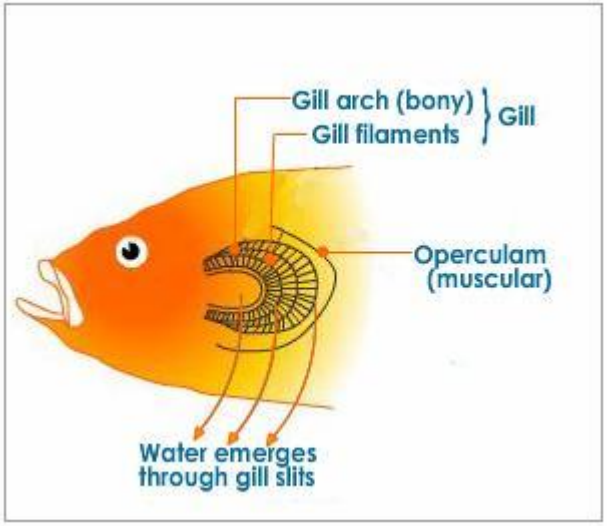

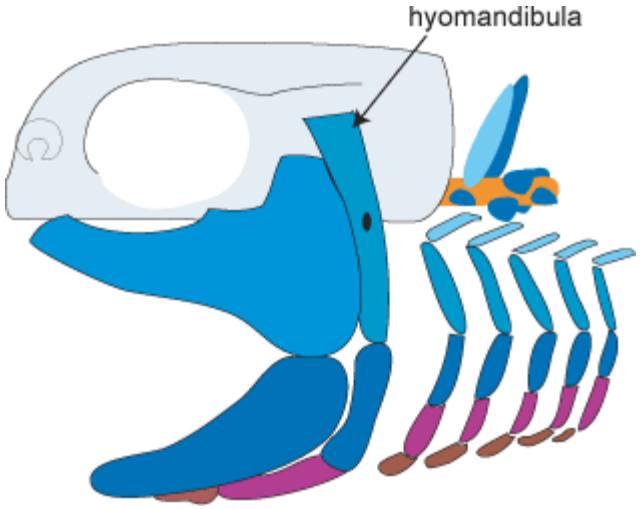

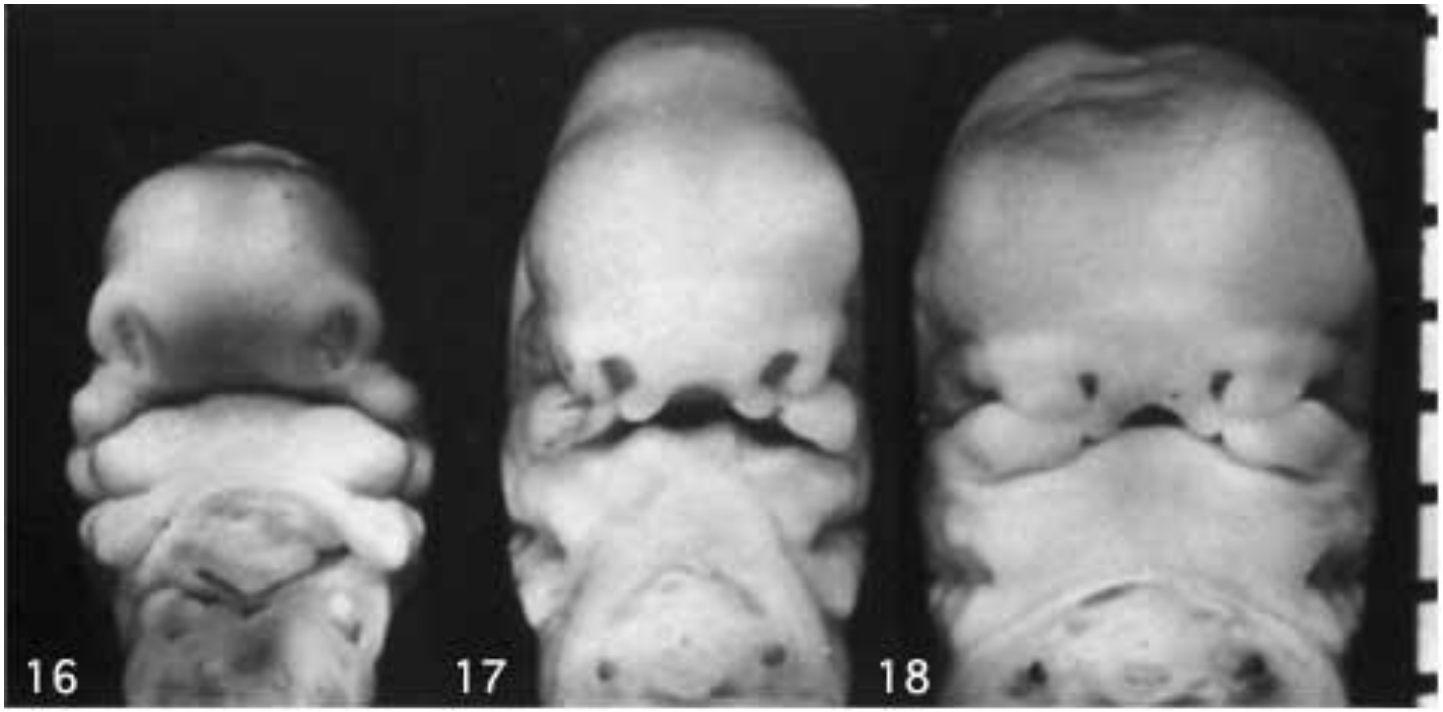

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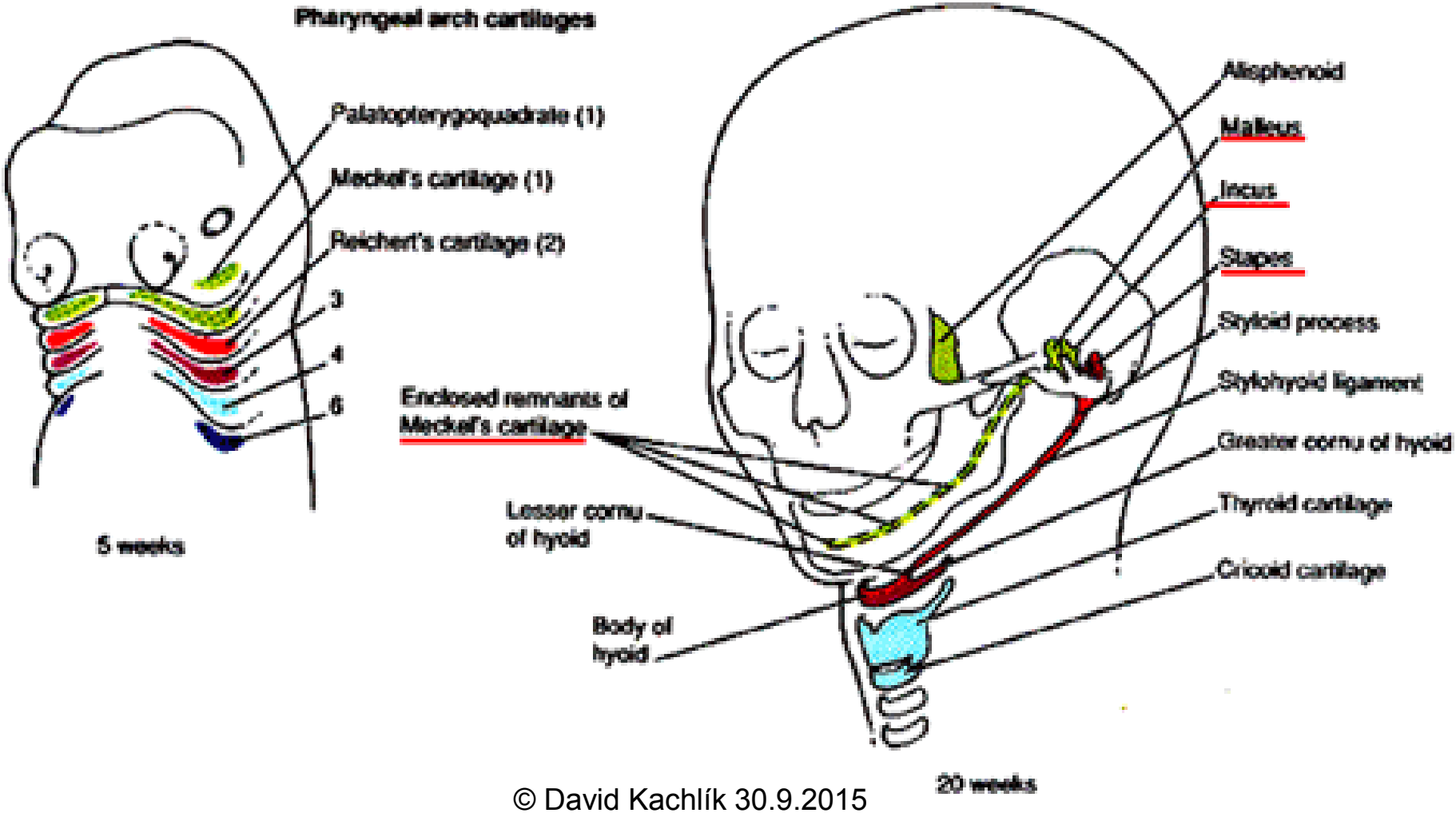
Žaberní (faryngové) oblouky



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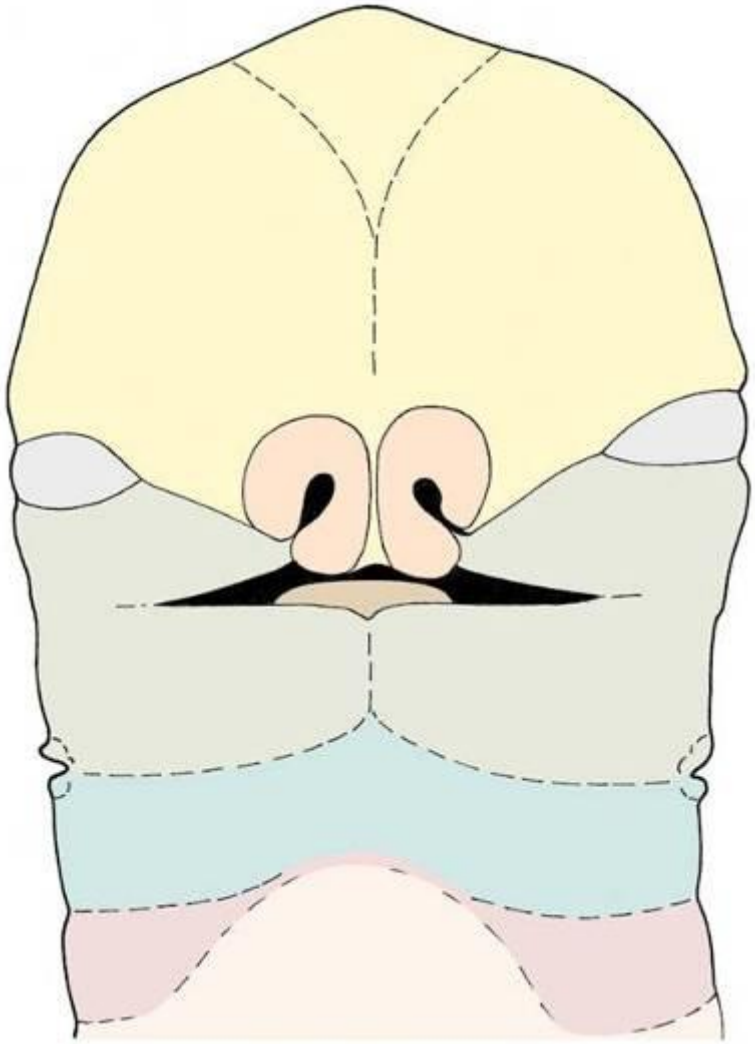

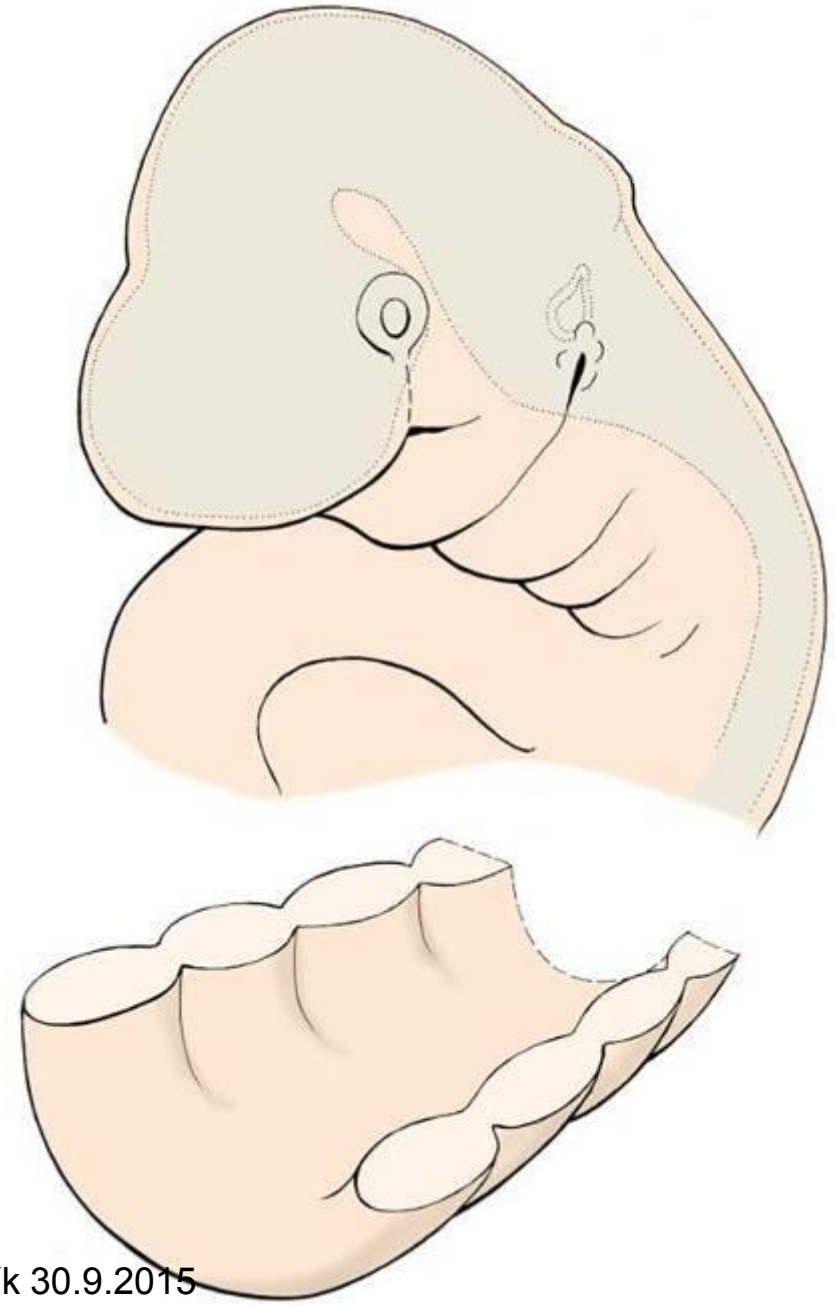

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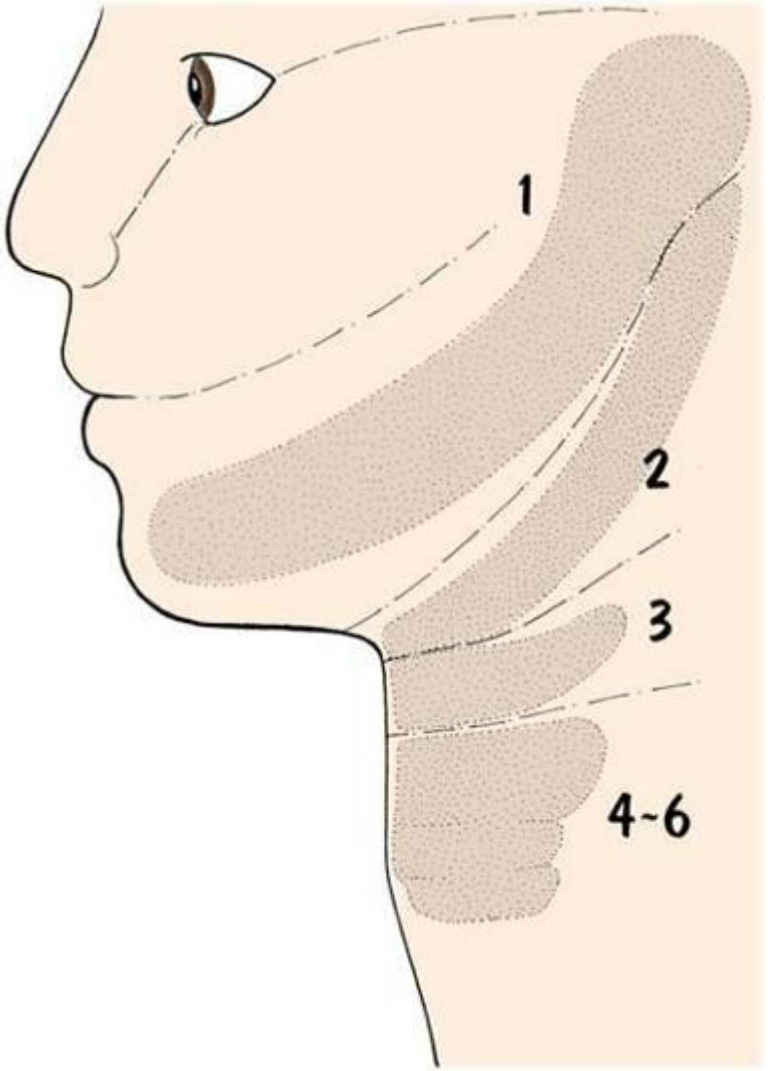

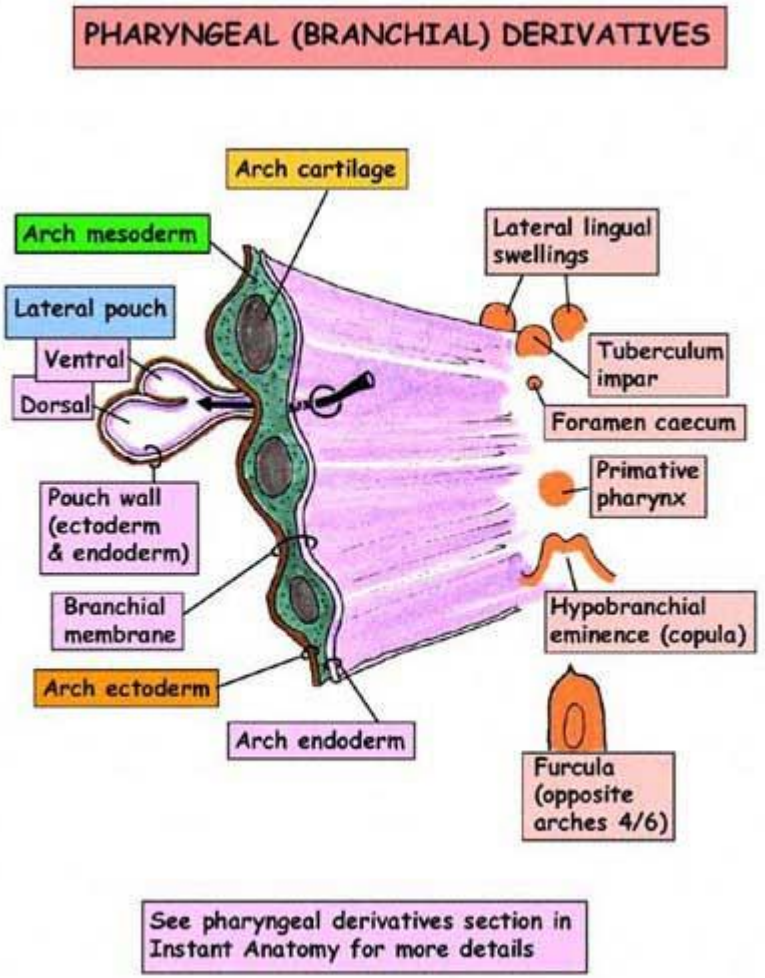

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STRUCTURES DERIVED FROM BRANCHIAL ARCHES AND POUCHES

© 2002zillmusom

ARCH/NERVE	SKELETAL	LIGAMENTS	MUSCLES	POUCH
First (V)	1) Malleus 2) Incus	1) Ant. ligament of malleus 2) Sphenomandibular ligament	1) Muscles of Mastication 2) Tensor tympani 3) Tensor palati 4) Mylohyoid 5) Ant. belly of Digastric	1) Auditory tube 2) Tympanic cavity
Second (VII)	1) Stapes 2) Styloid process 3) Hyoid bone - lesser horn, upper half of body	Stylohyoid ligament	1) Muscles of Facial Expression 2) Stapedius 3) Stylohyoid 4) Post. belly of Digastric	Lining (crypts) of palatine tonsils
Third (IX)	Hyoid bone - greater horn, lower half of body	----------	Stylopharyngeus	1) Inferior parathyroid gland 2) Thymus
Fourth (X)	Cartilages of Larynx	----------	1) All muscles of Larynx 2) All muscles of Pharynx (except Stylopharyngeus) 3) All muscles of Soft Palate (except Tensor palati)	1) Superior parathyroid gland 2) C-cells of Thyroid
Sixth (XI)	----------	----------	1) Sternocleidomastoid 2) Trapezius	----------

Note: First Branchial Groove (Cleft) becomes External Auditory Meatus
First Branchial Membrane becomes Tympanic Membrane

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ŽVÝKACÍ SVALY

- n. V3 – n. MANDIBULARIS

- deriváty 1. žaberního oblouku

- m. temporalis
- m. masseter
- m. pterygoideus medialis
- m. pterygoideus lateralis

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Pohyby dolní čelisti

- elevace
- deprese
- protrakce (propulze)
- retrakce (retropulze)

- lateropulze (pohyby do stran)

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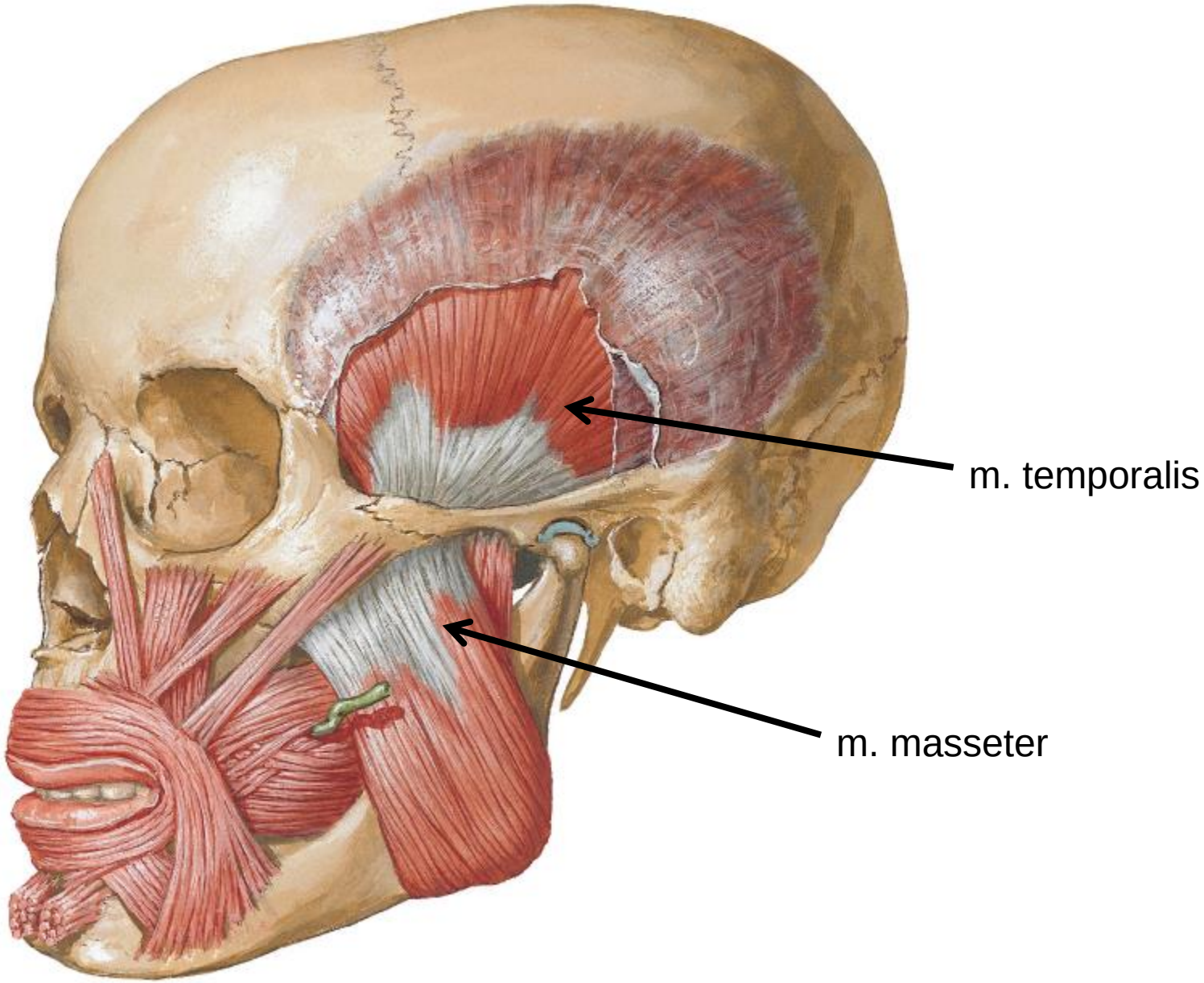

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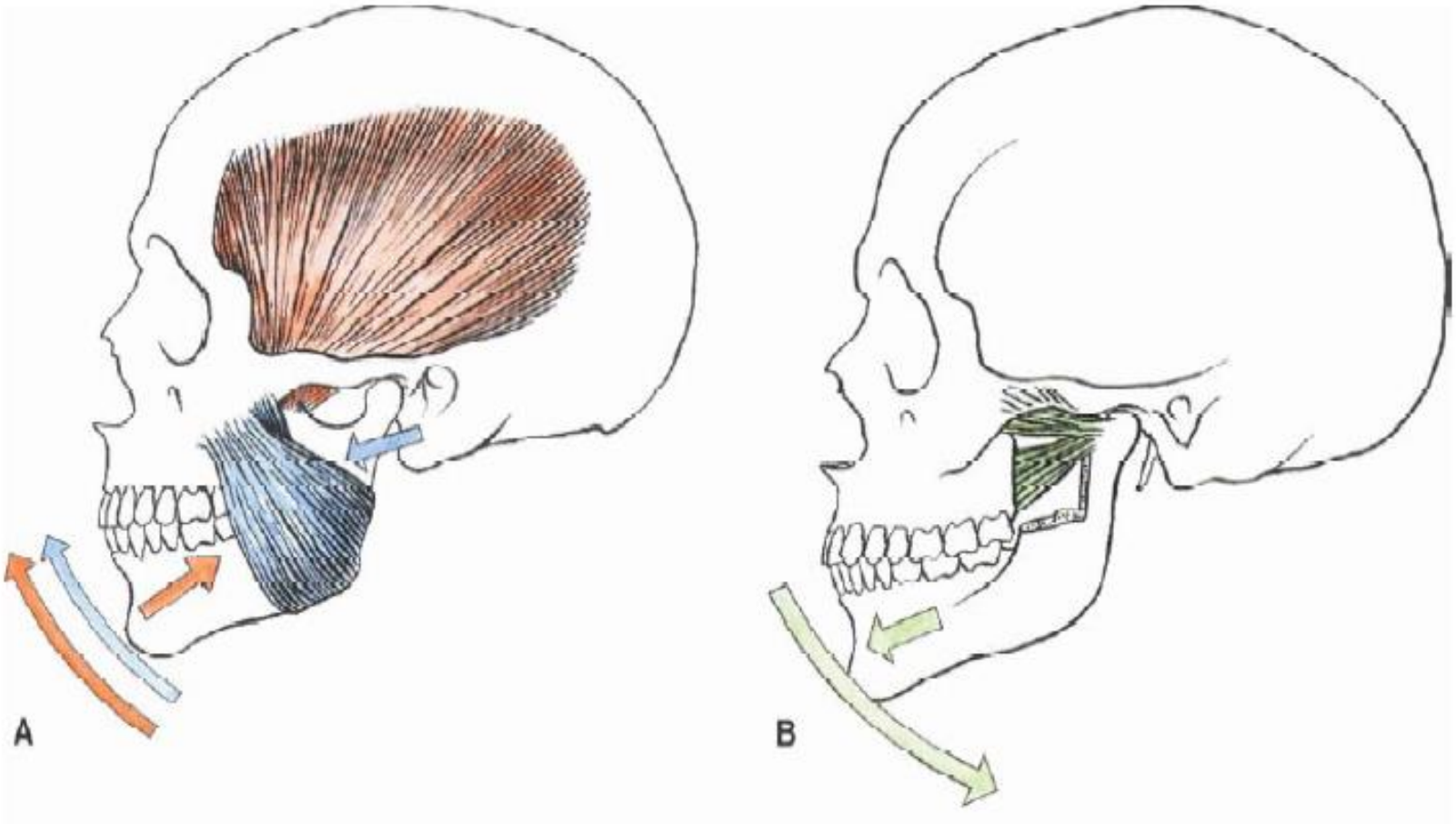

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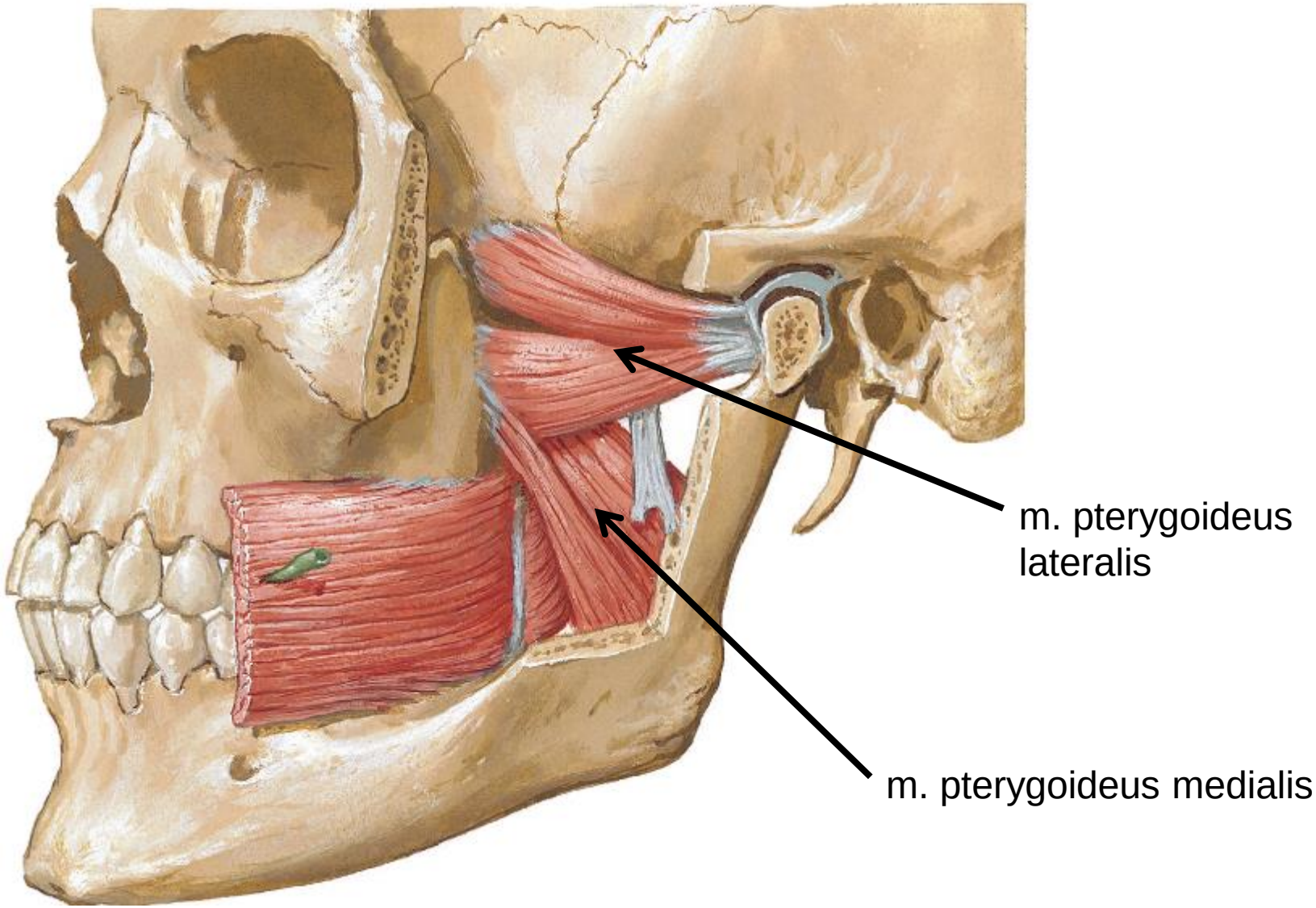
Jakub Štefela,Svaly hlavy a krku, 2012



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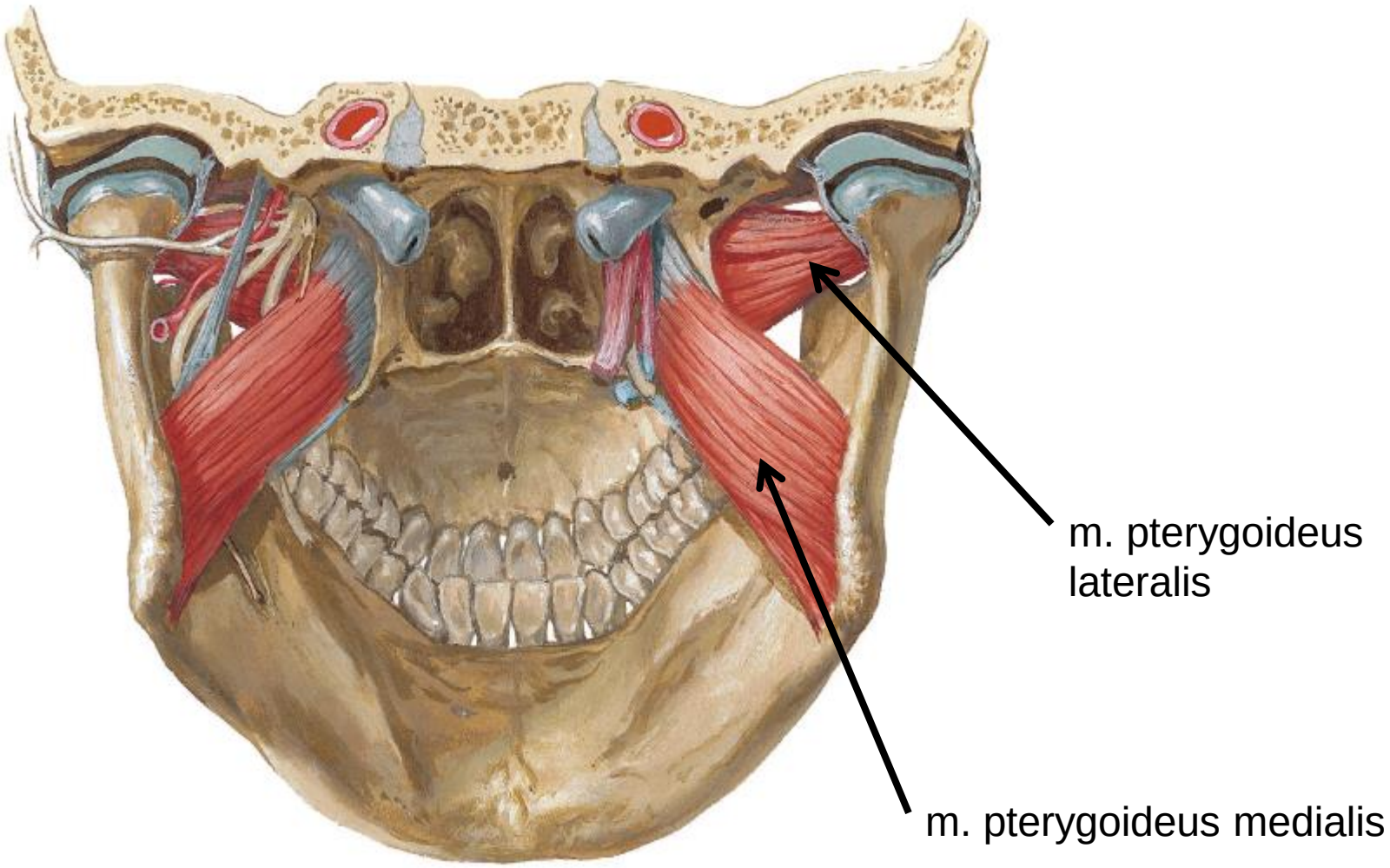

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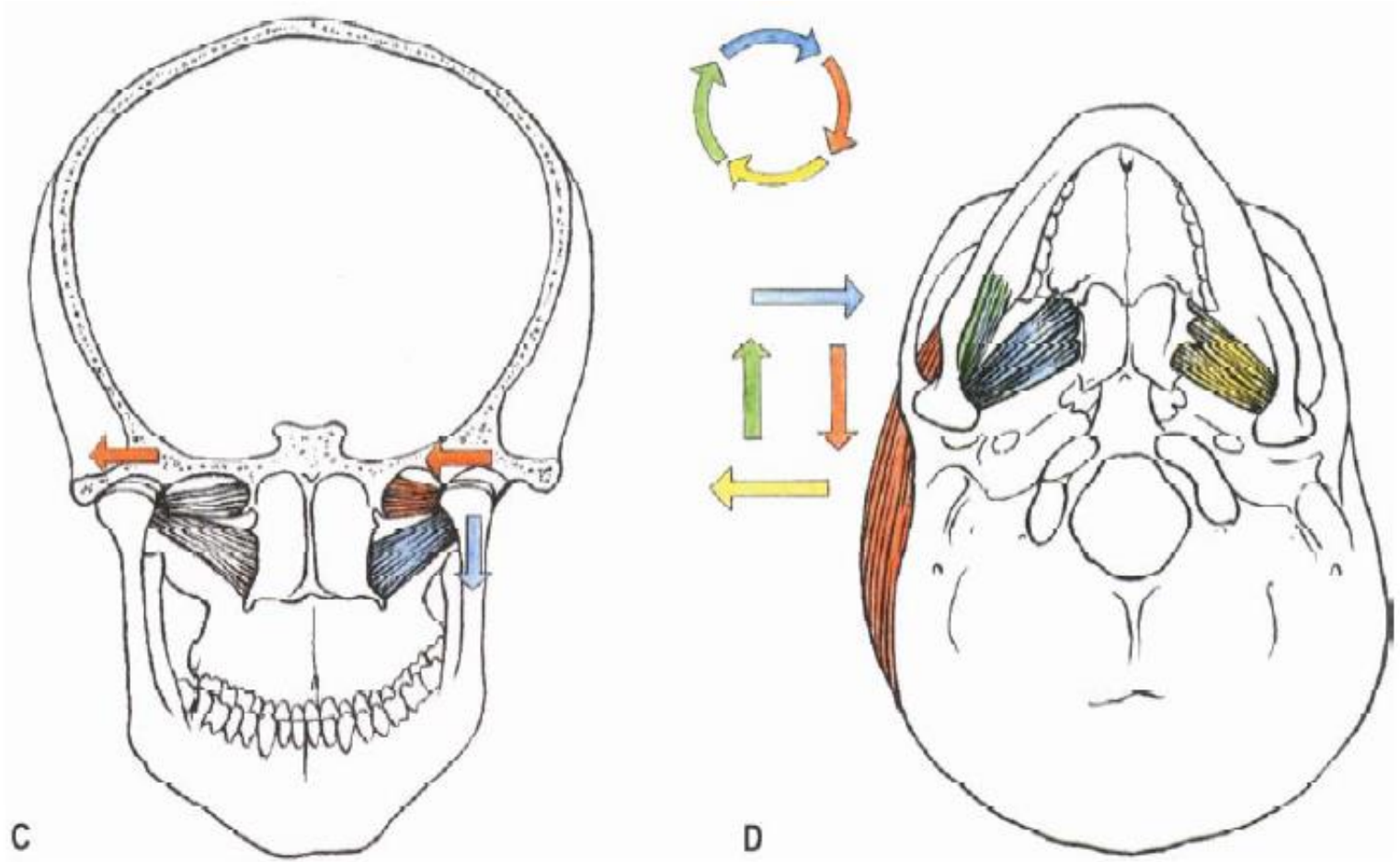

Obr. 372. PŮSOBENÍ ŽVÝKACÍCH SVALŮ NA POHYBY ČHLISTI; schéma
A elevace mandibuly ve spojení s posuny dopředu a dozadu
B deprese s posunem dopředu
C posun do strany (s event. depresí)
D žvýkací pohyby

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Mandibulární poutko

= mandibular sling

- vazivové poutko pod angulus mandibulae
- spojení m. masseter a m. pterygoideus medialis

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MIMICKÉ SVALY

- n. VII – n. FACIALIS

- deriváty 2. žaberního oblouku

- svaly kolem oční štěrbiny
- svaly nosu
- svaly kolem ústní štěrbiny
- svaly lebeční klenby
- svaly boltce
- tvářový sval

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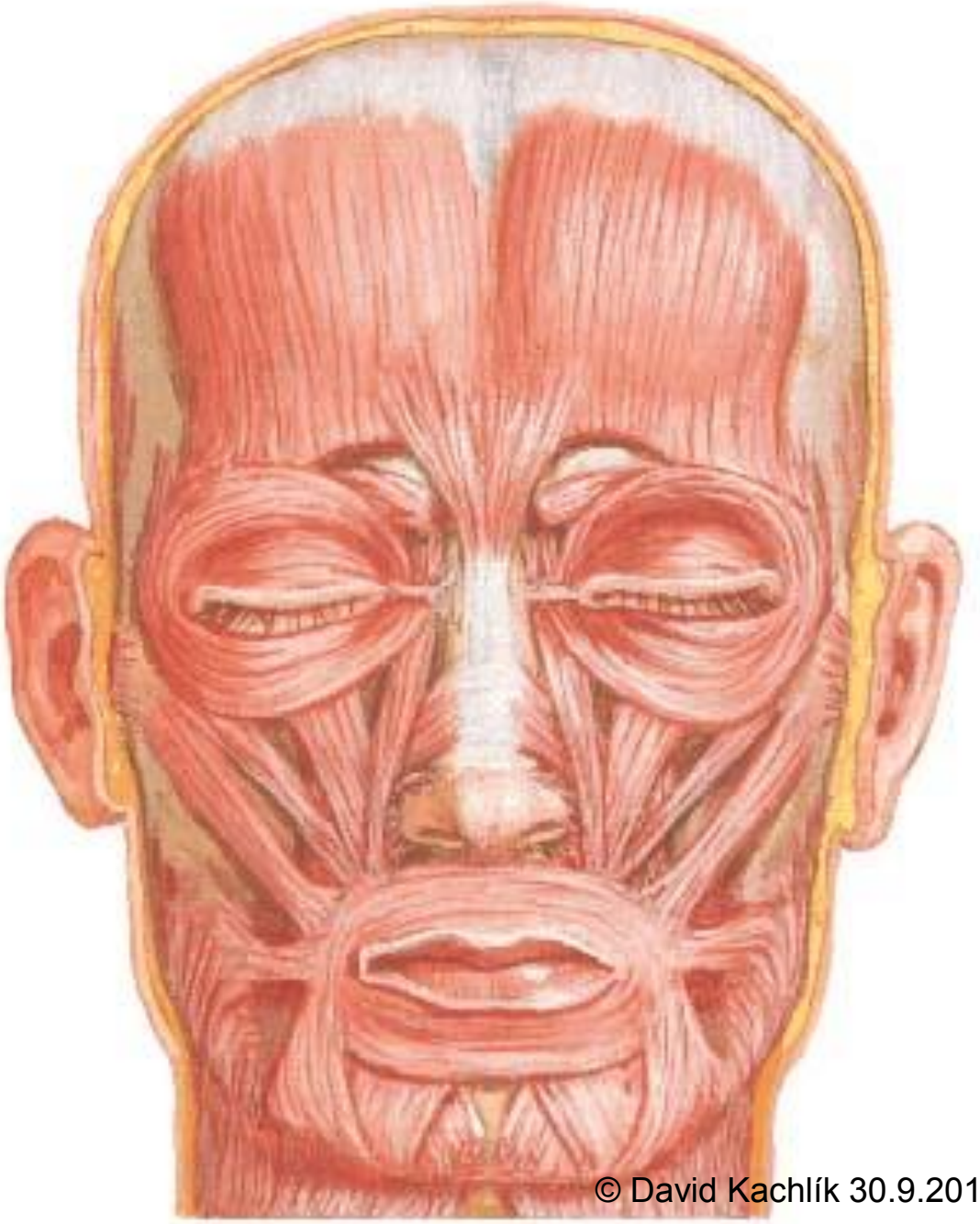

Svaly kolem oční štěrbiny

- m. orbicularis oculi
  - pars palpebralis
    - pars profunda
      (*dříve pars lacrimalis*)
  - pars orbitalis

- m. procerus
- m. corrugator supercilii
- m. depressor supercilii

Svaly nosu

- m. nasalis
  - pars alaris
  - pars transversa
- m. depressor septi nasi

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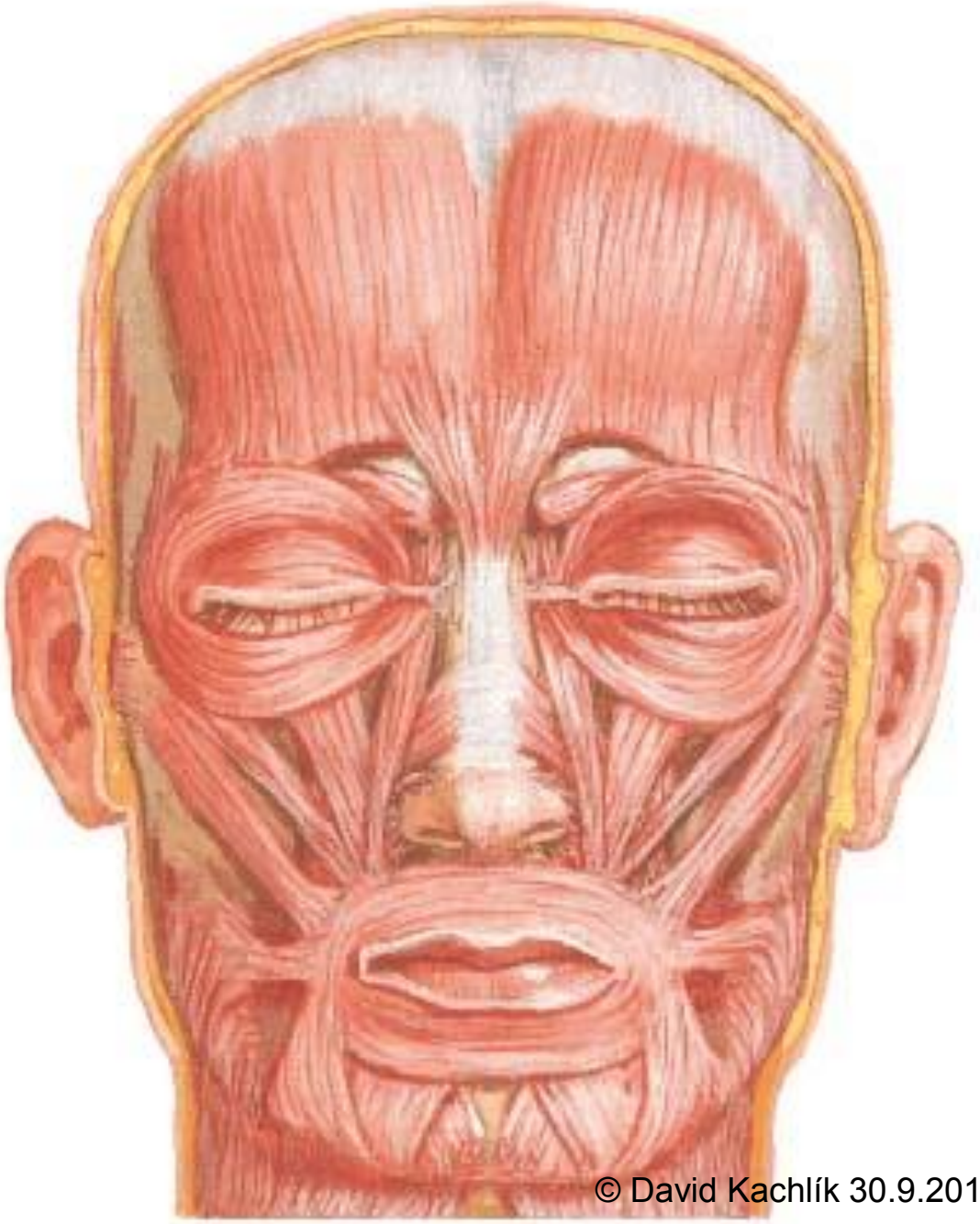

Svaly kolem ústní štěrbiny

modiolus anguli oris

- m. orbicularis oris
  - pars marginalis
  - pars labialis

- m. levator labii superioris
- m. levator l.s. alaeqae nasi
- m. depressor labii inferioris
- m. levator anguli oris
- m. depressor anguli oris
- m. zygomaticus major
- m. zygomaticus minor
- m. risorius
- m. mentalis
- m transversus menti

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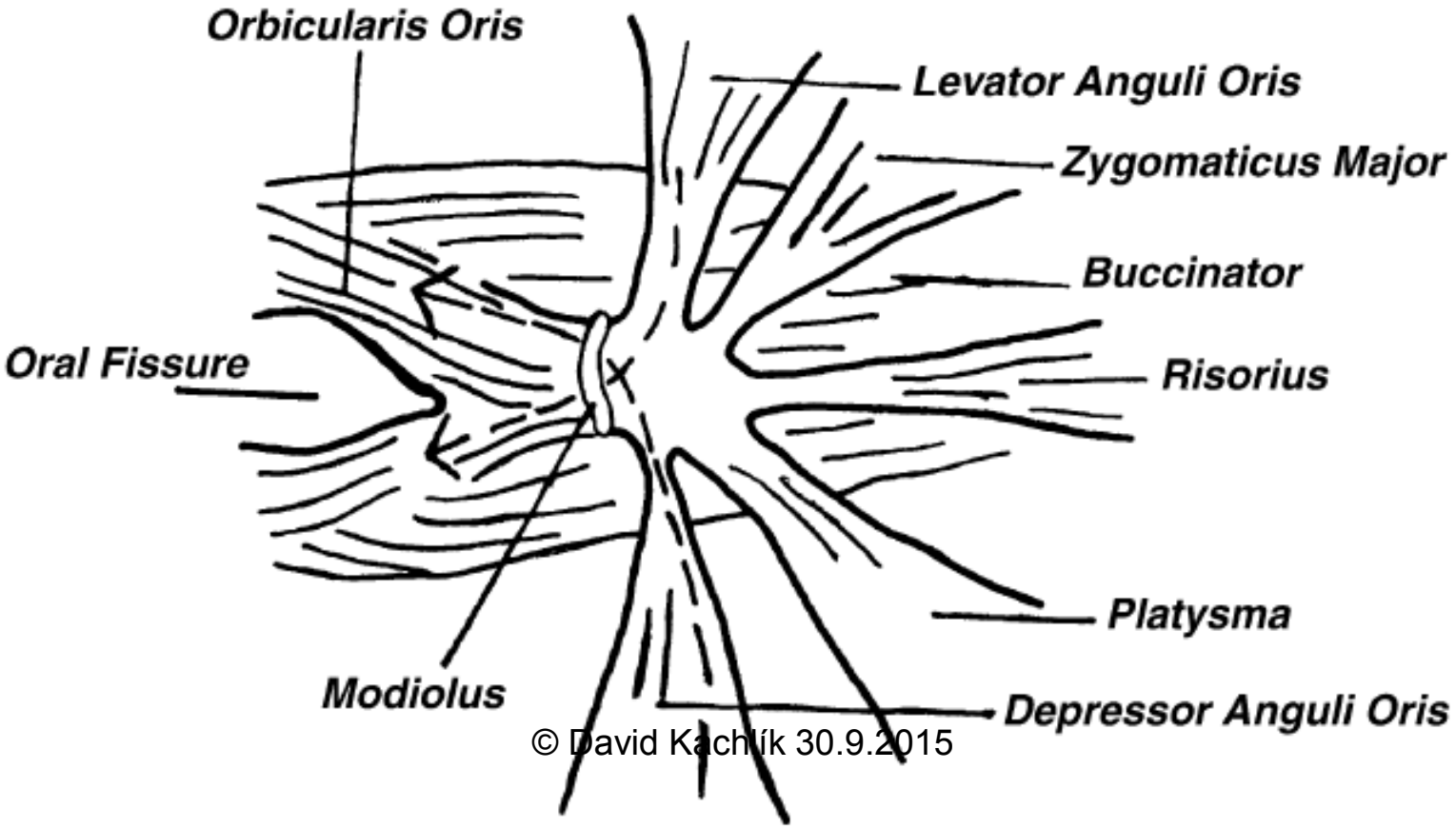
Modiolus anguli oris – Koutkové vřeteno

- Vazivově-svalový uzlík, spojující mimické svaly tváře
- slouží jako „náboj kola“ a vytváří charakteristický ďolíček na tváři



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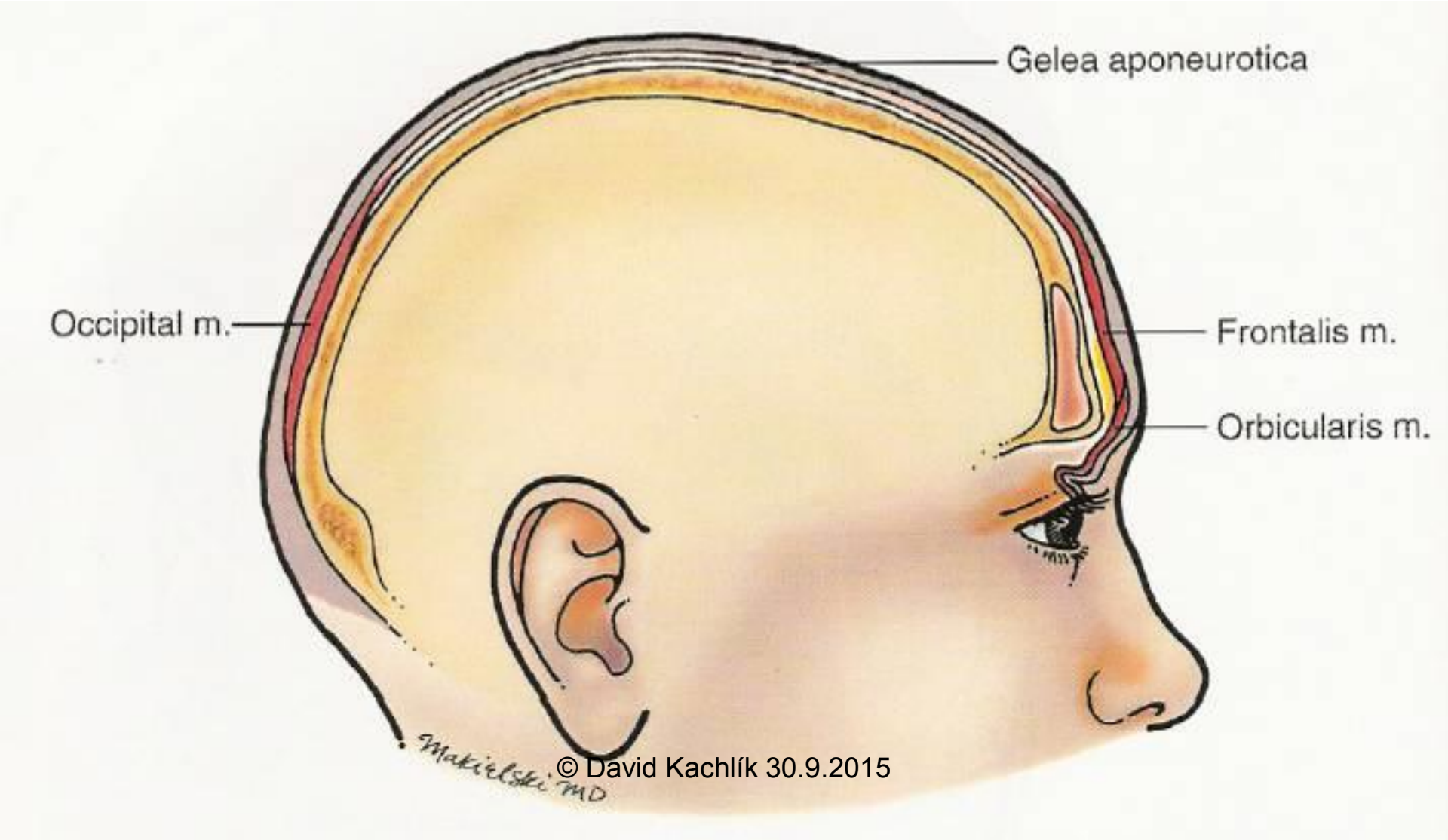
Galea aponeurotica

- pevná aponeuróza kryjící temeno hlavy



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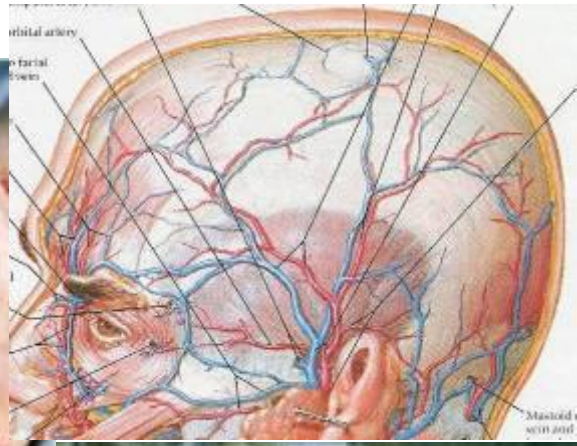
Skalpace



Five year old boy was attacked by a pit bulldog and lost almost all of his scalp and forehead.

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Subgaleální hematom

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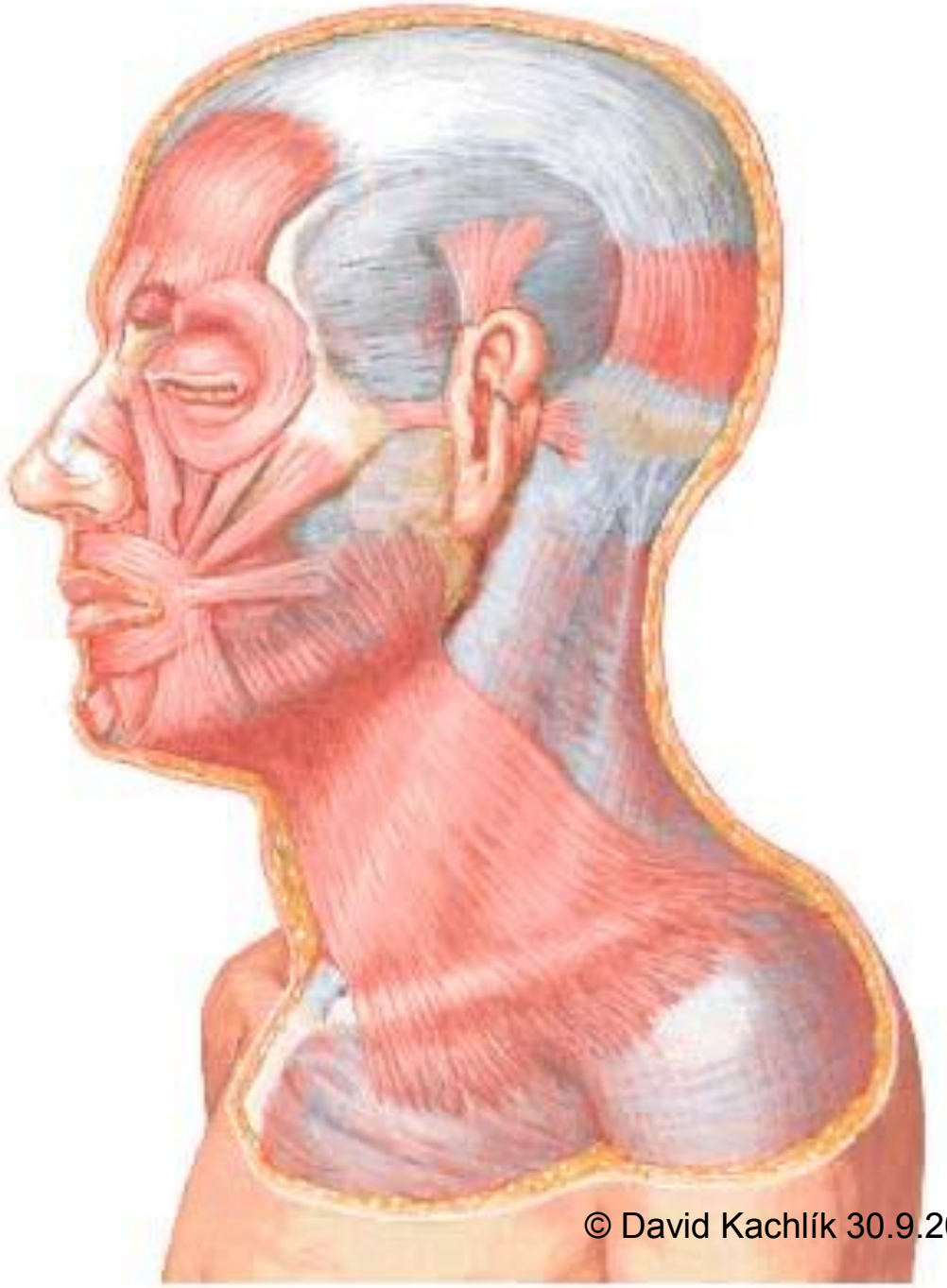

Svaly lebeční klenby

= m. epicranius

- m. occipitofrontalis
  - venter frontalis
  - venter occipitalis
- m. temporoparietalis

Galea aponeurotica =
Aponeurosis epicranialis

Svaly boltce

- m. auricularis anterior
- m. auricularis superior
- m. auricularis posterior

- rudimentární svaly boltce

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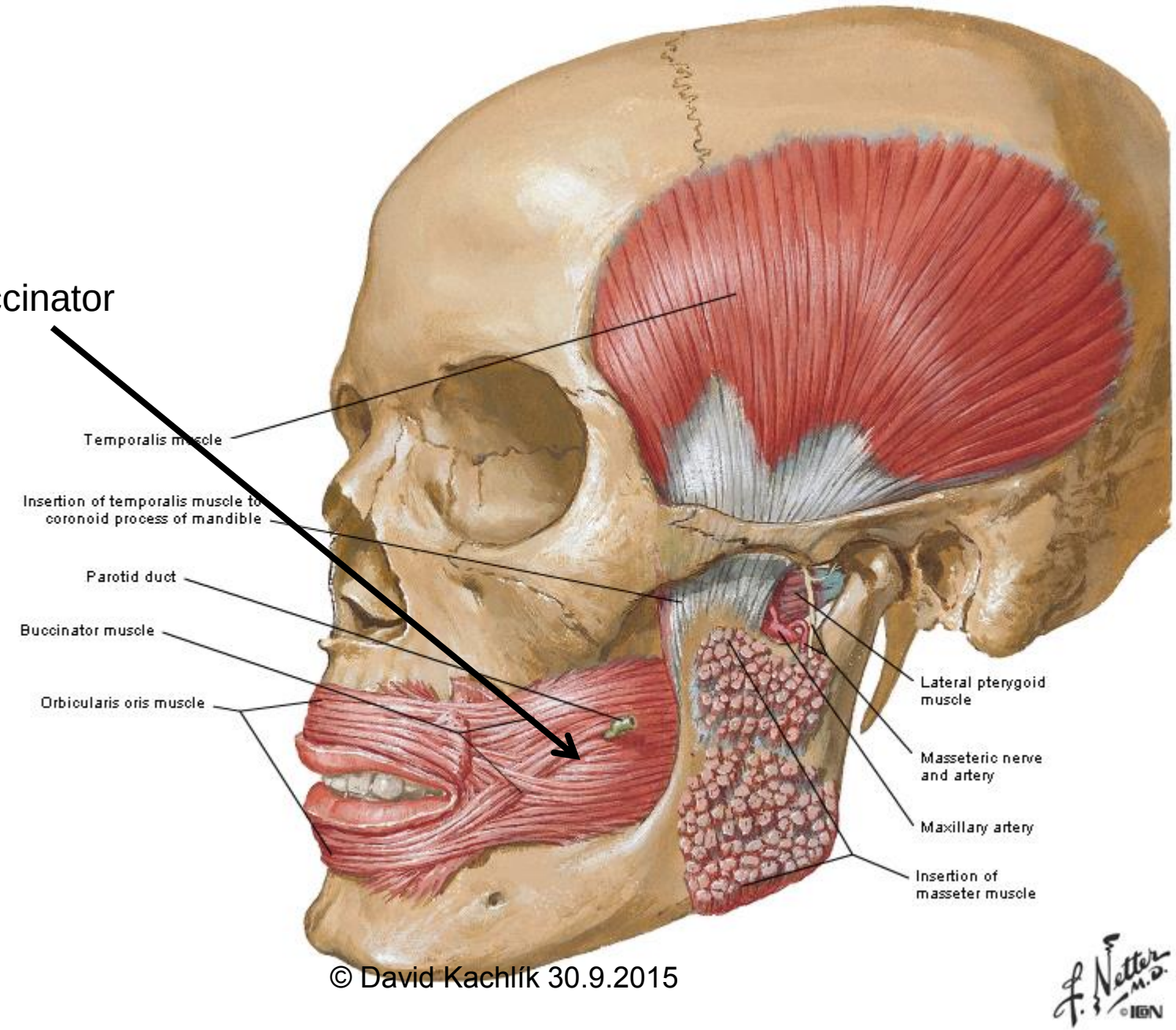
m. buccinator



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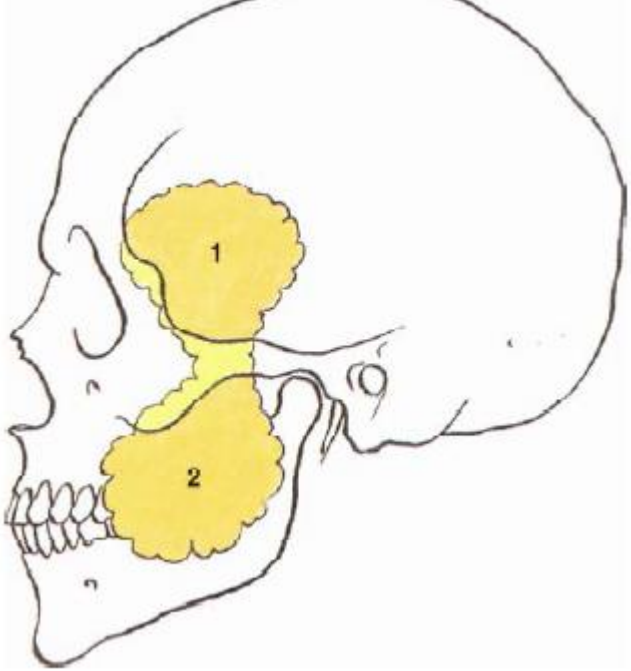
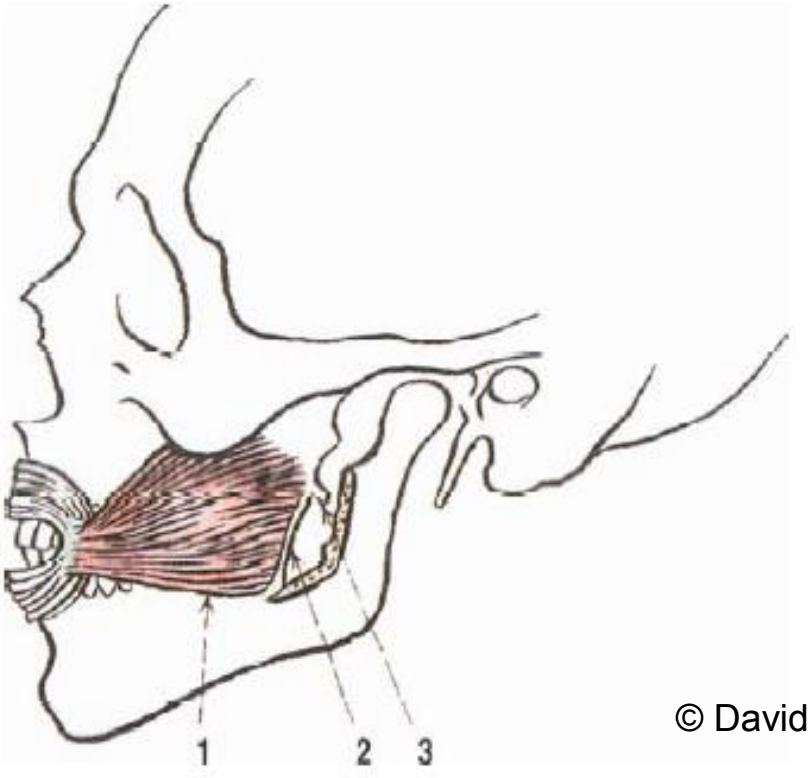
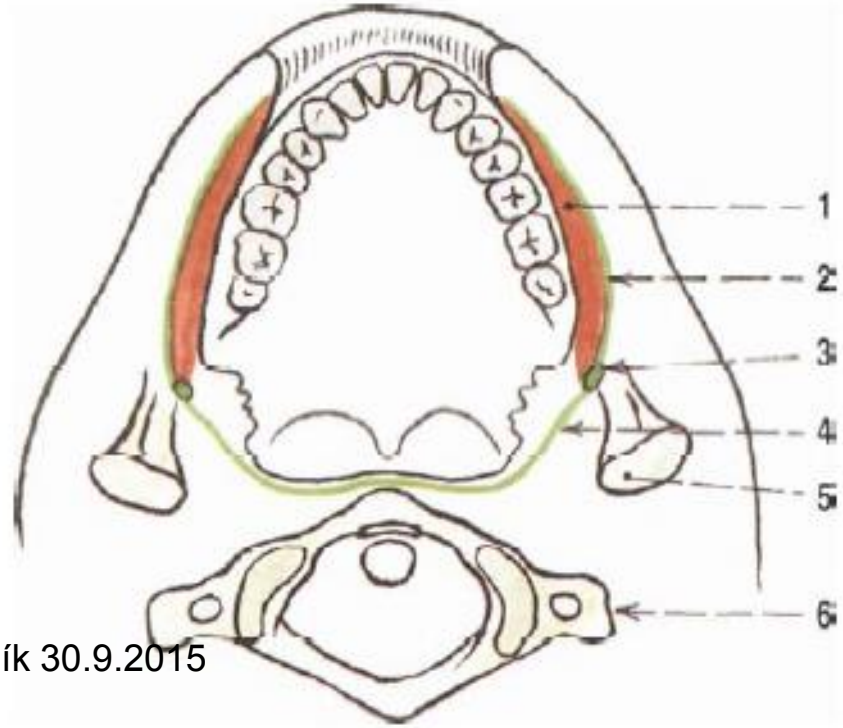
Musculus buccinator (tvářový sval)

- ductus parotideus *Stenoni*
- corpus adiposum buccae *Bichati*
- testovací pohyby n. facialis







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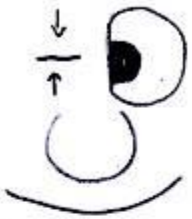
I.

m. nasalis

zužuje a rozšiřuje nozdry

m. orbicularis oculi



zužuje a uzavírá oční štěrbinu

m. orbicularis oris

vysunuje sevřené rty dopředu

Svírá rty

m. risorius

rozšiřuje ústní štěrbinu

m. depressor anguli oris

Stahuje ústní koutek

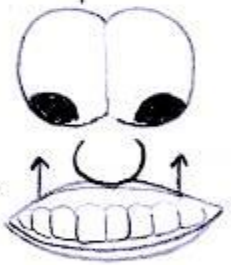
m. depressor supercilii

Stahuje obočí

m. levator anguli oris

Zdvíhá koutek + prohlubuje

m. levator labii superioris



vytahuje a ohrnuje horní ret

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II.

m. nasalis

pars alaris

pars transversa

m. depressor septi nasi

m. depressor anguli oris

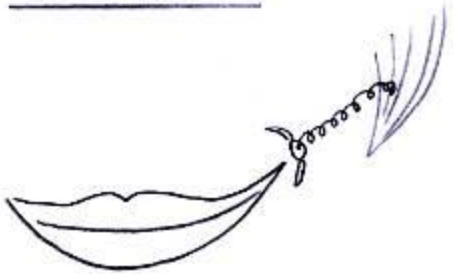
m. orbicularis oculi

m. orbicularis oris

a)

b)

m. risorius



IV.

m levator labii sup

III.

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Fascie hlavy

- fascia temporalis
- fascia parotidea
- fascia masseterica
- fascia buccopharyngea
- lamina interpterygoidea

corpus adiposum buccae *Bichati*

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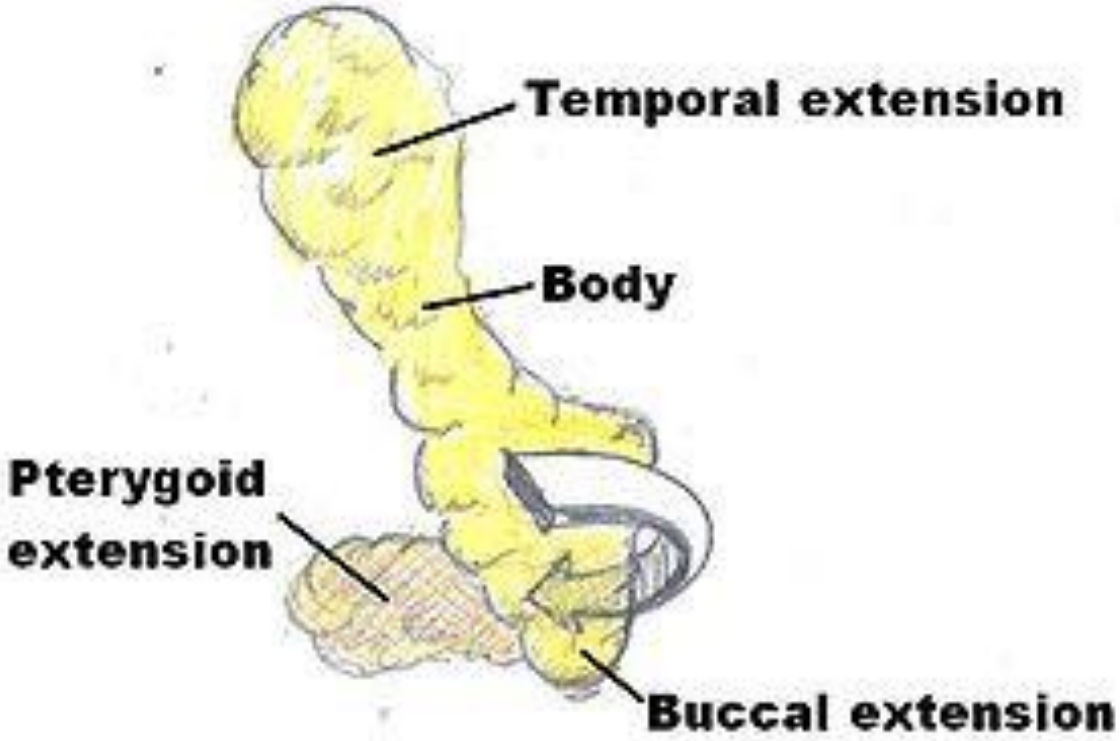
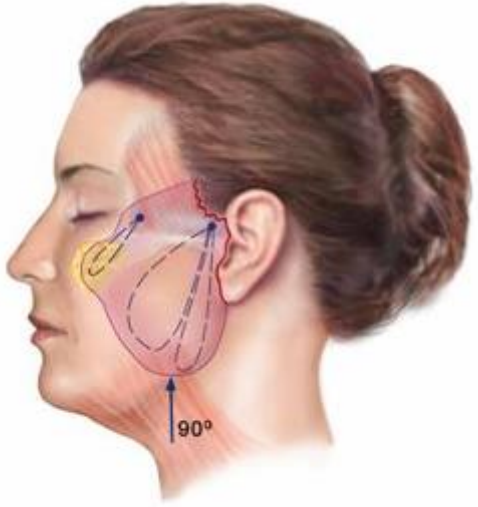
Corpus adiposum buccae *Bichati*





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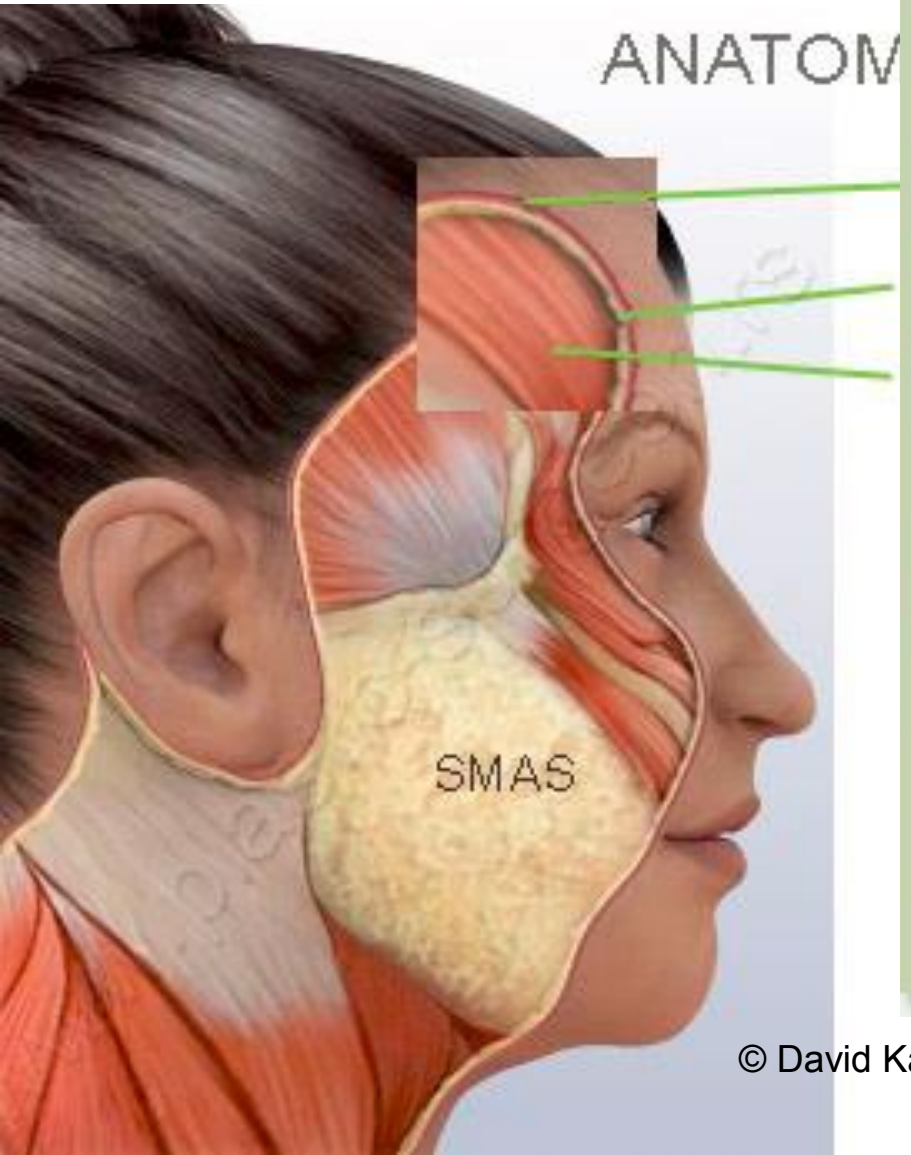
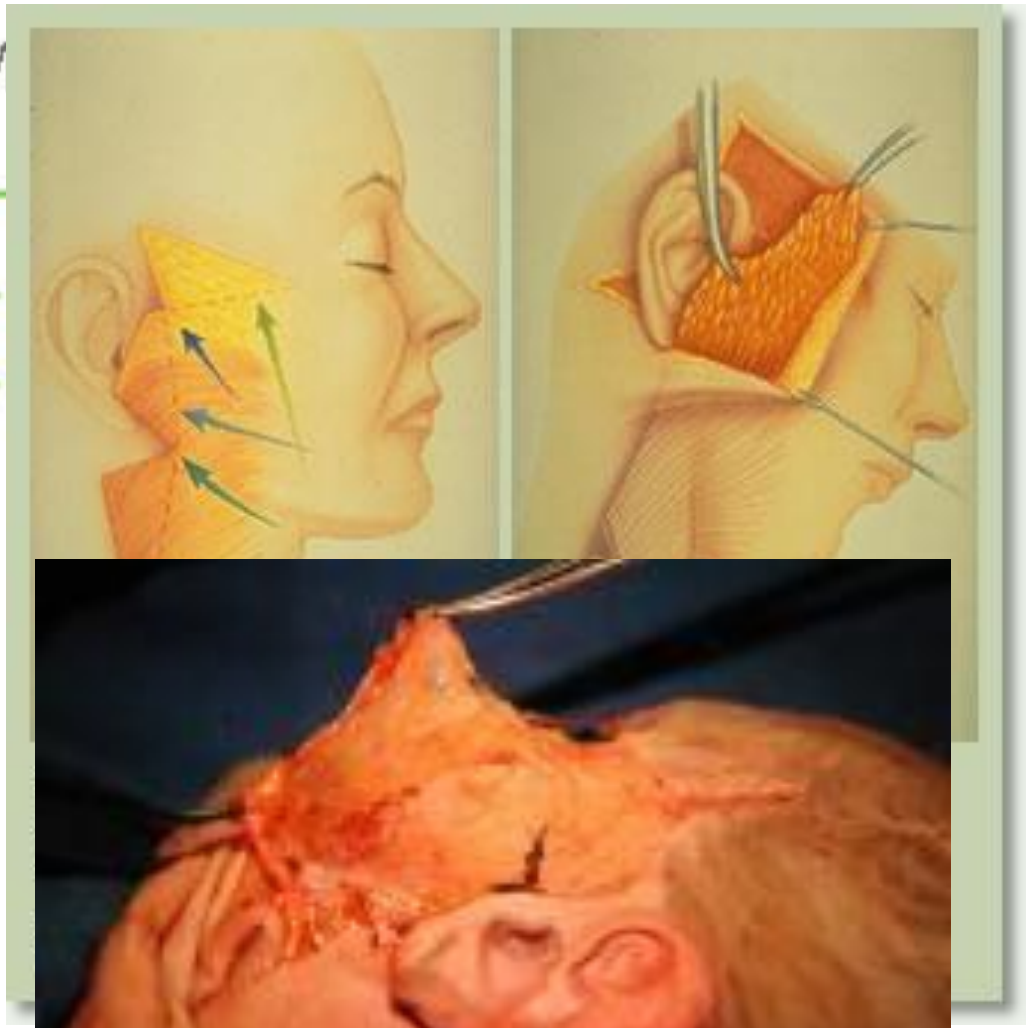
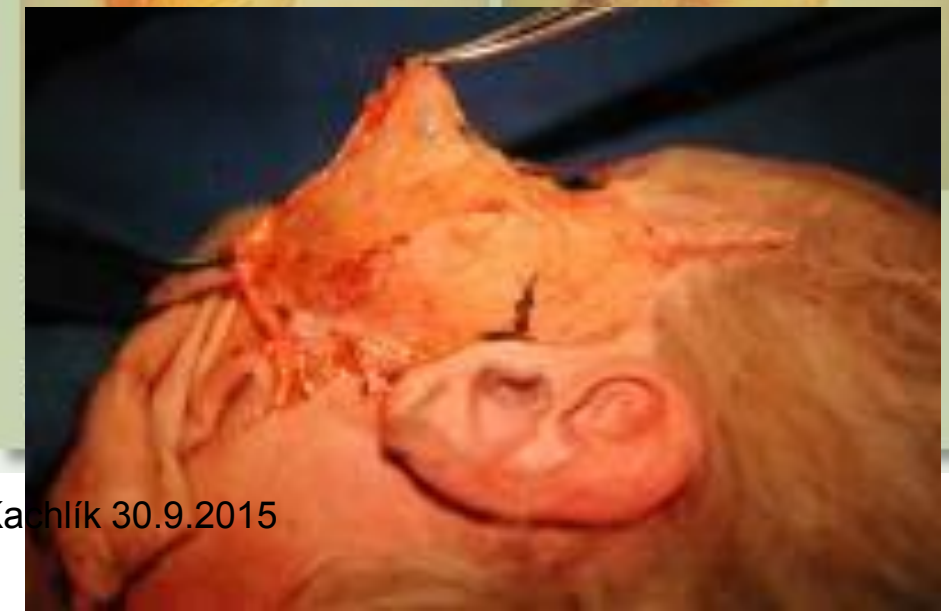
Povrchový muskulo-aponeurotický systém (SMAS)

Souvislá vazivově-svalová vrstva spojující mimické svaly a vyplňující prostor mezi nimi a kolem nich







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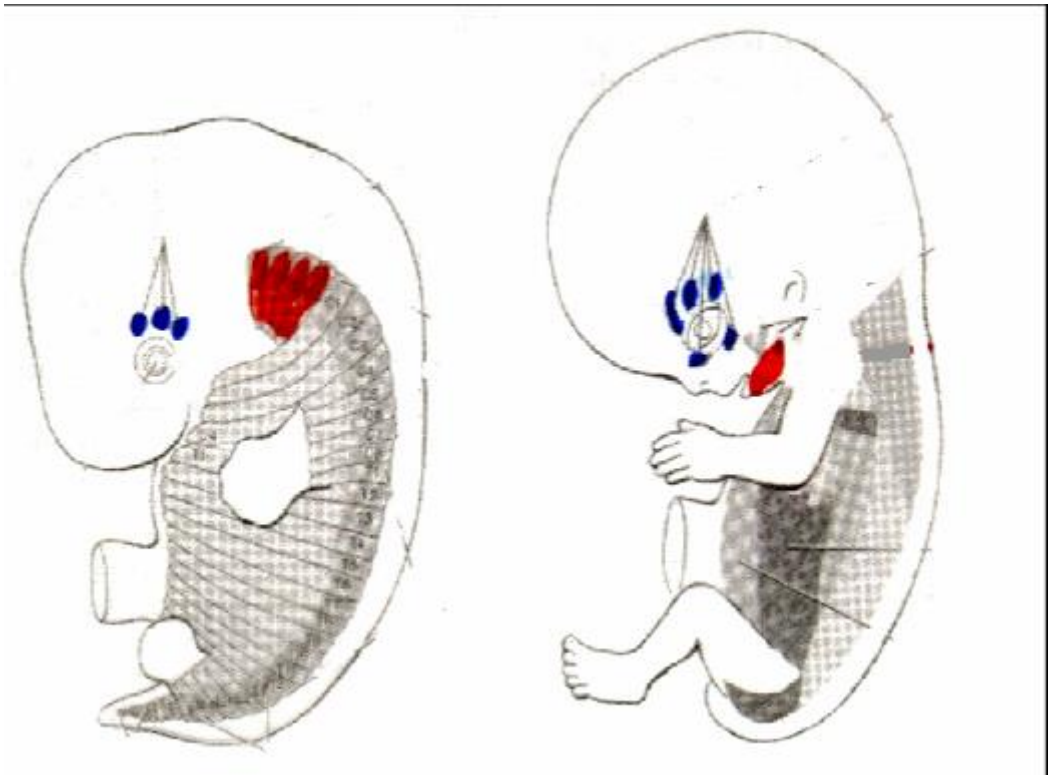
Motorické somitové hlavové nervy



- preotické myotomy (somitomery) vytvářejí <u>vnější svaly oční koule</u> – **n. III, IV, VI**

- týlní somity vytvářejí <u>svaly jazyka</u> – **n. XII**

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Vnější svaly oční koule

- mm. **recti**
  - superior, inferior, medialis, lateralis
- mm. **obliqui**
  - inferior, superior
- m. levator palpebrae superioris
- inervace: n. III, n. IV, n. VI

- hladké svaly*:* m. orbitalis *Mülleri*, m. tarsalis sup. *Mülleri* + inf.

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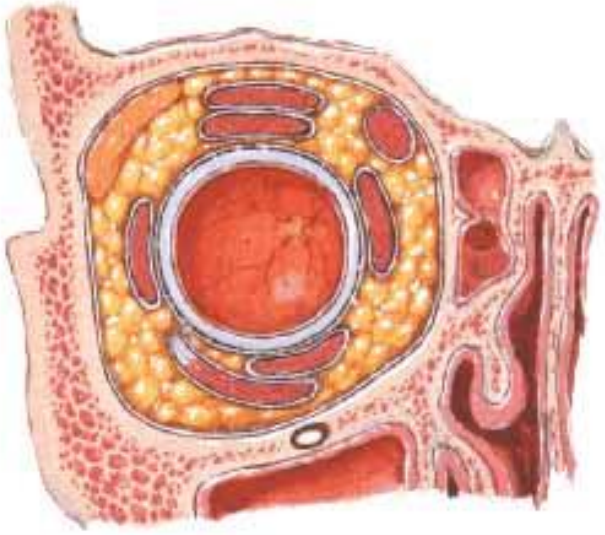
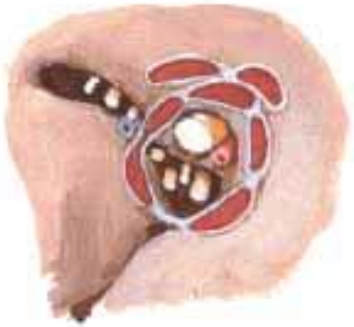
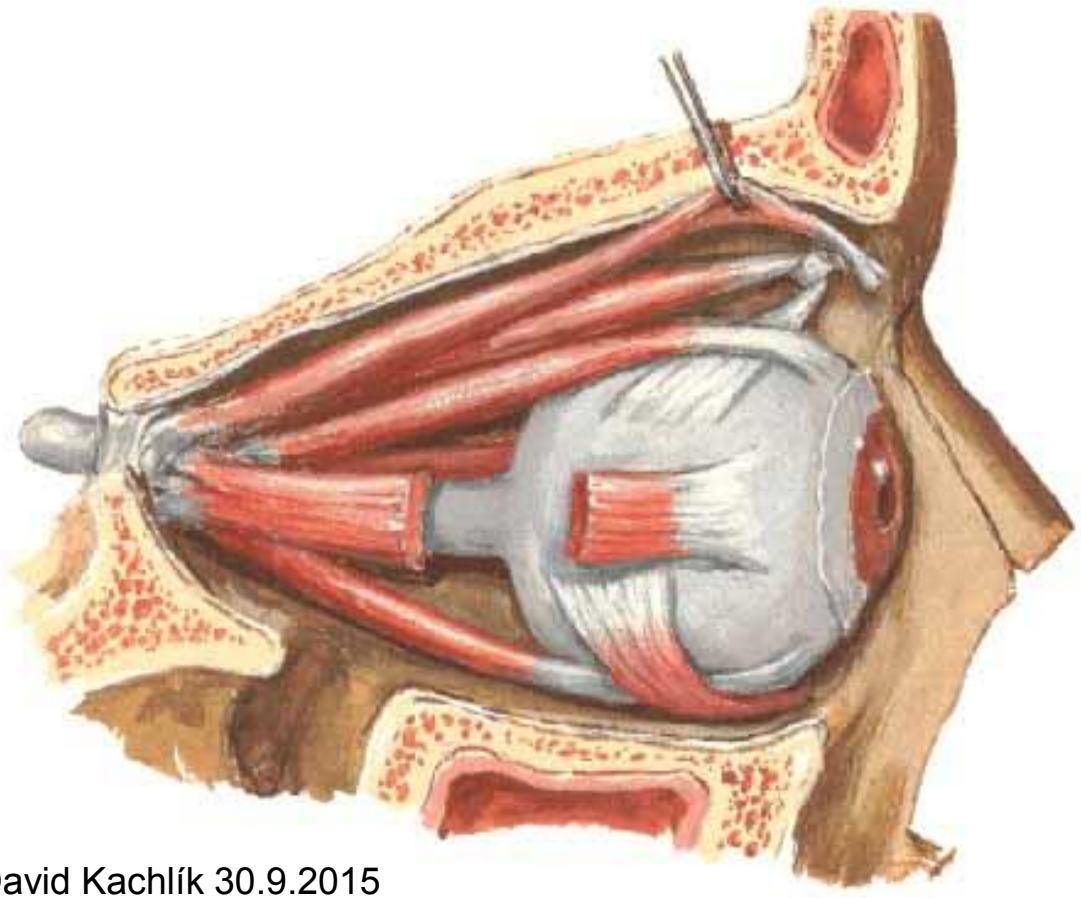
Vnější svaly oční koule

Fascia of Orbit and Eyeball
Frontal Section and Entering Structures





Extrinsic Eye Muscles
Right Lateral View



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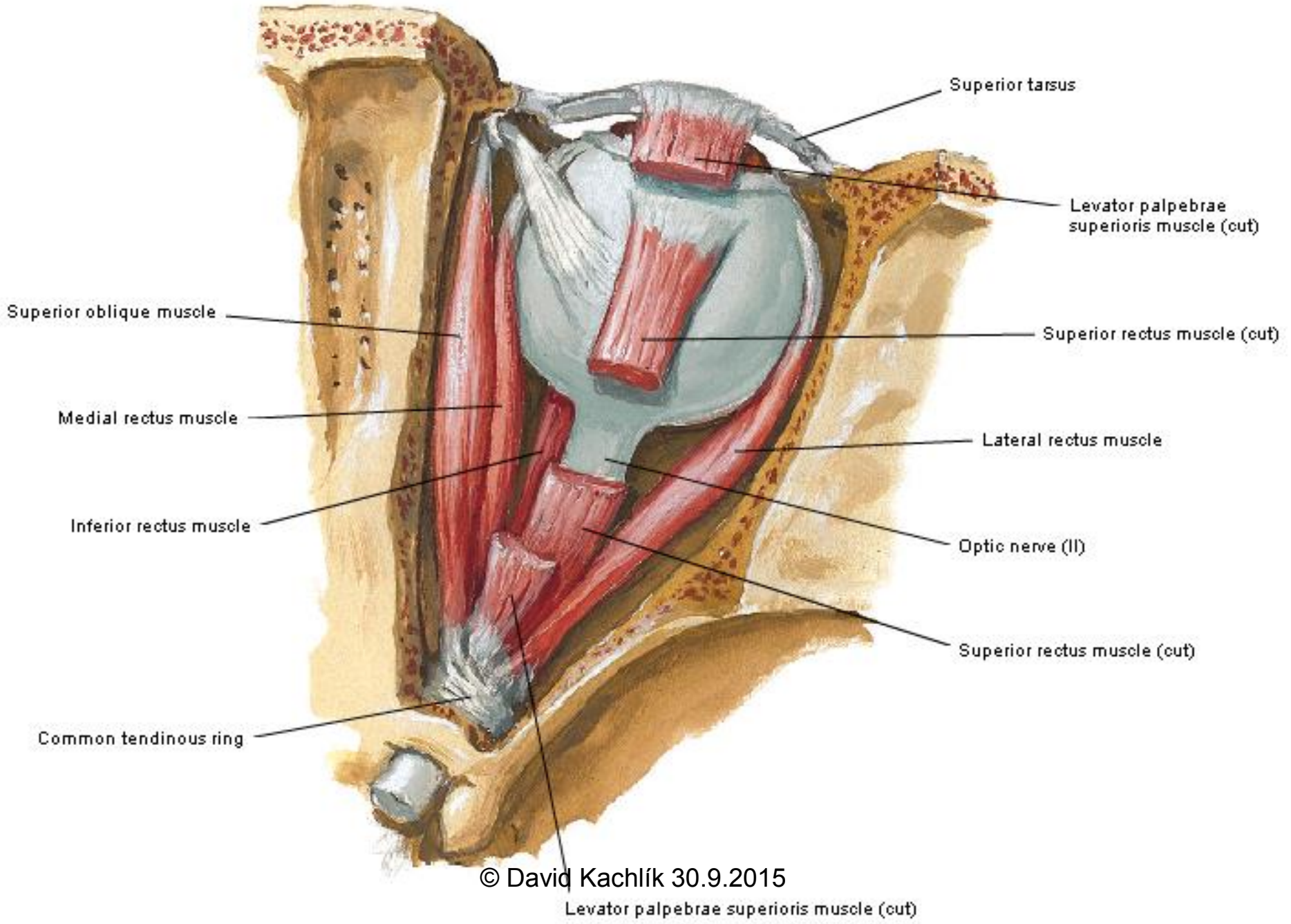

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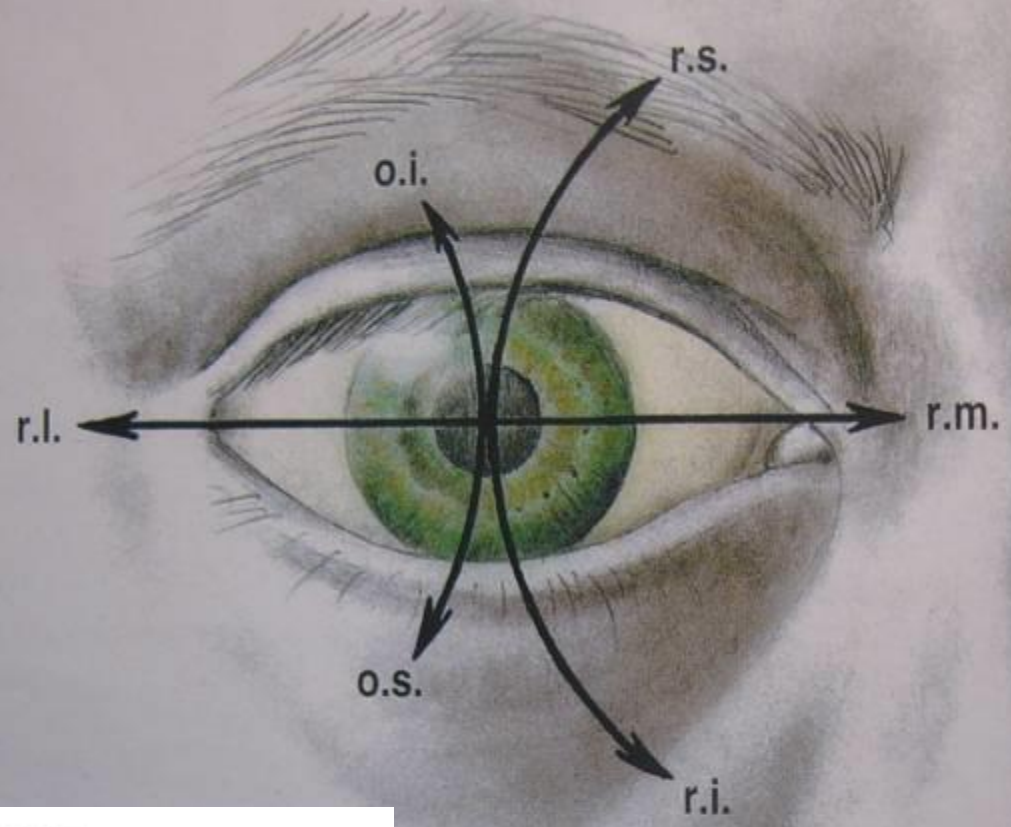
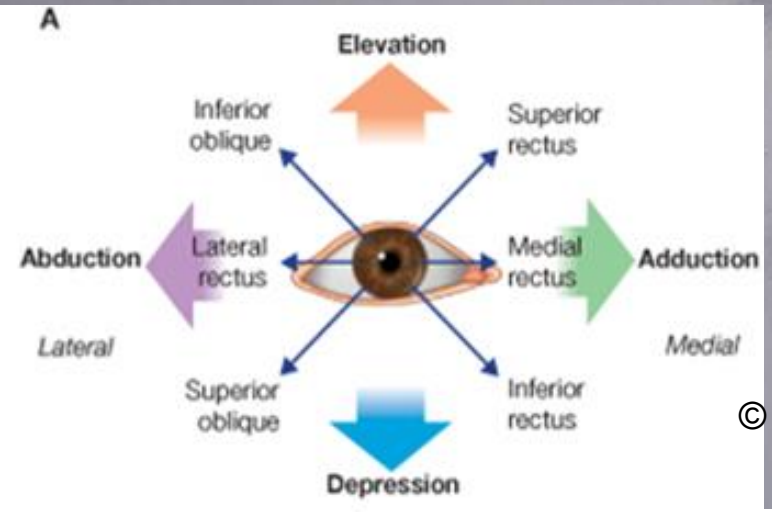
Pohyby oční koule





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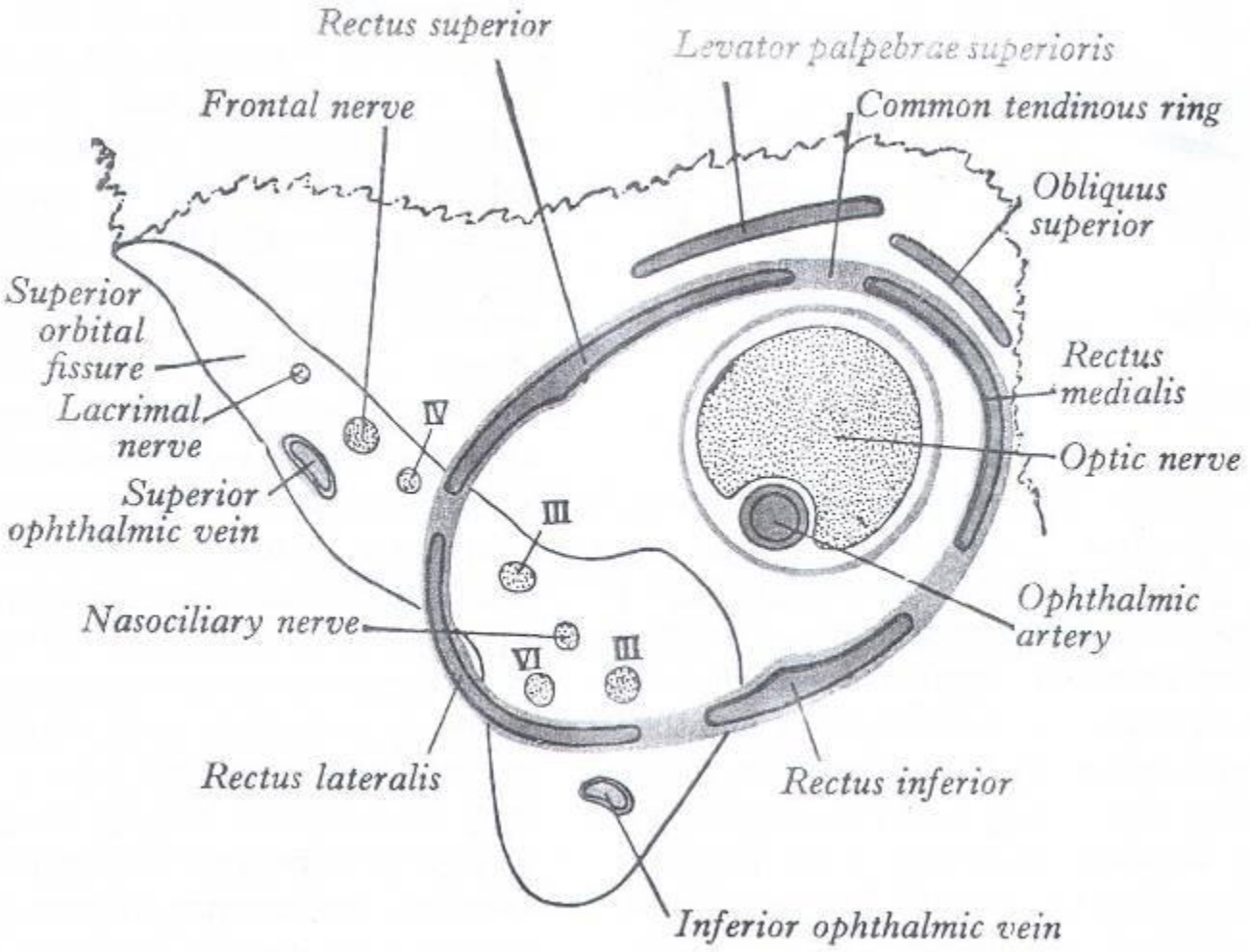
Anulus tendineus communis *Zinni*

skrz:

- n. III
- n. VI
- n. nasociliaris
- n. II + AO

mimo:

- n. IV
- n. frontalis
- n. lacrimalis
- v. ophthalmica superior



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SVALY KRKU

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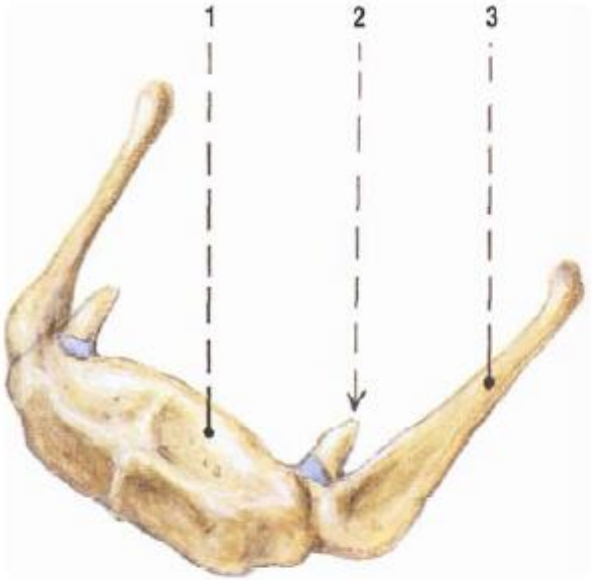
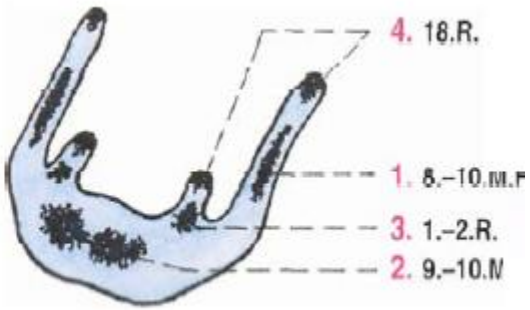
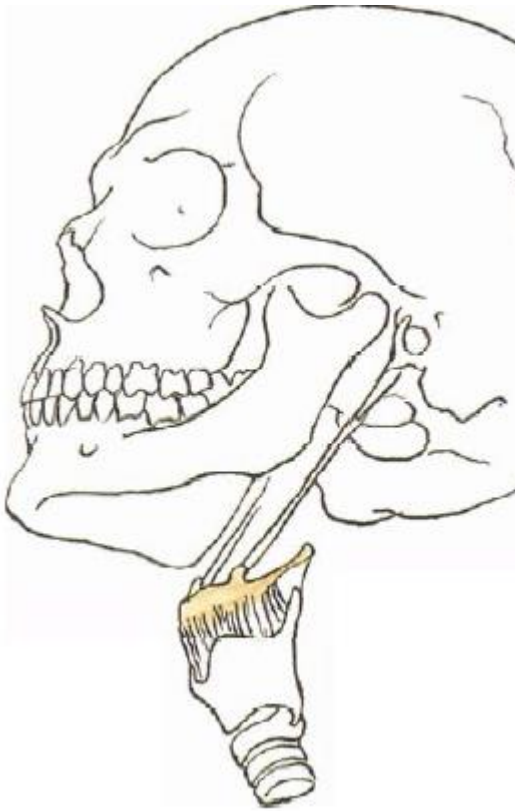
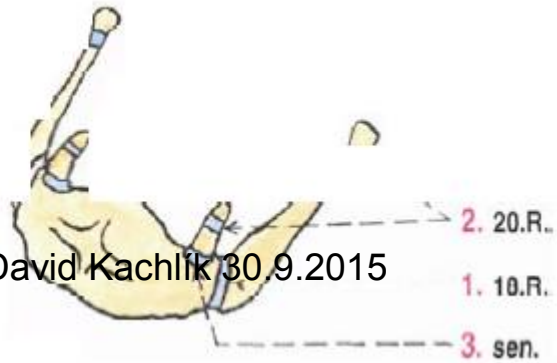
Jazylka – Os hyoideum

- corpus
- cornua majora
- cornua minora









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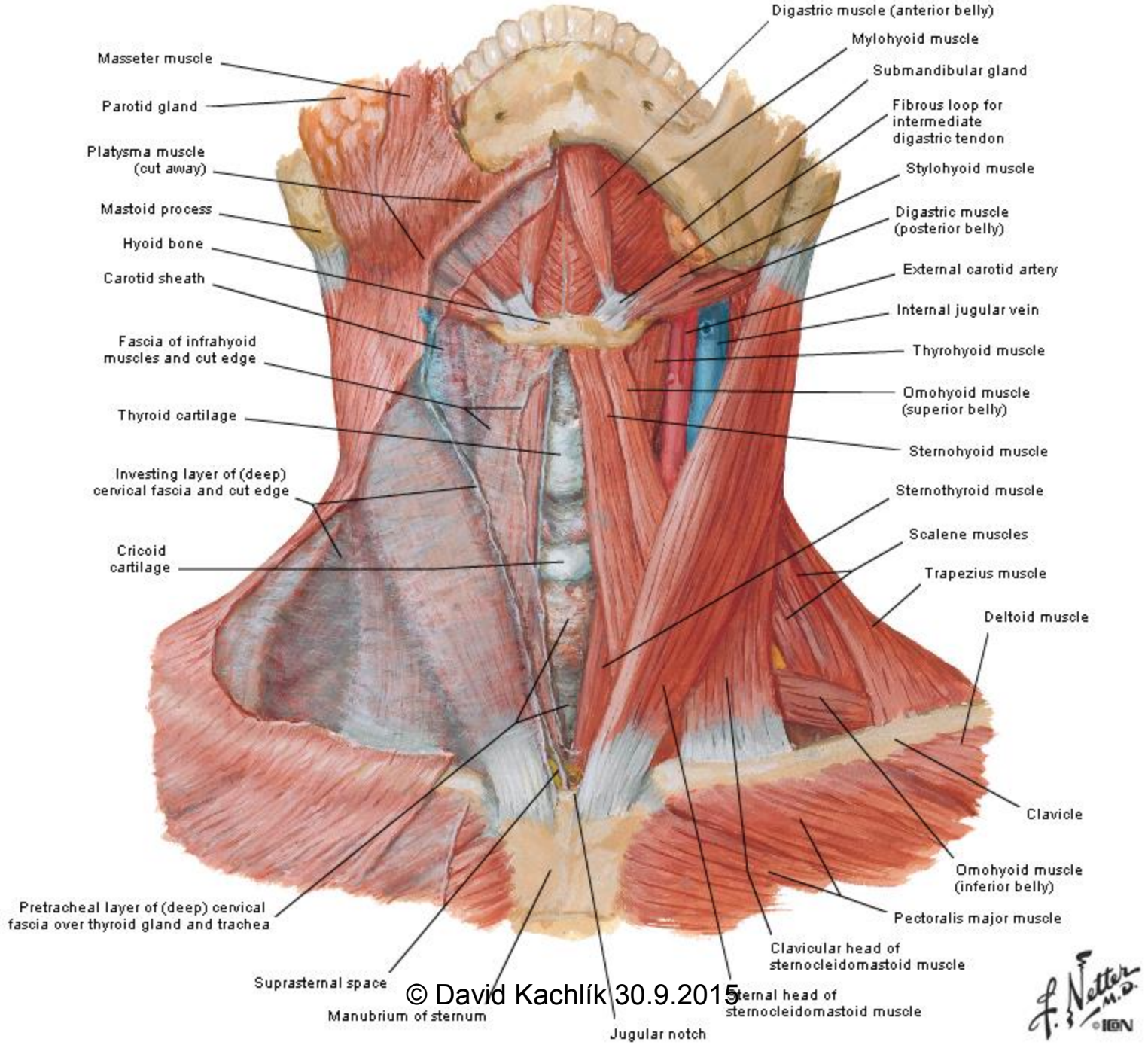

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Svaly krku

- platysma – n. VII
- m. sternocleidomastoideus – n. XI + C2-4
- mm. infrahyoidei – ansa cervicalis profunda
- mm. suprahyoidei – V3, VII., C1
- mm. scaleni - nn. spinales (C1-C8)
- hluboké svaly krku – nn. spinales (C1-C6)

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Platysma – kožní krční sval

- povrchová vrstva
- na lamina spf. fasciae cervicalis
- vynechává střední čáru
- úpon: pars labilais, modiolaris et mandibularis
- n. VII (r. colli)
- napětí kůže

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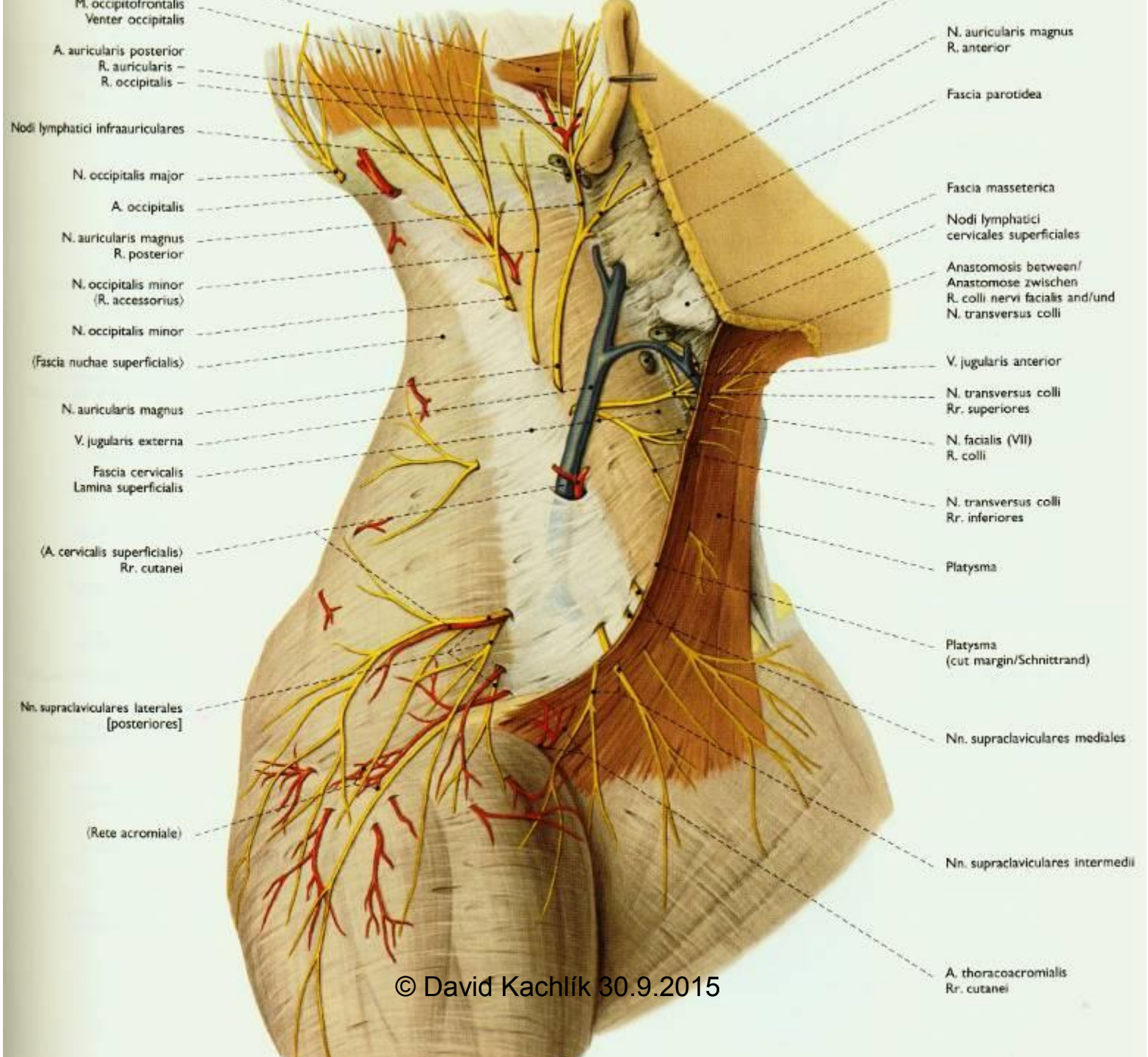

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Krční řasa – Pterygium colli

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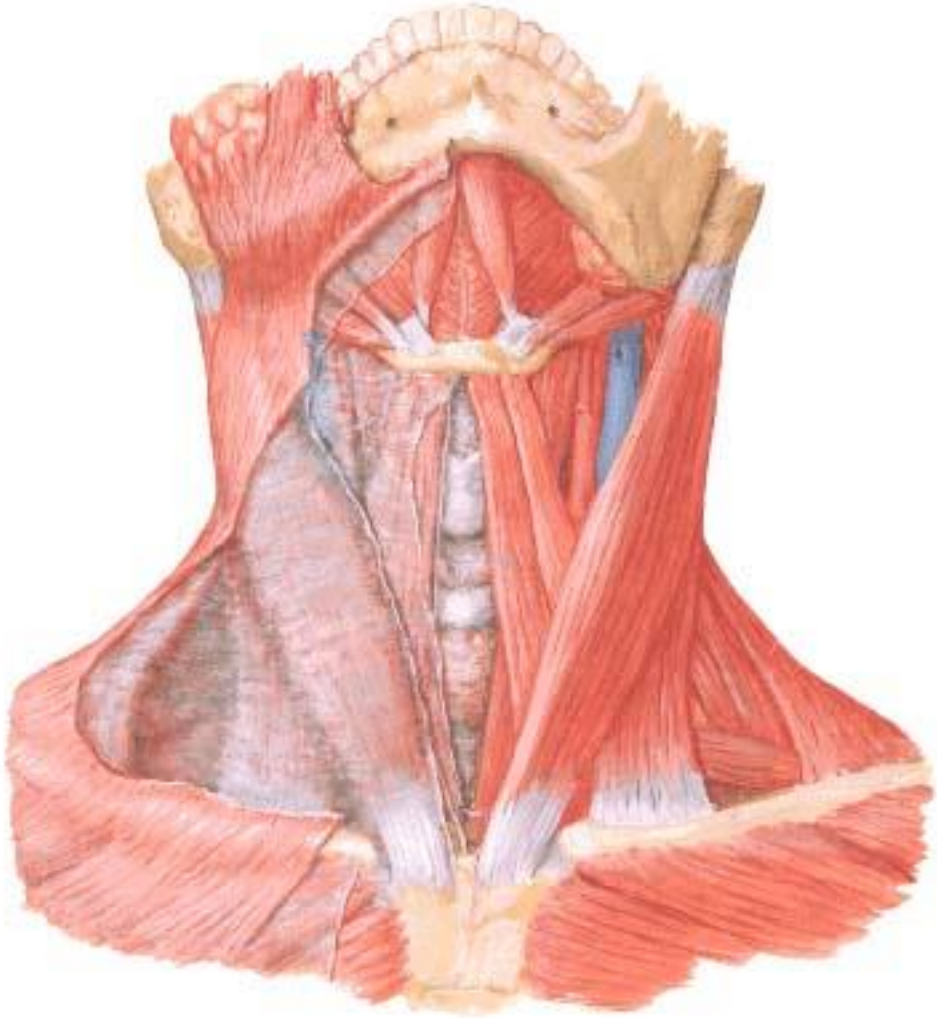
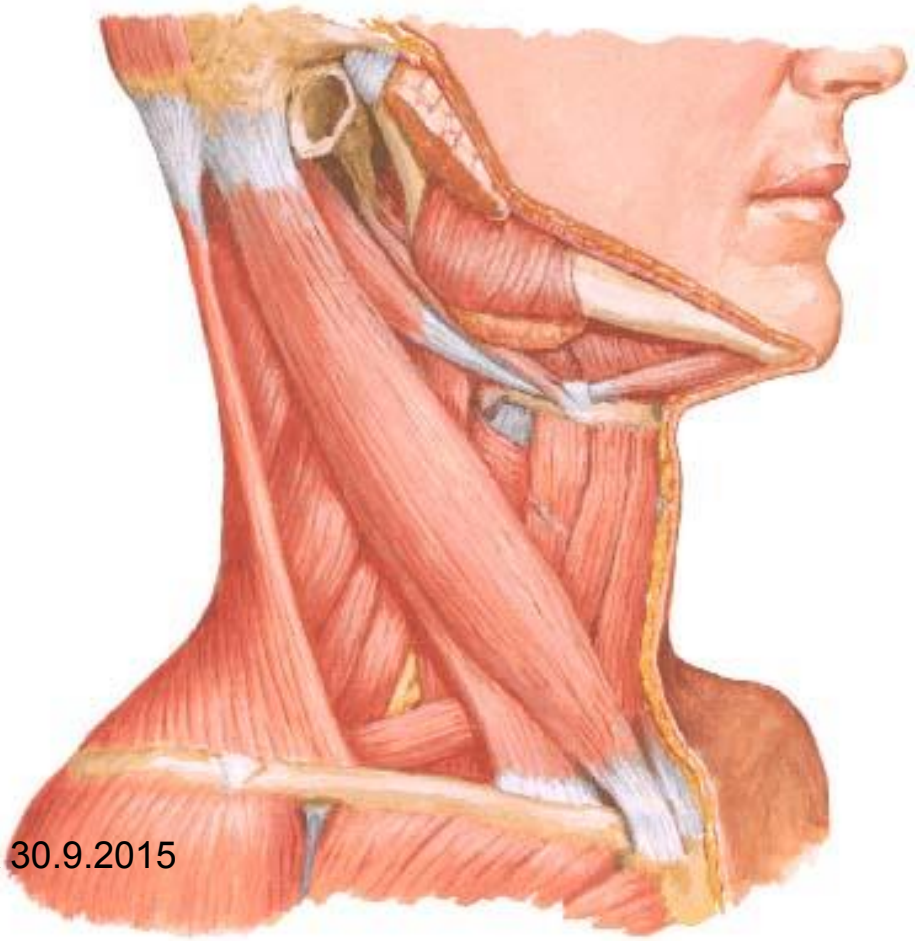
Turnerův sy





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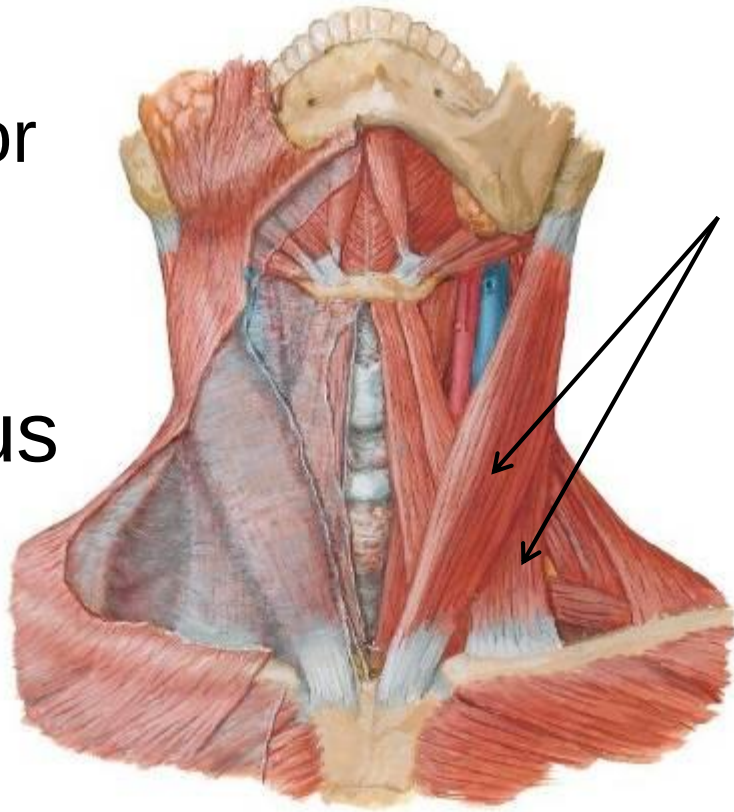
M. sternocleidomastoideus

- začátek: 2 části
  - pars sternali et clavicularis
  - fossa supraclavicularis minor (promítá se sem cupula pleurae)
- úpon: processus mastoideus + linea nuchalis superior
  - n.XI + vlákna z C2-4
  - pohyb v atlantookcipitálním skloubení



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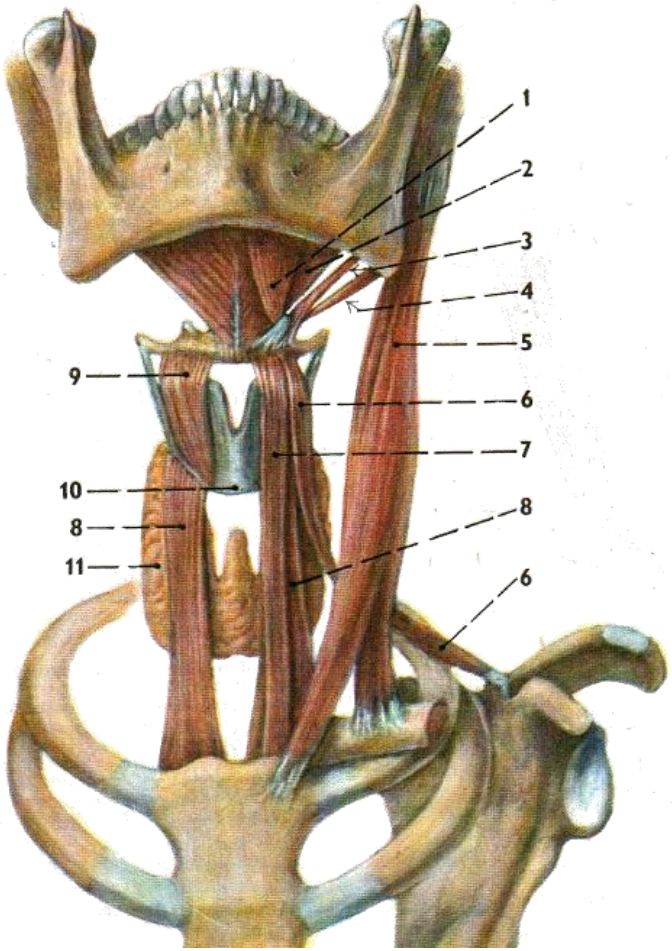
M. sternocleidomastoideus



funkce

oboustranná akce:

1. zadní snopce – záklon
2. přední snopce sklonění

jednostranná akce:

1. úklon na stranu akce
2. otočení na protilehlou stranu

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Mm. infrahyoidei = Podjazylkové svaly

- m. sternohyoideus
- m. sternothyroideus
- m. thyrohyoideus – C1
- m. omohyoideus
  - venter superior + inferior

- inervace: ansa cervicalis profunda C1-C3
- *stabilizace hrtanu*

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Zkrácení kývače – Torticollis

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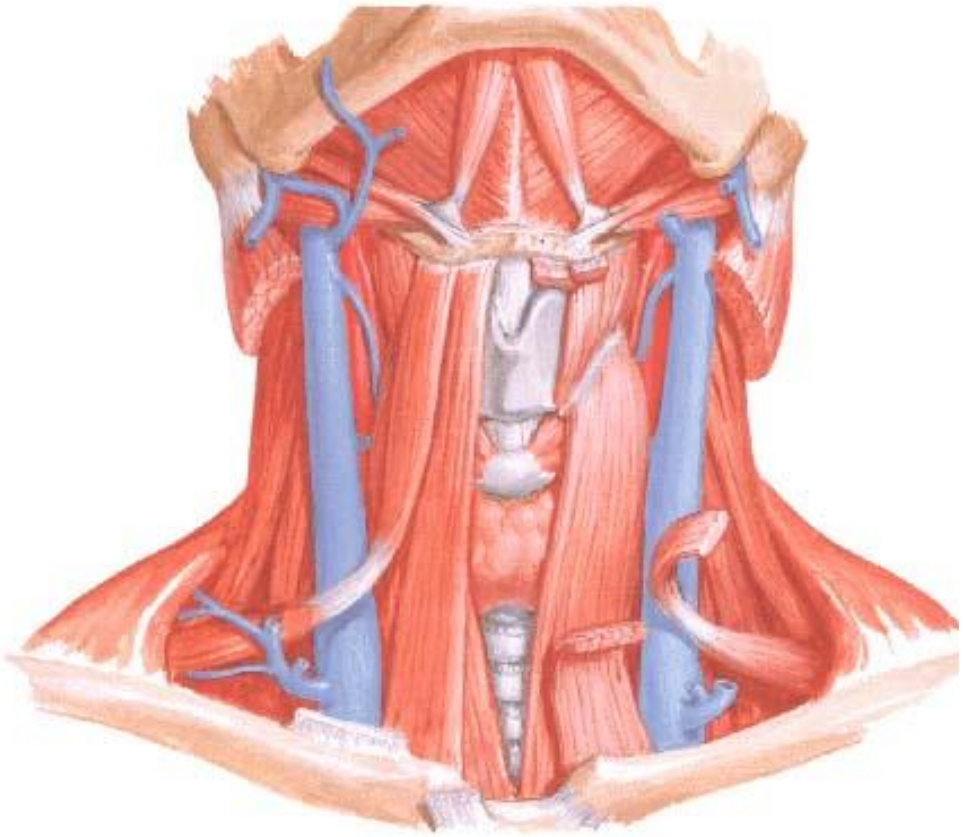

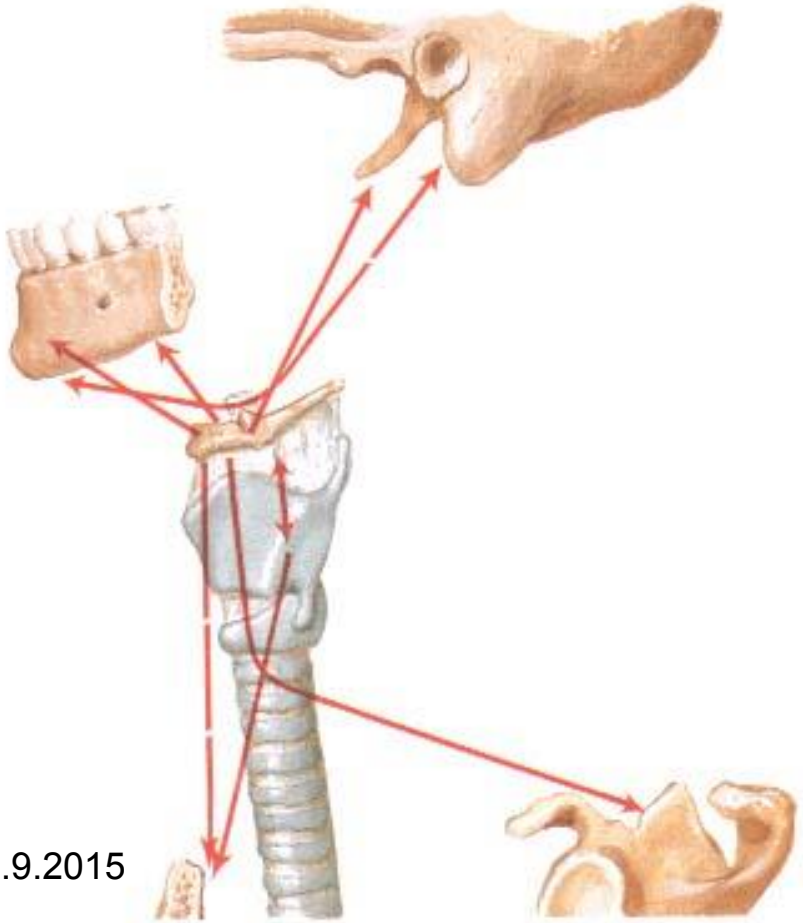

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Mm. suprahyoidei = Nadjazylkové svaly

deriváty 2. oblouku – **n. VII**

- m. stylohyoideus
- m. digatricus – venter posterior

deriváty 1. oblouku – **n. V3**

- m. mylohyoideus
- m. digatricus – venter anterior

derivát krčních somitů:

- m. geniohyoideus – C1

- *stabilizace hrtanu (tvorba hlasu)*

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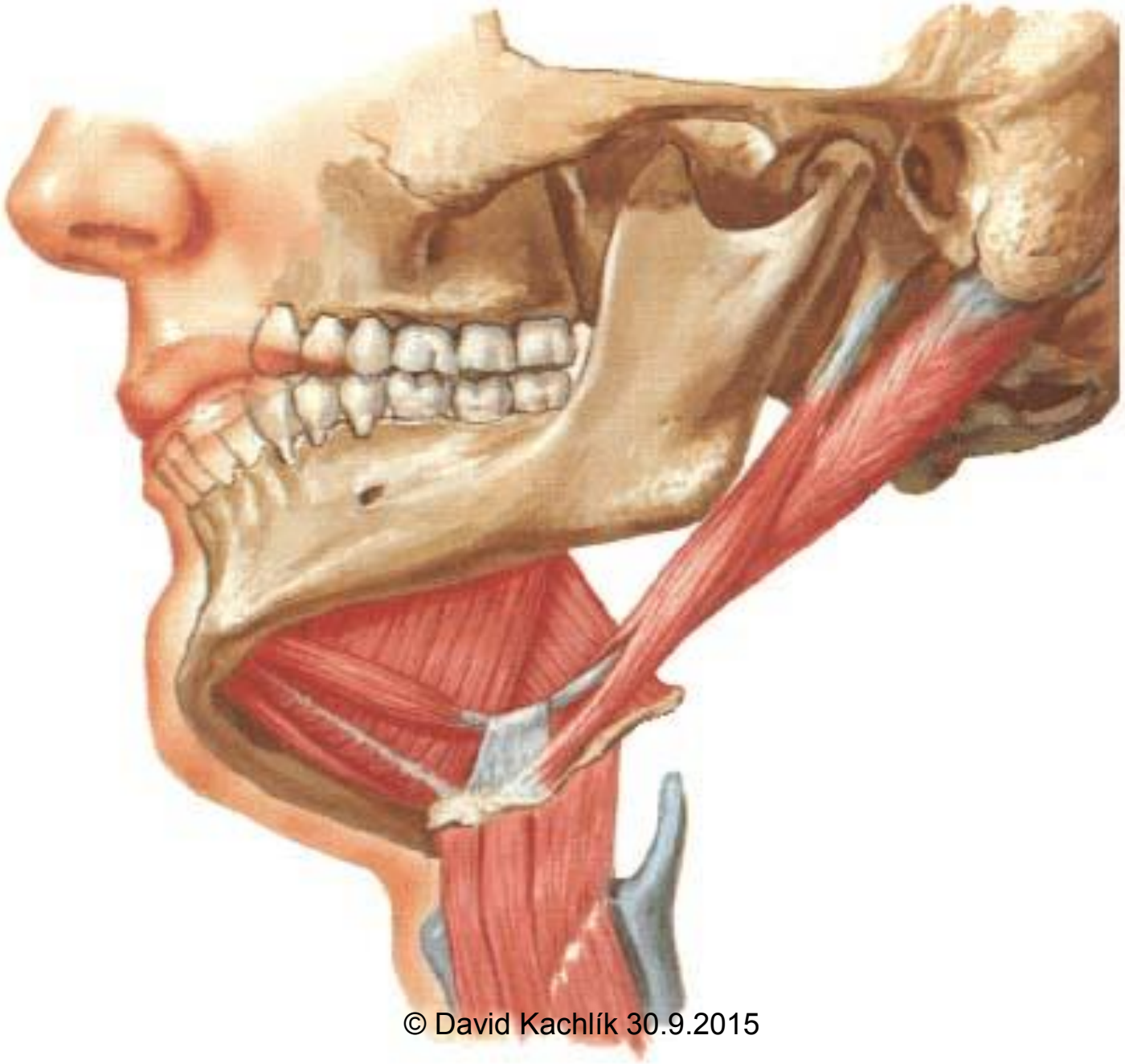

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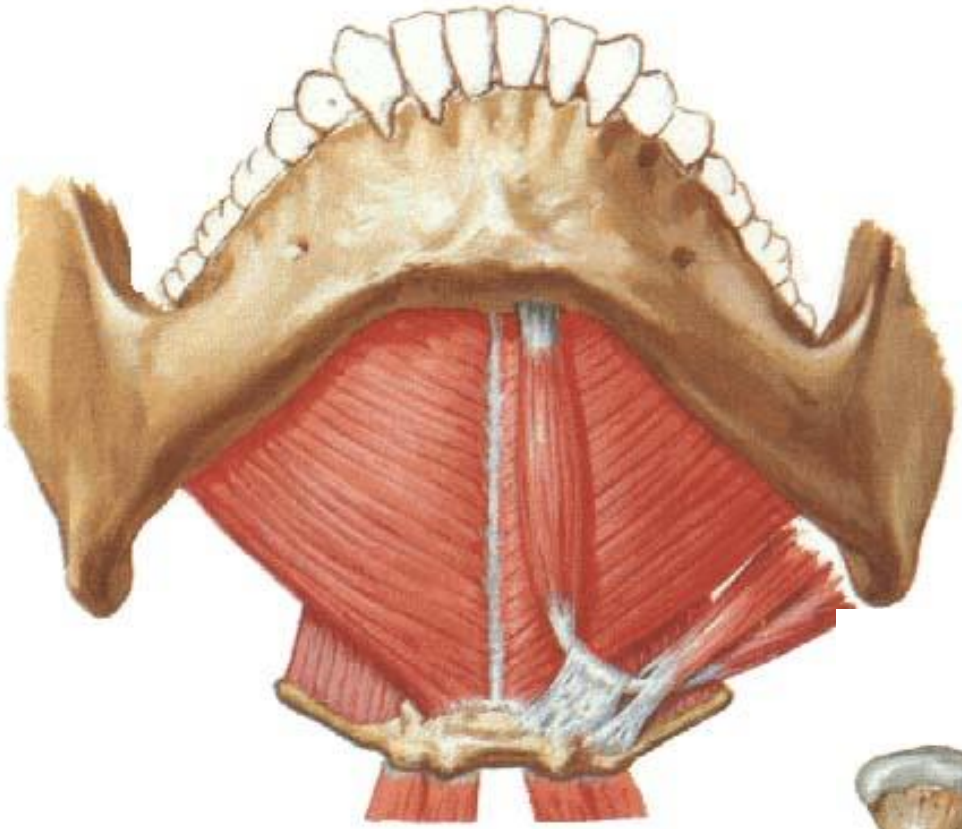

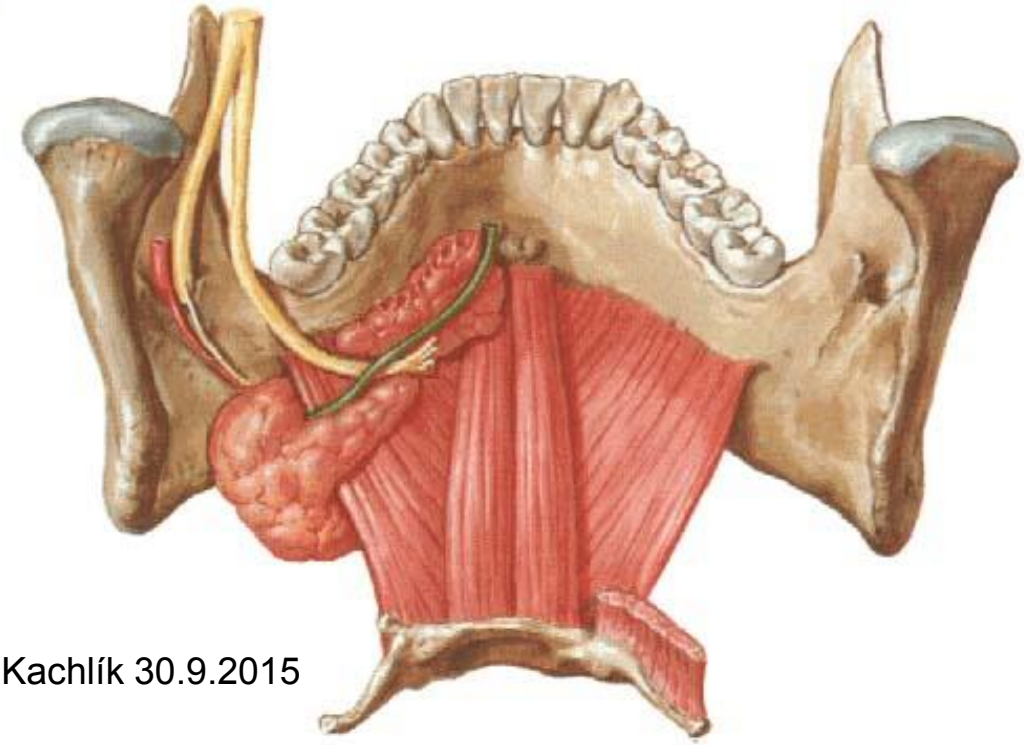

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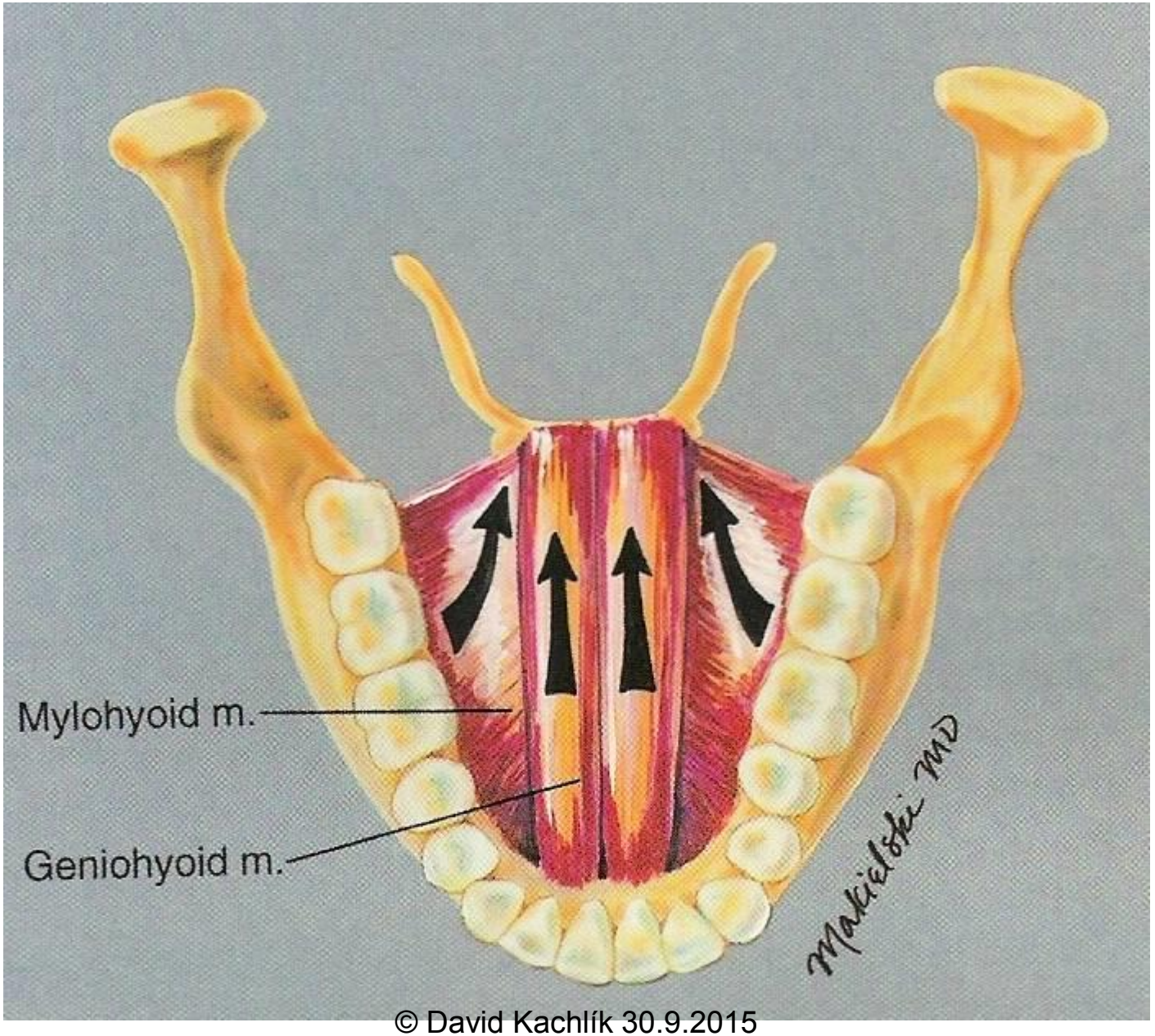

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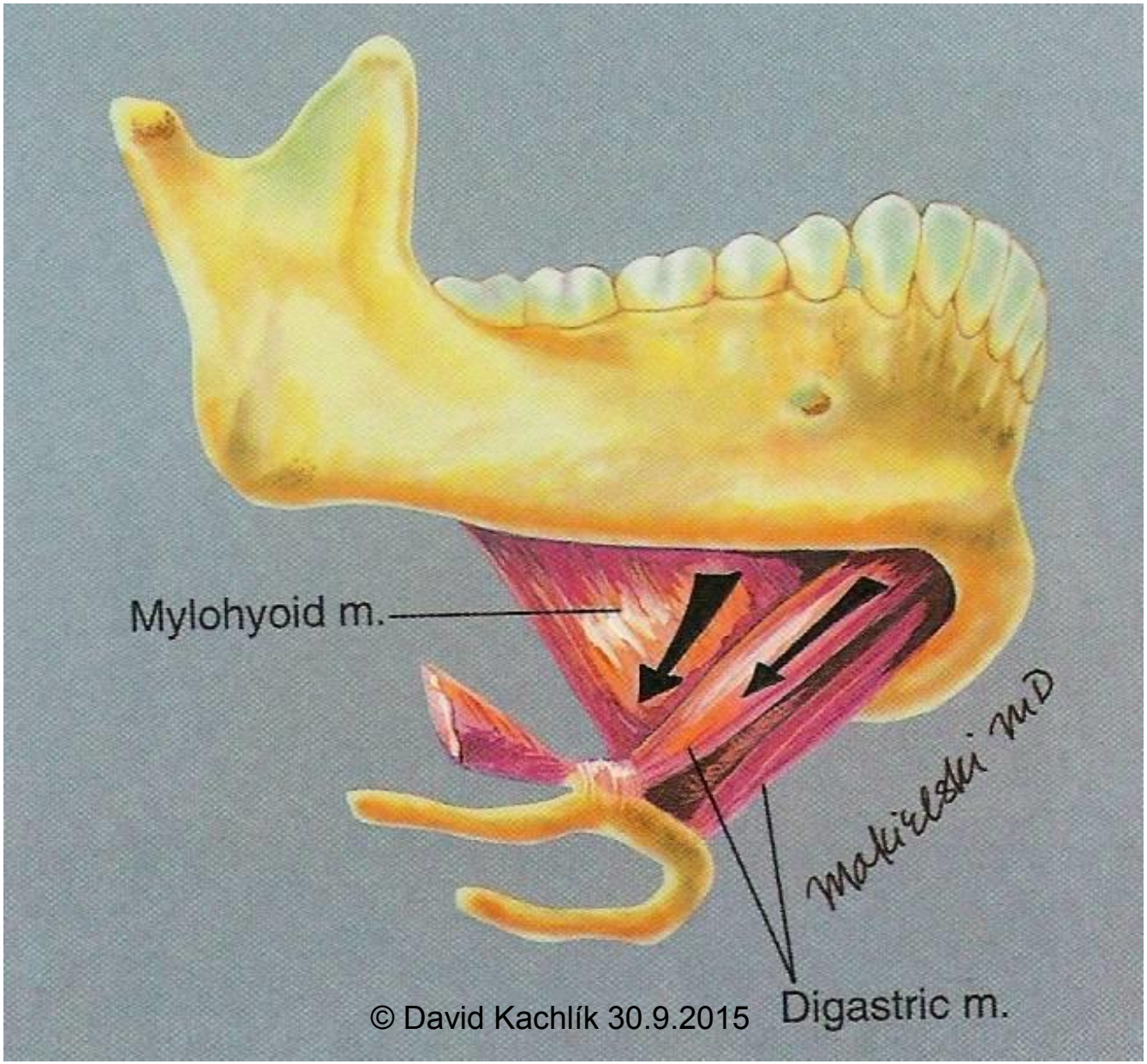
Mylohyoid m.
Digastric m.
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MM. scaleni = Kloněné svaly („Kloněnci“)

- m. scalenus anterior – C4-6
- m. scalenus medius – C3-8
- m. scalenus posterior – C7-8

- *fissura scalenorum*
- *skalenický syndrom*
- *blokáda plexus brachialis*

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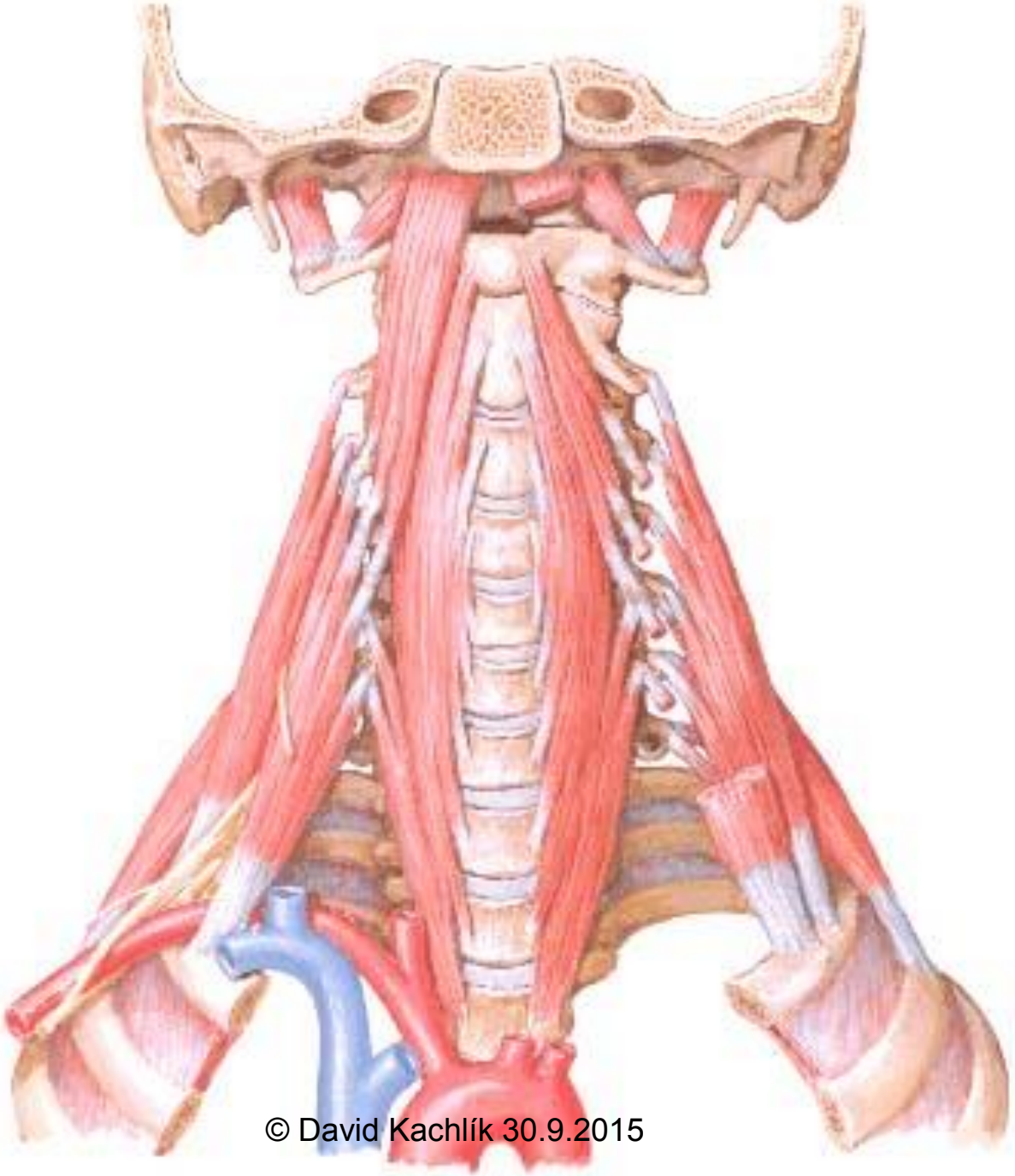

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Hluboké krční svaly

- m. longus capitis – C1-3
- m. longus colli – C2-6
- m. rectus capitis anterior – C1
- m. rectus capitis lateralis – C1

- *pohyby hlavy a krční páteře*

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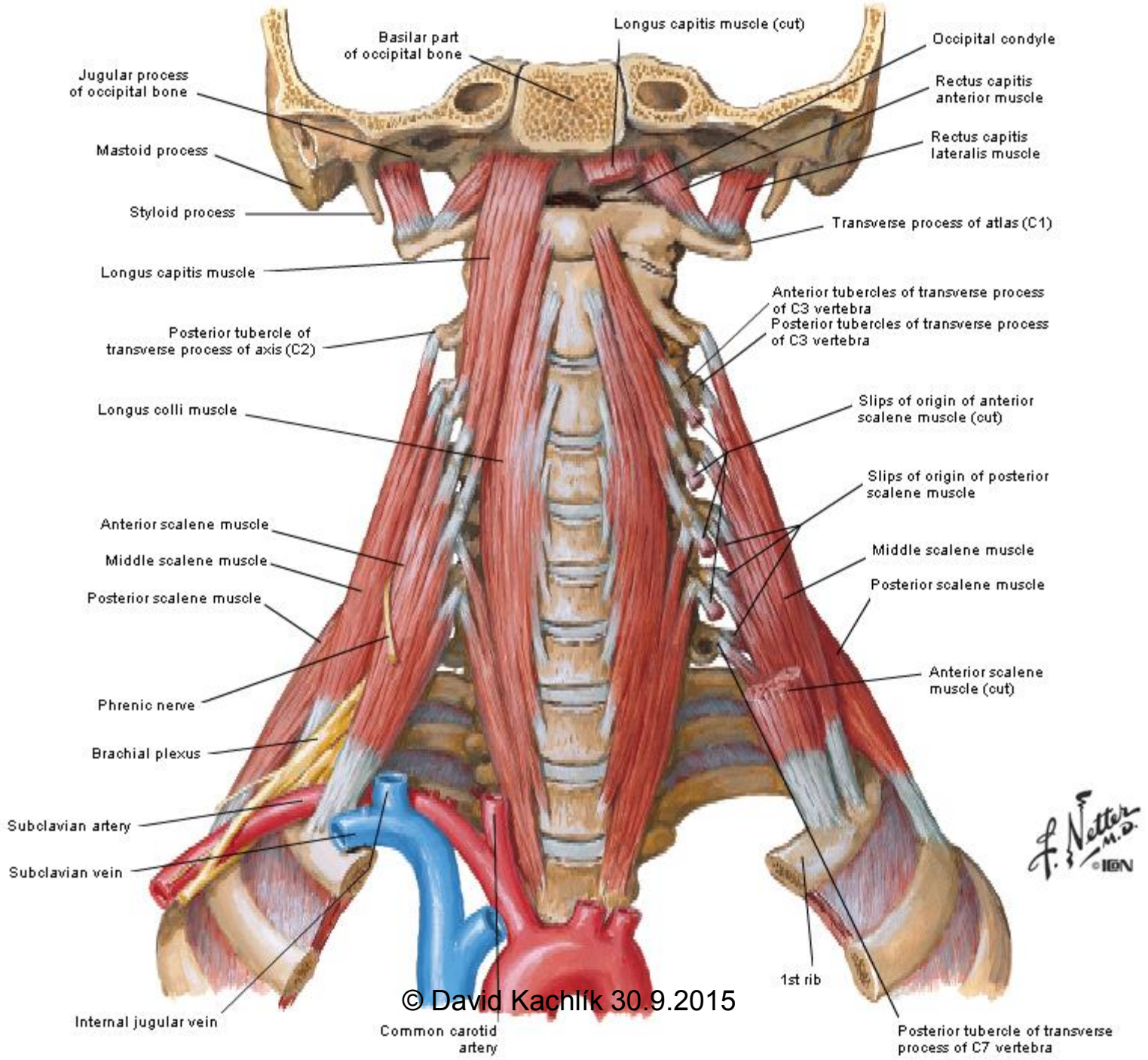

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Trojúhelníky na krku

- regio colli anterior
  - trigonum submandibulare
  - trigonum submentale
  - trigonum caroticum *Malgaignei*
  - trigonum omotracheale = musculare
- regio colli lateralis
  - trigonum omoclaviculare
  - trigonum omotrapezium
  - fossa supraclavicularis minor
  - fissura scalenorum
  - trigonum scalenovertebrale

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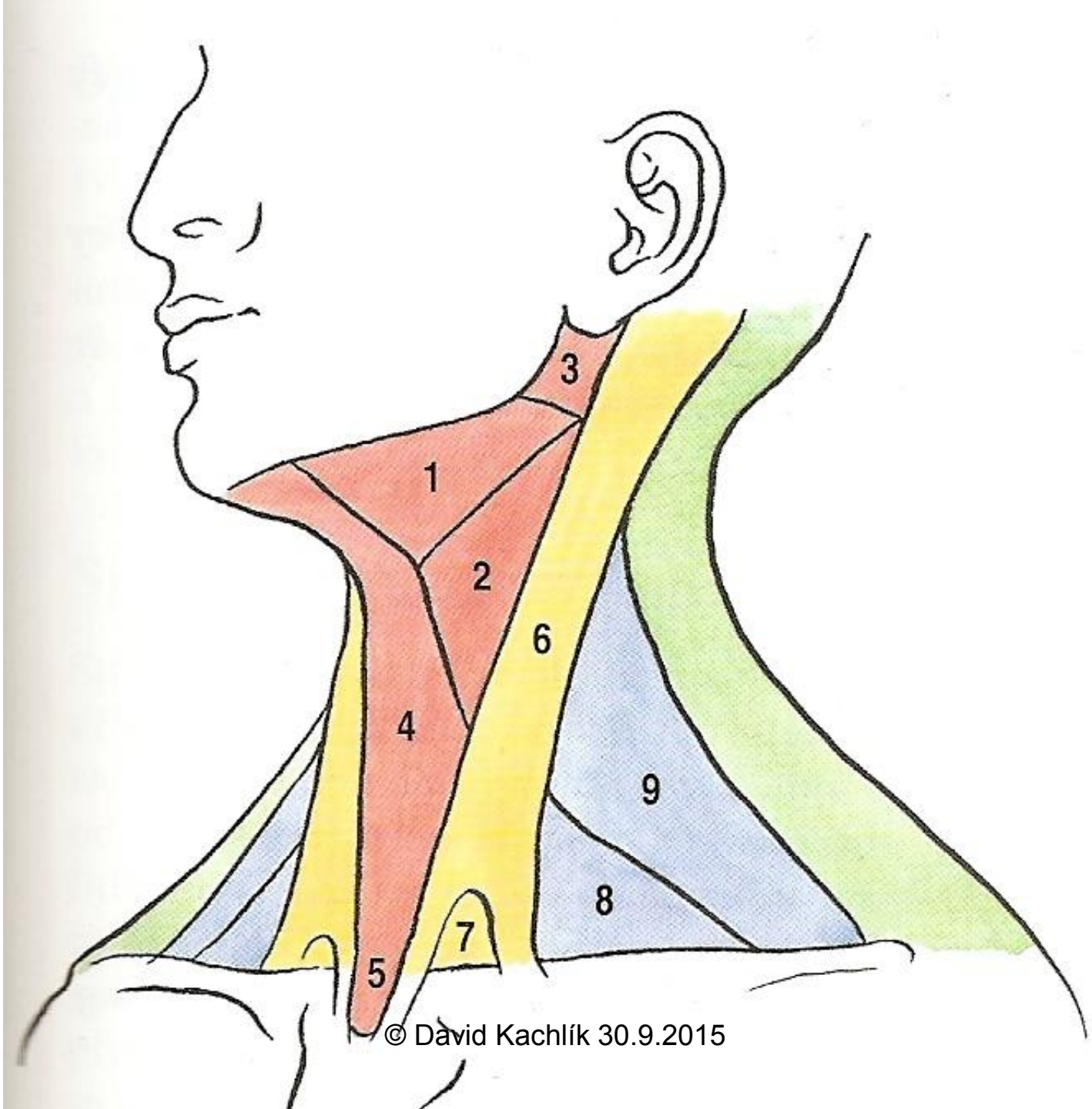

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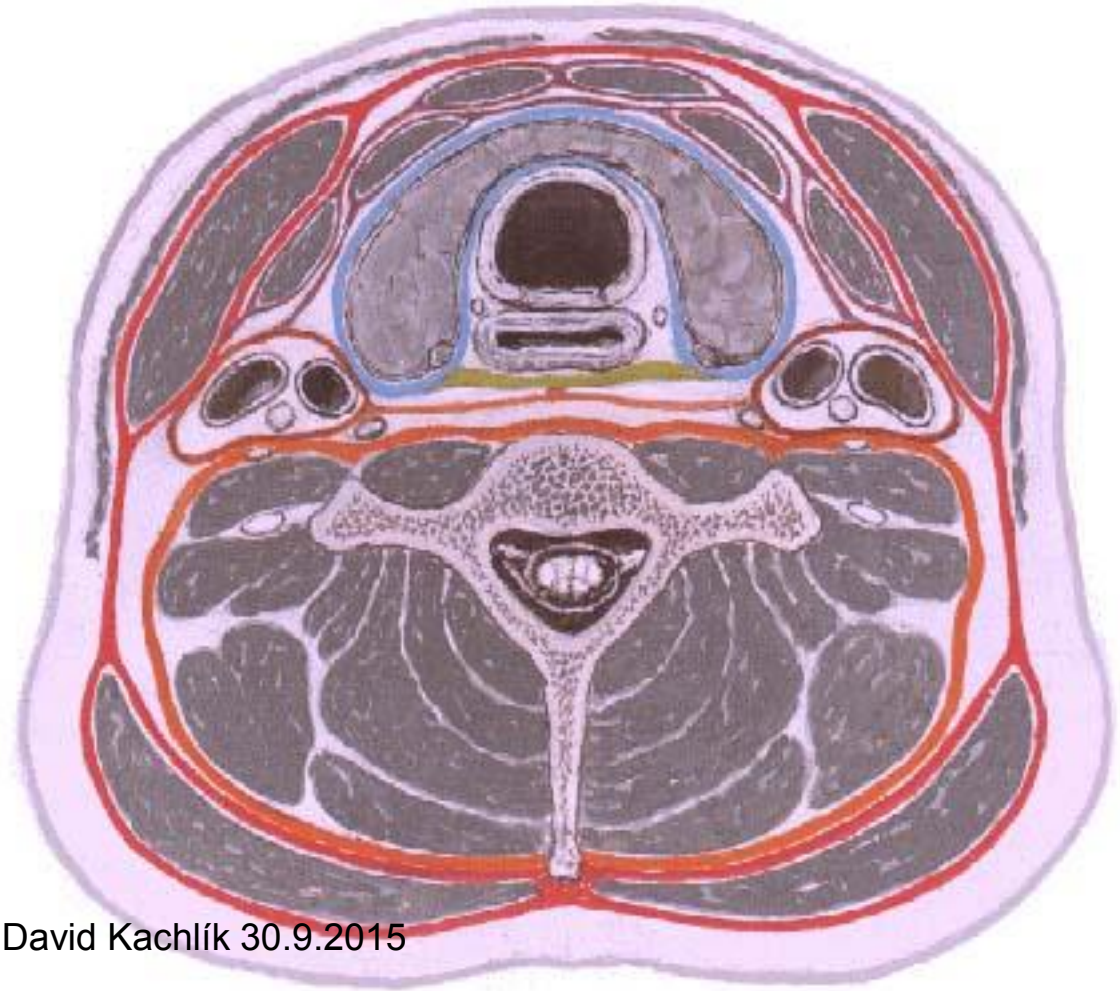
FASCIA CERVICALIS – 3 listy

- lamina superficialis
- lamina pretrachealis
  - vagina carotica
- lamina prevertebralis



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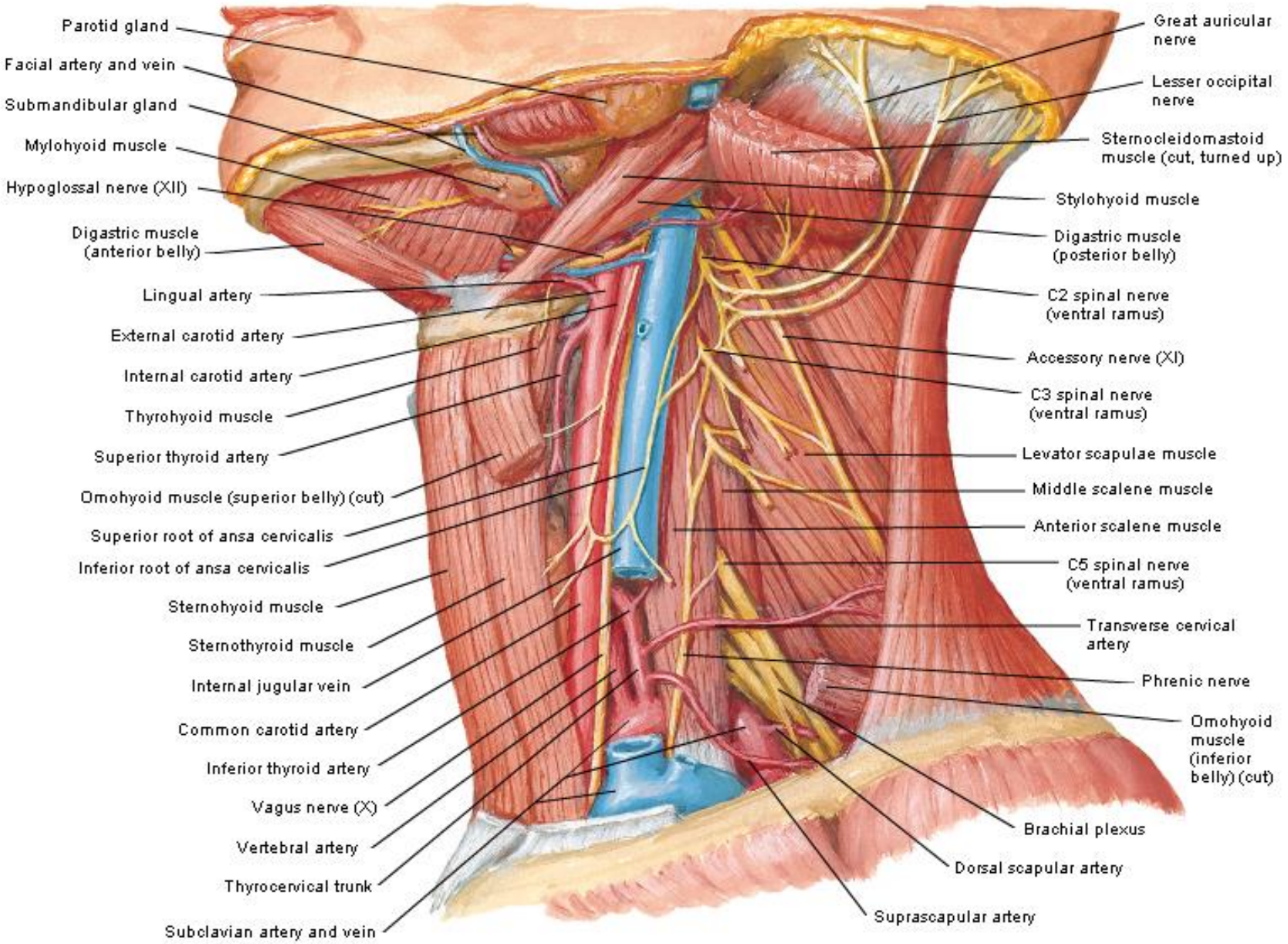

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Prostory na krku

- spatium previscerale
- spatium paraviscerale
- spacium retroviscerale

navazuje na ně:

- kraniálně: spatium parapharyngeum
  spatium retropharyngeum
- kaudálně: spatium suprasternale
  mediastinum superius

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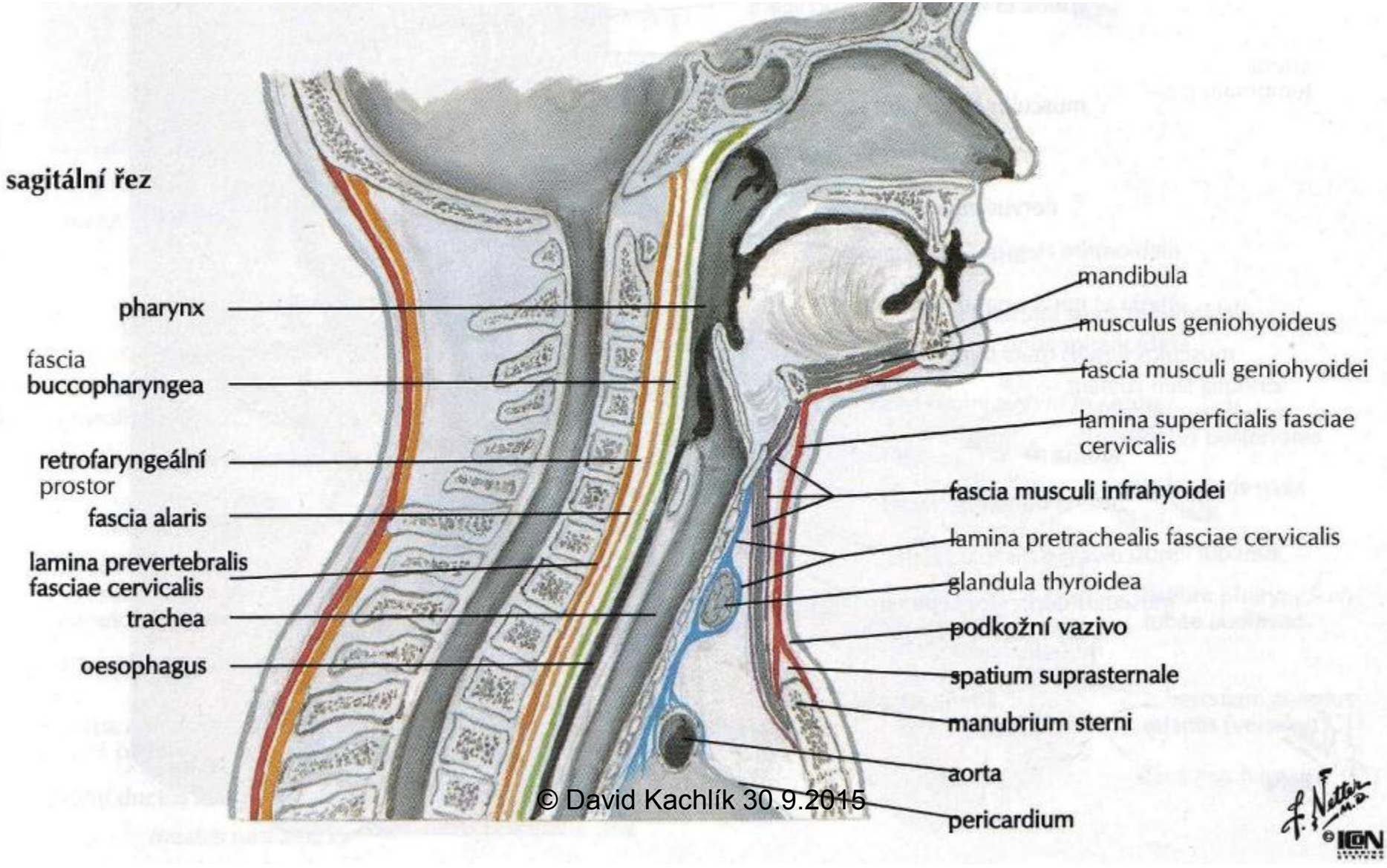
Prostory na krku



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Septum styloideum („Riolanova kytice“)

svalová přepážka obalená fasciemi

dělí kraniální část spatium parapharyngeum na spatium pre- + retrostyloideum

končí přibližně v čáře mezi processus styloideus a cornu majus ossis hyoidei

- m. stylophyrangeus
- m. styloglossus
- m. stylohyoideus + lig. stylohyoideum
- venter posterior m. digastrici
- m. sternocleidomastoideus

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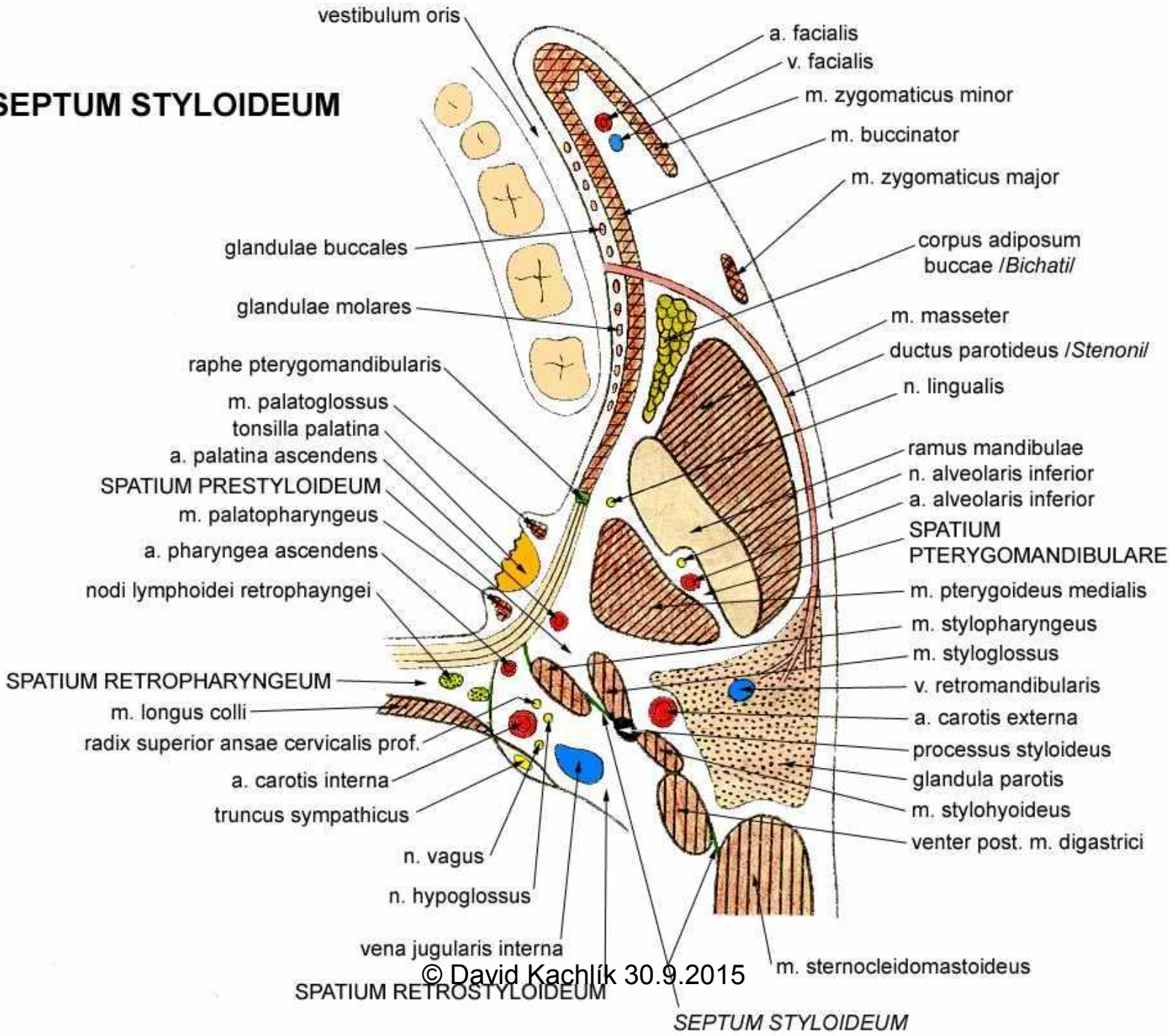
SEPTUM STYLOIDEUM



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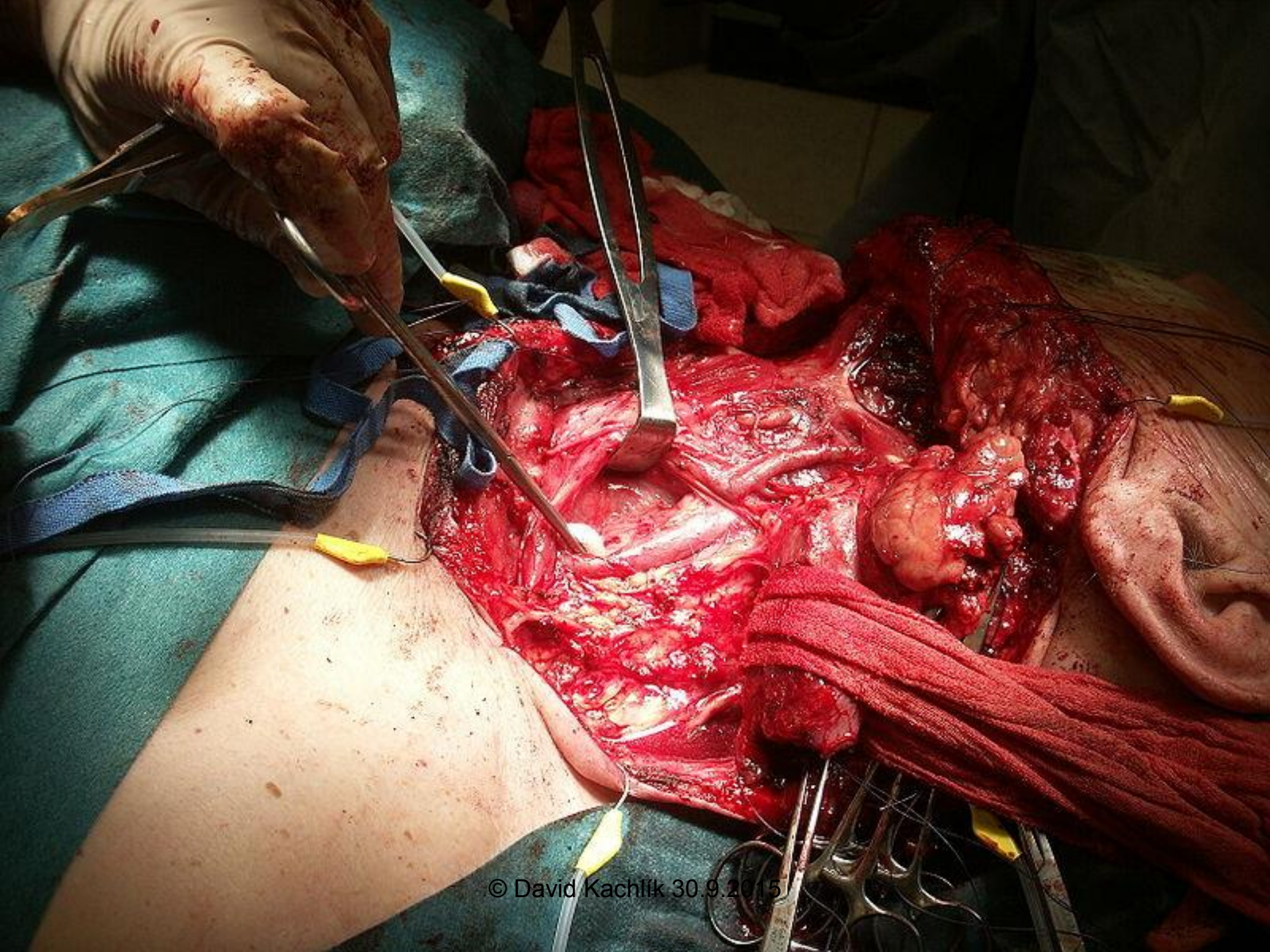
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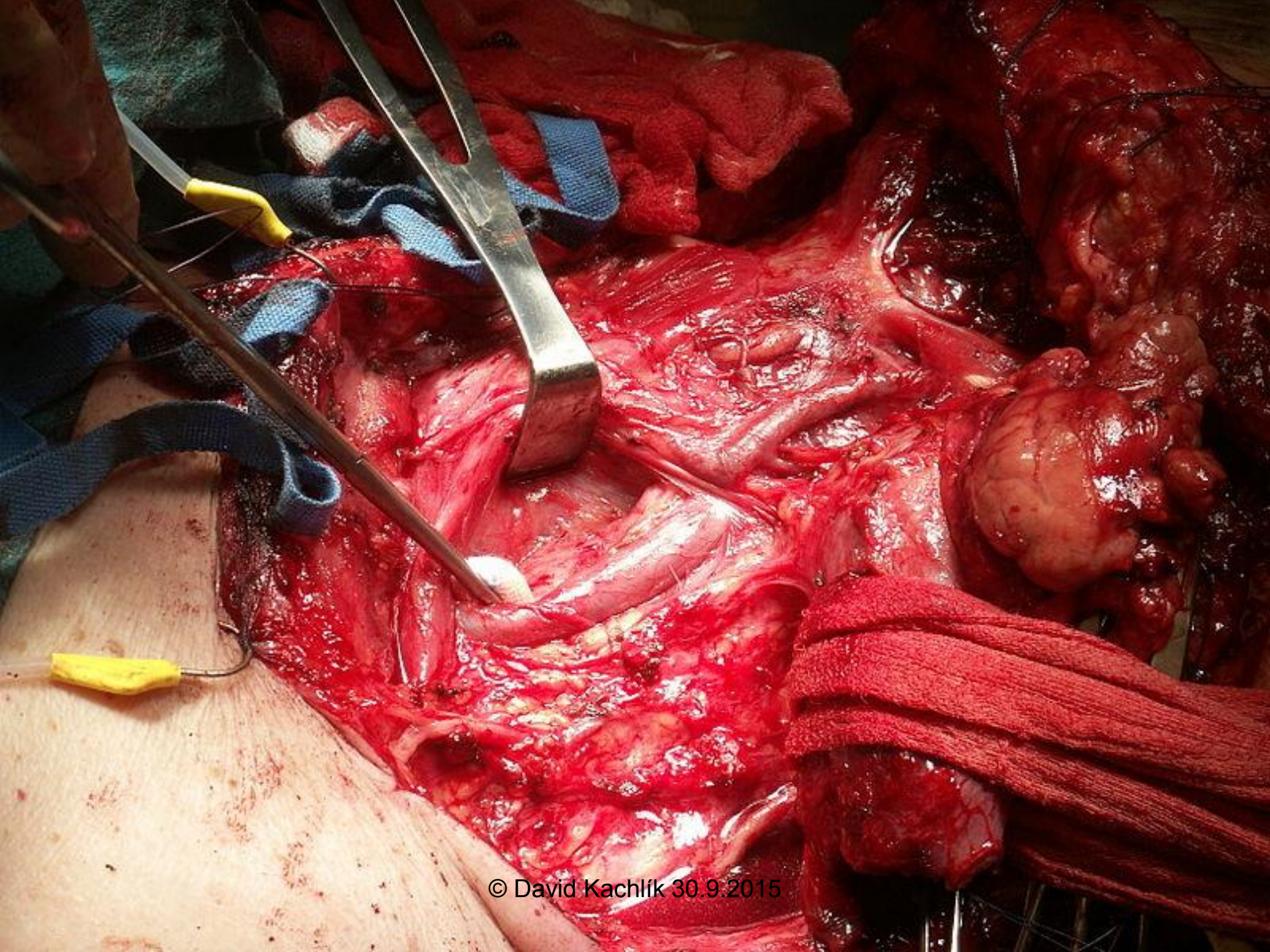
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