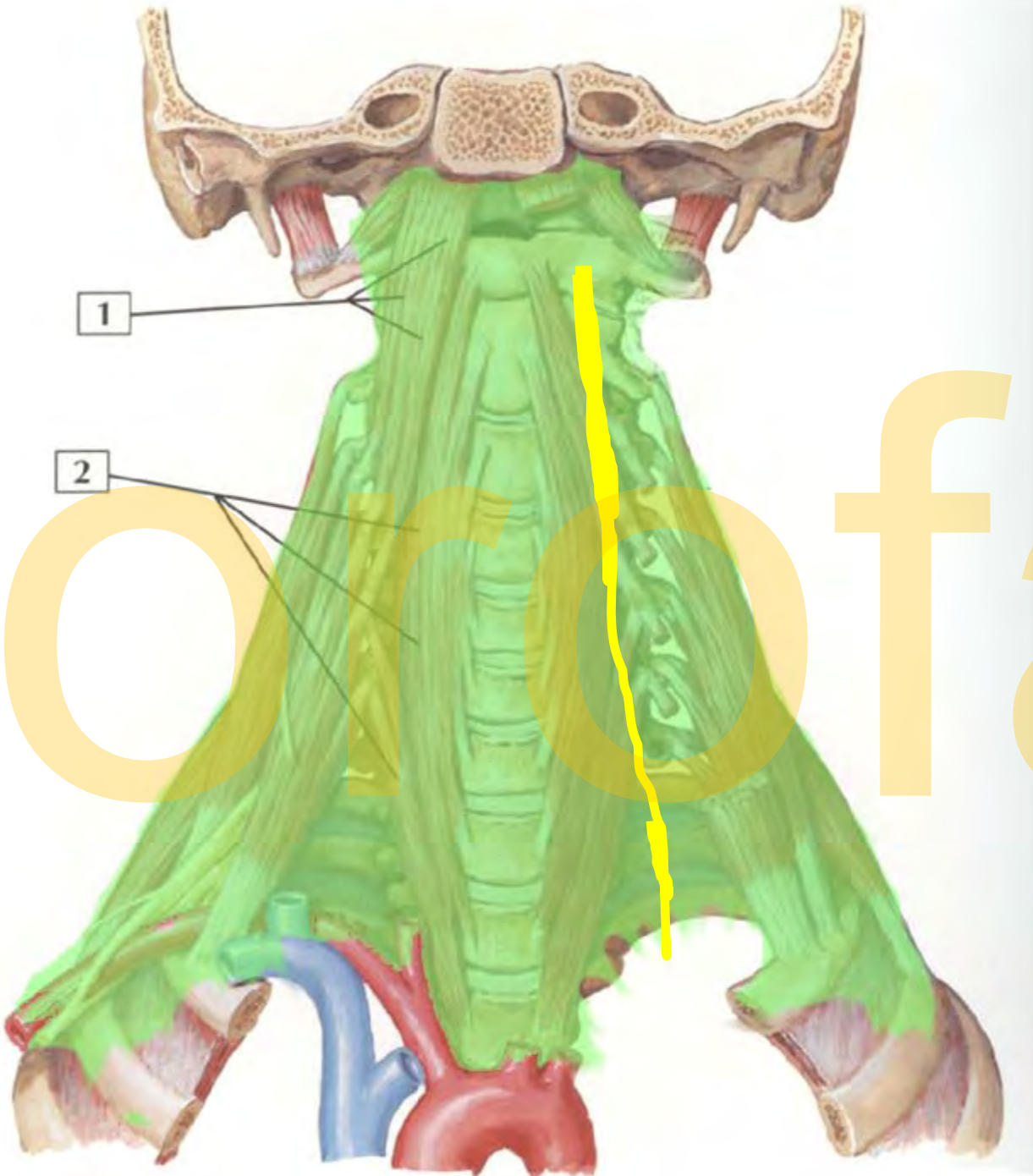


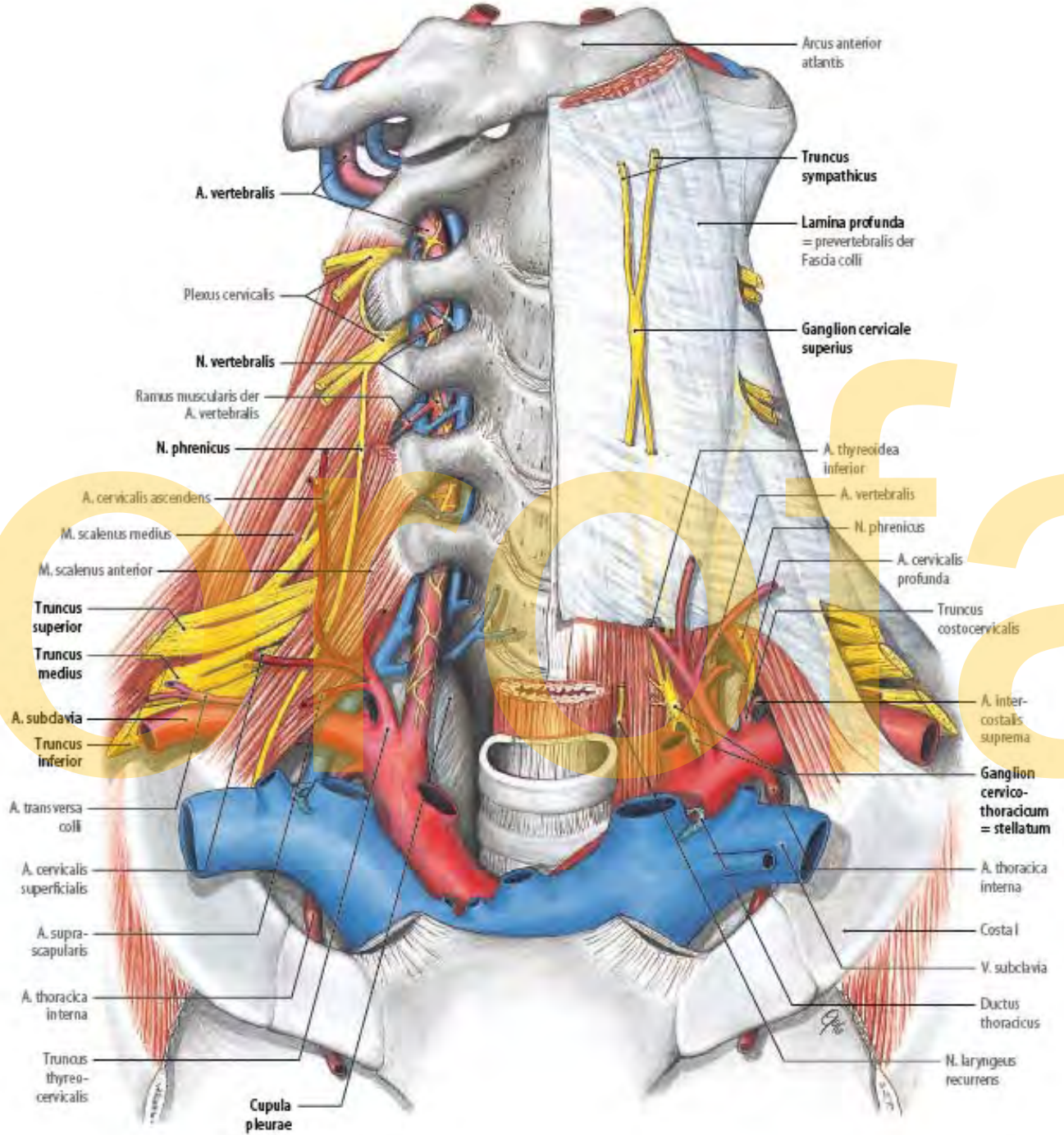
B

PLEXUS BRACHIALIS VASA TRANSVERSA COLLI



Fascia prevertebralis

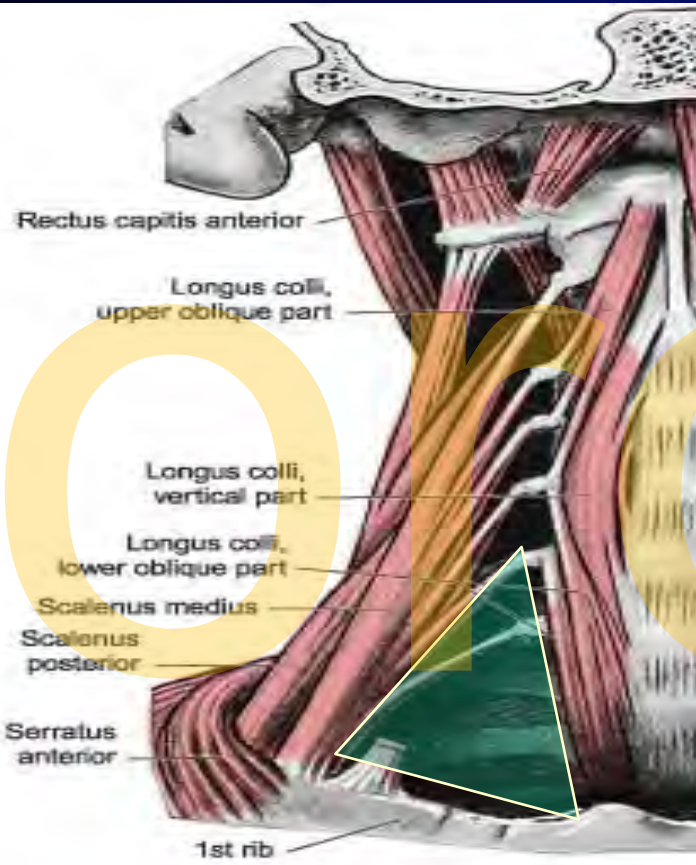




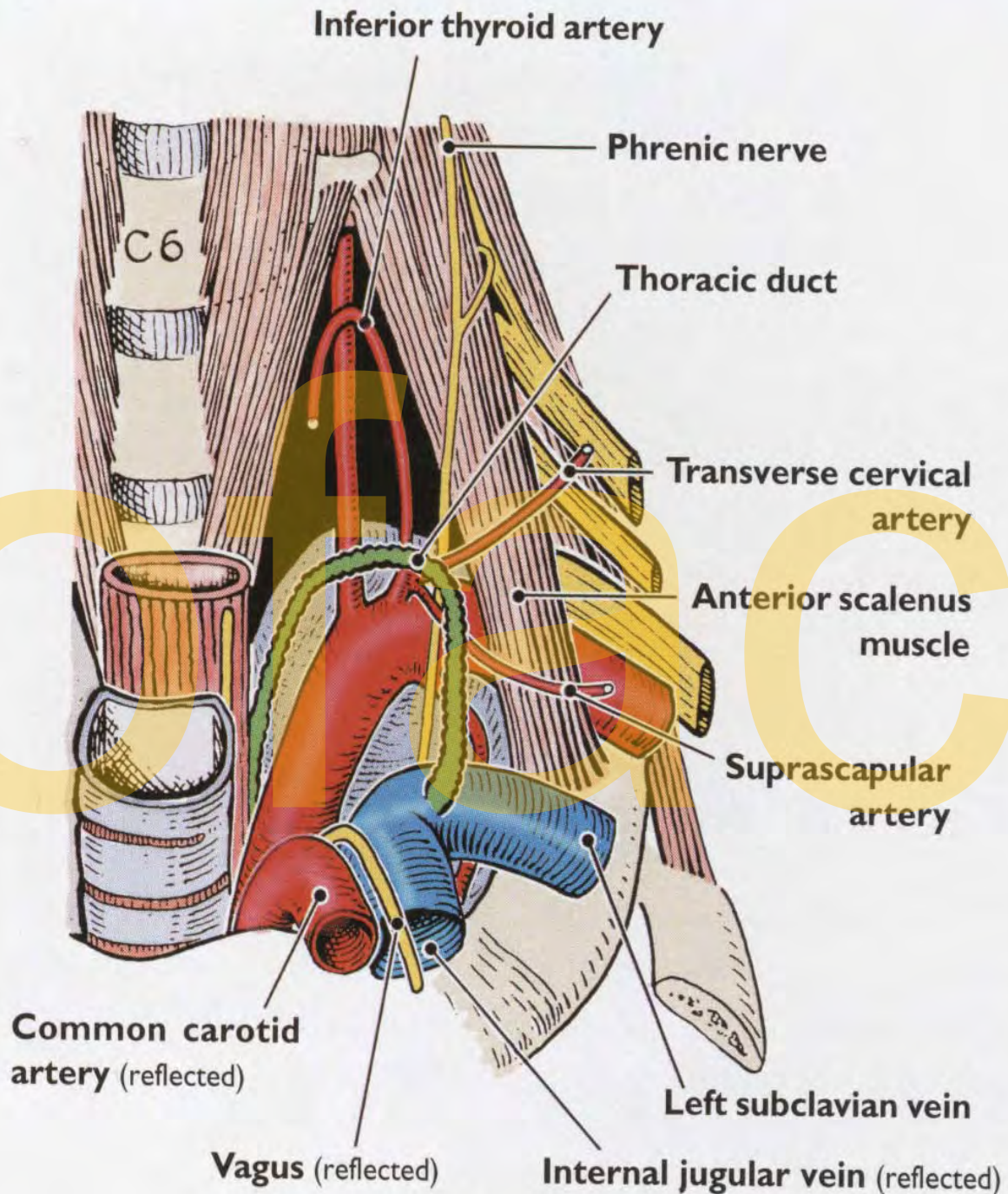
Phrenic n. and its relation to anterior scalenus muscle

- Arcus anterior atlantis
- Truncus sympathicus
- Lamina profunda = prevertebralis der Fascia colli
- Ganglion cervicale superius
- A. thyroidea inferior
- A. vertebralis
- N. phrenicus
- A. cervicalis profunda
- Truncus costocervicalis
- A. intercostalis suprema
- Ganglion cervico-thoracicum = stellatum
- A. thoracica interna
- Costa I
- V. subclavia
- Ductus thoracicus
- N. laryngeus recurrens
- A. vertebralis
- Plexus cervicalis
- N. vertebralis
- Ramus muscularis der A. vertebralis
- N. phrenicus
- A. cervicalis ascendens
- M. scalenus medius
- M. scalenus anterior
- Truncus superior
- Truncus medius
- A. subclavia
- Truncus inferior
- A. transversa colli
- A. cervicalis superficialis
- A. supra-scapularis
- A. thoracica interna
- Truncus thyreo-cervicalis
- Cupula pleurae

Trigonum scalenovertebrale

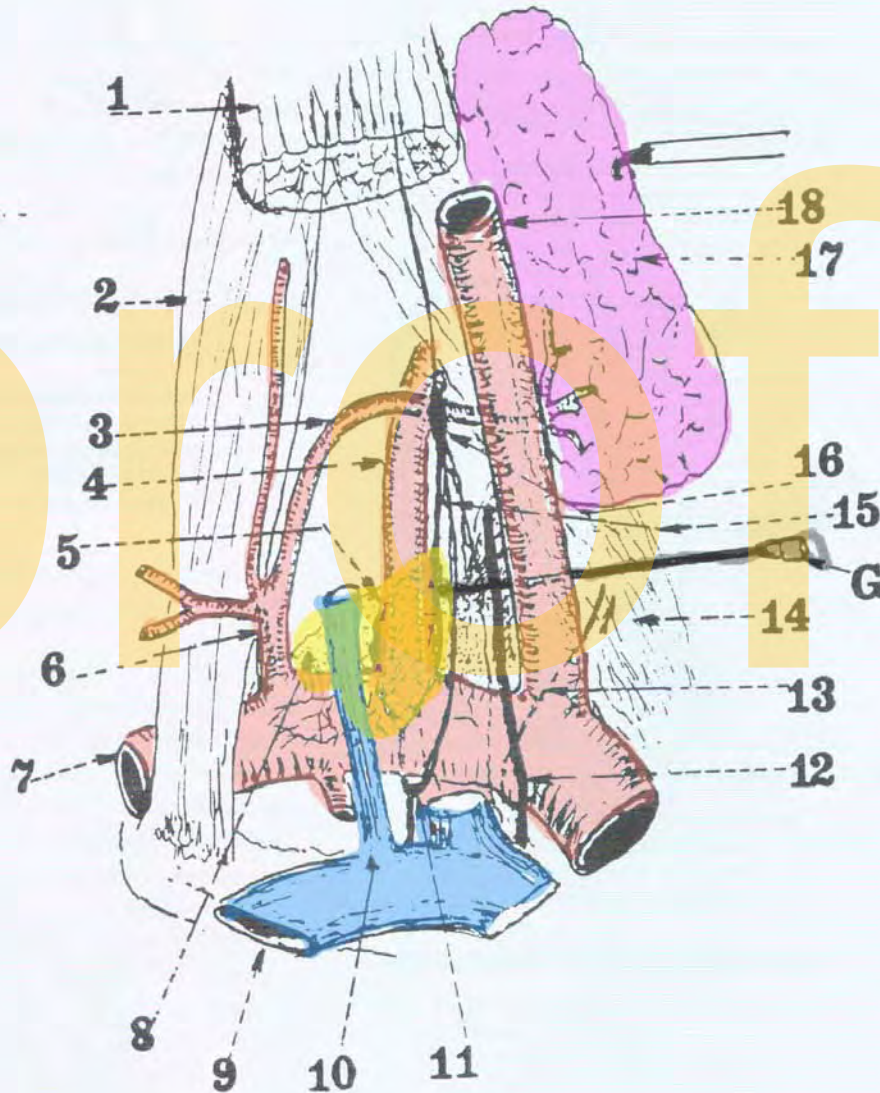


Scalenovertebral triangle



Topografie ganglion stellatum

- 1 – odříznutý m. sternocleidomastoideus
- 2 – m. scalenus anterior
- 3 – a. thyroidea inferior
- 4 – a. vertebralis
- 5 – ganglion stellatum, uložené částečně za a. vertebralis
- 6 – truncus thyrocervicalis
- 7 – a. subclavia
- 8 – cupula pleurae
- 9 – vena subclavia
- 10 – vena vertebralis
- 11 – ansa subclavia



- 12 – n. vagus
- 13 – n. laryngeus recurrens
- 14 – musculus longus colli
- 15 – truncus sympathicus
- 16 – ganglion cervicale medium
- 17 – odtažená glandula thyroidea
- 18 – a. carotis communis
- G – Jehla zavedená ke ganglion stellatum
- A – ganglion stellatum je rozděleno na ganglion cervicale inferius a ganglion thoracicum primum.
- B – ganglion stellatum je jednotný útvar.



Projection and location of stellate ganglion

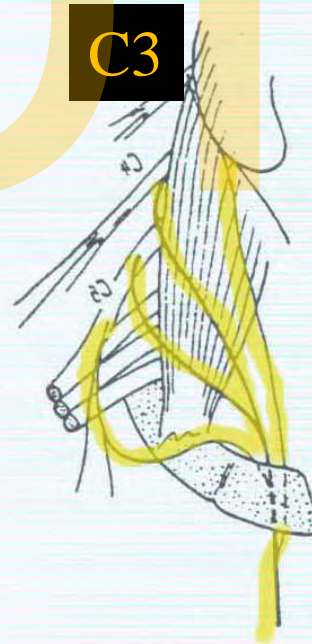
And direction of penetrating needle to this ganglion

Řezy na píssura scalenorum

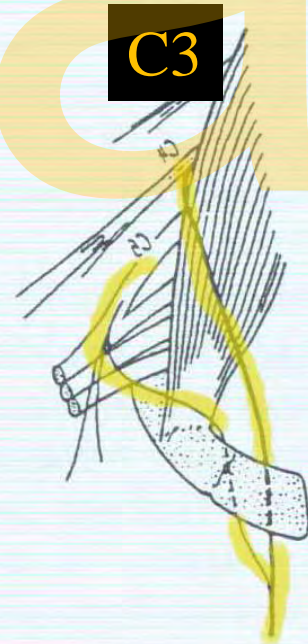
Incisions to scalenic fissure



C3



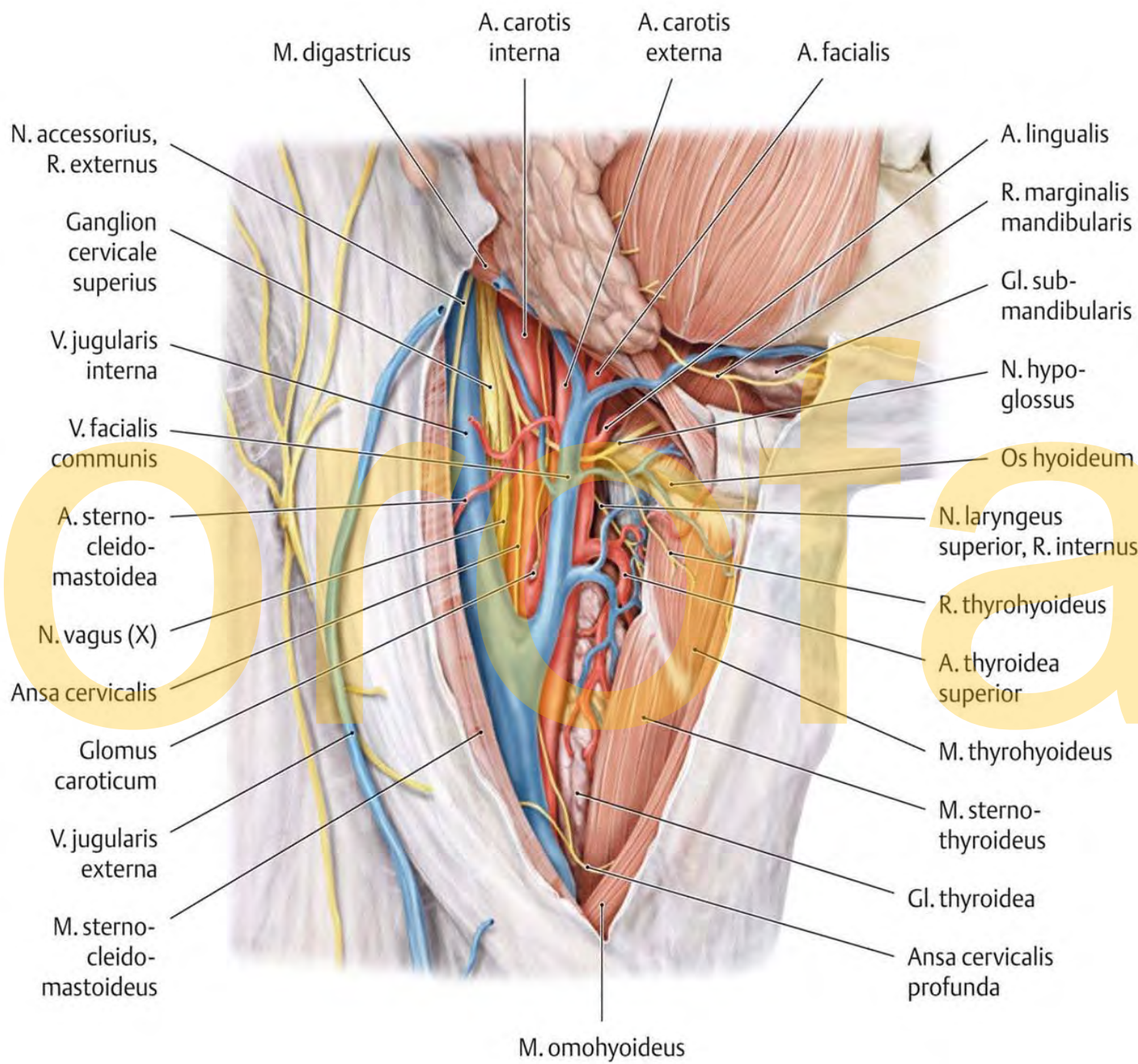
C3



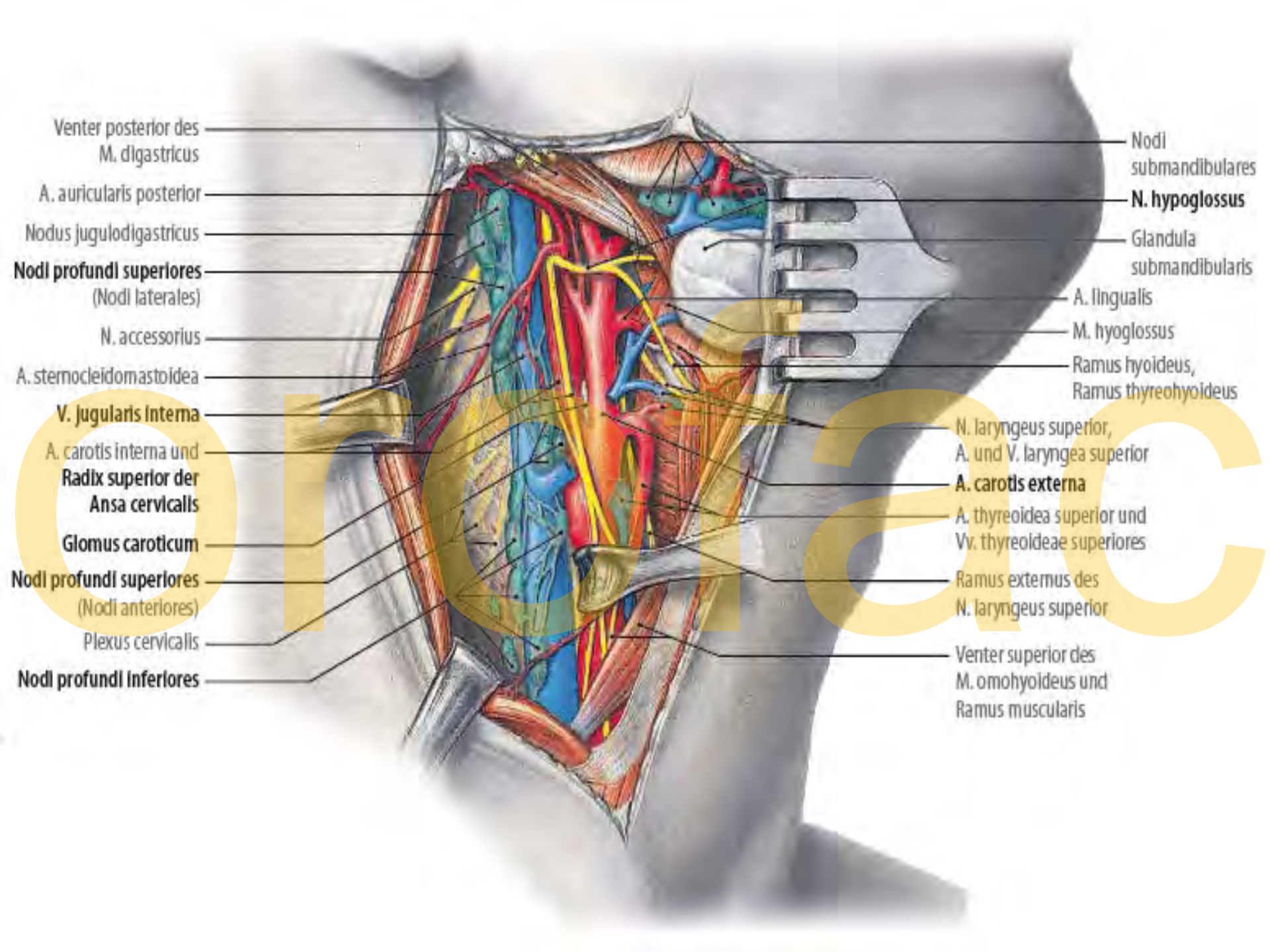
C3



Podle Clary after Clara



Carotid triangle



Venter posterior des
M. digastricus

A. auricularis posterior

Nodus jugulodigastricus

Nodi profundi superiores
(Nodi laterales)

N. accessorius

A. sternocleidomastoidea

V. Jugularis interna

A. carotis interna und
Radix superior der
Ansa cervicalis

Glomus caroticum

Nodi profundi superiores
(Nodi anteriores)

Plexus cervicalis

Nodi profundi inferiores

Nodi
submandibulares

N. hypoglossus

Glandula
submandibularis

A. Ingualis

M. hyoglossus

Ramus hyoideus,
Ramus thyreochoideus

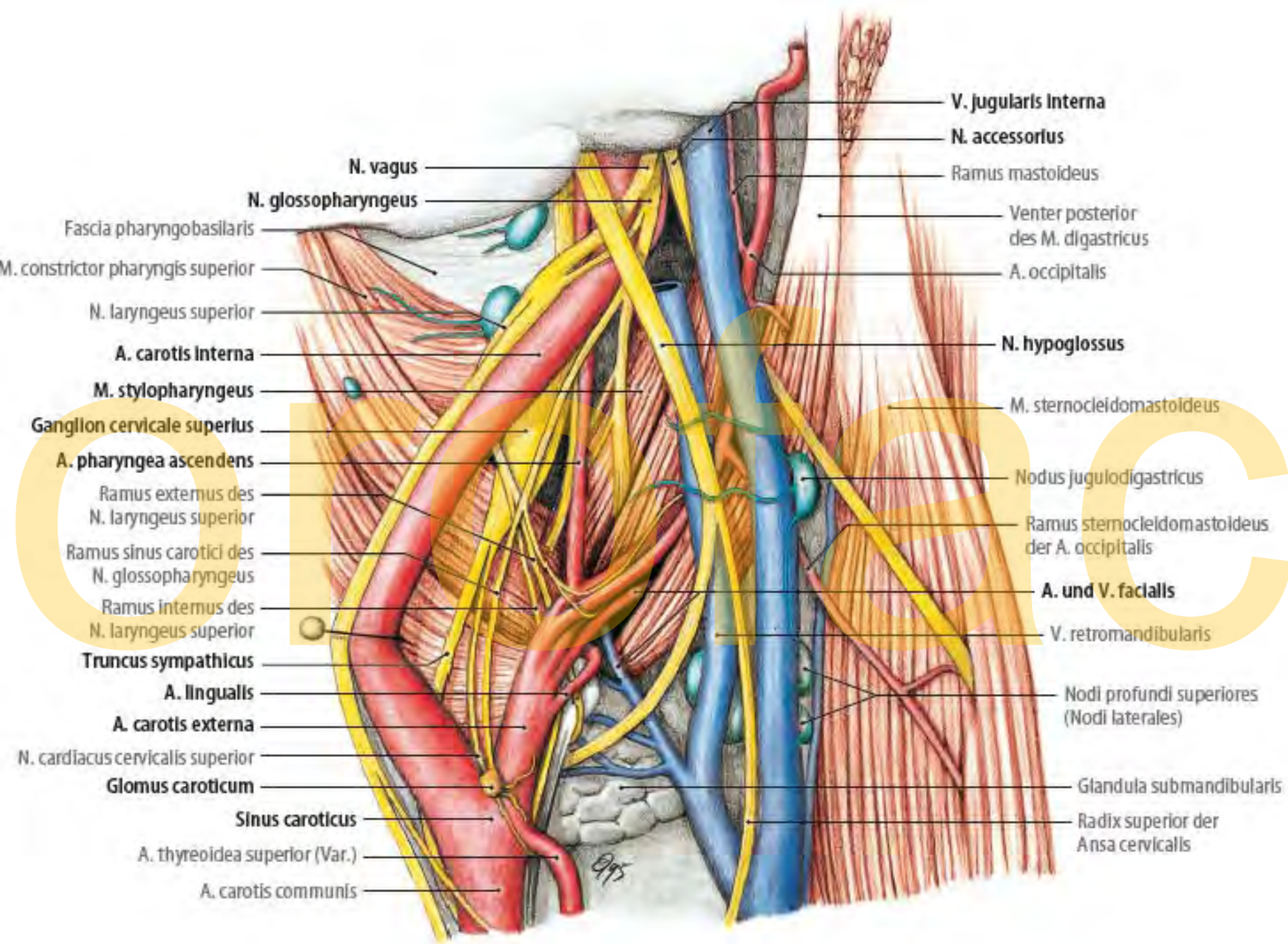
N. laryngeus superior,
A. und V. laryngea superior

A. carotis externa

A. thyroidea superior und
Vv. thyroideae superiores

Ramus externus des
N. laryngeus superior

Venter superior des
M. omohyoideus und
Ramus muscularis



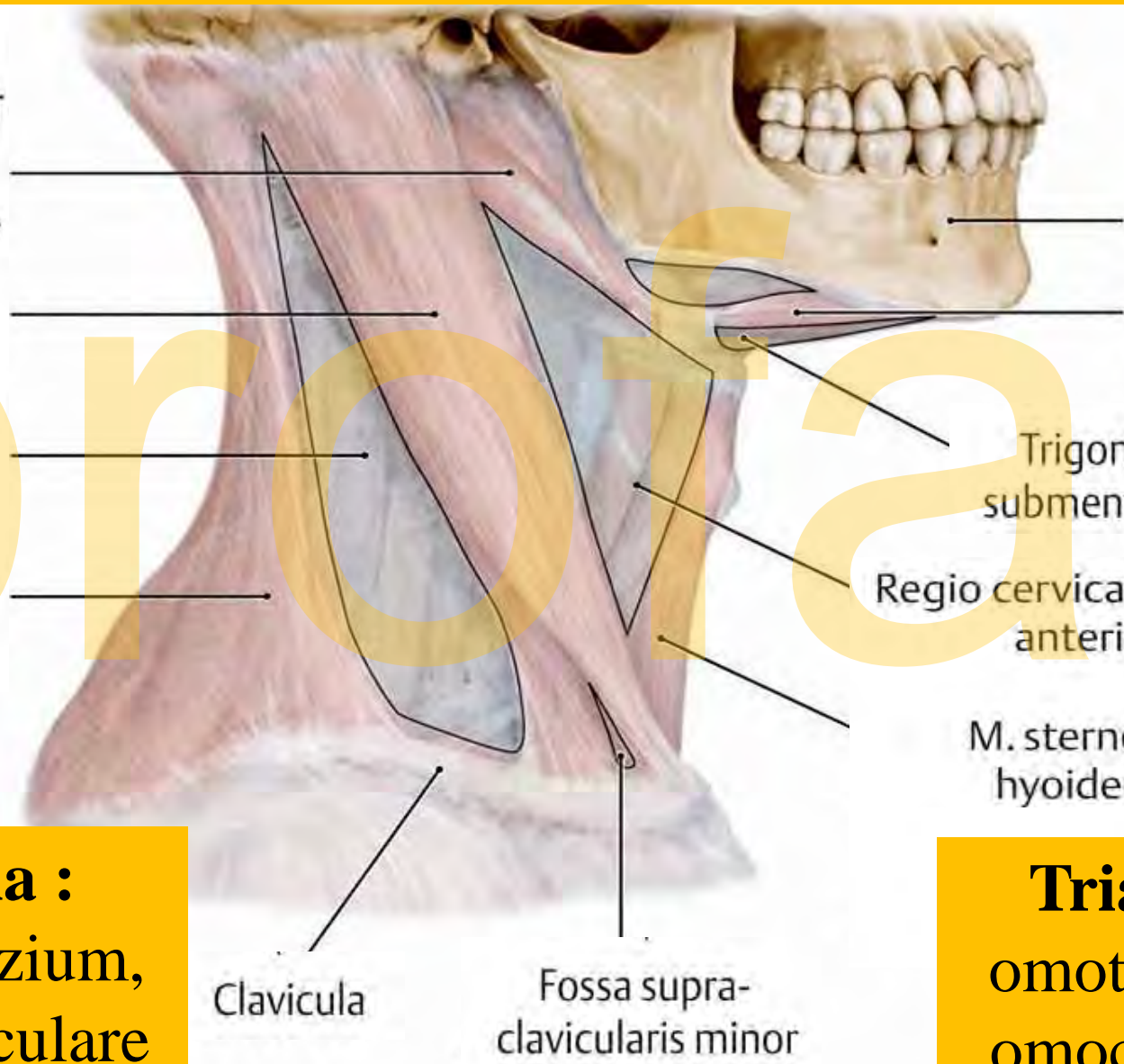
Regio colli lateralis; Lateral (posterior) neck triangle

M. digastricus,
Venter posterior

M. sternocleido-
mastoideus

Regio cervicalis
lateralis

Regio cervicalis
posterior



Mandibula

M. digastricus,
Venter anterior

Trigonum
submentale

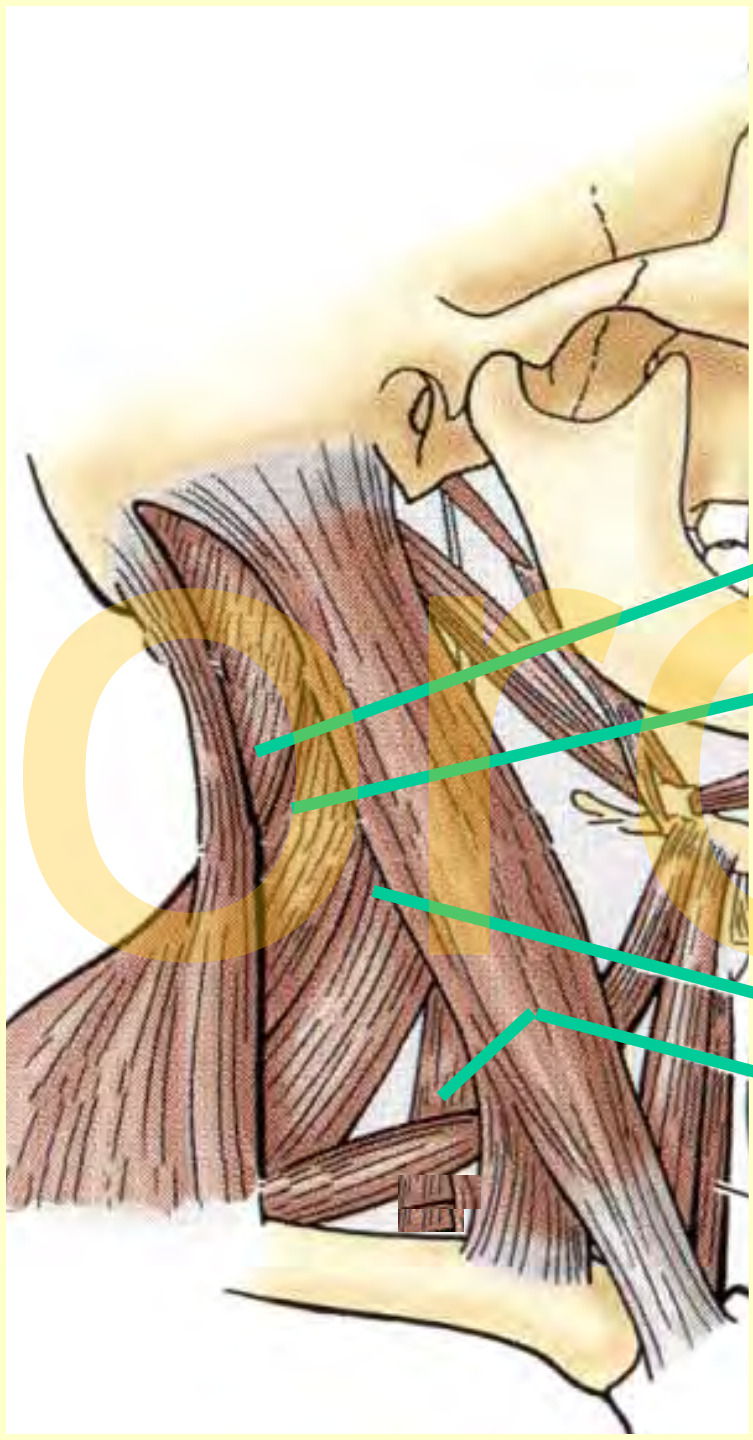
Regio cervicalis
anterior

M. sterno-
hyoideus

Trigona :
omotrapezium,
omoclaviculare

Triangles :
omotrapezoid,
omoclavicular

Muscles in bottom of lateral neck region

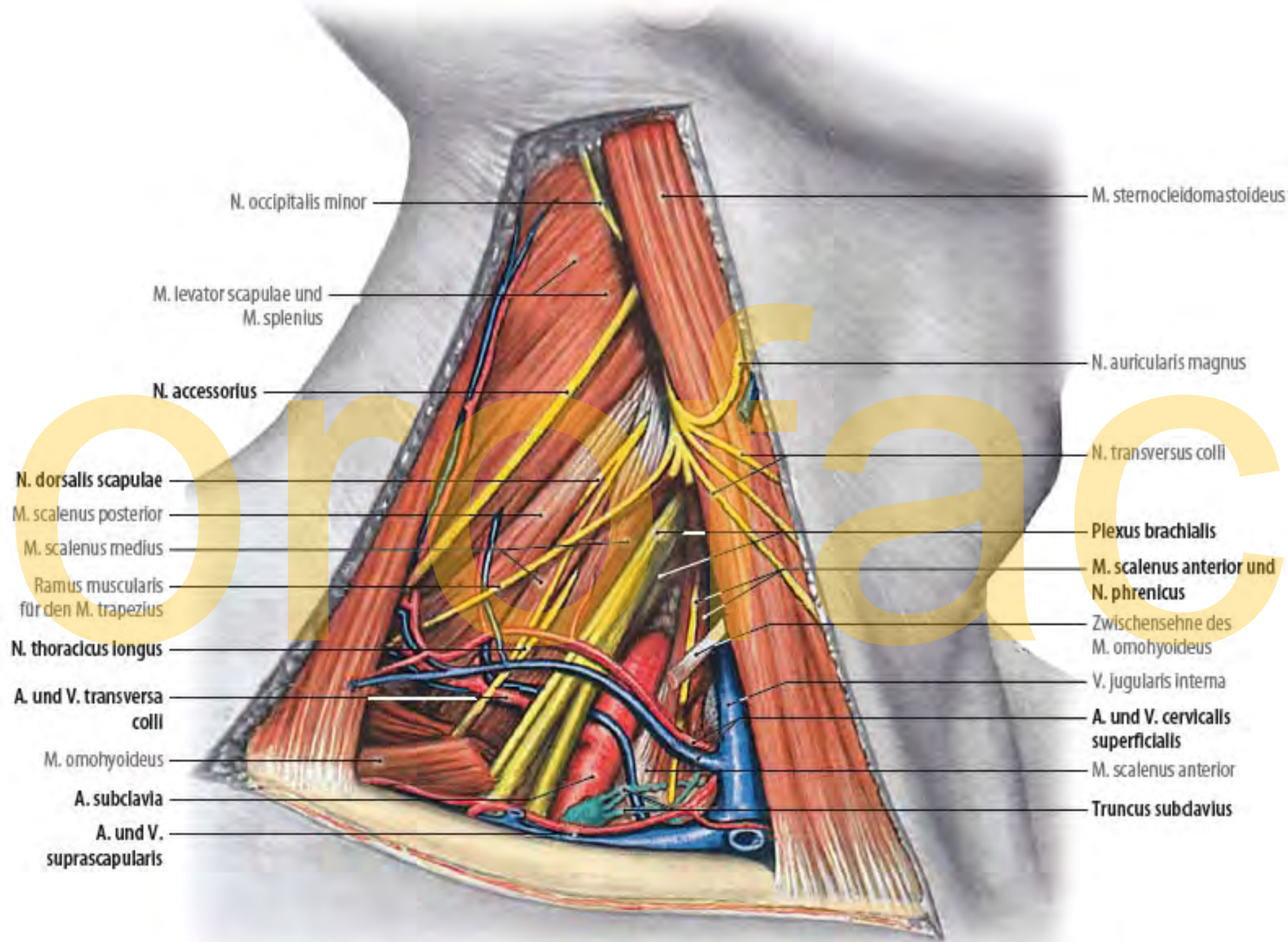


Semispinalis

Splenius

Levator scapulae

Scalenus anterior



N. occipitalis minor

M. levator scapulae und
M. splenius

N. accessorius

N. dorsalis scapulae

M. scalenus posterior

M. scalenus medius

Ramus muscularis
für den M. trapezius

N. thoracicus longus

A. und V. transversa
collii

M. omohyoideus

A. subclavia

A. und V.
suprascapularis

M. sternocleidomastoideus

N. auricularis magnus

N. transversus colli

Plexus brachialis

M. scalenus anterior und
N. phrenicus

Zwischensehne des
M. omohyoideus

V. jugularis interna

A. und V. cervicalls
superficialis

M. scalenus anterior

Truncus subclavius

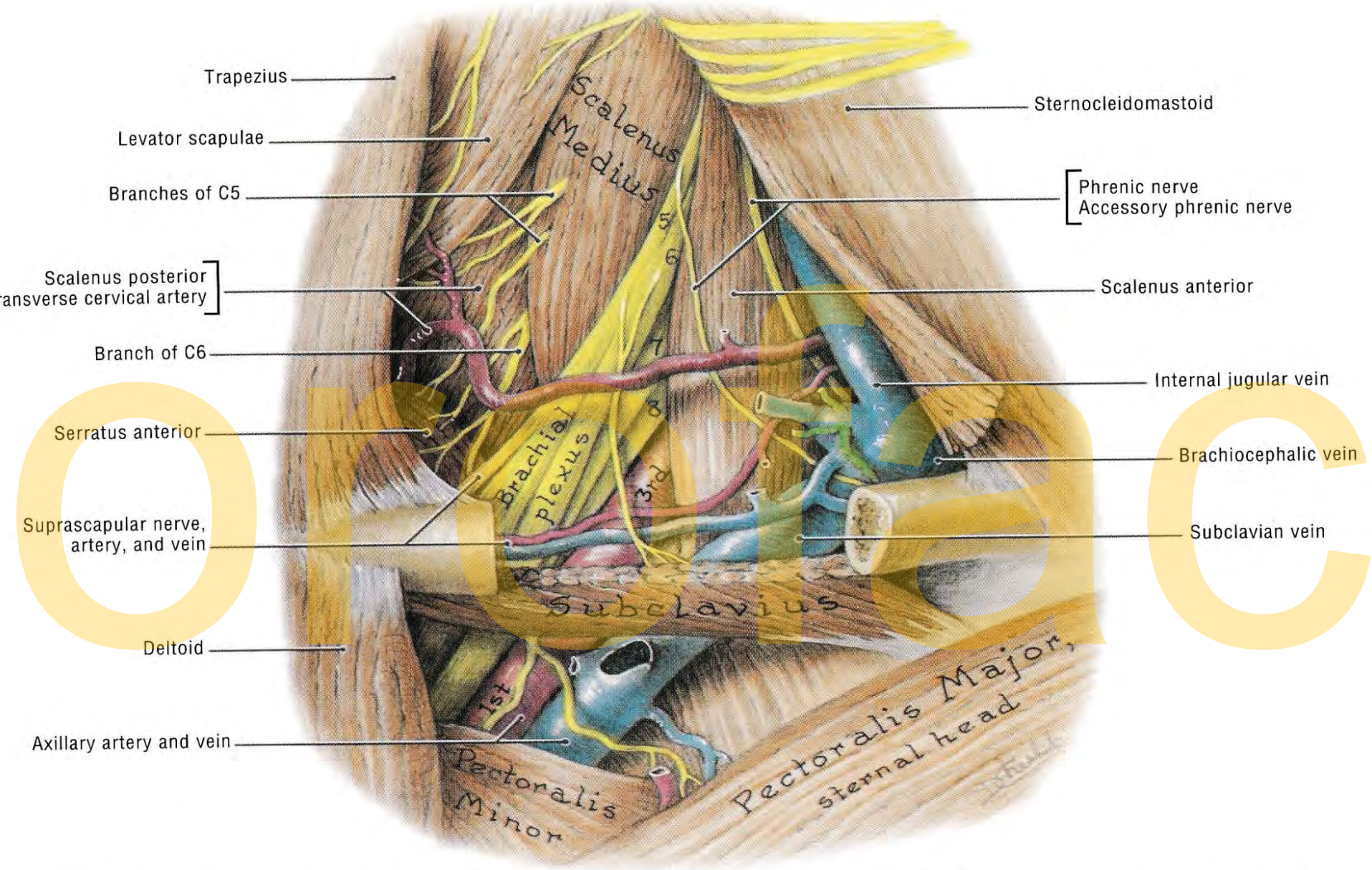


Figure 8-12. Close up of a dissection of the right side of the neck and superolateral part of the thorax. Observe the brachial plexus of nerves passing to the upper limb and the parts of the subclavian vessels that are in the posterior cervical triangle. Compare with Figure 8-11, noting

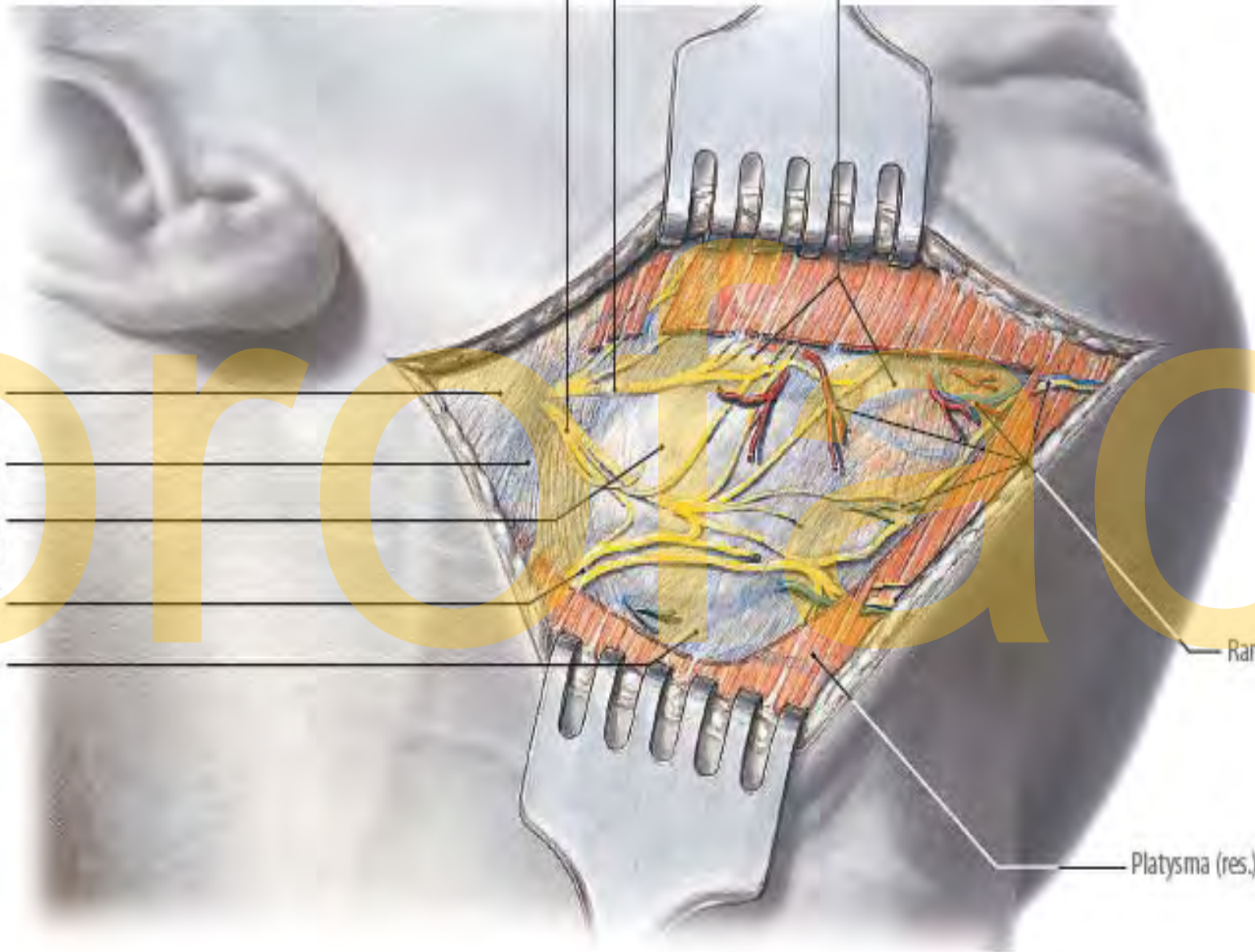
the the omohyoid muscle and its fascia have been removed to show the third part of the subclavian artery and the subclavian vein. Note that the internal jugular vein (usually the largest vein in the neck) is not in the posterior triangle, but it is very close to it.

Submandibular space

lies between the bellies of the digastric muscles, mandible, mylohyoid muscle and hyoglossus and styloglossus muscles

Ramus marginalis mandibulae
Ansa cervicalis (superficialis)

Nodi submandibulares



Fascla parotidea

Tractus angularis

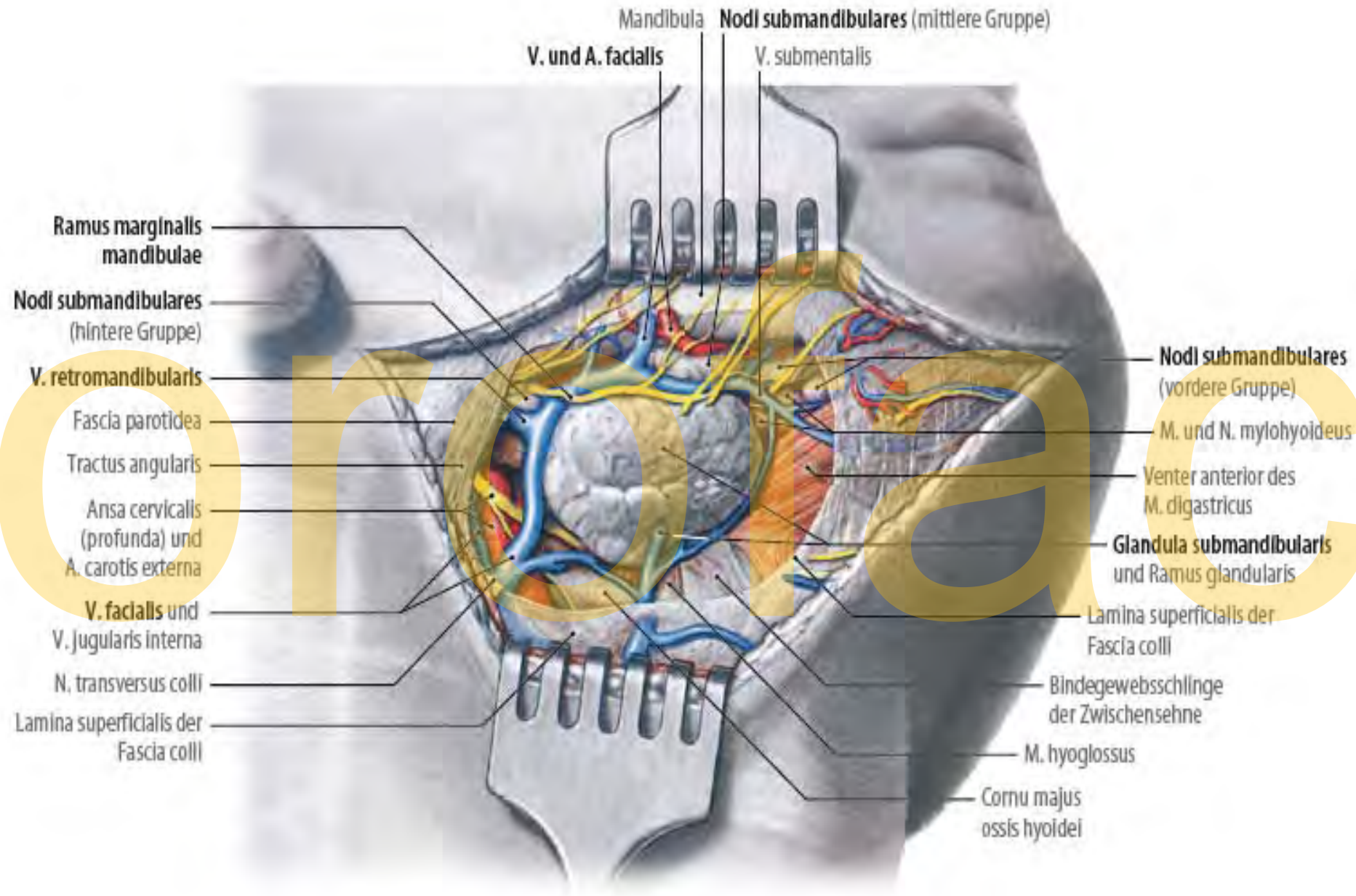
Lamina superficialis
der Fascla colli

N. transversus colli

V. jugularis anterior

Rami cutanei

Platysma (res.)



Mandibula **Nodi submandibulares (mittlere Gruppe)**

V. und A. facialis V. submentalialis

Ramus marginalis mandibulae

Nodi submandibulares (hintere Gruppe)

V. retromandibularis

Fascia parotidea

Tractus angularis

Ansa cervicalis (profunda) und A. carotis externa

V. facialis und

V. jugularis interna

N. transversus colli

Lamina superficialis der Fascia colli

Nodi submandibulares (vordere Gruppe)

M. und N. mylohyoideus

Venter anterior des M. digastricus

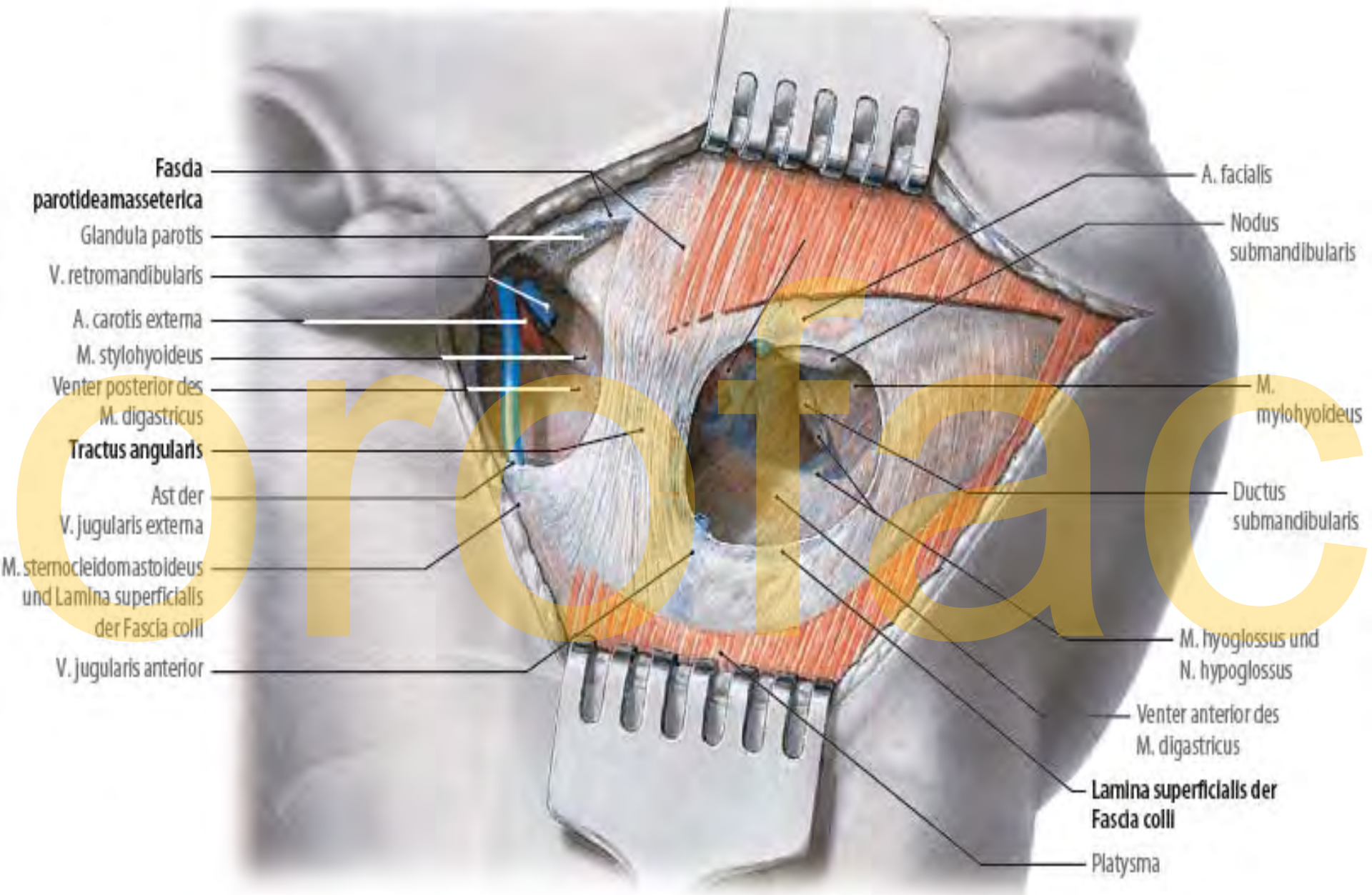
Glandula submandibularis und Ramus glandularis

Lamina superficialis der Fascia colli

Bindegewebsschlinge der Zwischensehne

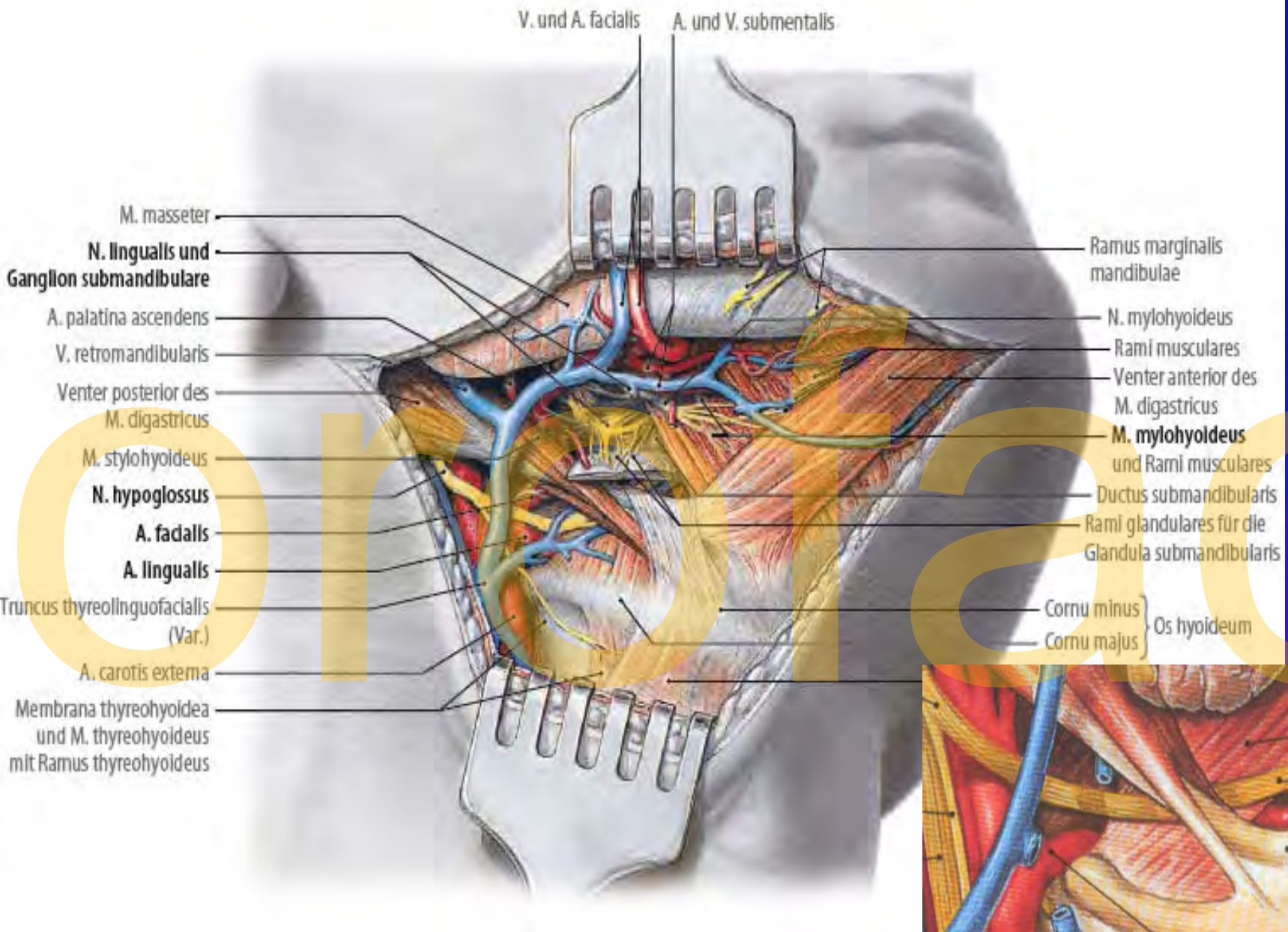
M. hyoglossus

Cornu majus ossis hyoidei



Fasda
parotideamasseterica
 Glandula parotis
 V. retromandibularis
 A. carotis externa
 M. stylohyoideus
 Venter posterior des
 M. digastricus
Tractus angularis
 Ast der
 V. jugularis externa
 M. sternocleidomastoideus
 und Lamina superficialis
 der Fascia colli
 V. jugularis anterior

A. facialis
 Nodus
 submandibularis
 M.
 mylohyoideus
 Ductus
 submandibularis
 M. hyoglossus und
 N. hypoglossus
 Venter anterior des
 M. digastricus
 Lamina superficialis der
 Fascia colli
 Platysma





Submandibulární
abscess

Submandibular
abscess



Sběhlý
submandibulární
absces

Submandibular
abscess is
getting down

Orofac

Submental space

lies between the mylohyoid muscles and the investing layer of deep cervical fascia superficially

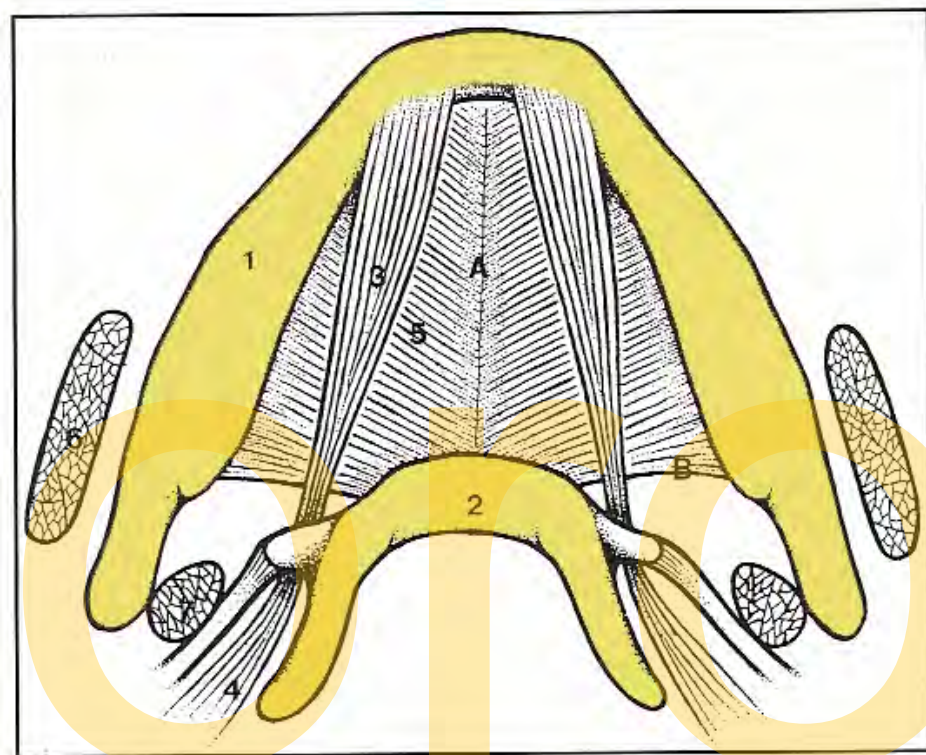


Fig. 3.33 Inferior view of the submental and submandibular tissue spaces. 1 = Body of mandible; 2 = hyoid bone; 3 = anterior belly of digastric muscle; 4 = posterior belly of digastric muscle; 5 = mylohyoid muscle; 6 = masseter muscle; 7 = medial pterygoid muscle; A = the submental space lying between the mylohyoid muscle and the investing layer of deep cervical fascia. Laterally, it is bounded by the two anterior bellies of the digastric muscles. The submental space communicates posteriorly with the submandibular space (B).

orbicularis oris muscle presents a barrier to pus between the vestibule on the oral side and the skin of the lip on the facial side. In the upper jaw, pus may accumulate between the muscles of facial expression, particularly in the canine fossa between the levator labii superioris and zygomaticus muscles.



Fig. 3.34 Abscess within the submandibular tissue space. Courtesy of Professor J. Langdon.

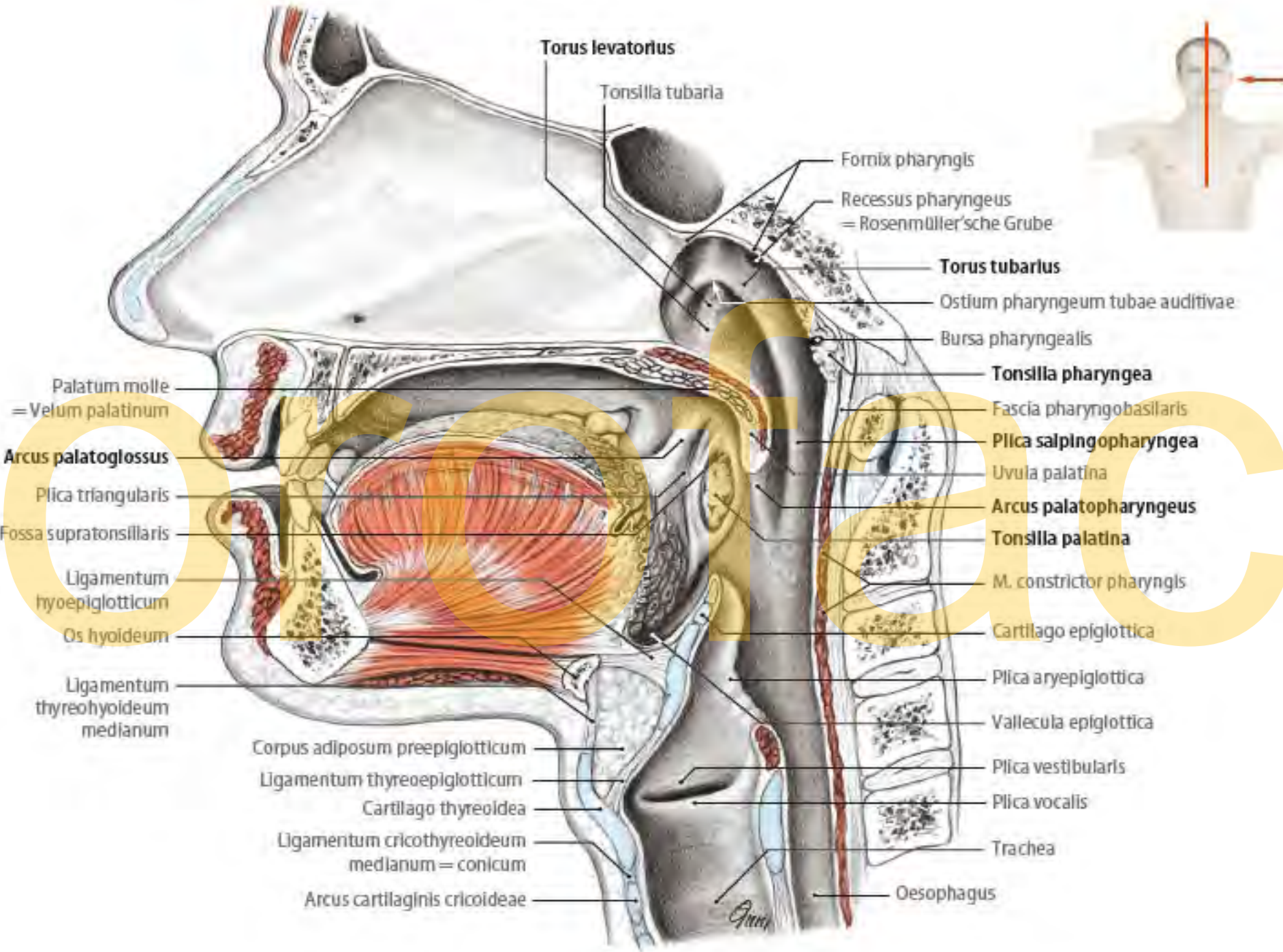


Absces v
bradové
krajině

abscess in
submental
and mental
regions

Spatium peritonsillare

Orofarynx



Torus levatorius

Tonsilla tubaria

Fornix pharyngis

Recessus pharyngeus
= Rosenmüller'sche Grube

Torus tubarius

Ostium pharyngeum tubae auditivae

Bursa pharyngealis

Tonsilla pharyngea

Fascia pharyngobasilaris

Plica salpingopharyngea

Uvula palatina

Arcus palatopharyngeus

Tonsilla palatina

M. constrictor pharyngis

Cartilago epiglottica

Plica aryepiglottica

Vallecula epiglottica

Plica vestibularis

Plica vocalis

Trachea

Oesophagus

Palatum molle
= Velum palatinum

Arcus palatoglossus

Plica triangularis

Fossa supratonsillaris

Ligamentum
hyoepiglotticum

Os hyoideum

Ligamentum
thyreochoideum
medianum

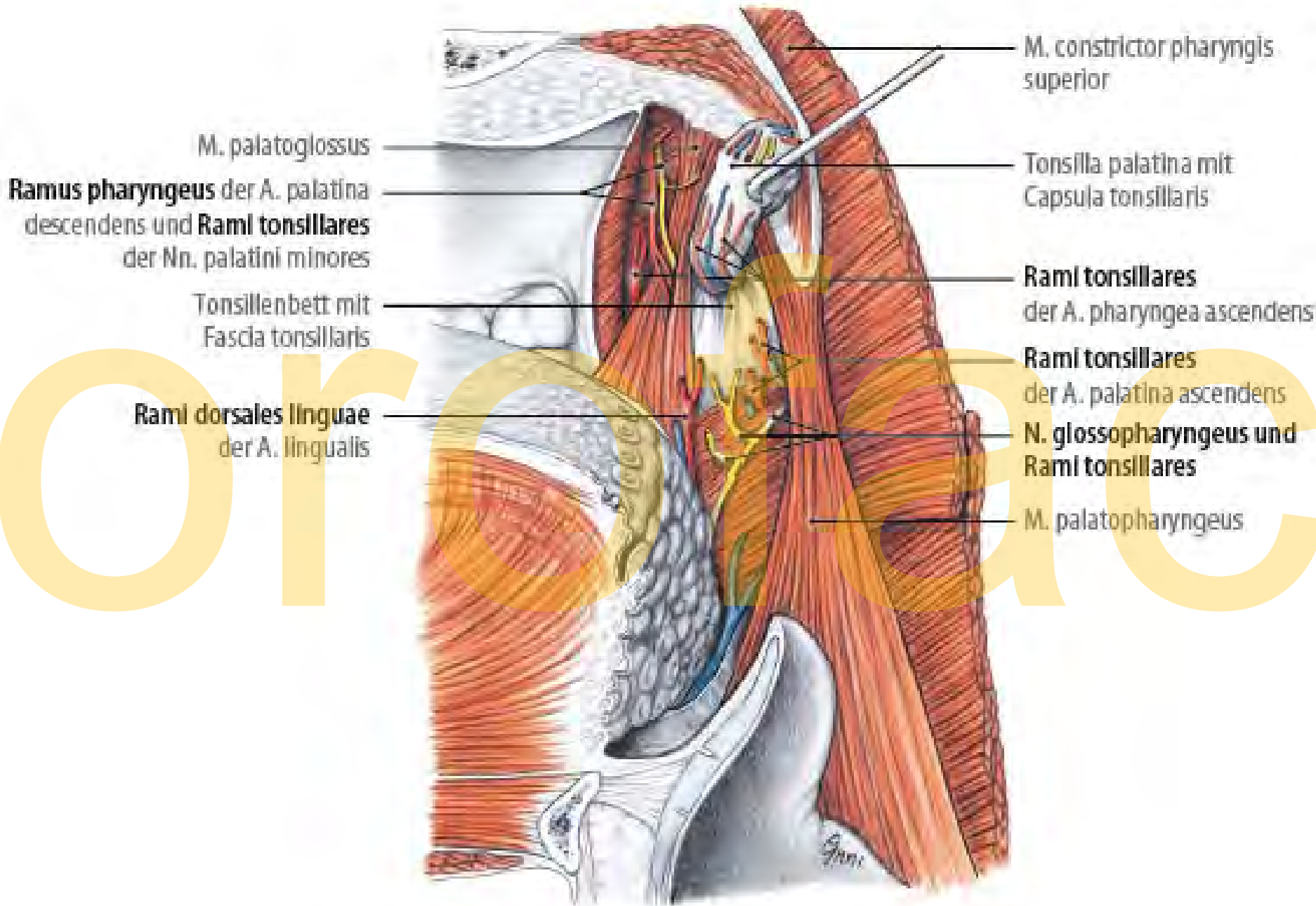
Corpus adiposum preepiglotticum

Ligamentum thyreoepiglotticum

Cartilago thyroidea

Ligamentum cricothyroideum
medianum = conicum

Arcus cartilaginis cricoideae



M. palatoglossus
Ramus pharyngeus der A. palatina
 descendens und **Rami tonsillares**
 der Nn. palatini minores
 Tonsillenbett mit
 Fascia tonsillaris
Rami dorsales linguae
 der A. lingualis

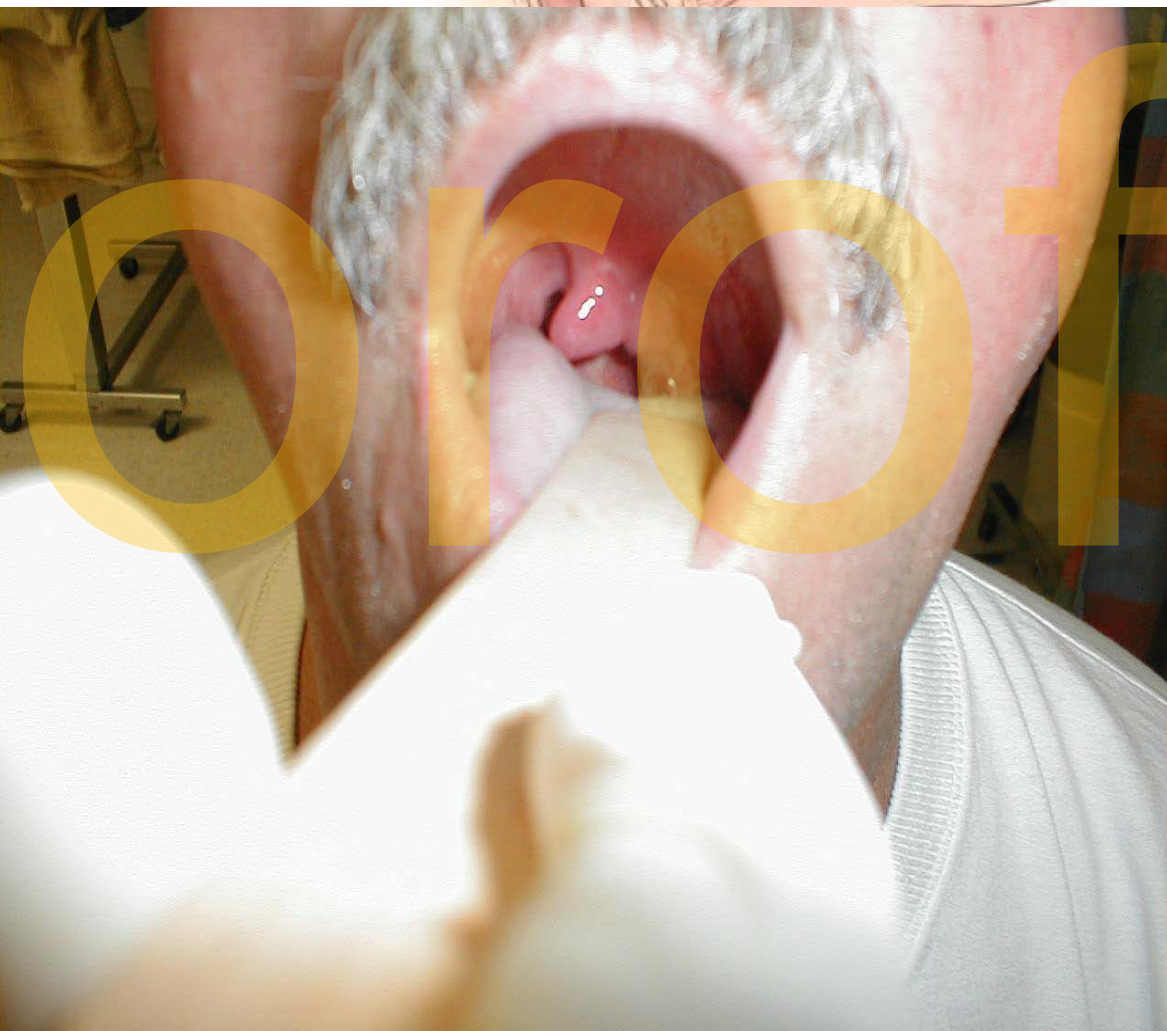
M. constrictor pharyngis
 superior
 Tonsilla palatina mit
 Capsula tonsillarls
Rami tonsillares
 der A. pharyngea ascendens
Rami tonsillares
 der A. palatina ascendens
N. glossopharyngeus und
Rami tonsillares
 M. palatopharyngeus

Platoglossal arch

Uvula

Palatine tonsil

Palatopharyngeal arch



Absces
v peritonsilární
krajíně

Abscess
in peritonsilar
region

Neck fasciae

Fasciae
cervicales

Demarcate spaces

❖ fasciae

❖ Superficial (investing):

- ❖ → f. nuchae, f. pectoralis, f. deltoidea
- ❖ invests m. sternocleidomastoideus + trapezius
- ❖ f. supra/infrahyoidea

❖ pretrachealis (middle neck f.)

- ❖ form Δ , invests infrahyoid mm.
- ❖ vagina carotica (carotic sheet)

❖ Prevertebral (deep cervical f.)

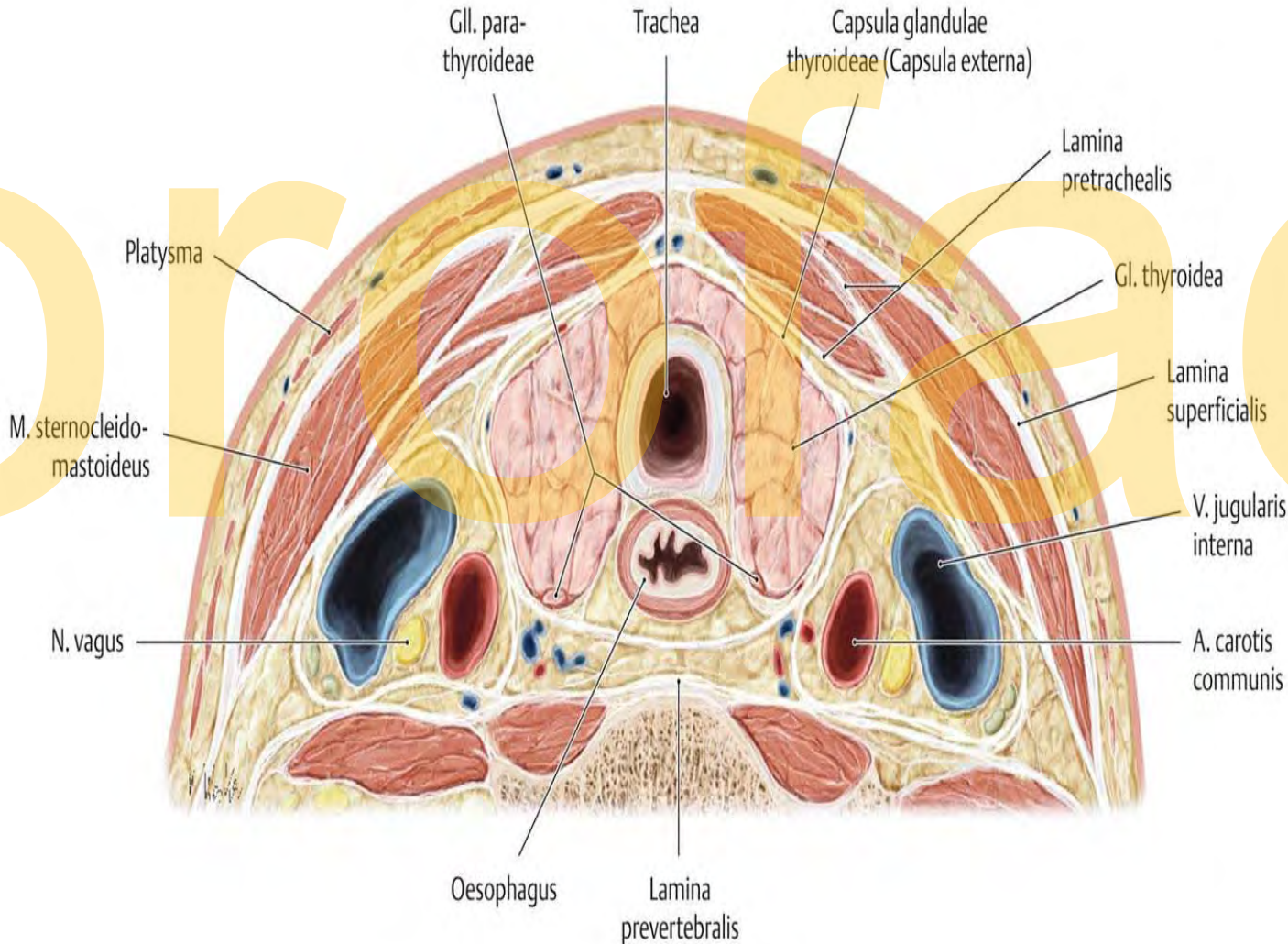
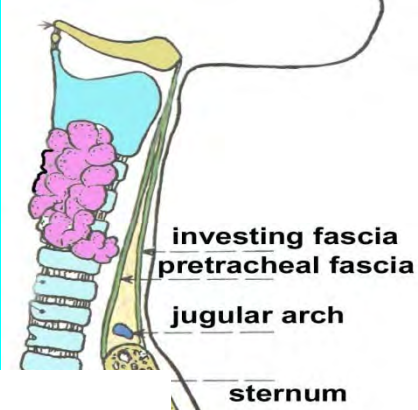
- ❖ Covers scaleni mm.
- ❖ Alar fascia

Fascie cervicales

Fascia cervicalis superficialis

Fascia cervicalis media

Fascia cervicalis profunda



superfic

achealis

Neck spaces - extent

❖ paravisceral space

- ❖ Continuation of parafaryngeal space
- ❖ Nervous and vascular neck bundle

❖ retrovisceral space

- ❖ Between oesophagus and prevertebral f.

❖ Previsceral space

- ❖ mezi l. pretrachealis a orgány
- ❖ v. thyroidea inf./plx. thyroideus impar

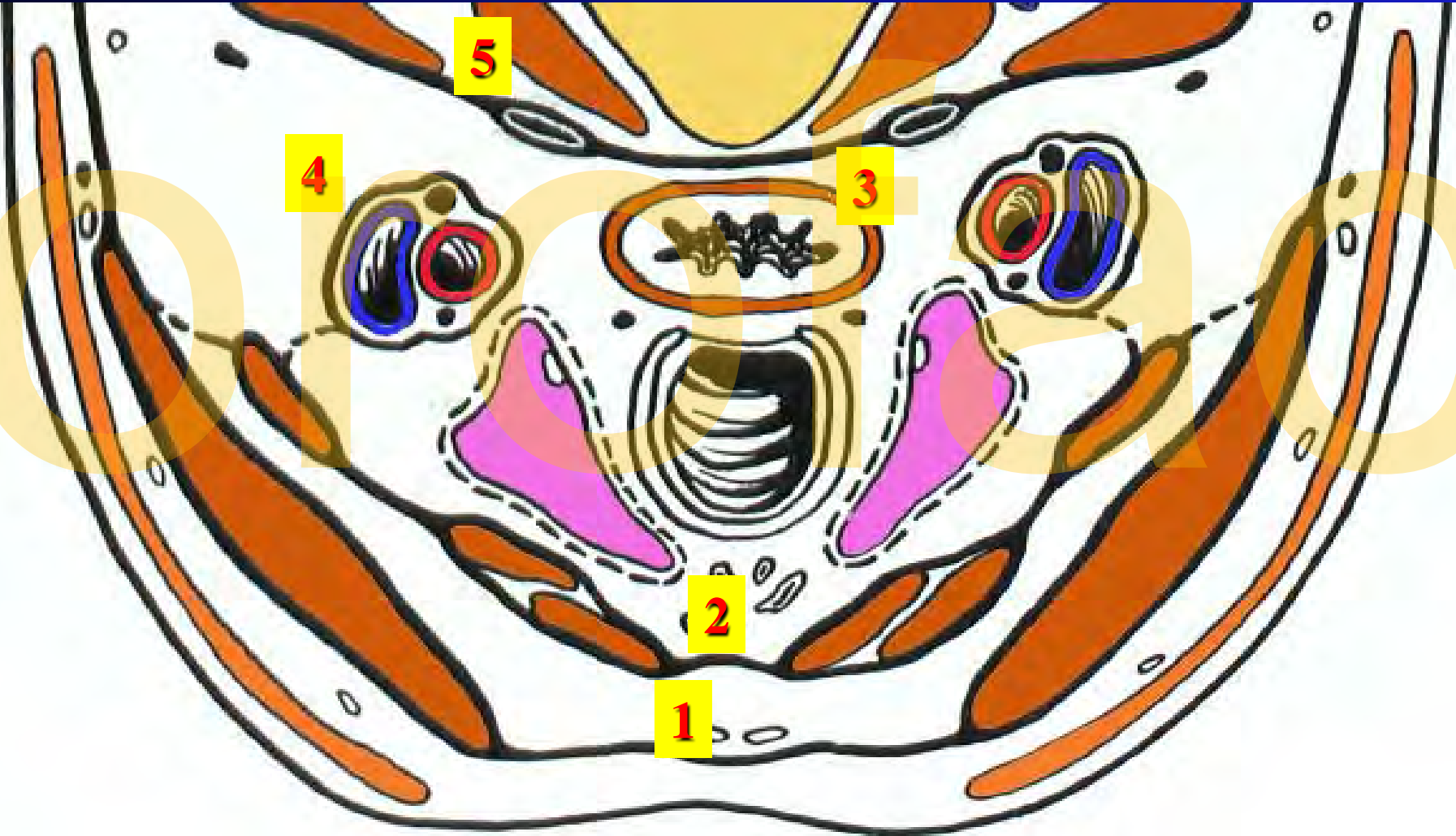
❖ Suprasternal space

- ❖ Between spf. F. and pretracheal one
- ❖ arcus venosus juguli

Spatia colli

Neck spaces

- | | |
|-------------------------|-----------------|
| 1 – sp. suprasternale | suprasternal |
| 2 – sp. pretracheale | pretracheal |
| 3 – sp. retroesophageum | retroesophageal |
| 4 – sp. paraviscerale | paravisceral |
| 5 – sp. prevertebrale | prevertebral |



* _

oedemapreepiglotticum

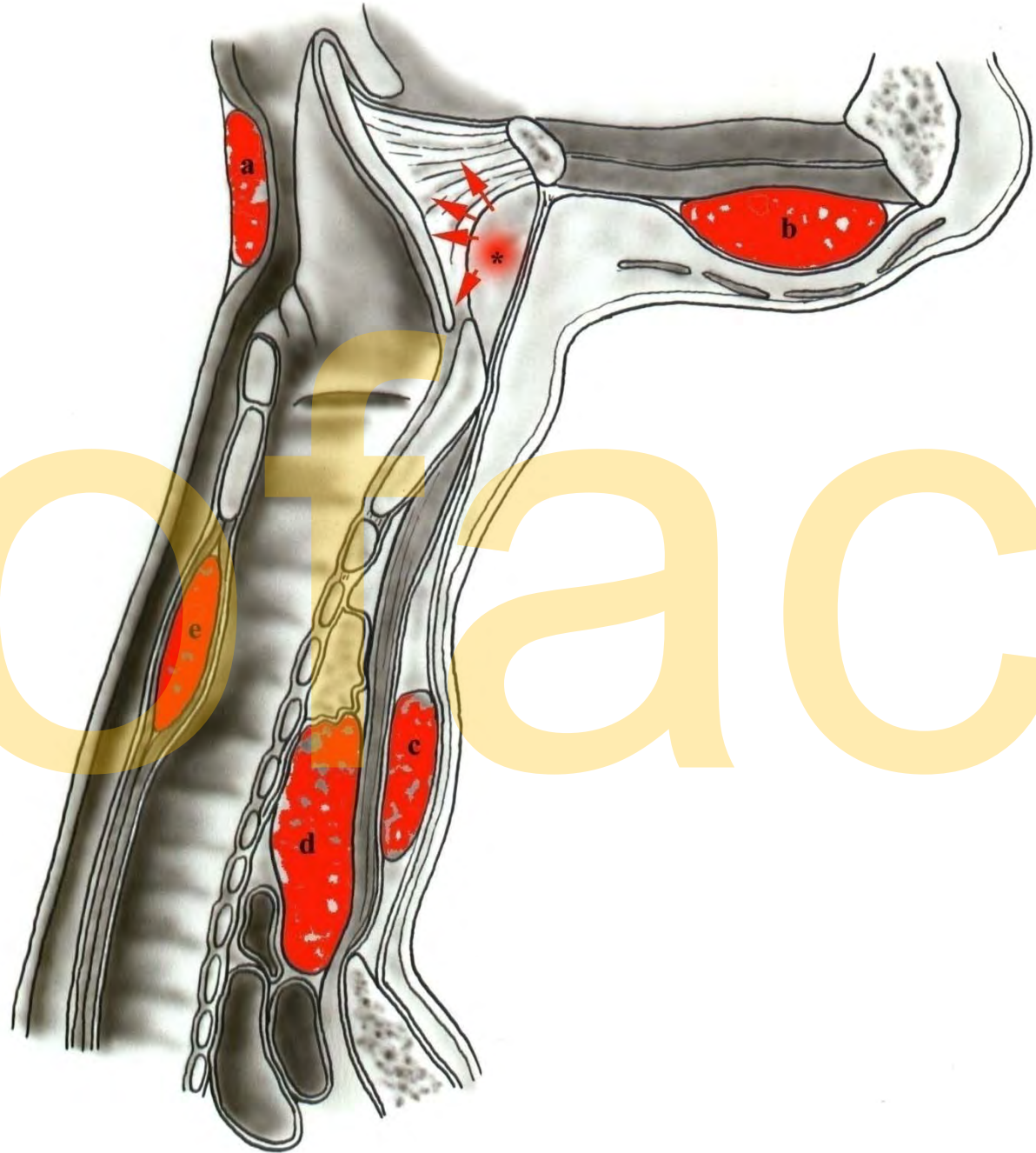
a – **retropharyngealis abscessus**

b – **submandibularis abscessus**

c – **suprasternalis abscessus**

d – **pretrachealis abscessus**

e – **retrotrachealis abscessus**

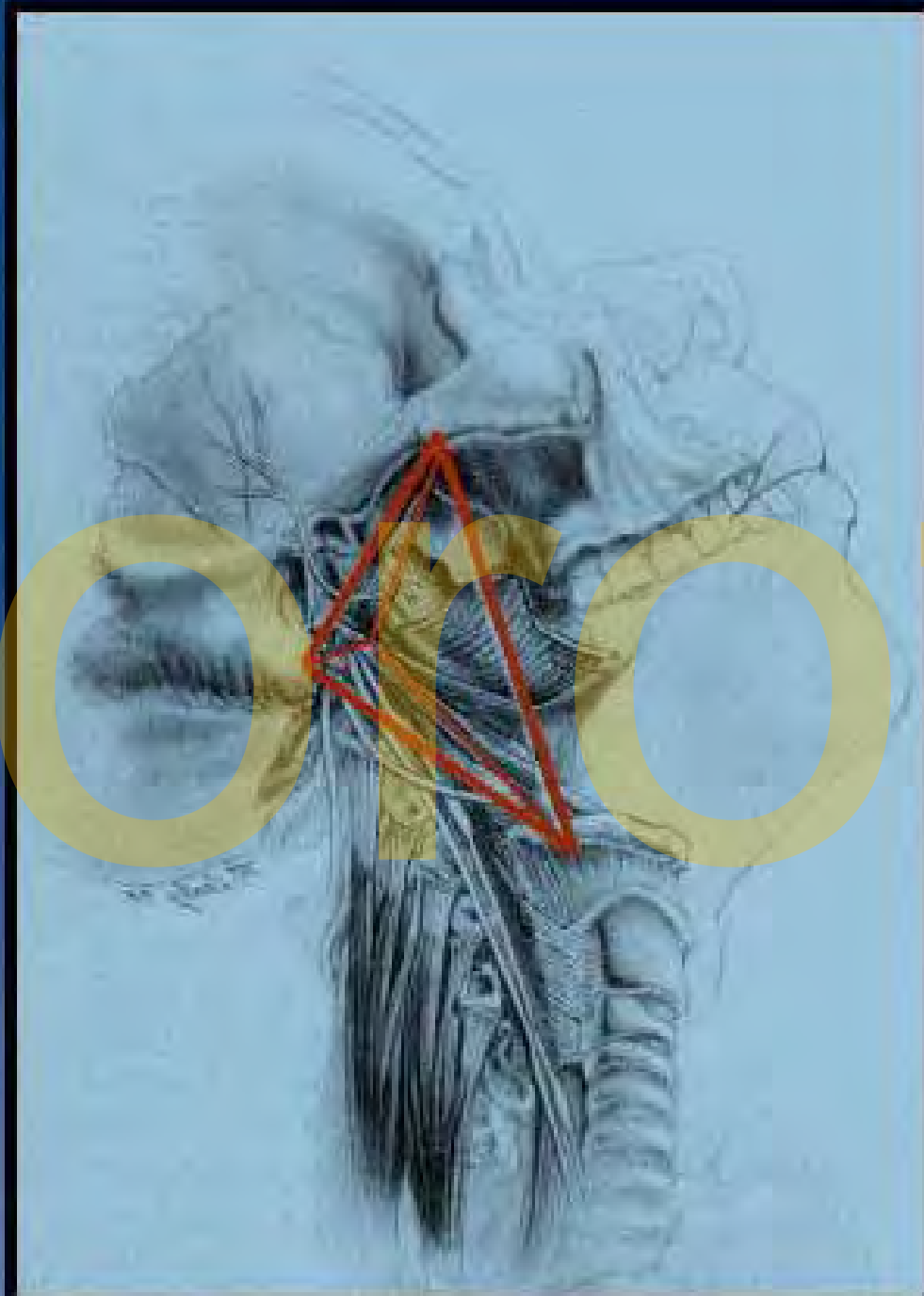


Pharyngeal tissue spaces

Parapharyngeal space (lateral pharyngeal space) lies around the pharynx – between pharynx, parotid gland, pterygoid muscles, skull base and suprahyoid structures (it is partially divided by the styloid process and styloid septum)

Intrapharyngeal space lies between inner surface of the superior constrictor muscle and the pharyngeal mucosa

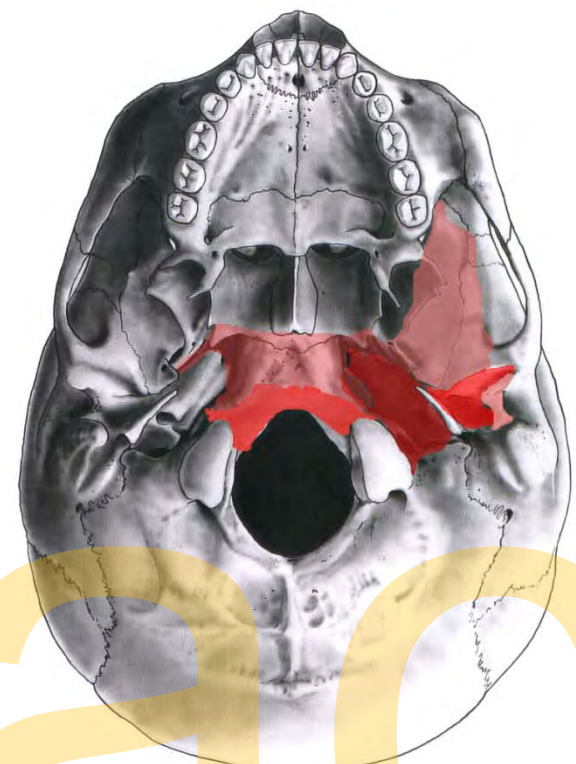
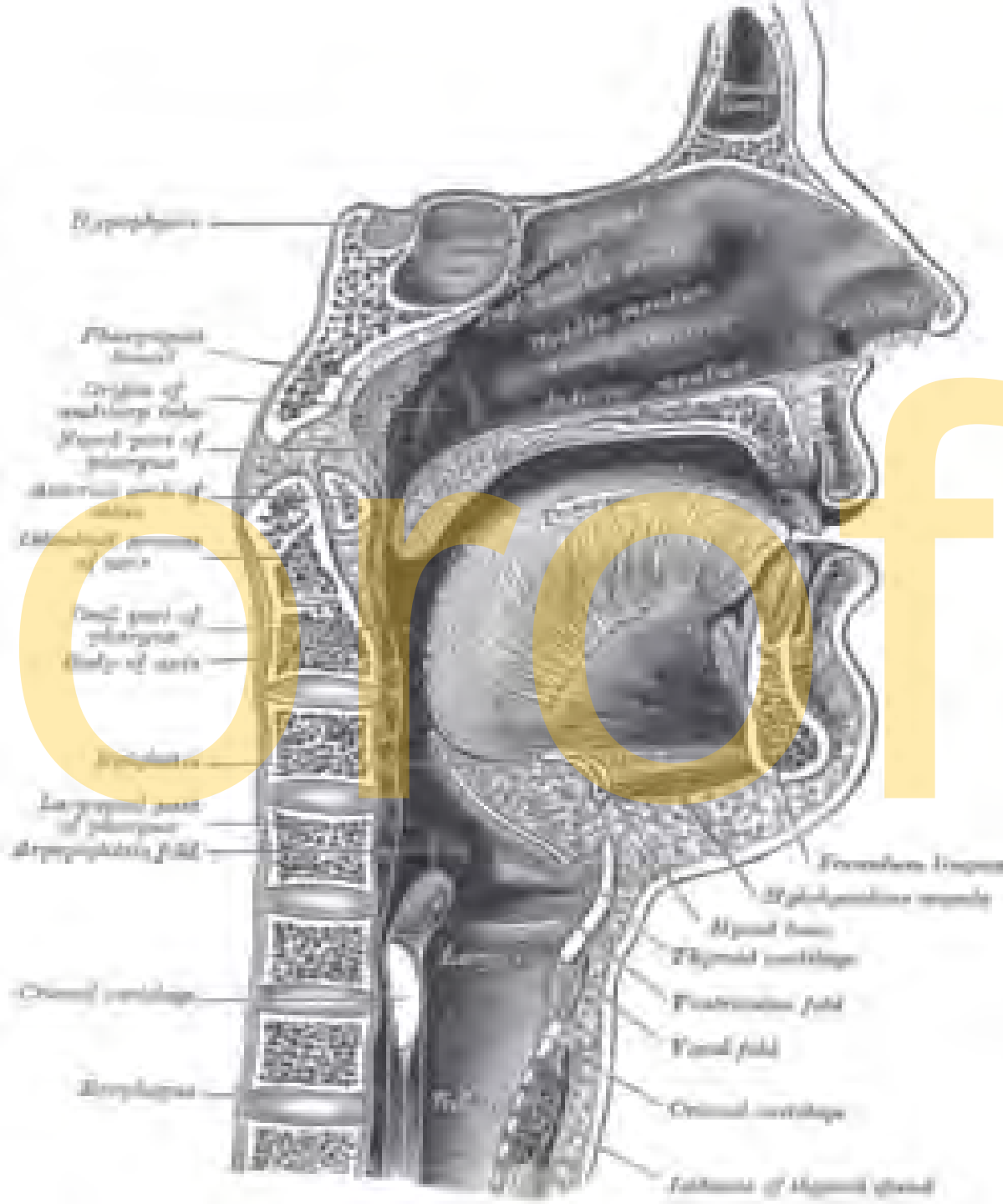
part of this space is peritonsillar space



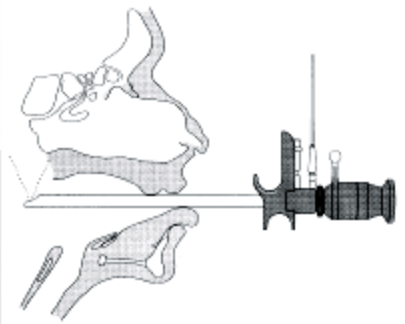
Parapharyngeální
prostor

Parapharyngeal
space

(Work and Hybels. Laryngoscope 1974;84:1748-1755.)



Torus Passavanti
 Passavantū val
 Passavant's swelling



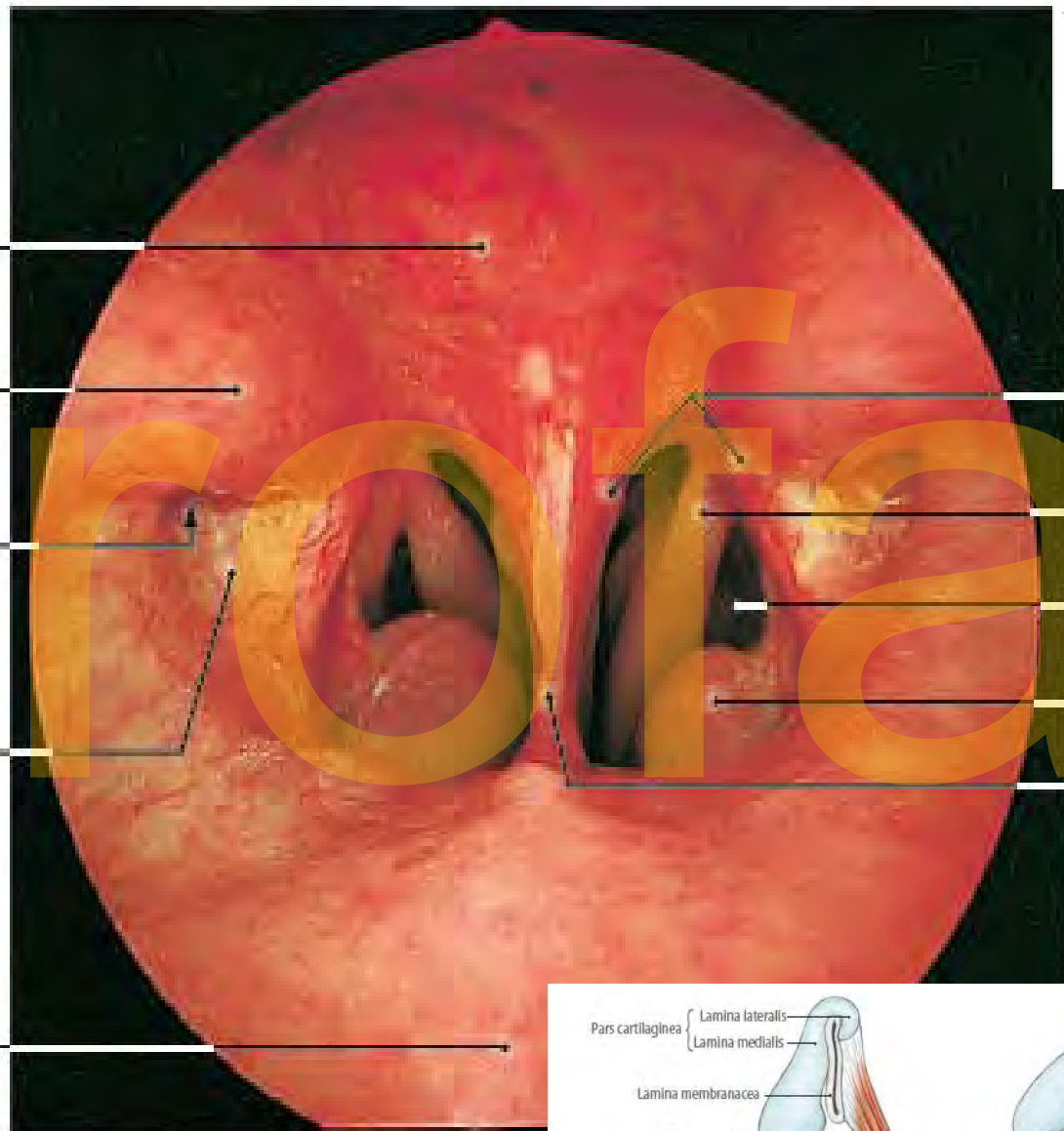
Tonsilla pharyngea

Torus tubarius

Ostium pharyngeum
tubae auditivae

Torus levatorius

Palatum molle



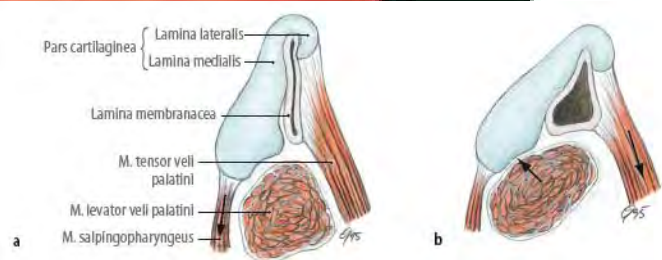
Choane

Concha nasalis media

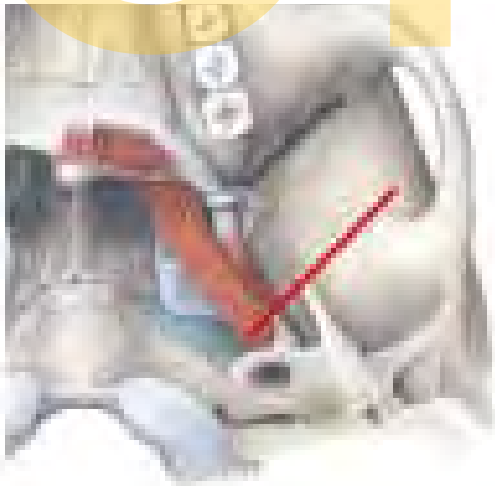
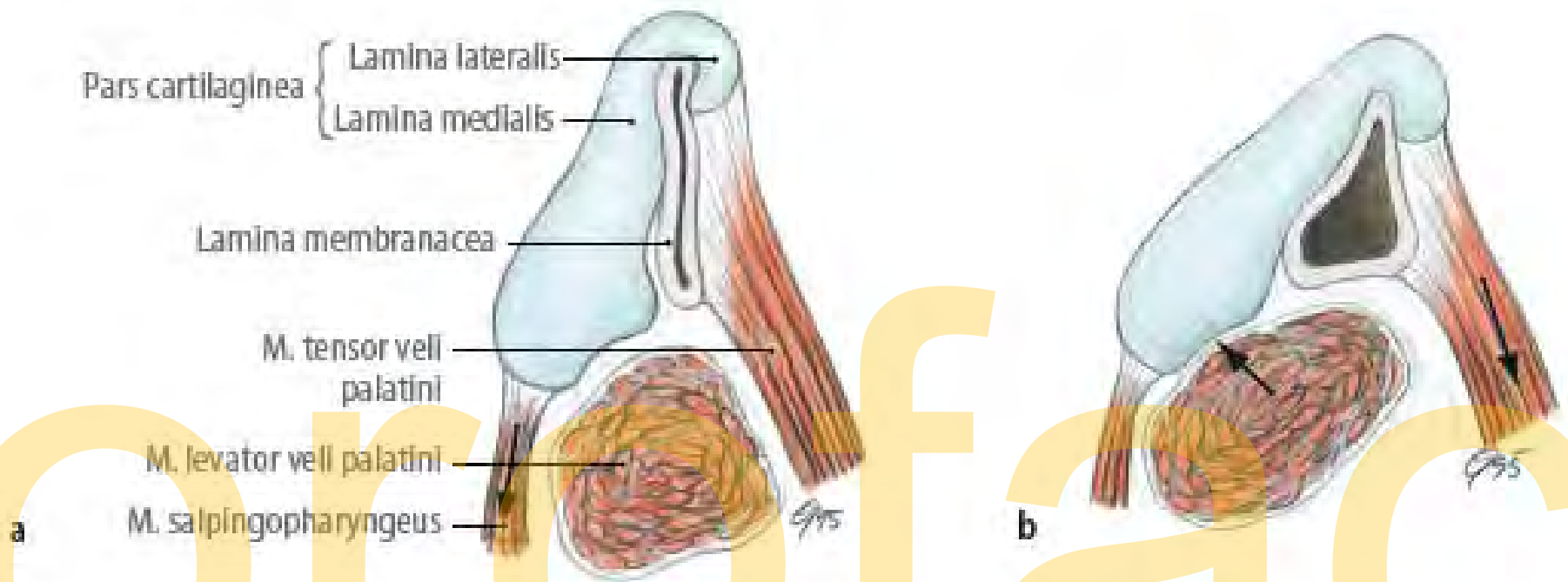
Meatus nasi medius

Concha nasalis inferior

Septum nasi



a Bei geschlossenem und
b bei geöffnetem Lumen.

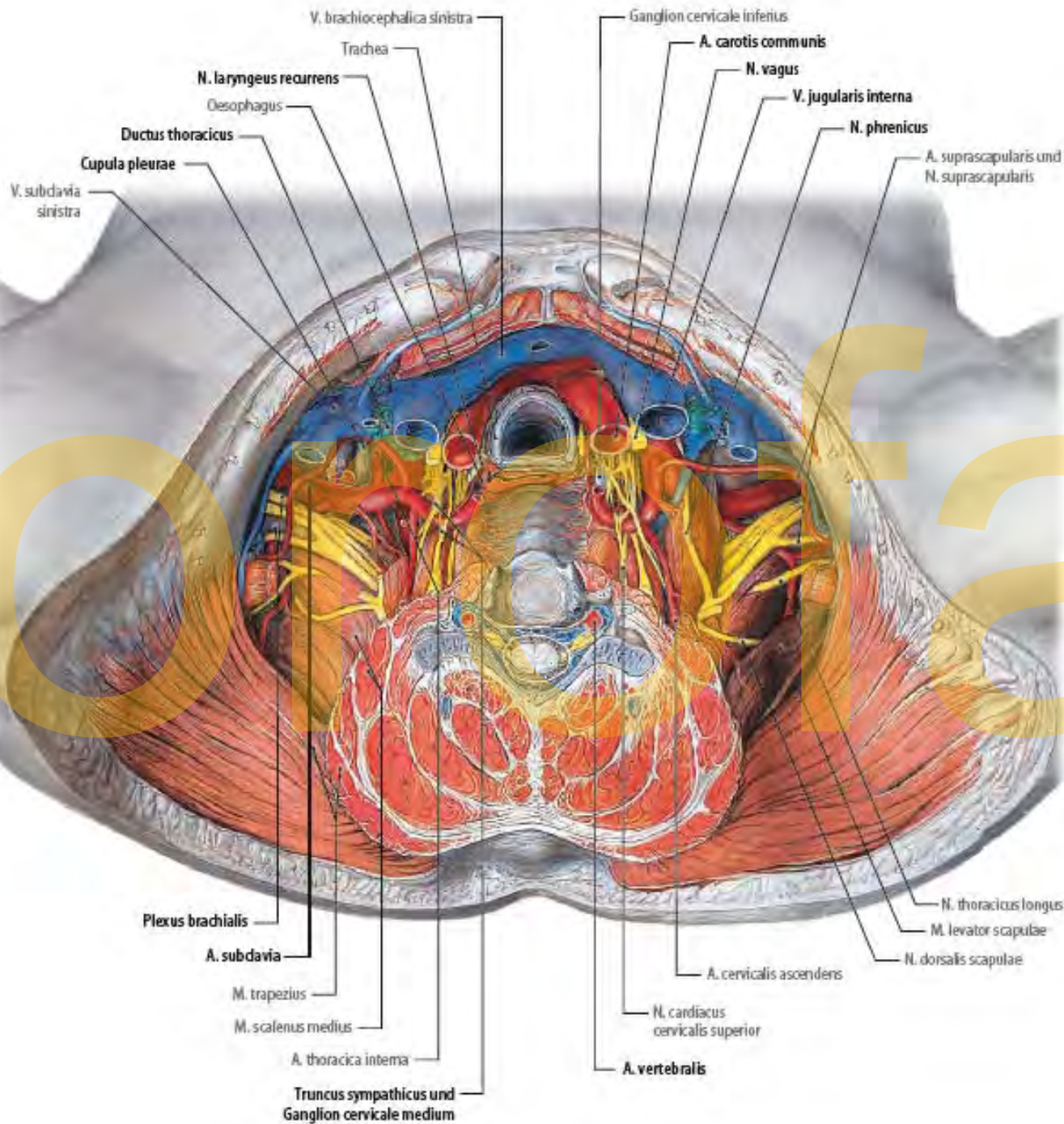


Tensor rozširuje ústí
levator zahajuje rozšíření
tensor dilates tuba
levator starts opening process of
tuba

Retropharyngeal space

**lies between pharynx and the
prevertebral fascia**

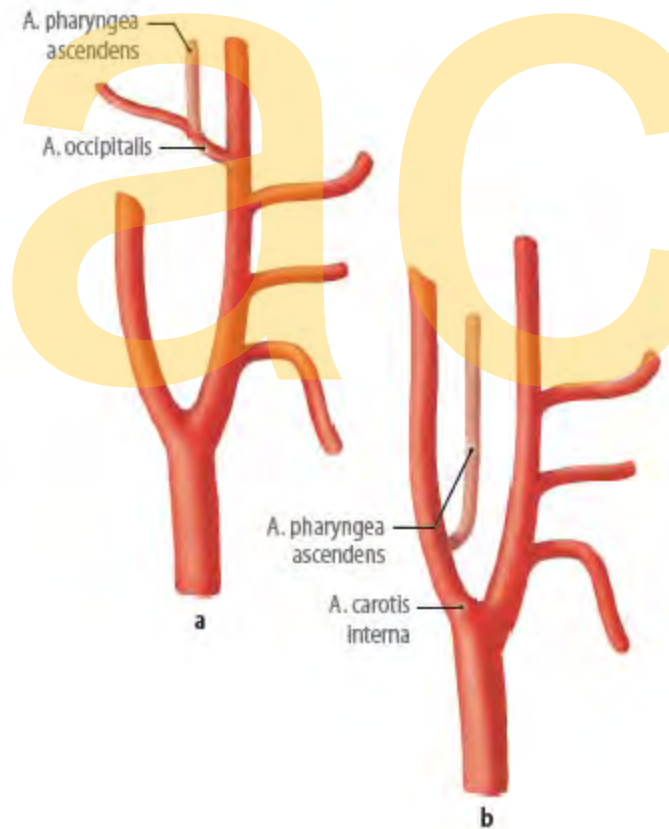
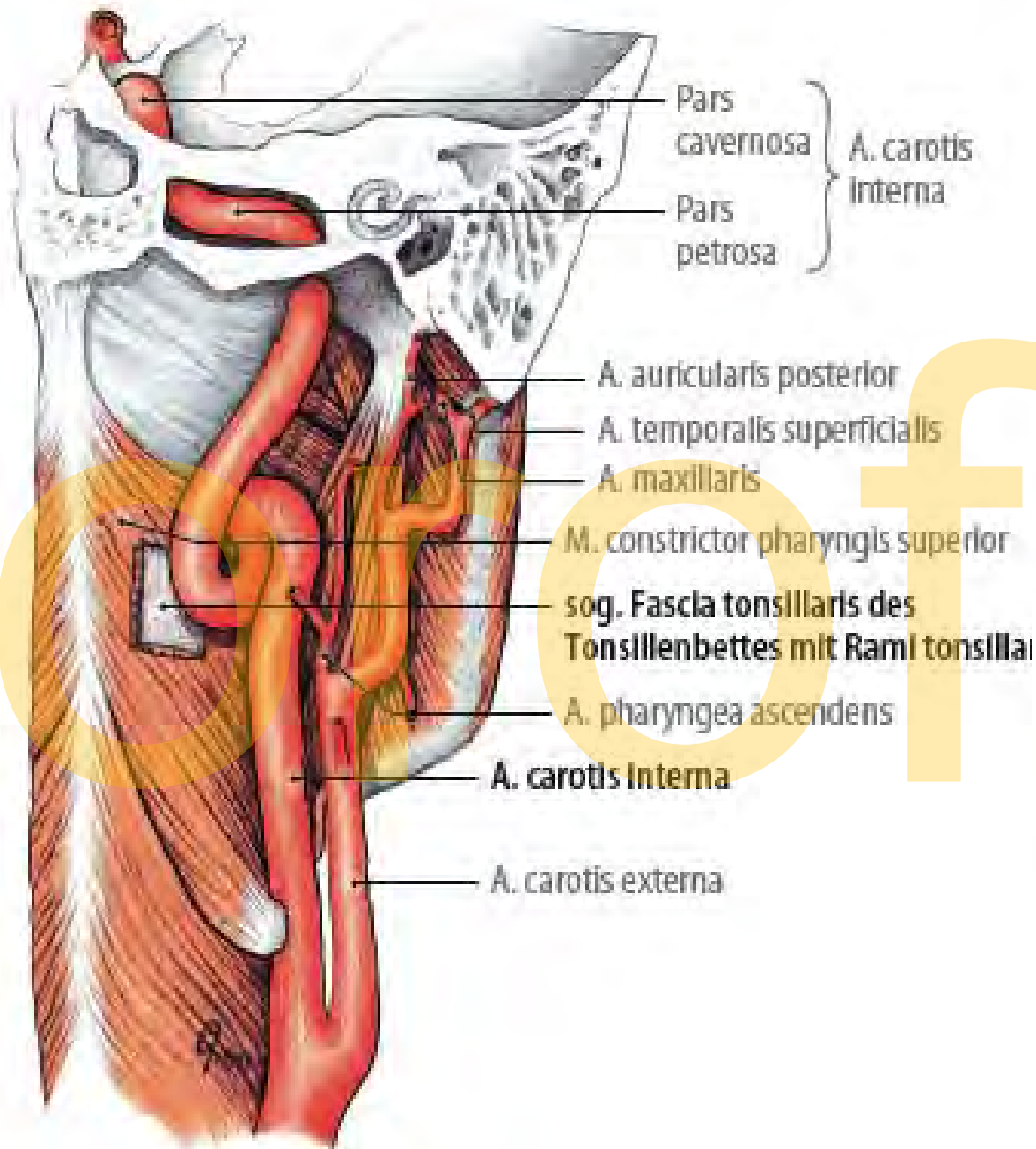
**lies between superficial temporal fascia
and (*squamous part of the temporal bone*)**









Luschkov
prostor

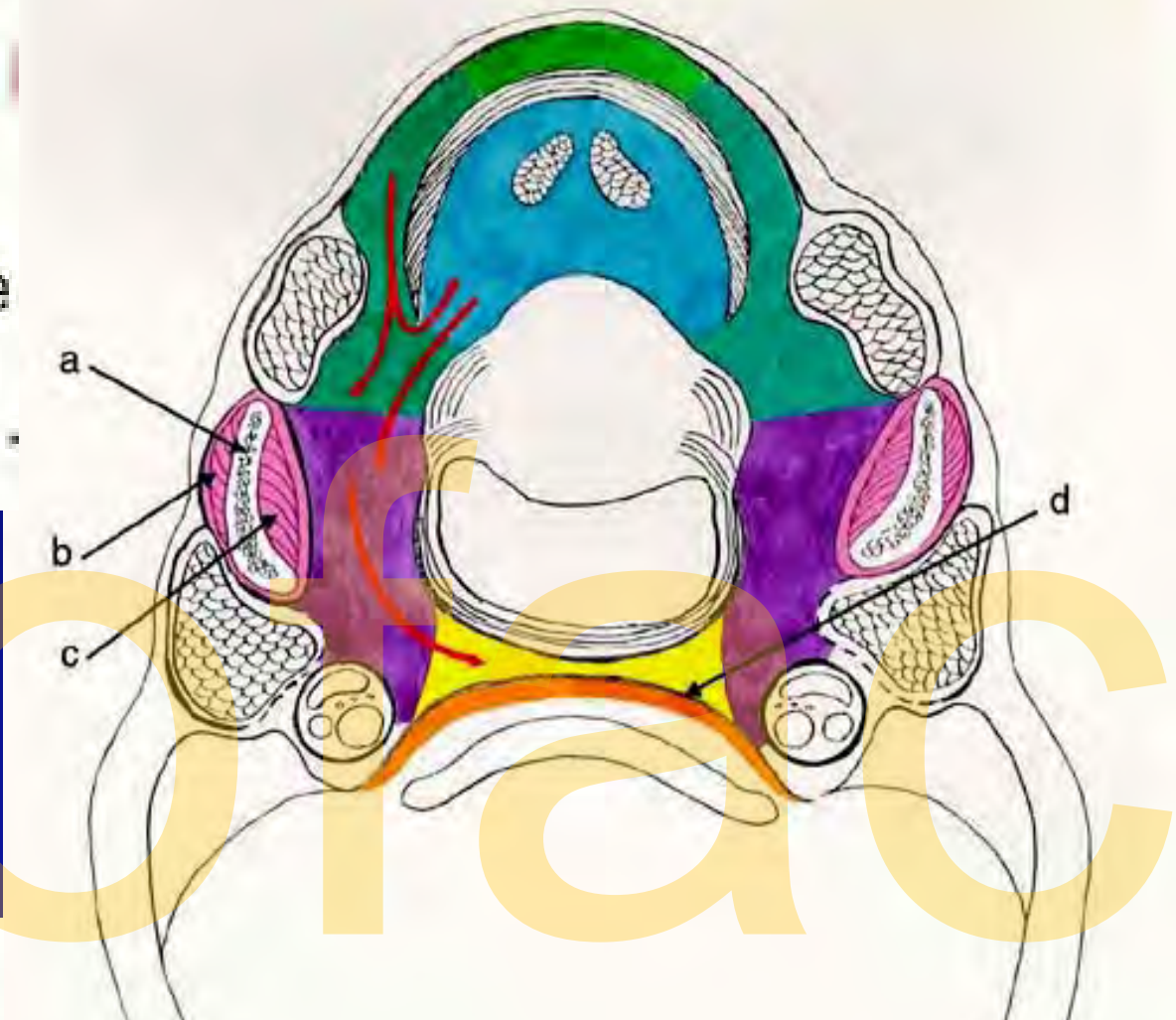
Luschka
space



Perifaryngové prostora Peripharyngeal spaces



-  - submental space
-  - submaxillary space
-  - sublingual space
-  - lateral pharyngeal space
-  - retropharyngeal space
-  - danger space #4

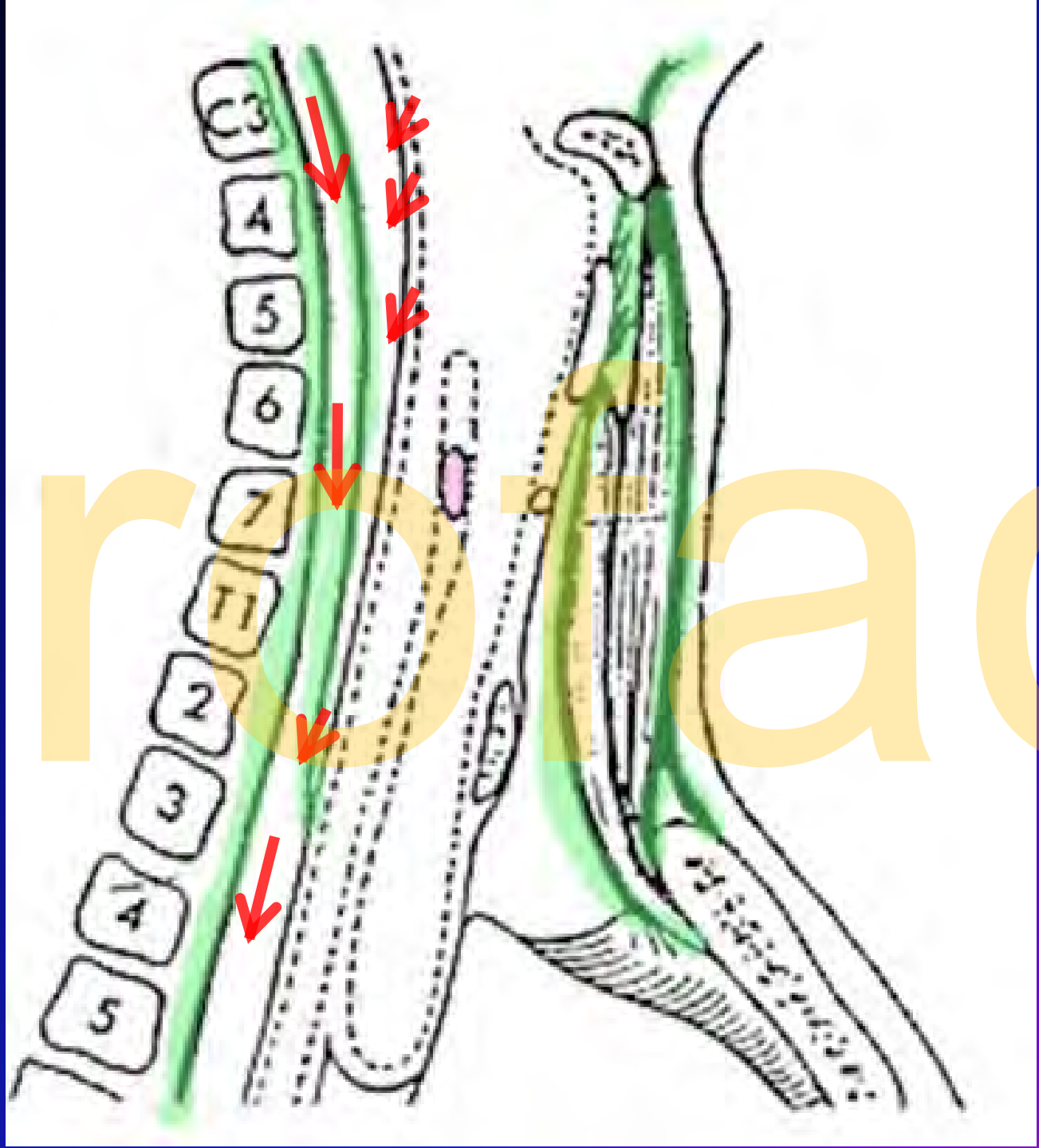
Level of lower jaw



-  - masticator space
- a- ramus of the mandible
- b- masseter muscle
- c- medial pterygoid muscle
- d- alar fascia
-  - infection pathway

Retrovisceral space is divided into retropharyngeal space and danger space using alar fascia (intercarotic). Clinically important – proceeding from skull basis to posterior mediastinum !!!!!

O



or a c

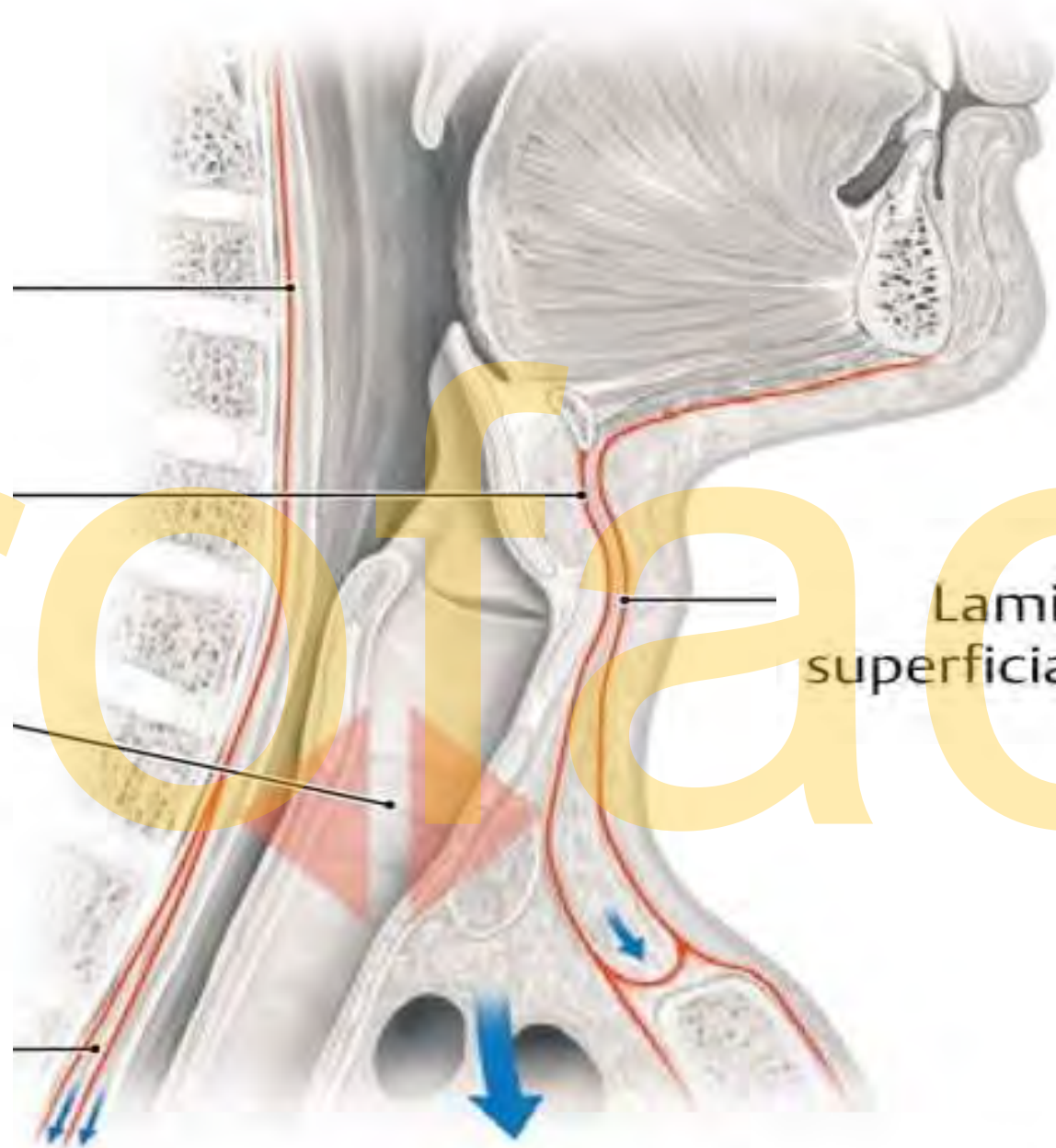
c

Lamina
prevertebralis

Lamina
pretrachealis

zervikaler
Gleitraum
(Eingeweide-
raum)

— „danger
space“



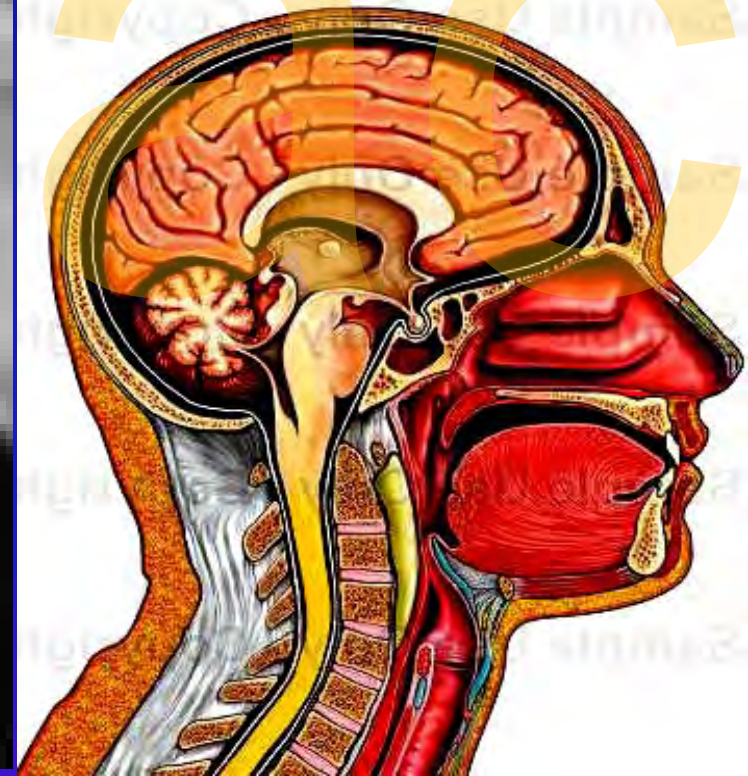
Lamina
superficialis 2

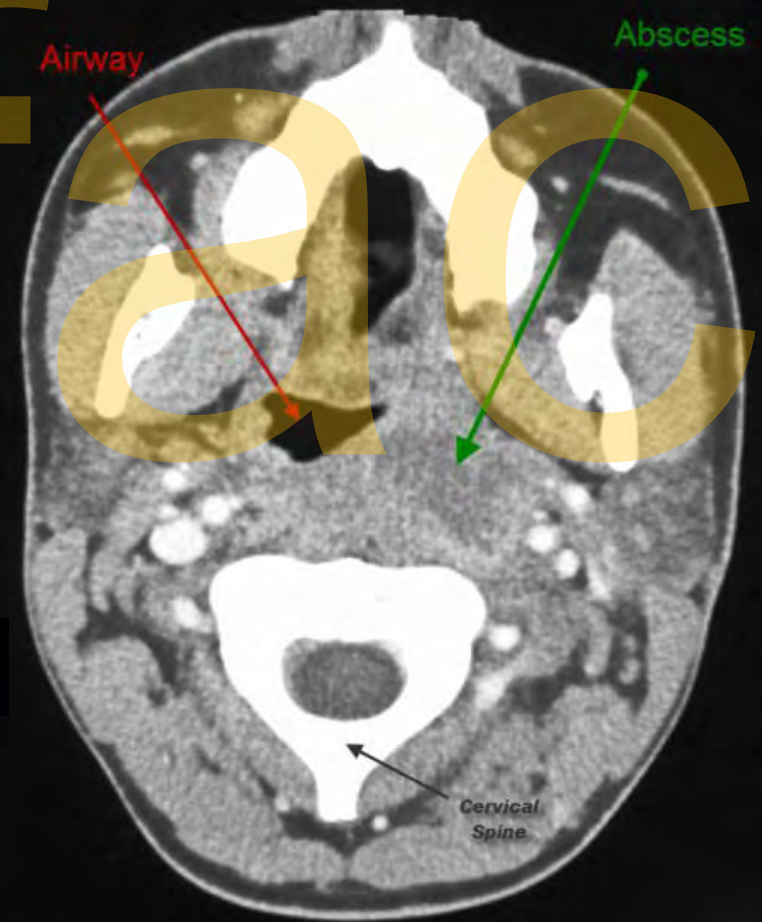
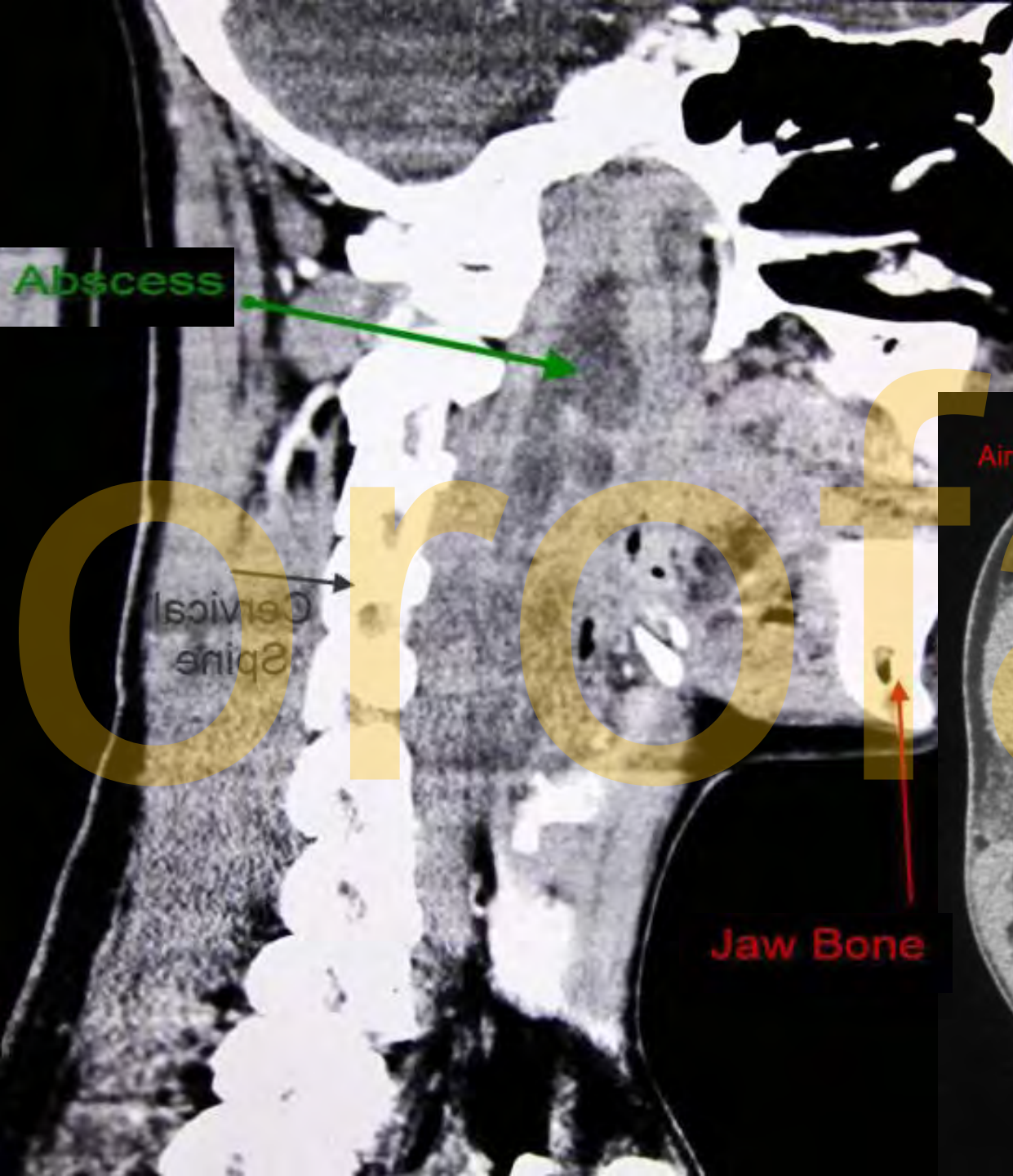
Mediastinum

d

Abscessus retropharyngealis

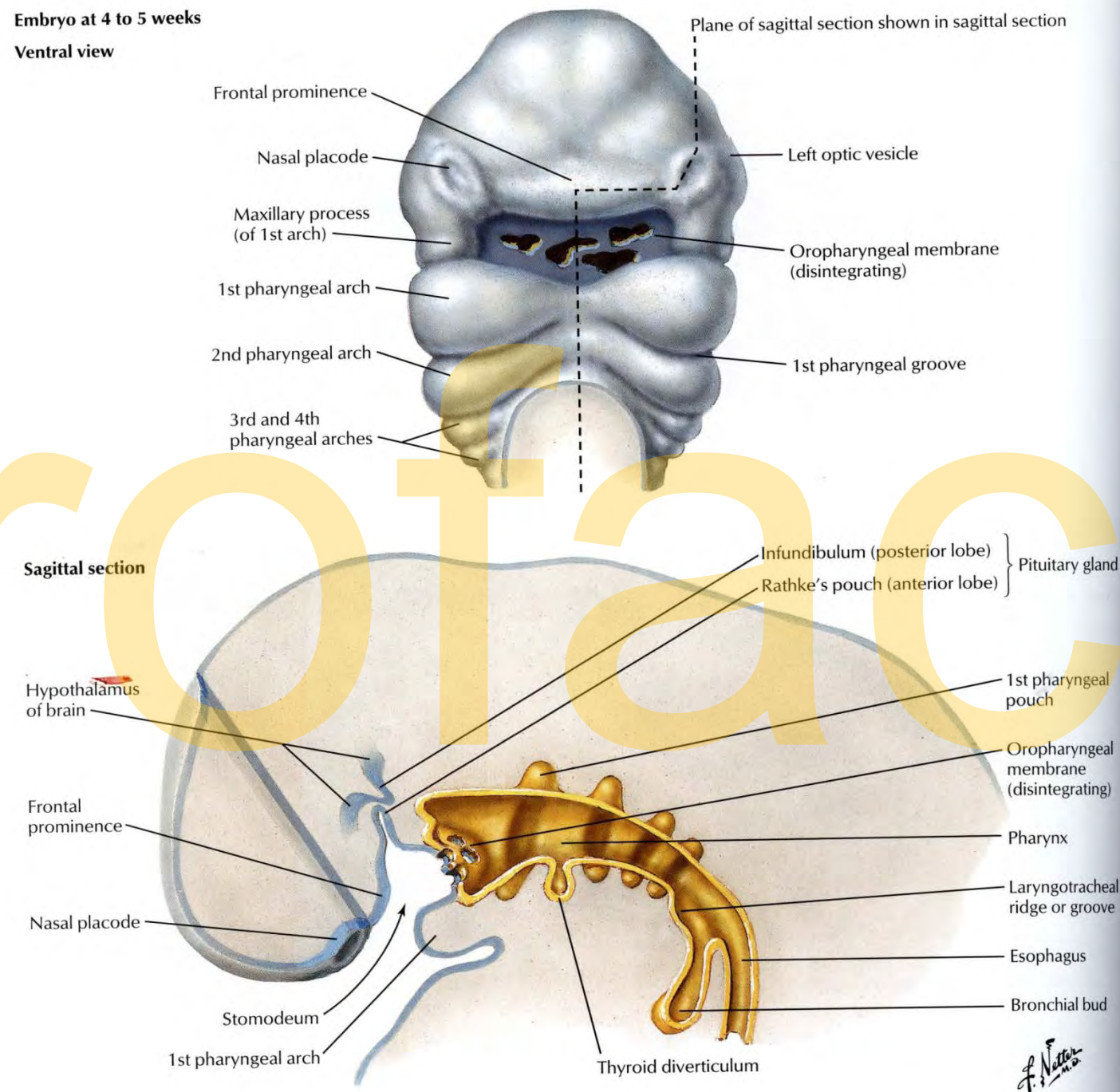
Retropharyngeal abscess



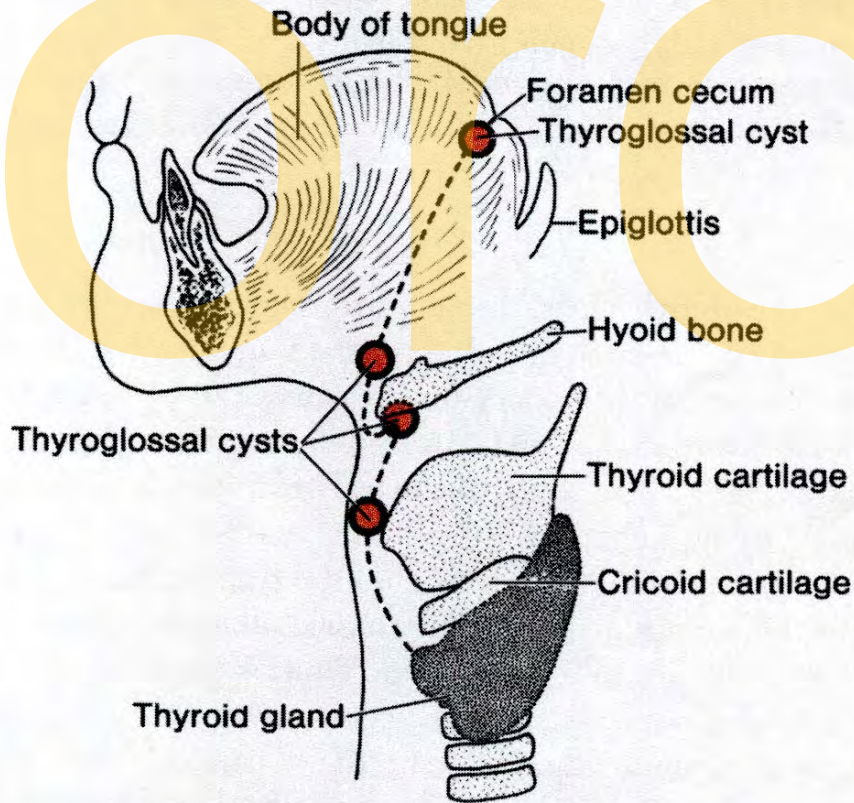


Glandula thyroidea

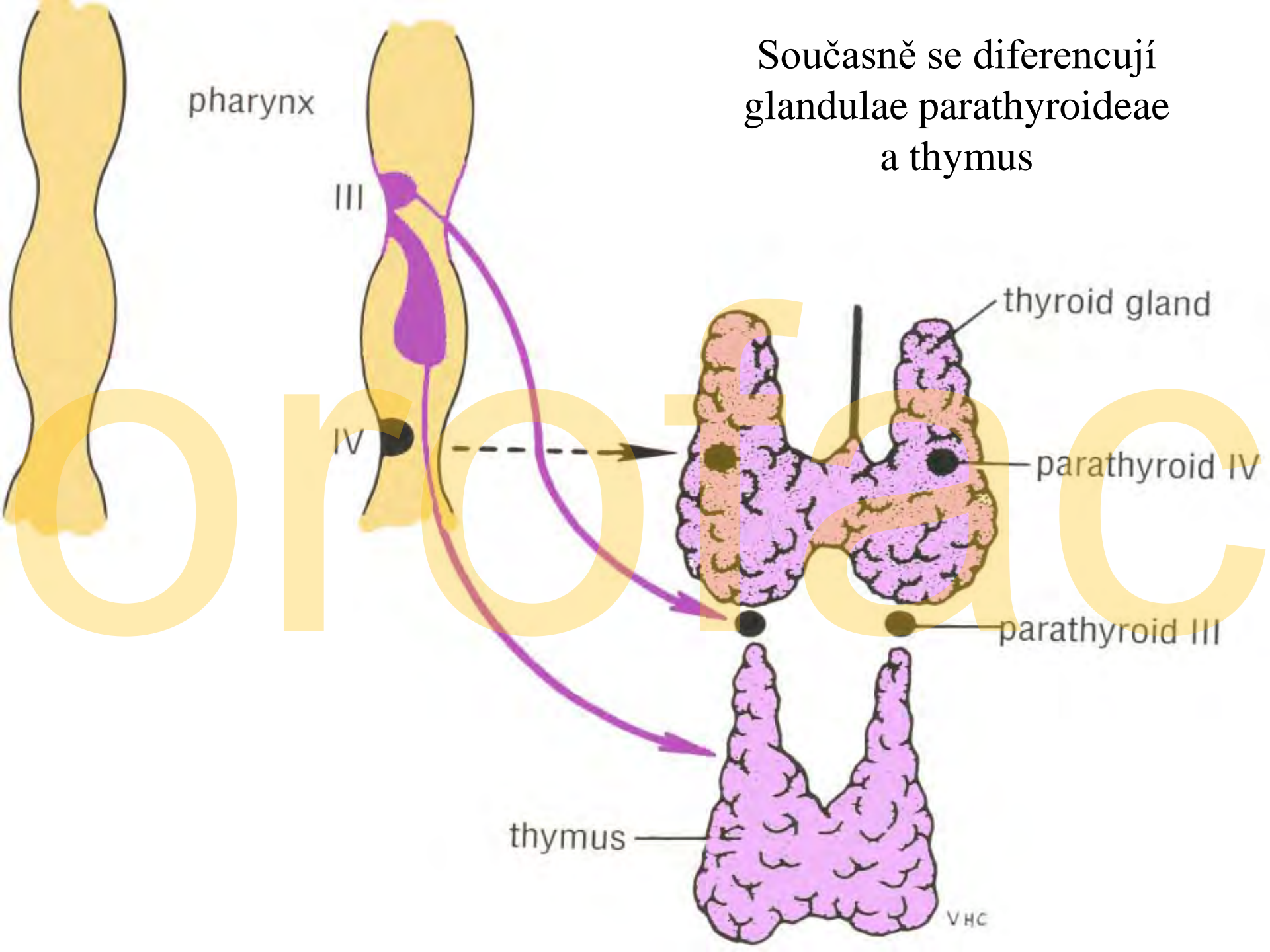
Vzniká proliferací epitelu mezi copula a tuberculum impar

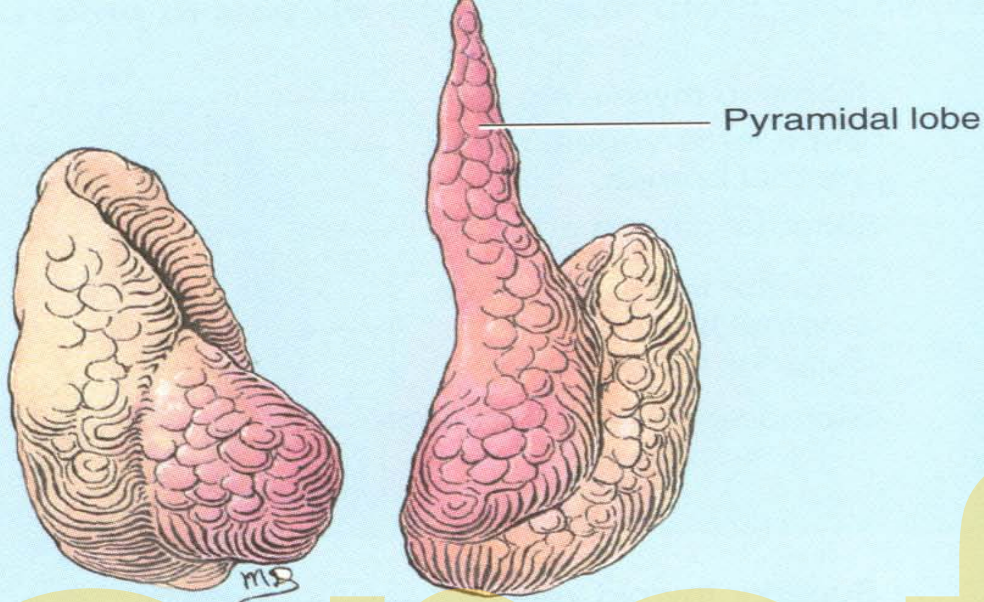


Sestup základu žlázy mohou doprovázet anomálie ductus thyroglossus



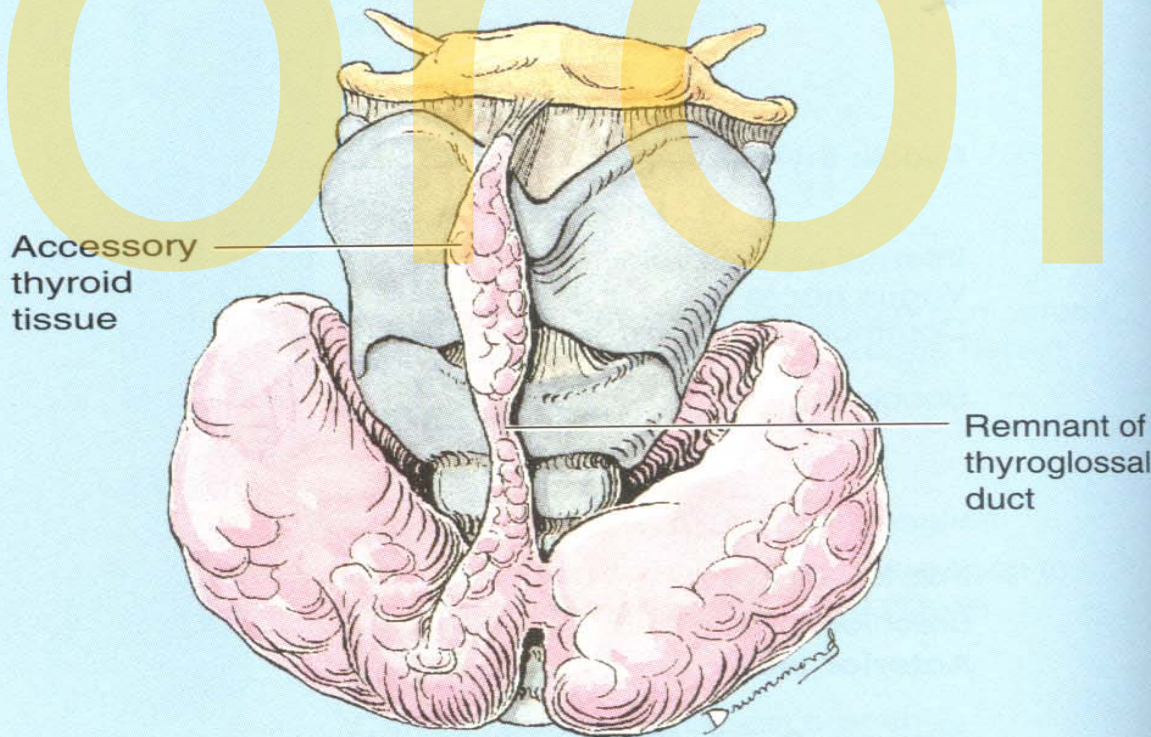
Současně se diferencují
glandulae parathyroideae
a thymus





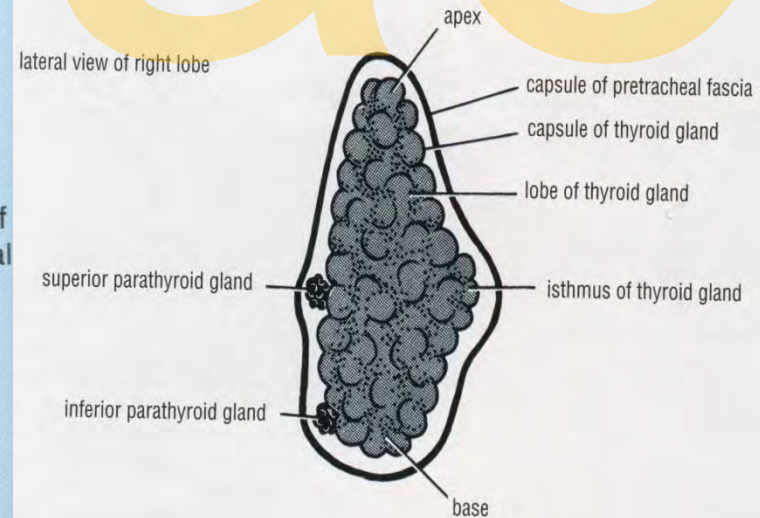
Pyramidal lobe

Absence of isthmus



Glnadula thyroidea

External form, covers, varieties



Some developmental disturbancies

Ductus thyroglossus persistens

Cysta thyroglossalis + fistula thyroglossalis

—
Lies in the middle neck line; follow descent of thyroid
gland;

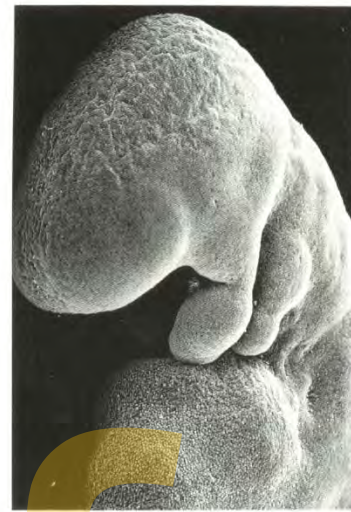
Glandulae thyroideae aberrantes

In the tongue basis

Tzv. mm.
thyroglosseales
a vazivové
spojení
s brzlíkemi



Branchial arches, grooves (clefts), pouches

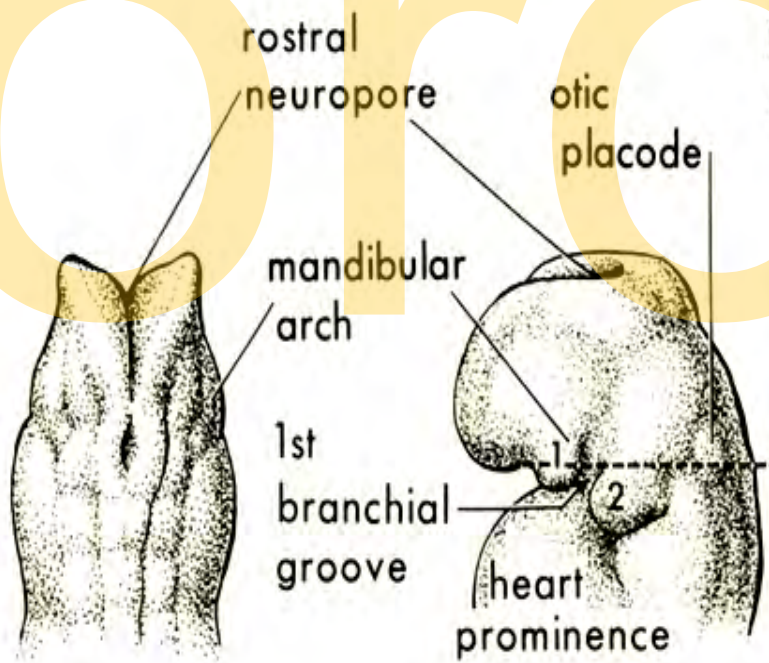


A 24 days

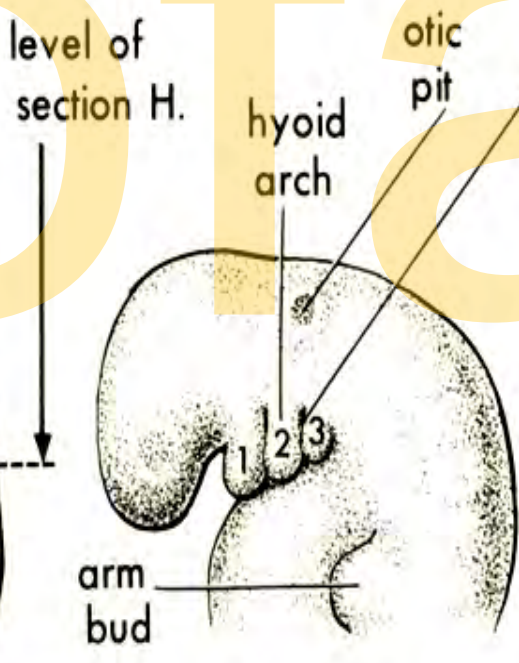
Maxillary swelling
Mandibular swelling



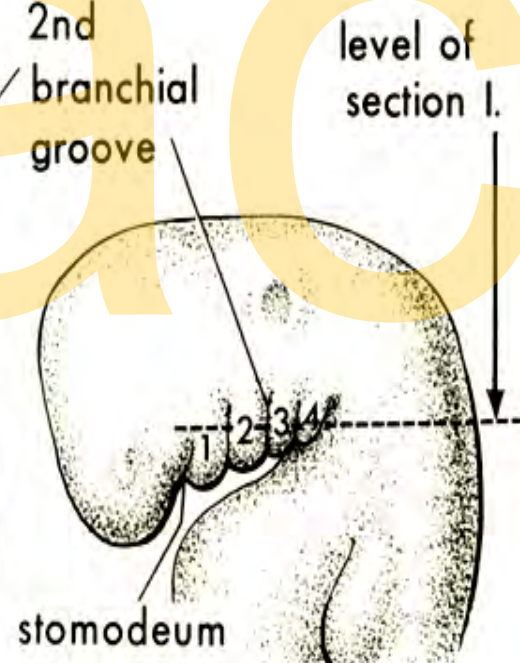
B 27 days



A. 23 ± 1 day

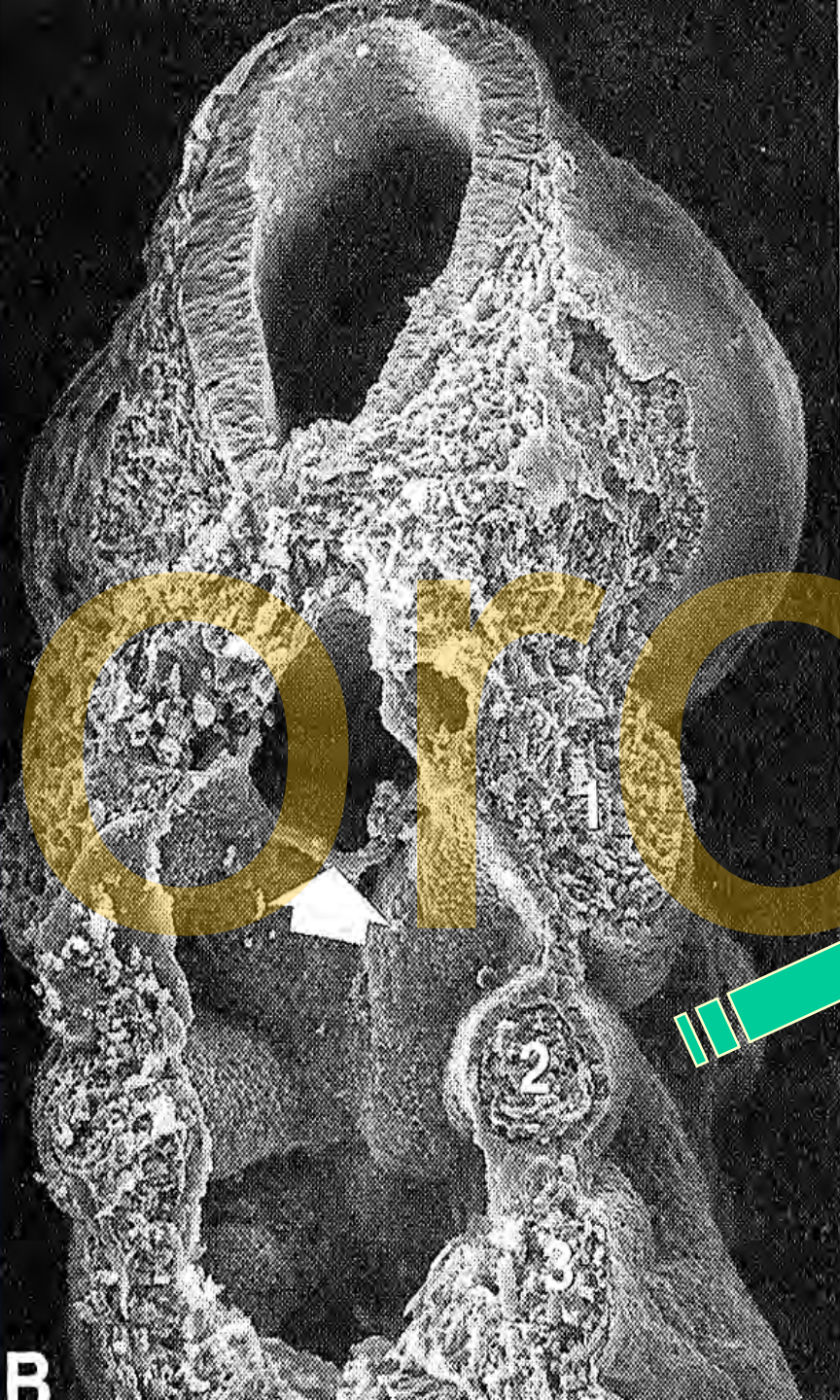


B. 24 ± 1 day

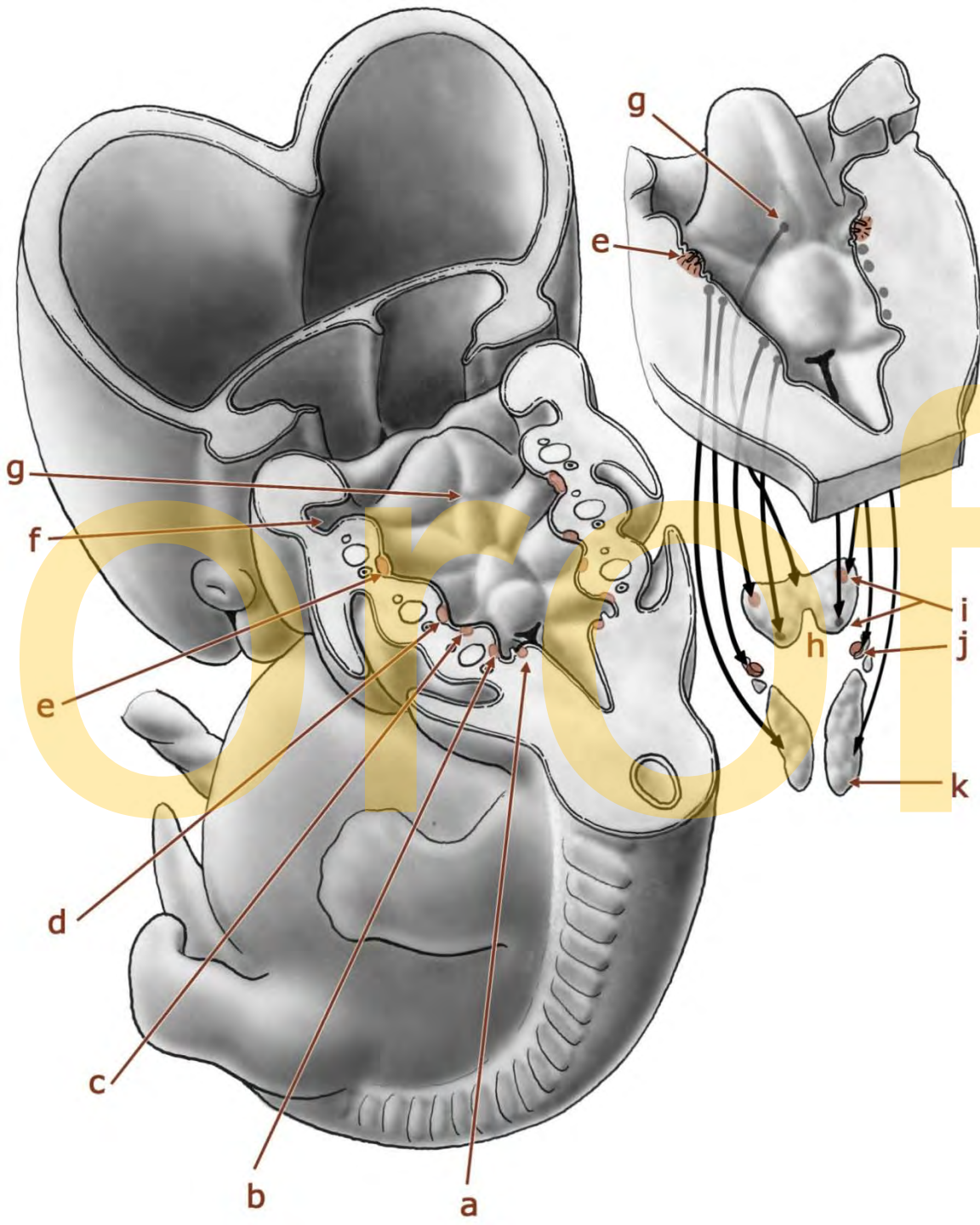


C. 26 ± 1 day

D. 28 ± 1 day



B



Development of branchial arches and entodermal pouches.

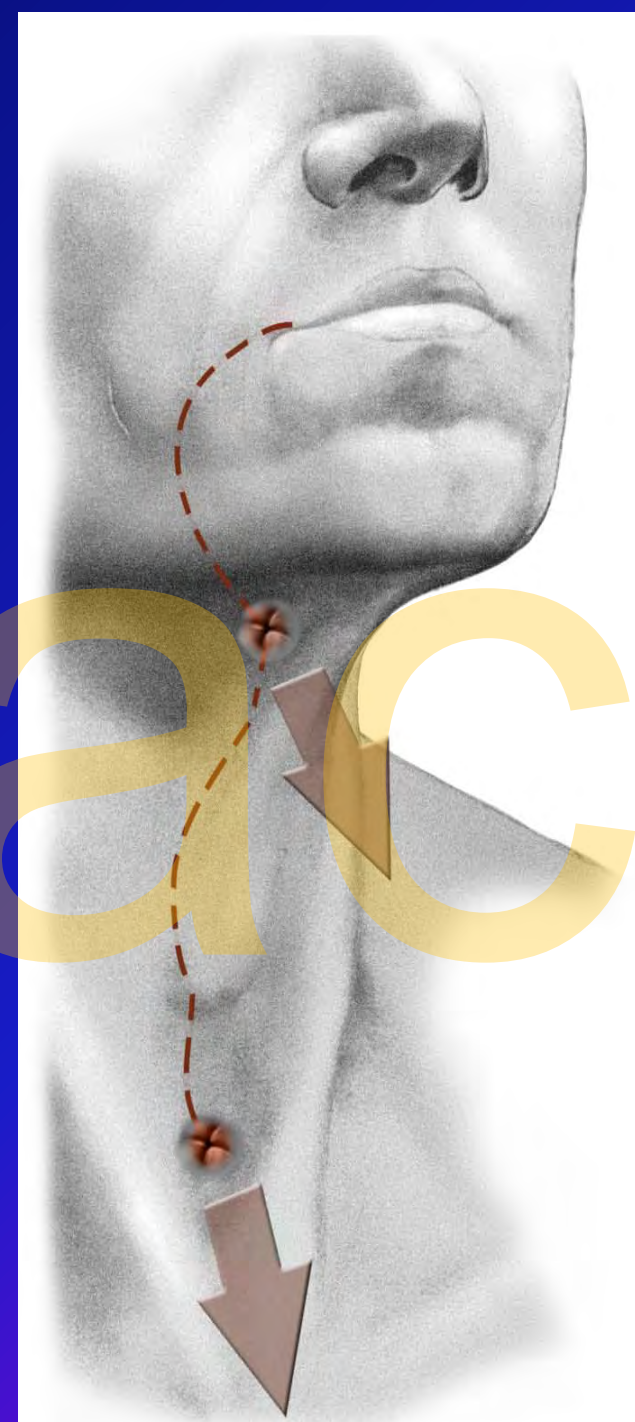
1, 2, 3, 4 – branchial arches, a – primordium of ultimobranchial body, b – primordium of inferior parathyroid gland, c – thymus primordium, d – primordium of superior parathyroid gland, e – palatine tonsil primordium, f – tuba auditiva primordium, g – opening to thyroglossal duct, h – thyroid gland, i – parathyroid glands, j – ultimobranchial body, k - thymus

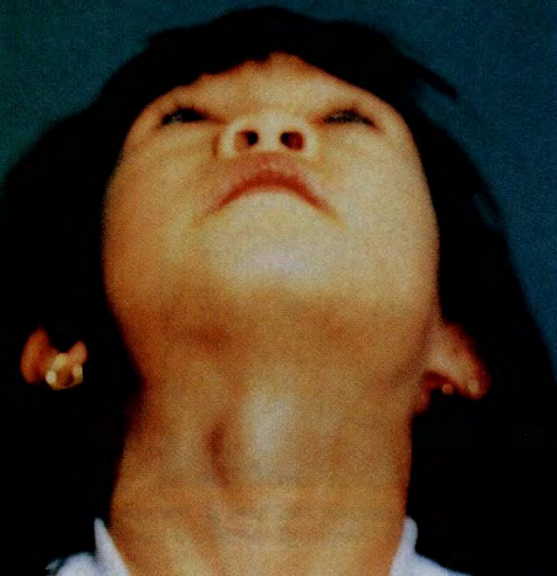
Thyroglossal cyst

develops from epithelial material of *thyroglossal duct*. Its remaining pieces can be appeared between *foramen caecum linguae* and *isthmus glandulae thyroideae* (they are in midline only).

Sometimes are transformed to **aberant thyroid glands**, with hormonal activities. Duct has to be separated from stripped and narrow *m. thyroglossus*. This muscle connects thyroid gland surface and tongue root; it is a part of infrahyoid muscles. Cysts lie either in tongue root or in hyoid region. They can be opened to surface in foramen caecum (canal) as a **thyroglossal fistula**.

27 / 4A





Orofac

Thyroglossal cyst

Thyroglossal cyst. These cysts, which are remnants of the thyroglossal duct, may be anywhere along the migration pathway of the thyroid gland. They are commonly found behind the arch of the hyoid bone. An important diagnostic characteristic is their midline location.

1. Pharyngeal arch

1. Pharyngeal pouch

Maxillary processes, mandibular processes, Meckel's cartilage

Premaxilla, maxilla, os zygomaticum, membranous part of temporal bone

mm. masticatorii, ventral belly of m. digastricus, m. mylohyoideus, m. tensor tympani, tensor veli palatini

V. nervus

recessus tubotympanicus, meatus acusticus externus, cavitas tympani, tuba Eustachii auditiva

Inner surface of eardrum

2. Pharyngeal arch

2. Pharyngeal pouch

processus styloideus cartilago Reichert's

Stapes, processus styloideus, lig. stylohyoideum, cornua minora
hyoidei, upper part of hyoid bone

Mimic mm., m. stapedius, m. stylohyoideus, dorsal belly of m.
digastricus, mm. auriculares

VII.nervus

Tonsilla palatina, fossa tonsillaris

Lymph tissue appear during month 3rd and 4th

3. Pharyngeal arch

3. Pharyngeal pouch

Lower part of hyoid bone and great horns

m. stylopharyngeus

IX. nervus

glandulae parathyroideae inferiores, thymus

Lymph tissue appears through week 5

4.-6. pharyngeal arch

4.-5. pharyngeal pouch

cartilago thyroidea, cricoidea, arythenoidea,
corniculatum and cuneiforme

mm. cricothyroidei, levatores palatini, constrictores pharyngeales

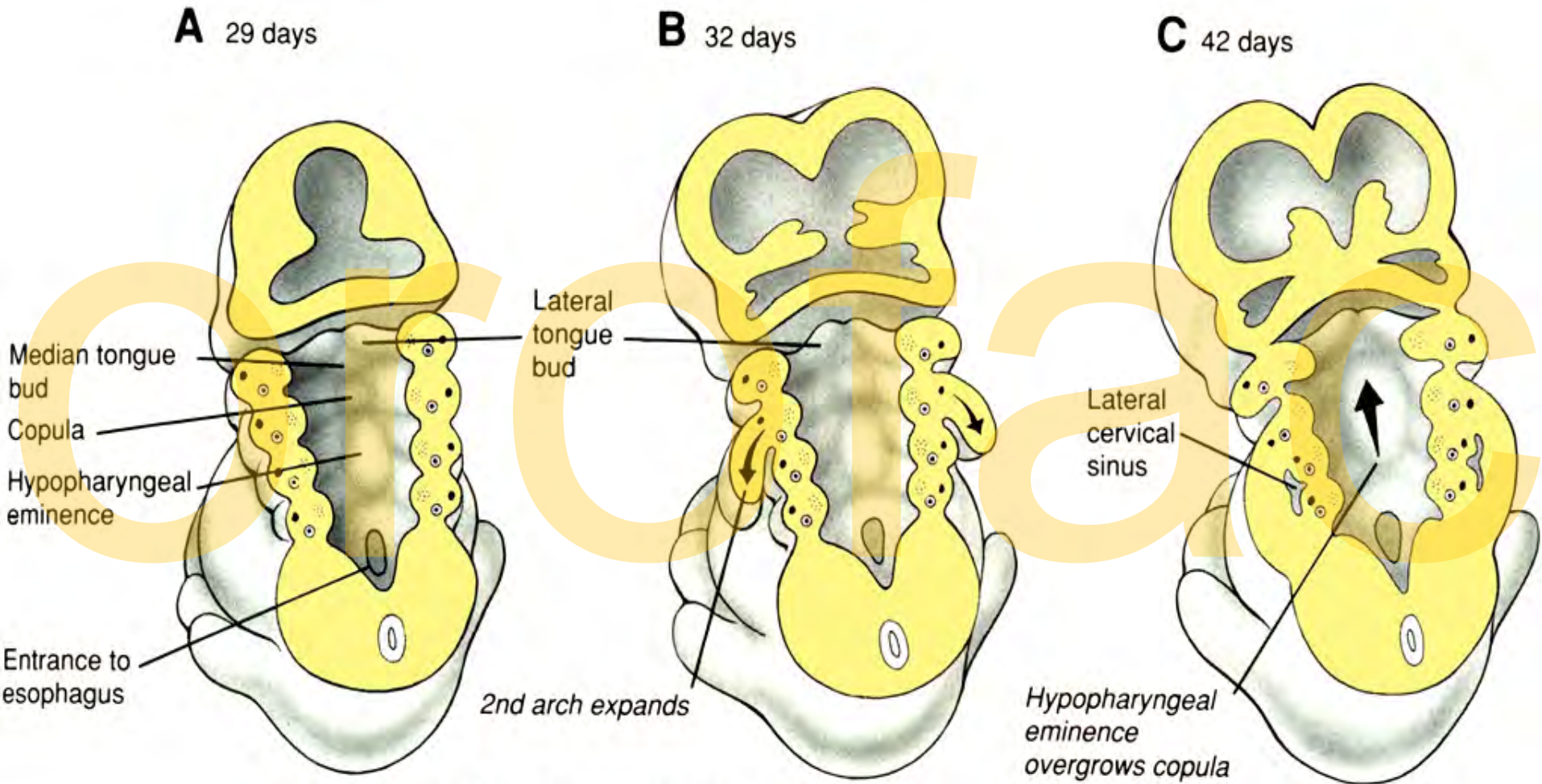
N. laryngeus recurrens (X.) nervus

Glandulae parathyroideae superiores

corpus ultimobranchiale (C body)

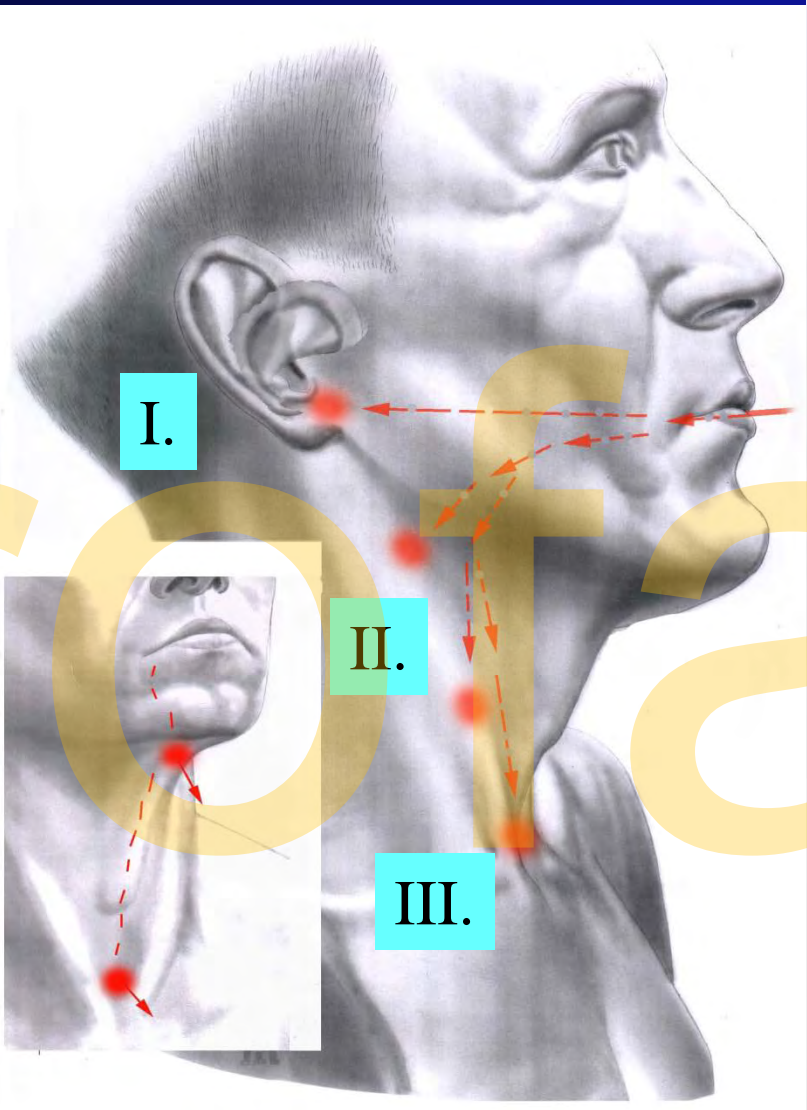
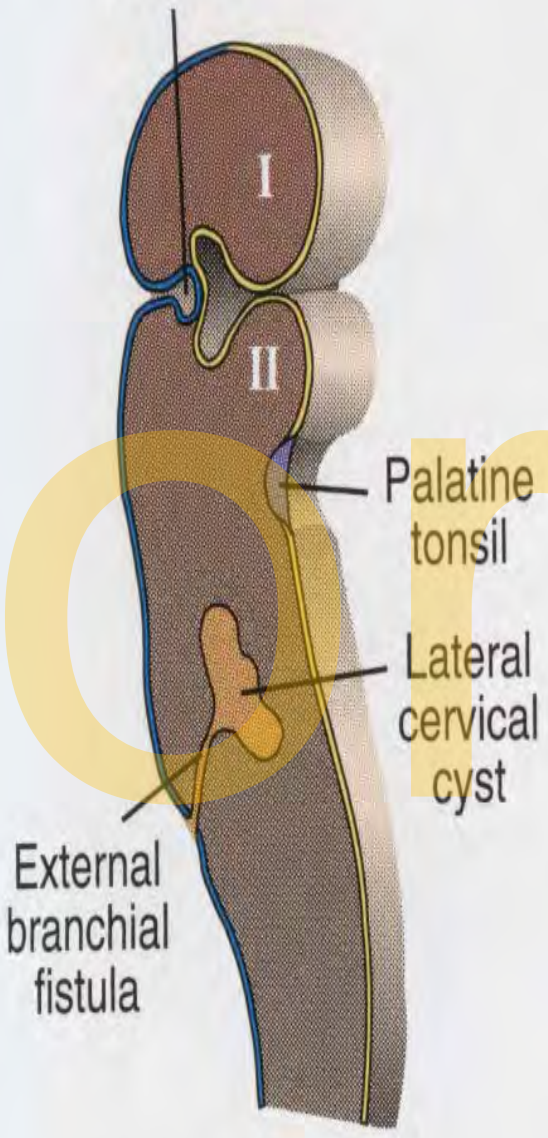
Body is involved to thyroid gland as parafollicular glands (calcitonin)

Utváření vkleslin

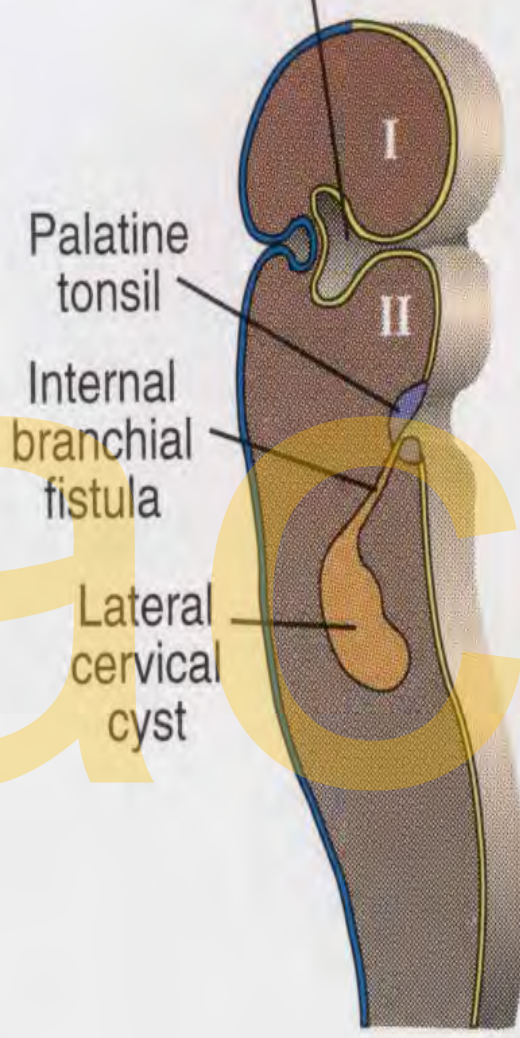


Fate of the pharyngeal clefts. The first pharyngeal cleft forms the external auditory meatus. The second pharyngeal arch expands and fuses with the cardiac eminence to cover the remaining pharyngeal clefts, which form the transient lateral cervical sinus.

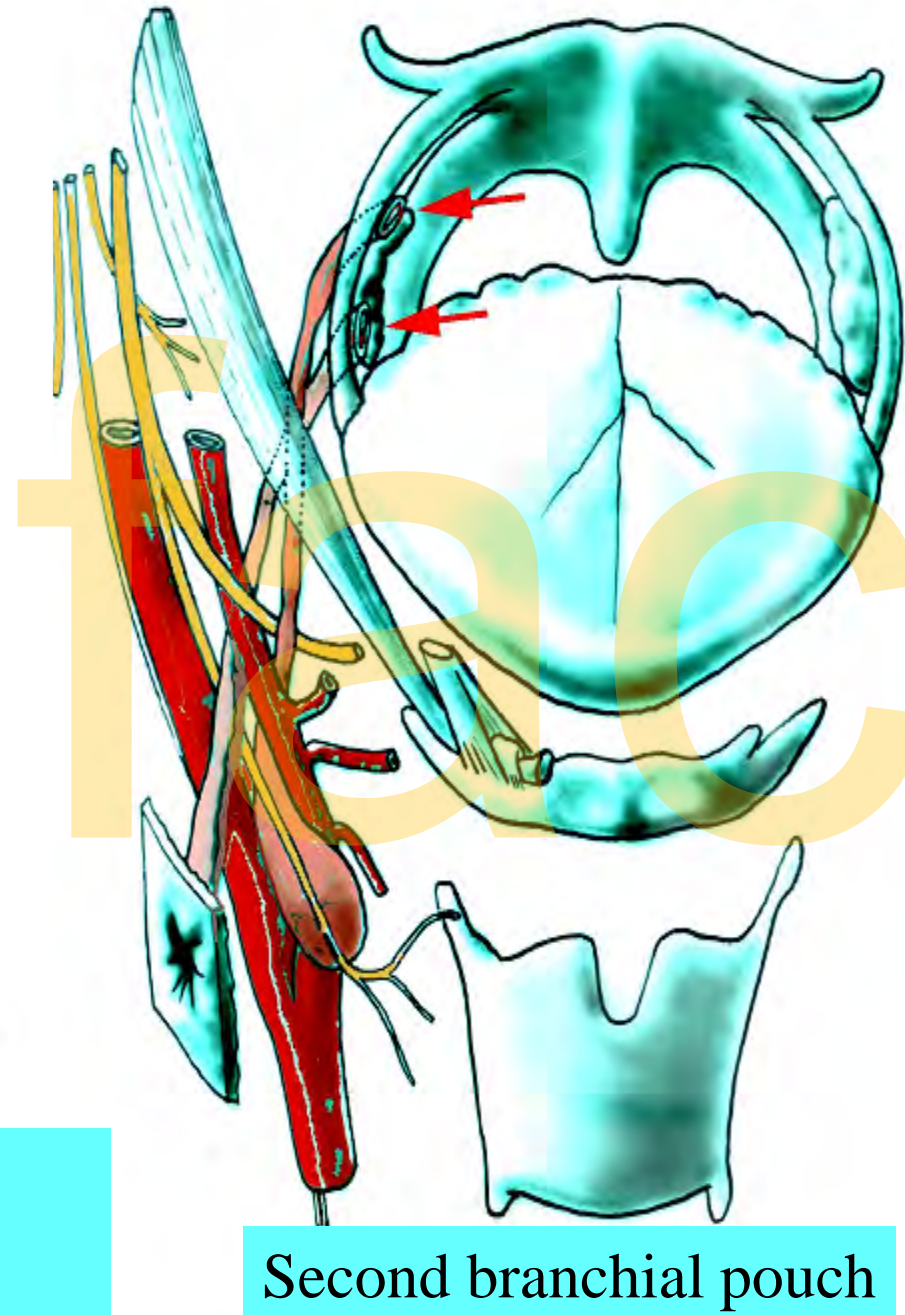
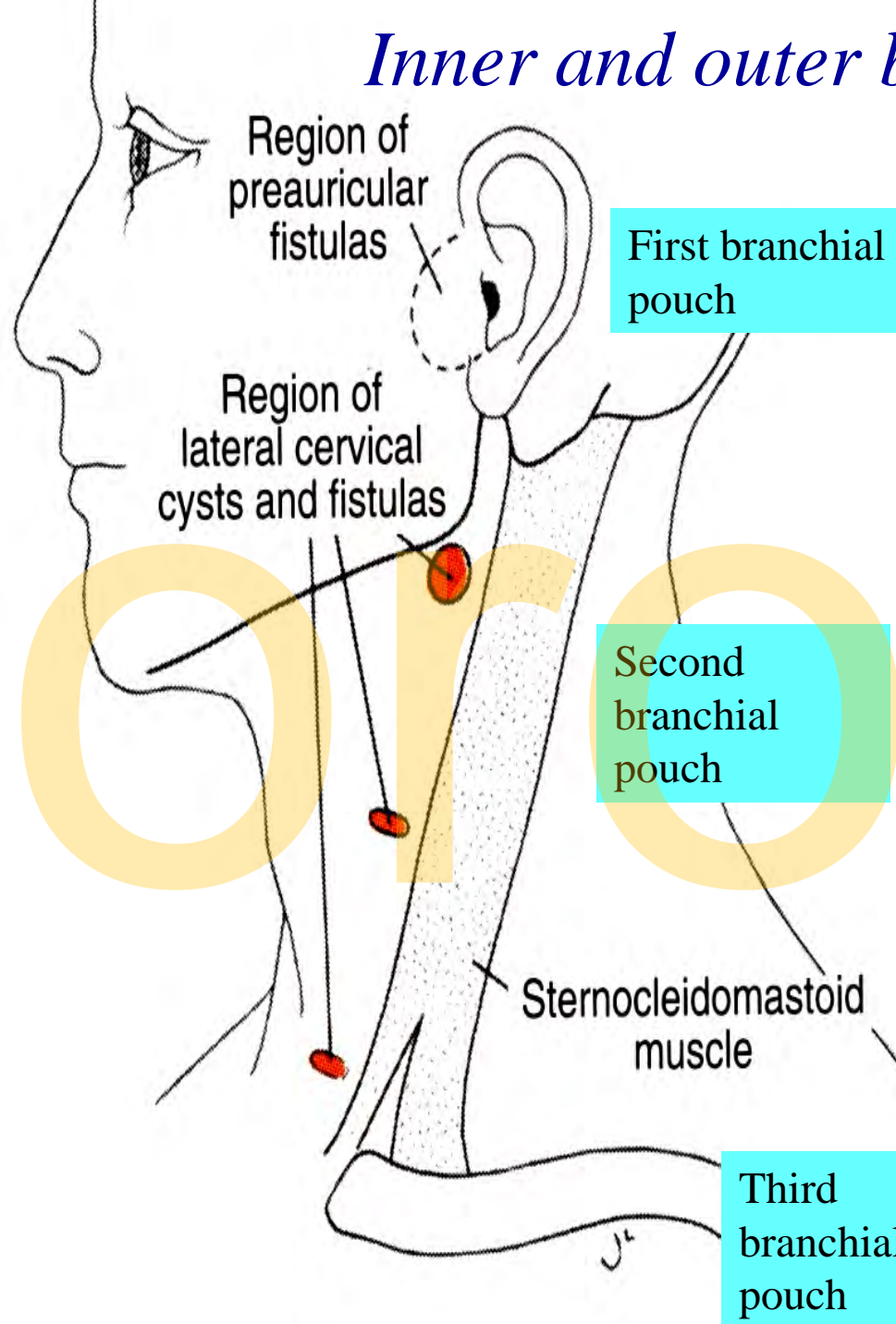
External auditory meatus



Tubotympanic recess



Inner and outer branchial fistulas



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