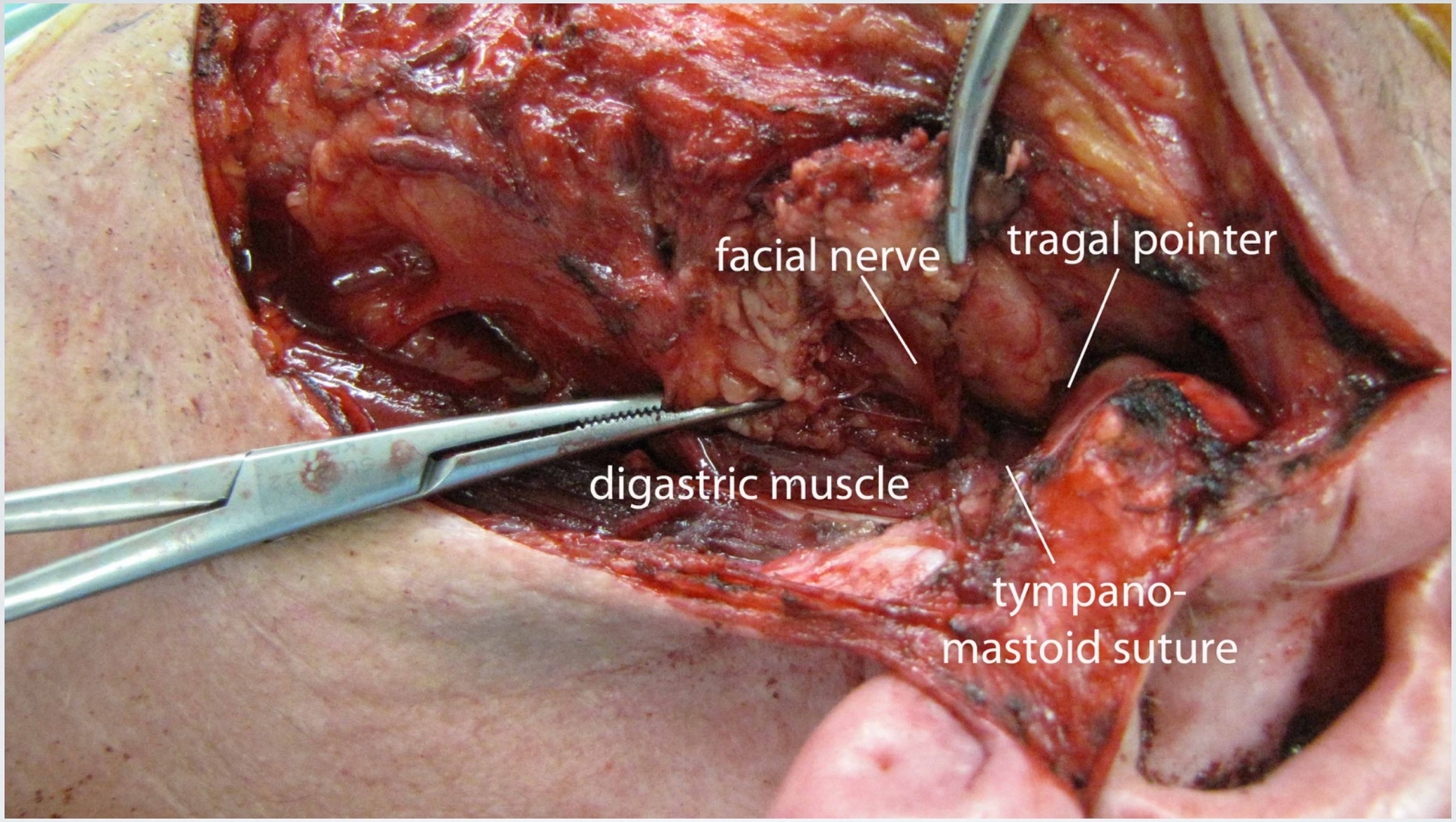
ANATOMIA CHIRURGICA

cranio-maxillo-facciale

dr Roberto Rizzo, MD.

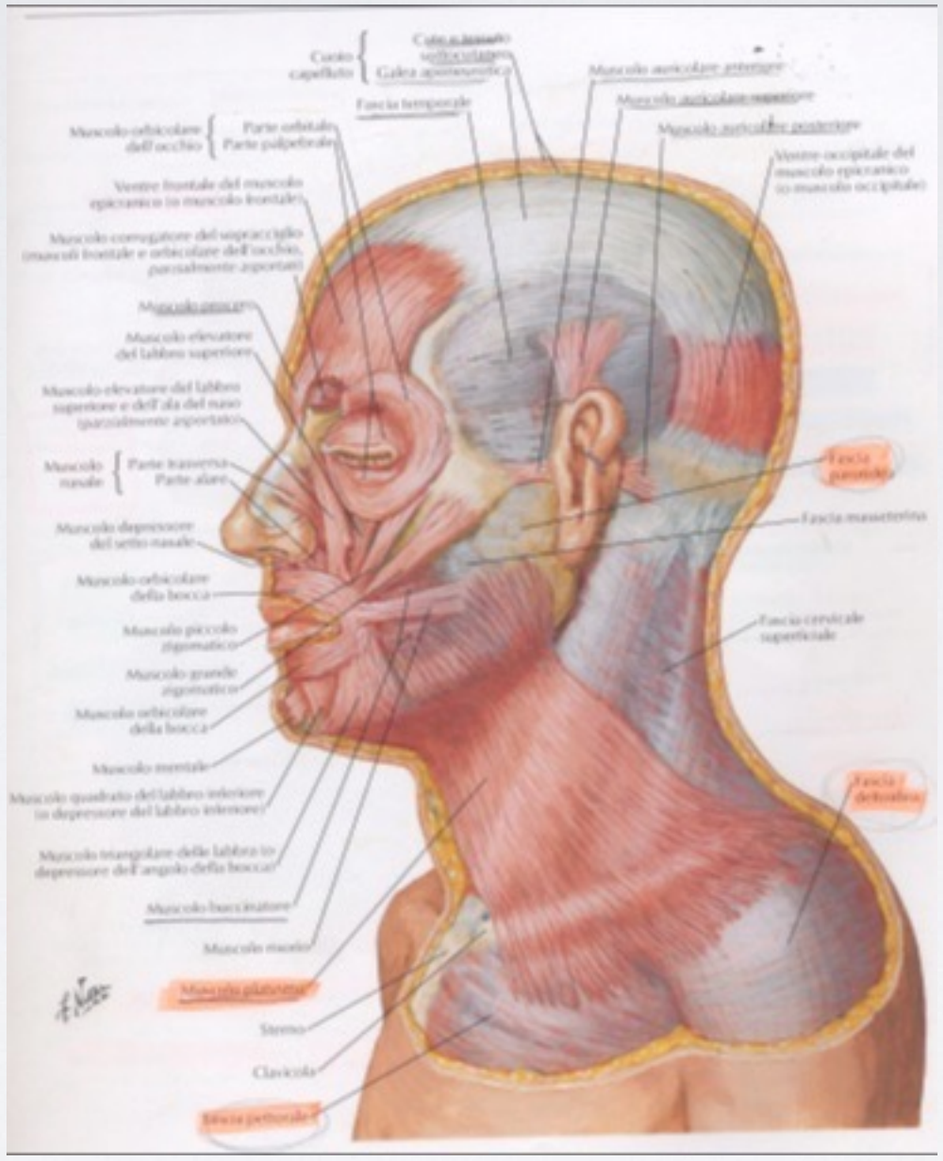


LE FASCE DEL COLLO

FASCE DEL COLLO

- quattro fasce cervicali, disposte su piani diversi
- 0 SMAS
- 1 fascia cervicale superficiale
- 2 fascia cervicale media
- 3 fascia cervicale profonda (prevertebrale)

SMAS


Cuoio capelluto
Galea aponeurotica
Muscolo auricolare anteriore
Fascia temporale
Muscolo orbicolare dell'occhio
Parte orbitale
Parte palpebrale
Ventre frontale del muscolo epicranico (o muscolo frontale)
Muscolo elevatore del labbro superiore
Muscolo elevatore del labbro superiore e dell'ala del naso (parzialmente asportato)
Muscolo nasale
Parte trasversa
Parte alare
Muscolo depressore del setto nasale
Muscolo orbicolare della bocca
Muscolo piccolo zigomatico
Muscolo grande zigomatico
Muscolo orbicolare della bocca
Muscolo mentale
Muscolo quadrato del labbro inferiore (o depressore del labbro inferiore)
Muscolo triangolare della labbra (o depressore dell'angolo della bocca)
Muscolo buccinatore
Muscolo massetere
Fascia parotidea
Fascia massetterina
Fascia cervicale superficiale
Fascia deltoidea
Sterno
Clavicola
Fascia pettorale

SMAS
(SUPERFICIAL MUSCULOAPONEUROTIC SYSTEM)

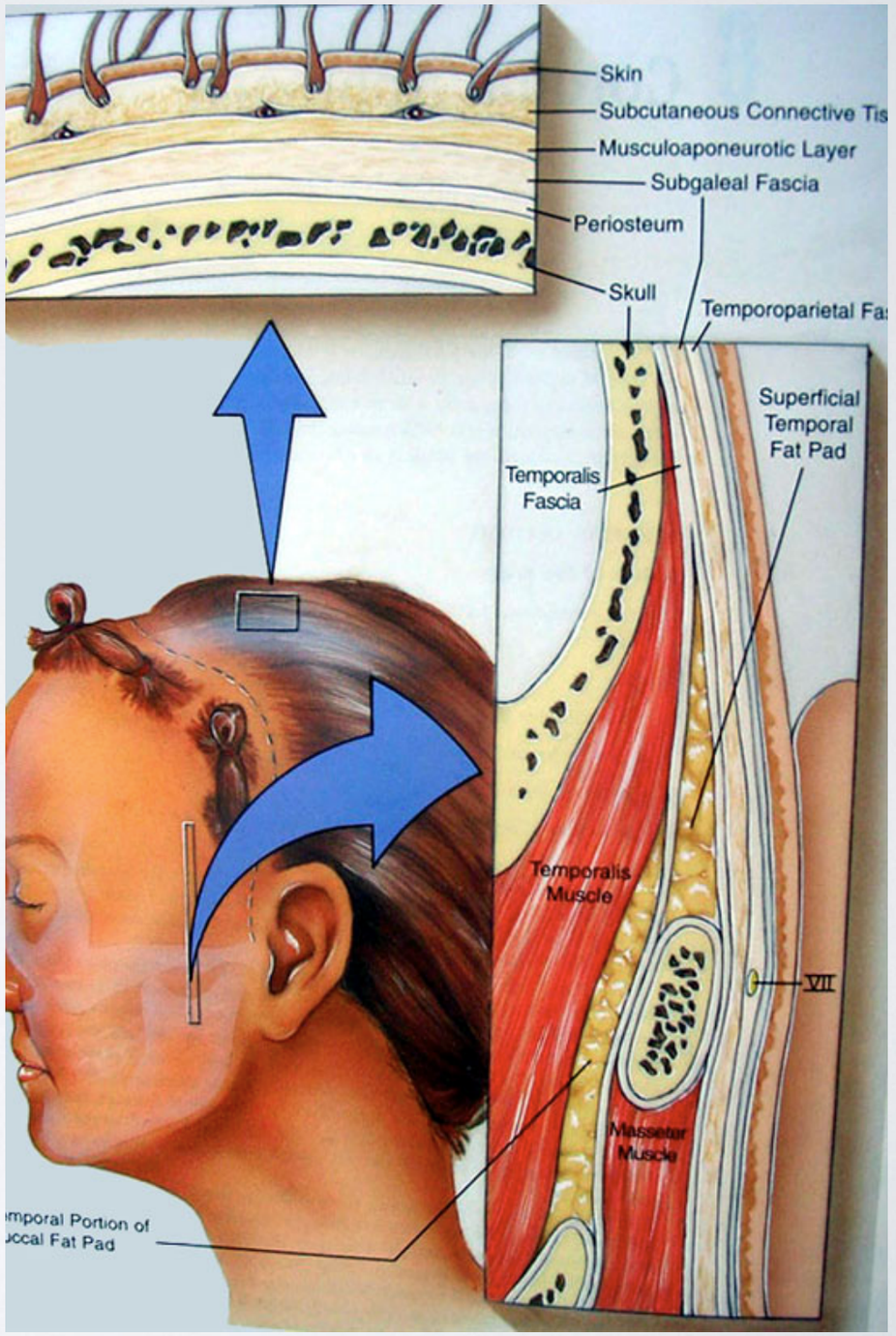
- Lo SMAS è una rete continua organizzata e fibrosa che connette i muscoli mimici con il derma

- Consiste di uno scheletro tridimensionale di fibre collagene, elastiche e di cellule adipose.

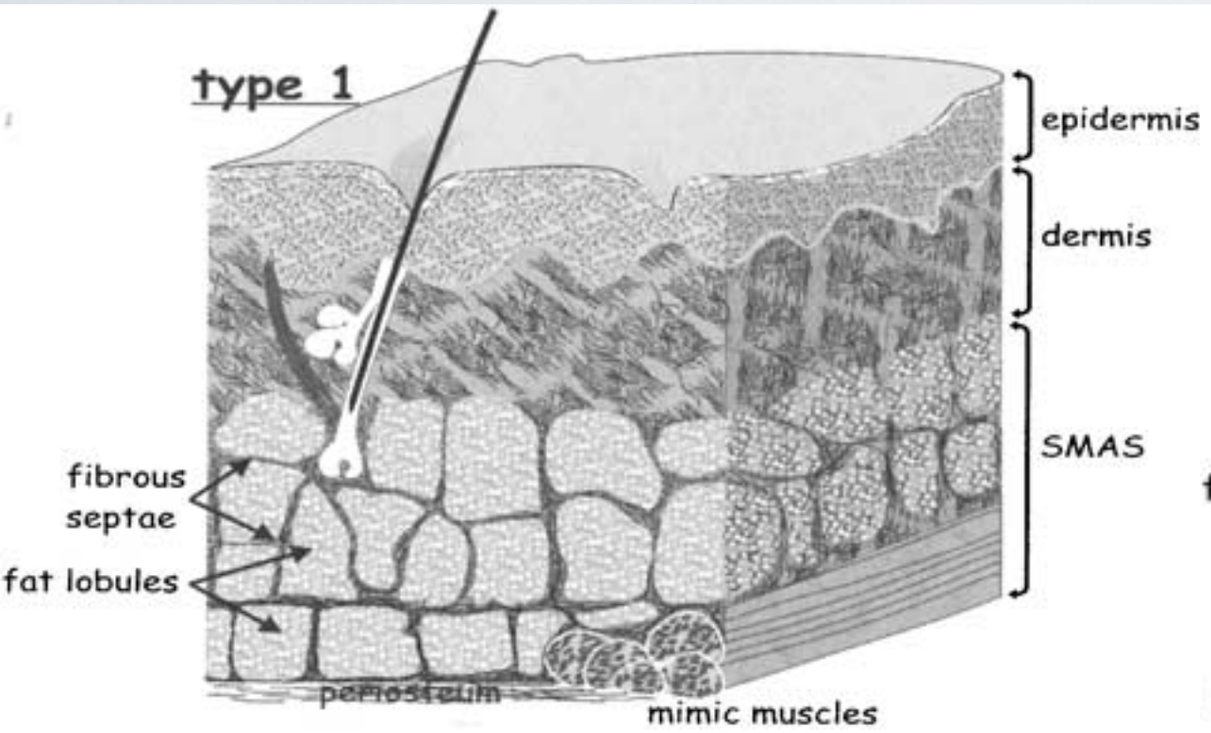
- In pratica, i muscoli mimici con i loro tendini, lo smas e la cute fungono da unità funzionale.

SMAS

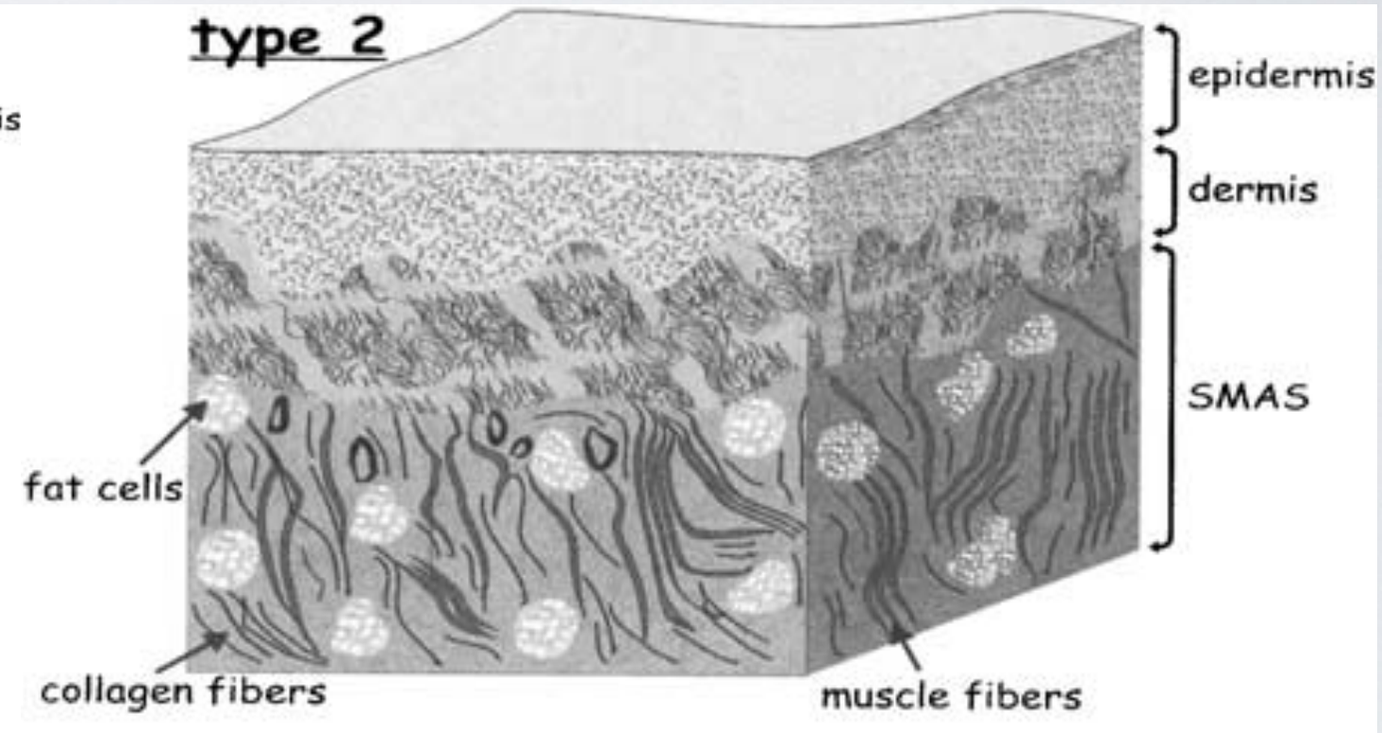
- lo SMAS comprende i muscoli mimici dal platisma verso l'alto a diventare fascia temporoparietale al di sopra dell'arco zigomatico e fascia aponeurotica del capo che collega i muscoli frontale, occipitale e auricolari con la galea



SMAS



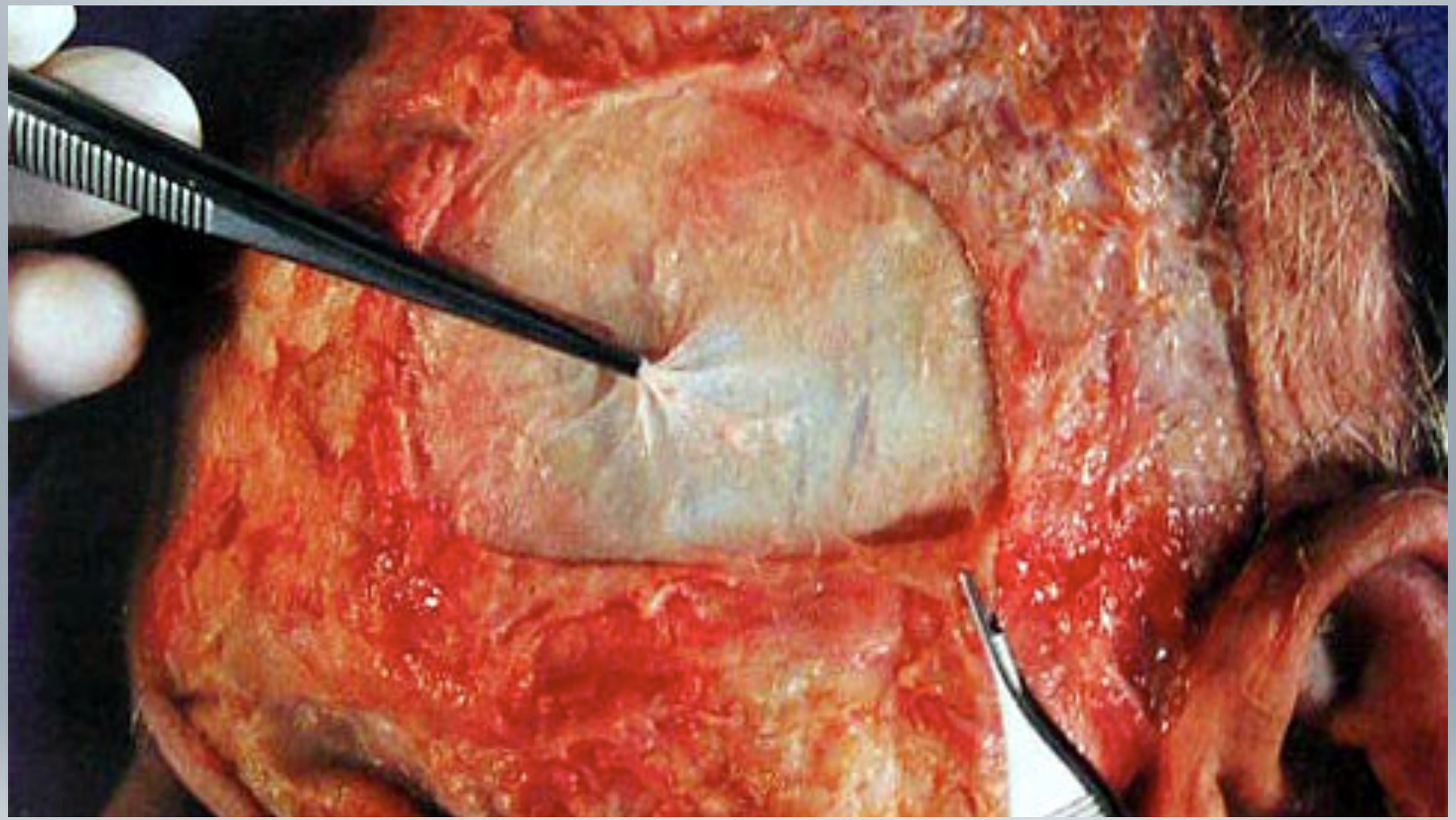
Tipo 1 tipico delle regioni posteriori del capo



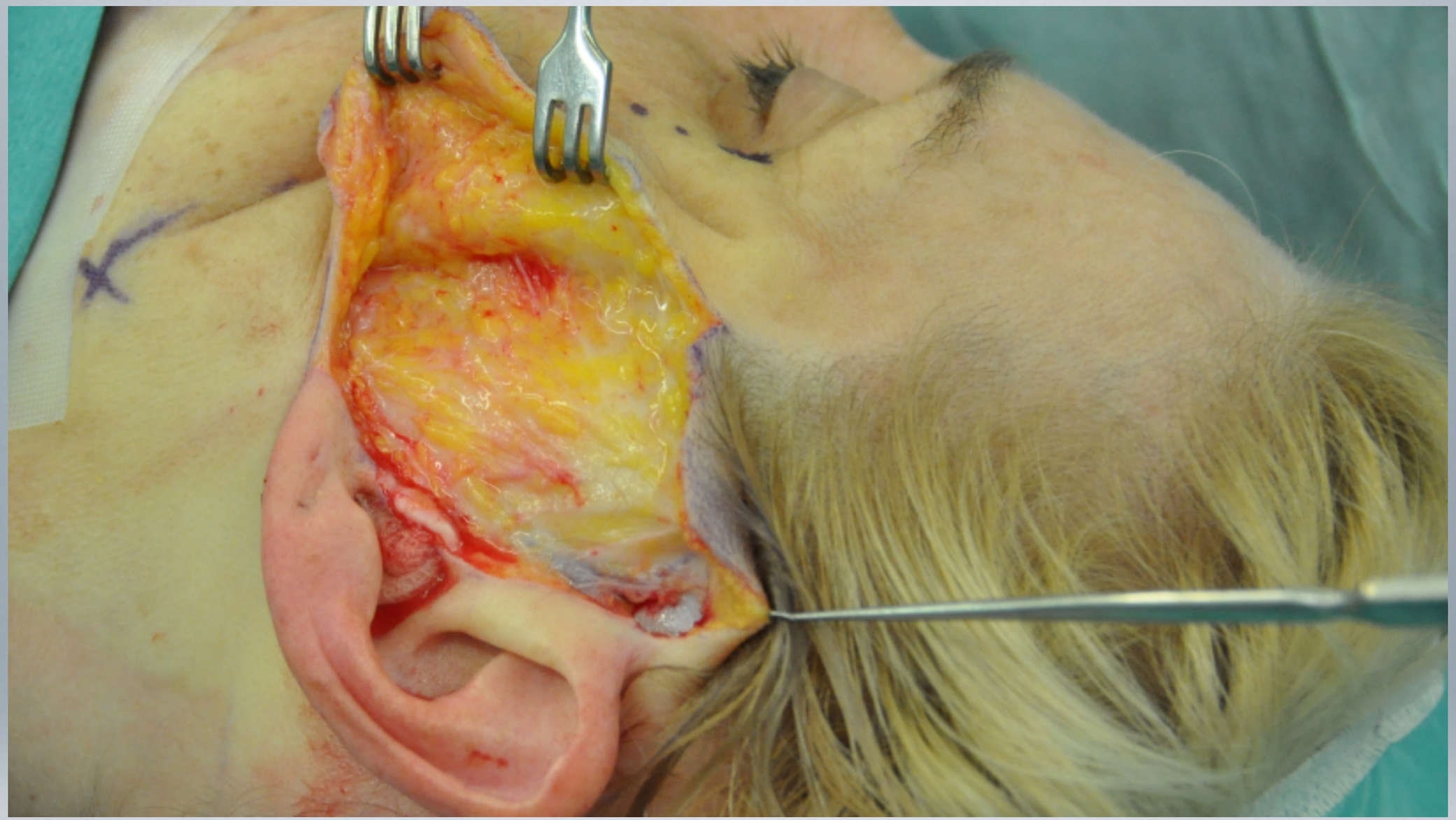
Tipo 2 tipico delle labbra

SMAS

- contiene vasi e muscoli, in particolare la v. giugulare esterna, il nervo faciale decorre subito al di sotto dello SMAS ed in prossimità delle strutture da innervare lo trafigge e si superficializza.

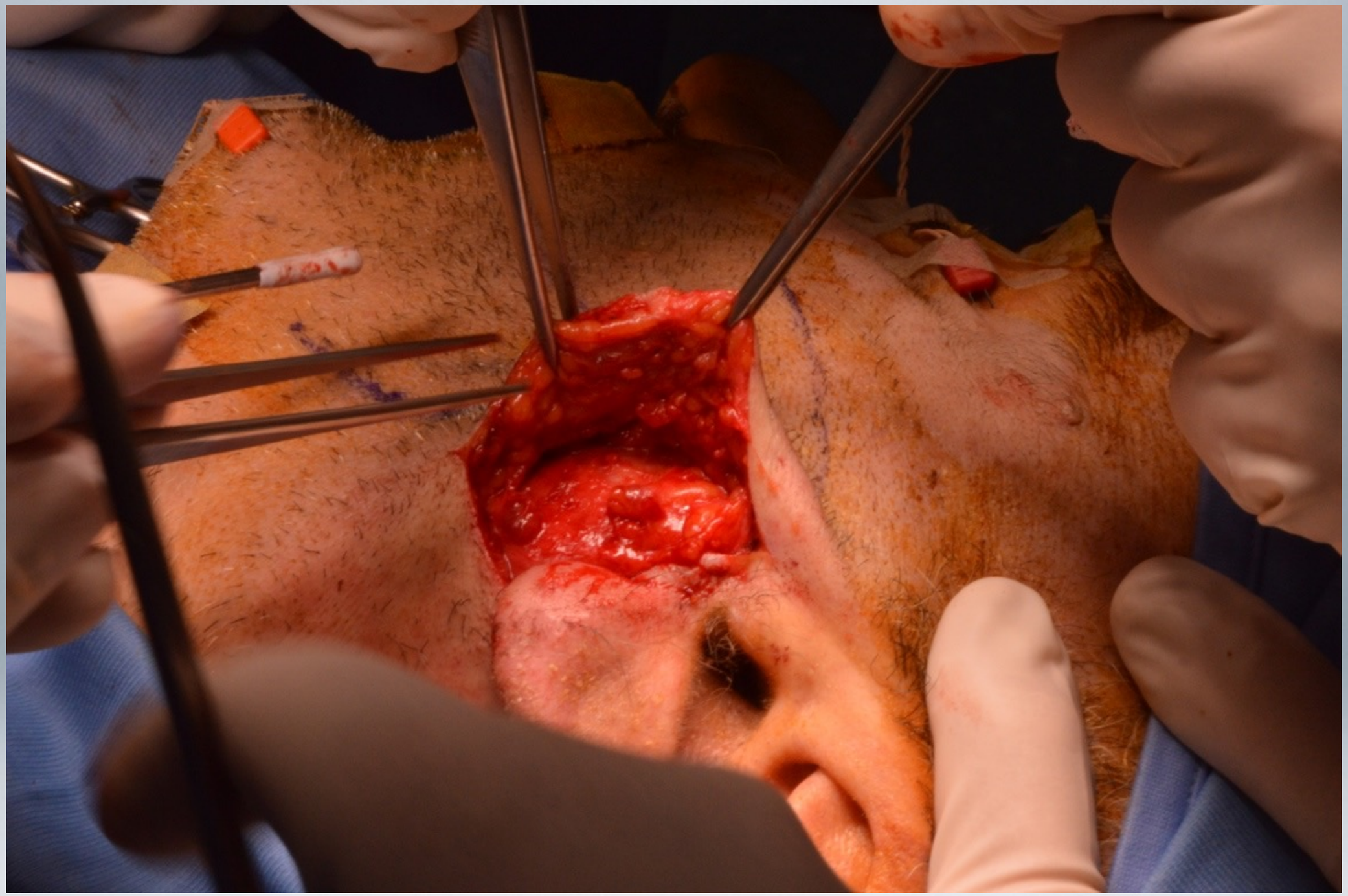


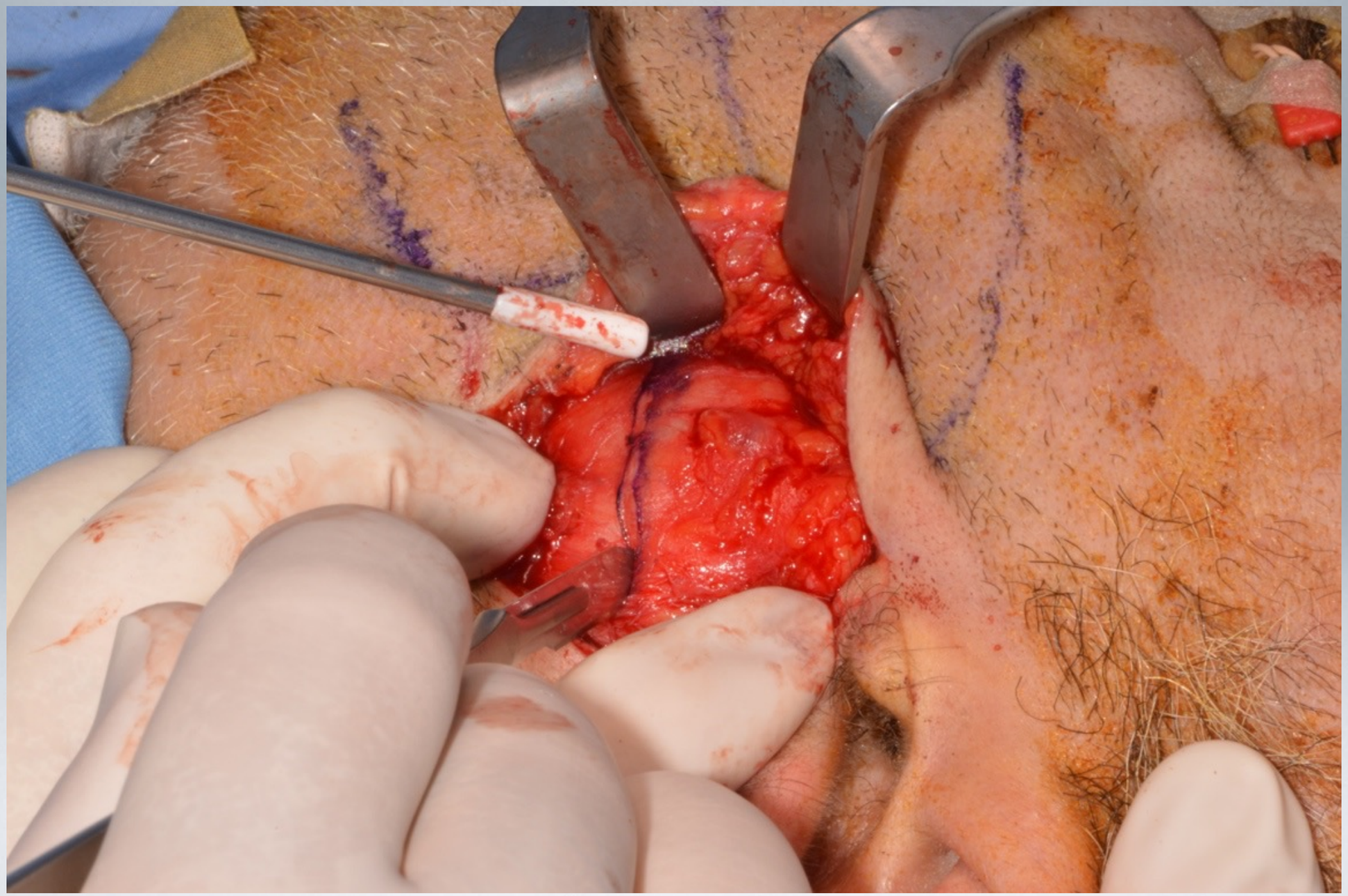
GALEA E FASCIA TEMPORALE



SMAS

SMAS





SDOPPIAMENTO FASCIA SUPERFICIALIS

FASCE DEL COLLO: SUPERFICIALE

- NON va confusa con la fascia superficiale sottocutanea o fascia superficialis che, nella regione del collo, accoglie il platisma con lo SMAS.

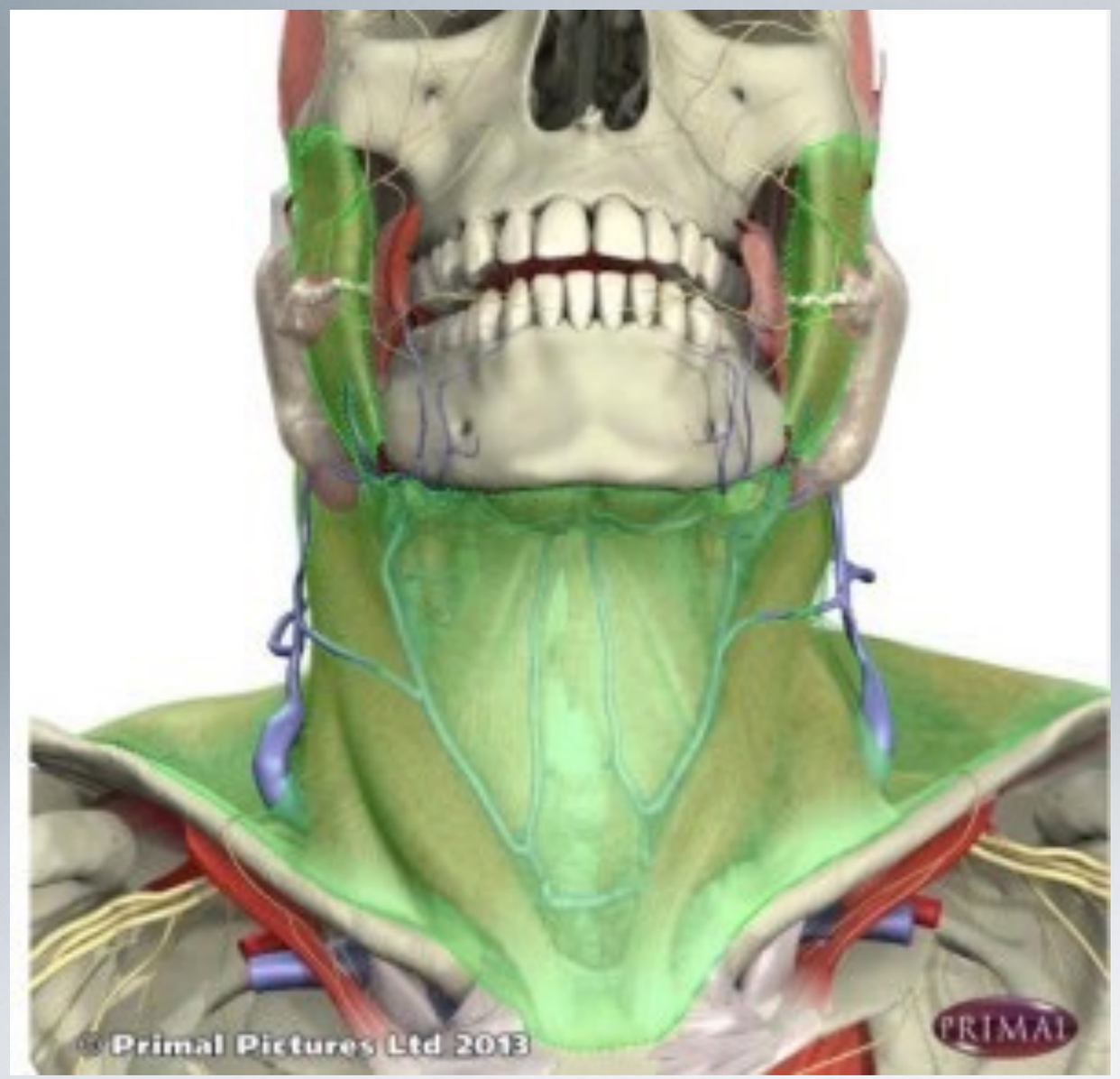
- origina dal legamento nucale e dalle apofisi spinose delle vertebre toraciche, inguaina con doppio foglietto il muscolo trapezio, si ricostituisce lamina unica al davanti di questo, passa a ponte sul triangolo sopraclaveare maggiore, si sdoppia a rivestire lo SCM, ritorna singola sino a confondersi alla controlaterale.

- giace SOTTO al platisma e allo smas; anteriormente ai due margini anteriori dei platismi essa quindi è scoperta.

FASCE DEL COLLO: SUPERFICIALE

- superiormente dall'INION, prosegue lungo la linea occipitale superiore, faccia esterna e margine anteriore dell'apofisi mastoidea, tubercolo zigomatico, margine posteriore branca montante mandibola, margine inferiore branca orizzontale, sinfisi mentoniera.

- inferiormente dalle a. spinose toraciche, spina scapola, faccia superiore acromion, margine ant. clavicola, manubrio sterno.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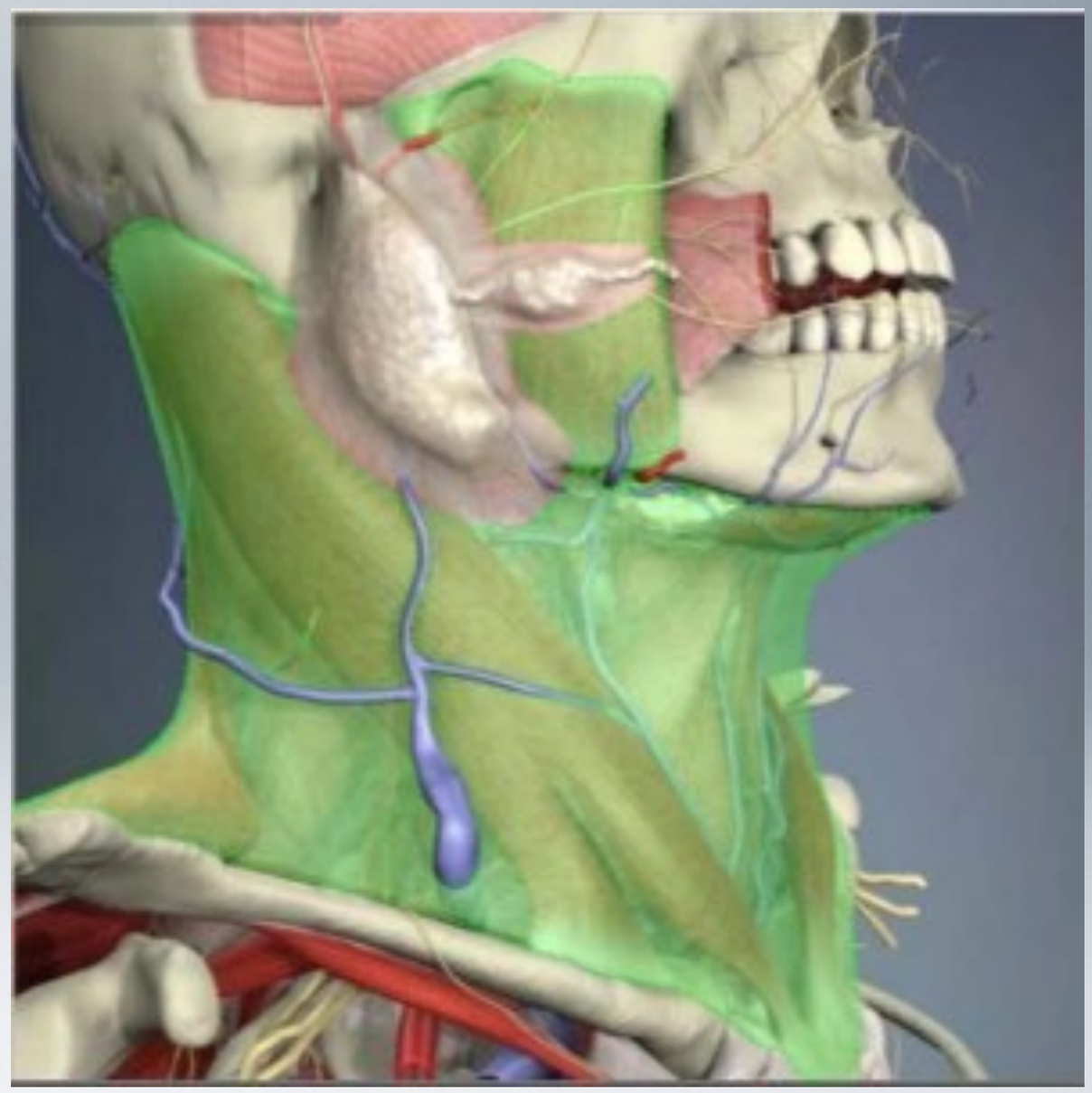
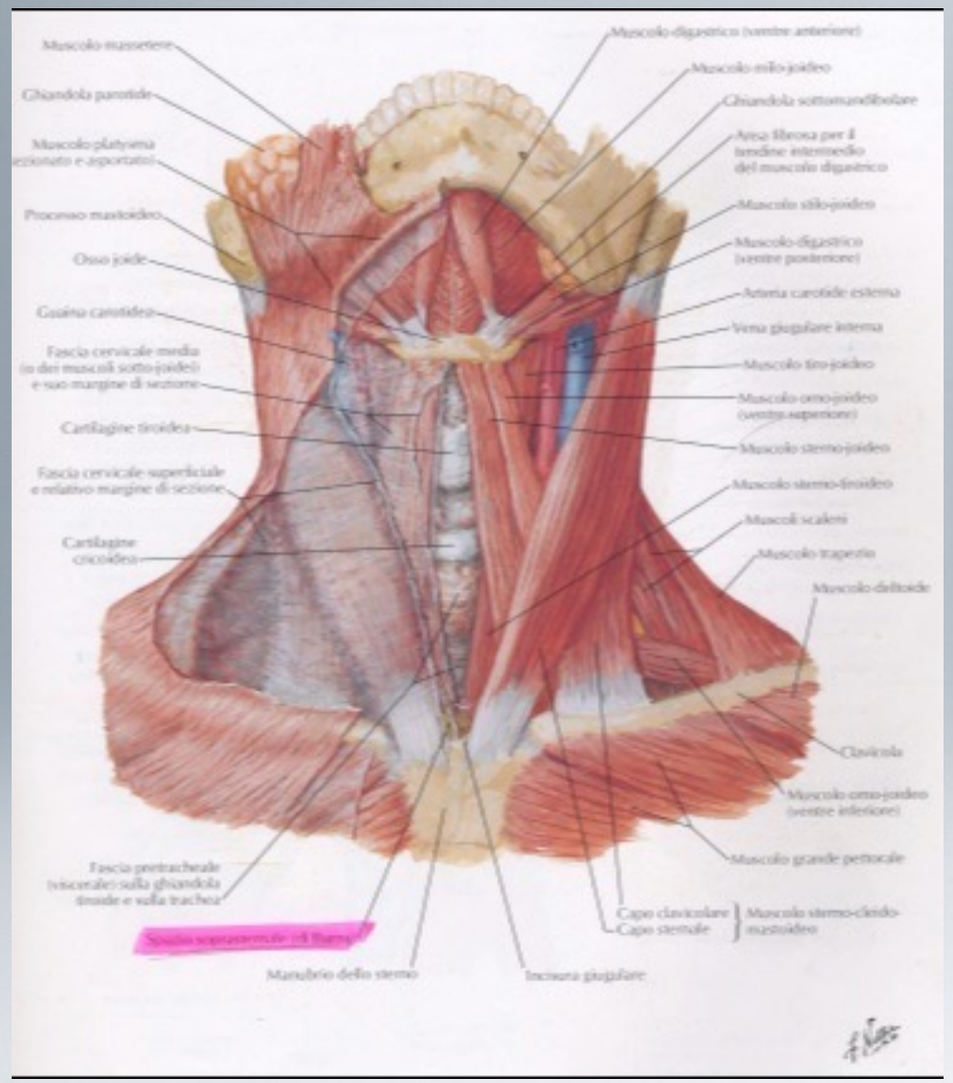
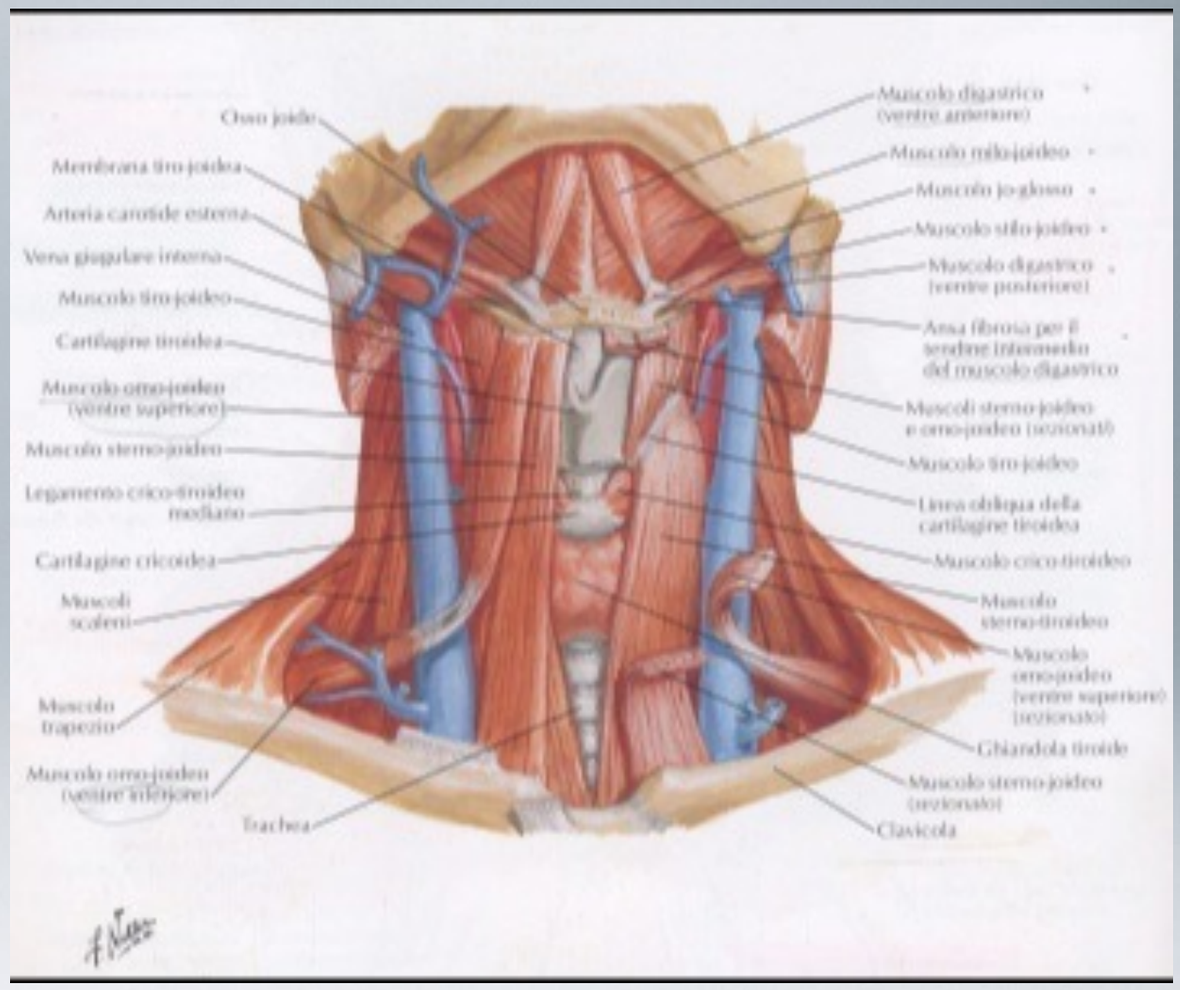
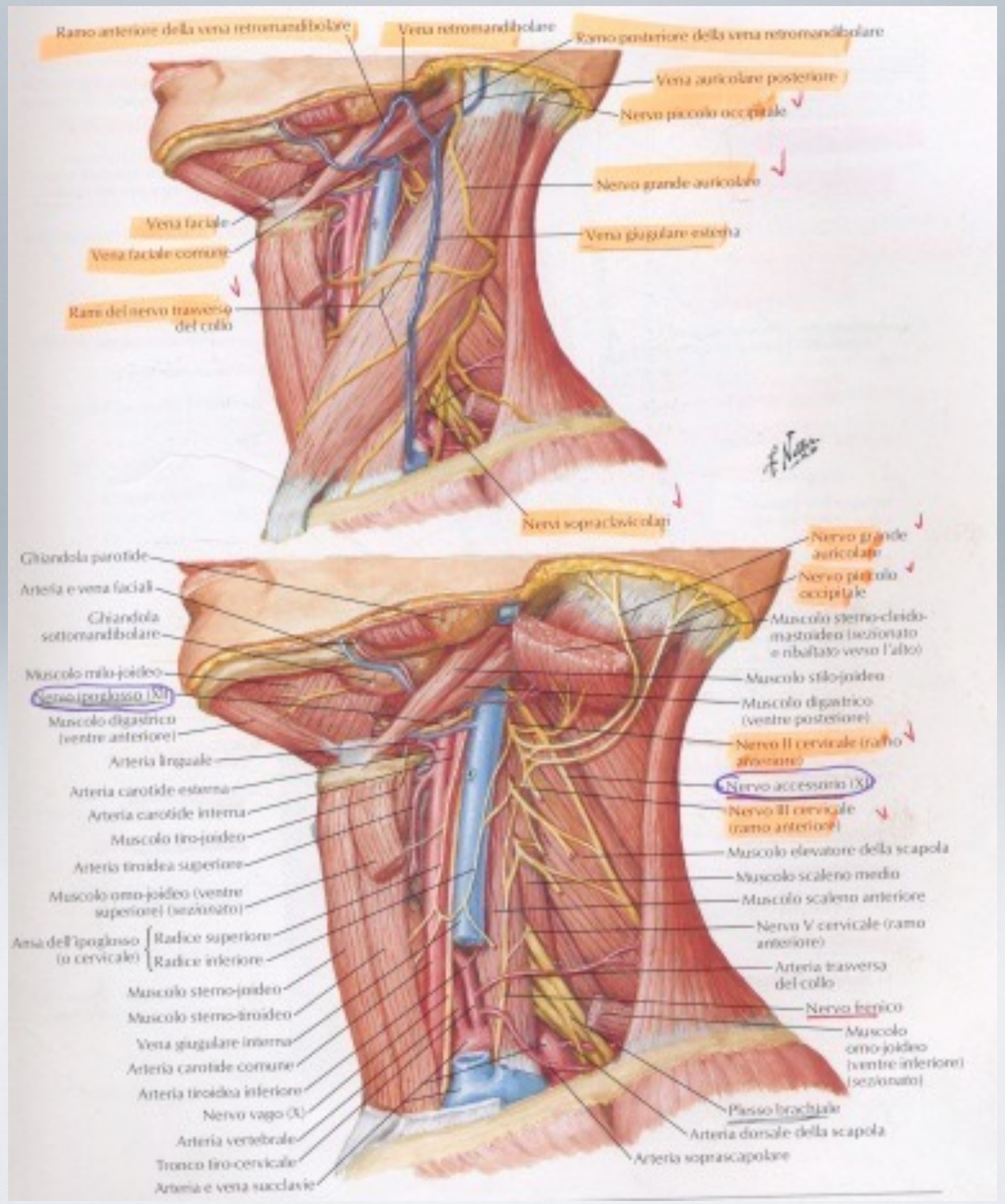
PRIMAL




Muscolo massetere
Ghiandola parotide
Muscolo platisma (sezionato e asportato)
Processo mastoideo
Osso joide
Guaina carotidea
Fascia cervicale media (o dei muscoli sotto-joidei) e suo margine di sezione
Cartilagine tiroidea
Fascia cervicale superficiale e relativo margine di sezione
Cartilagine cricoidea
Muscolo digastrico (ventre anteriore)
Muscolo stilo-joideo
Ghiandola sottomandibolare
Ansa fibrosa per il tendine intermedio del muscolo digastrico
Muscolo stilo-glosso
Muscolo digastrico (ventre posteriore)
Arteria carotide esterna
Vena giugulare interna
Muscolo tiro-joideo
Muscolo omo-joideo (ventre superiore)
Muscolo sterno-joideo
Muscolo sterno-tiroideo
Muscoli scaleni
Muscolo trapezio
Muscolo deltoide
Clavicola
Muscolo omo-joideo (ventre inferiore)
Muscolo grande pettorale
Fascia pretracheale (viscerale) sulla ghiandola tiroide e sulla trachea
Capo clavicolare
Capo sternale
Muscolo sterno-cleido-mastoideo
Manubrio dello sterno
Incisura giugulare


Osso joide
Membrana tiro-joidea
Arteria carotide esterna
Vena giugulare interna
Muscolo tiro-joideo
Cartilagine tiroidea
Muscolo omo-joideo (ventre superiore)
Muscolo sterno-joideo
Legamento crico-tiroideo mediano
Cartilagine cricoidea
Muscoli scaleni
Muscolo trapezio
Muscolo omo-joideo (ventre inferiore)
Trachea
Muscolo digastrico (ventre anteriore)
Muscolo milo-joideo
Muscolo ioglosso
Muscolo stilo-joideo
Muscolo digastrico (ventre posteriore)
Ansa fibrosa per il tendine intermedio del muscolo digastrico
Muscoli sterno-joideo e omo-joideo (sezionati)
Muscolo tiro-joideo
Linea obliqua della cartilagine tiroidea
Muscolo crico-tiroideo
Muscolo sterno-tiroideo
Muscolo omo-joideo (ventre superiore) (sezionato)
Ghiandola tiroide
Muscolo sterno-joideo (sezionato)
Clavicola


Ramo anteriore della vena retromandibolare
Vena retromandibolare
Ramo posteriore della vena retromandibolare
Vena auricolare posteriore
Nervo piccolo occipitale
Nervo grande auricolare
Vena giugulare esterna
Vena facciale
Vena facciale comune
Rami del nervo trasverso del collo
Nervi sopraclavicolari
Ghiandola parotide
Arteria e vena facciali
Ghiandola sottomandibolare
Muscolo milo-joideo
Nervo ipoglosso (XII)
Muscolo digastrico (ventre anteriore)
Arteria linguale
Arteria carotide esterna
Arteria carotide interna
Muscolo tiro-joideo
Arteria tiroidea superiore
Muscolo omo-joideo (ventre superiore) (sezionato)
Ansa dell'ipoglosso (o cervicale)
Radice superiore
Radice inferiore
Muscolo sterno-joideo
Muscolo sterno-tiroideo
Vena giugulare interna
Arteria carotide comune
Arteria tiroidea inferiore
Nervo vago (X)
Arteria vertebrale
Tronco tiro-cervicale
Arteria e vena succlavie
Nervo grande auricolare
Nervo piccolo occipitale
Muscolo sterno-cleido-mastoideo (sezionato e ribaltato verso l'alto)
Muscolo stilo-joideo
Muscolo digastrico (ventre posteriore)
Nervo II cervicale (ramo anteriore)
Nervo accessorio (XI)
Nervo III cervicale (ramo anteriore)
Muscolo elevatore della scapola
Muscolo scaleno medio
Muscolo scaleno anteriore
Nervo V cervicale (ramo anteriore)
Arteria trasversa del collo
Nervo frenico
Muscolo omo-joideo (ventre inferiore) (sezionato)
Plesso brachiale
Arteria dorsale della scapola
Arteria soprascapolare

FASCIA SUPERFICIALE

- accoglie in uno sdoppiamento la ghiandola sottomandibolare

FASCIA CERVICALE MEDIA

- di forma trapezoidale si sottende da l'un all'altro muscolo omoioideo
- inferiormente margine superiore scapola, apofisi coracoide, clavicola e bordo superiore sterno
- superiormente osso ioide
- inguaina i muscoli sottoioidei (sterno-ioidei e sterno-tiroidei)
- è attraversata dalla v. giugulare esterna

FASCIA CERVICALE MEDIA

- triangolo omo-clavicolare o carotico

- posteriormente agli omoioidei triangoli o fosse omoclaveari maggiori

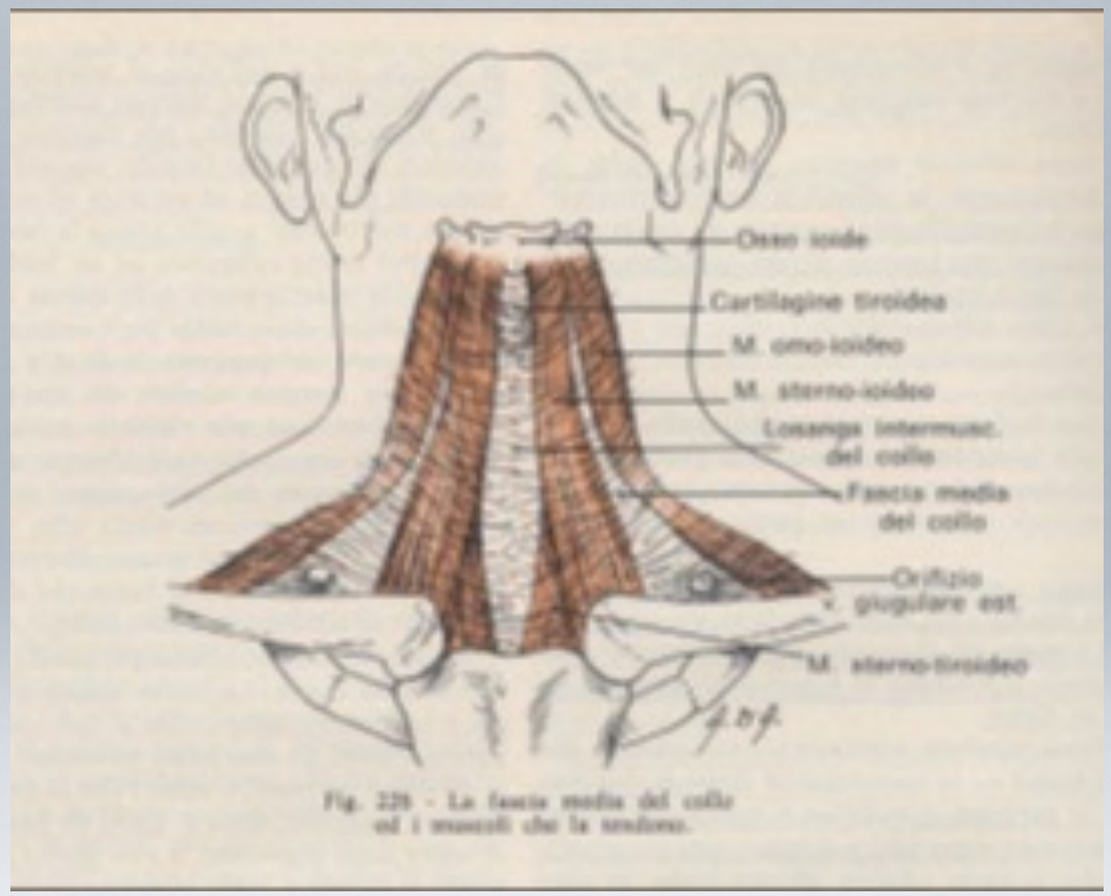
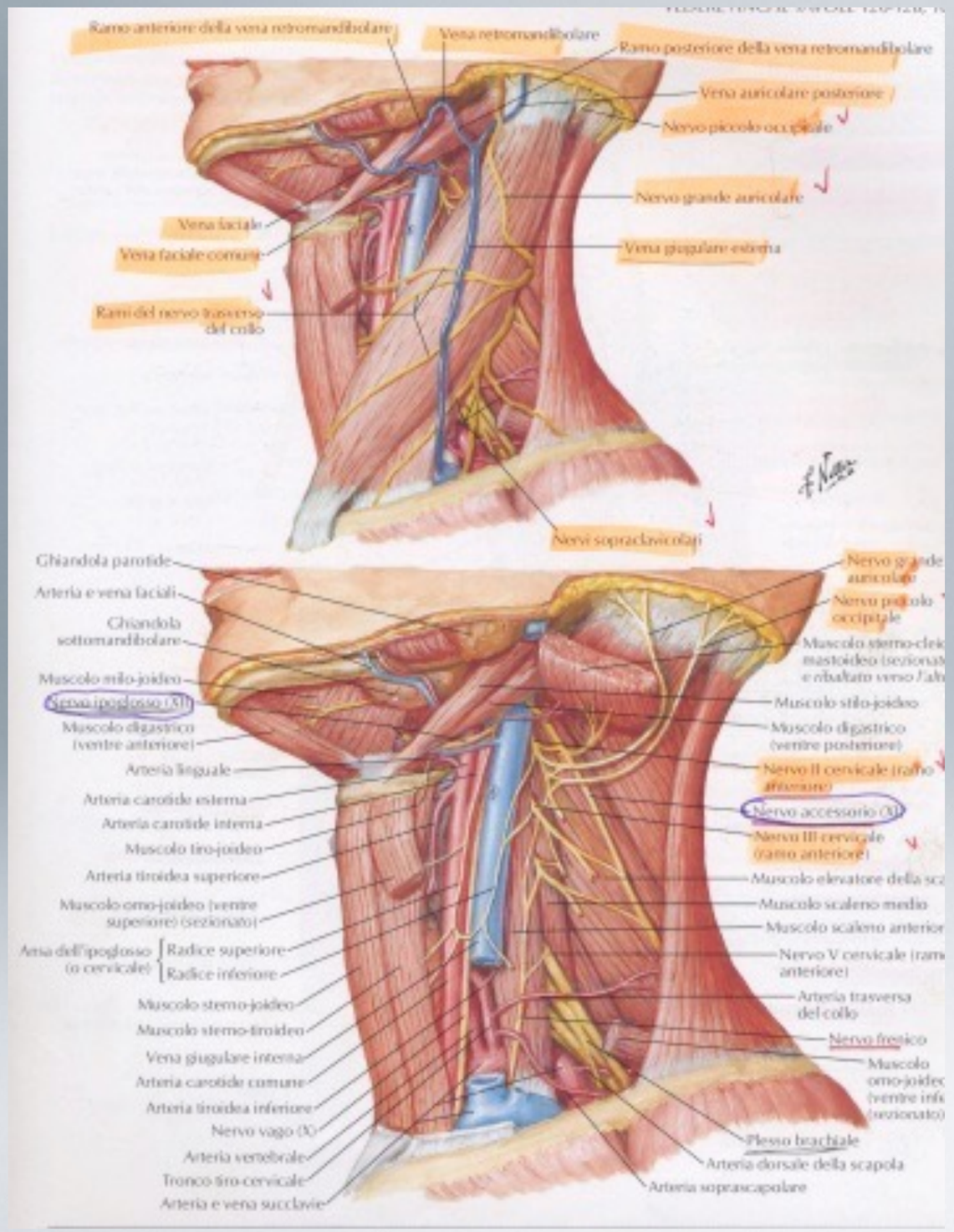


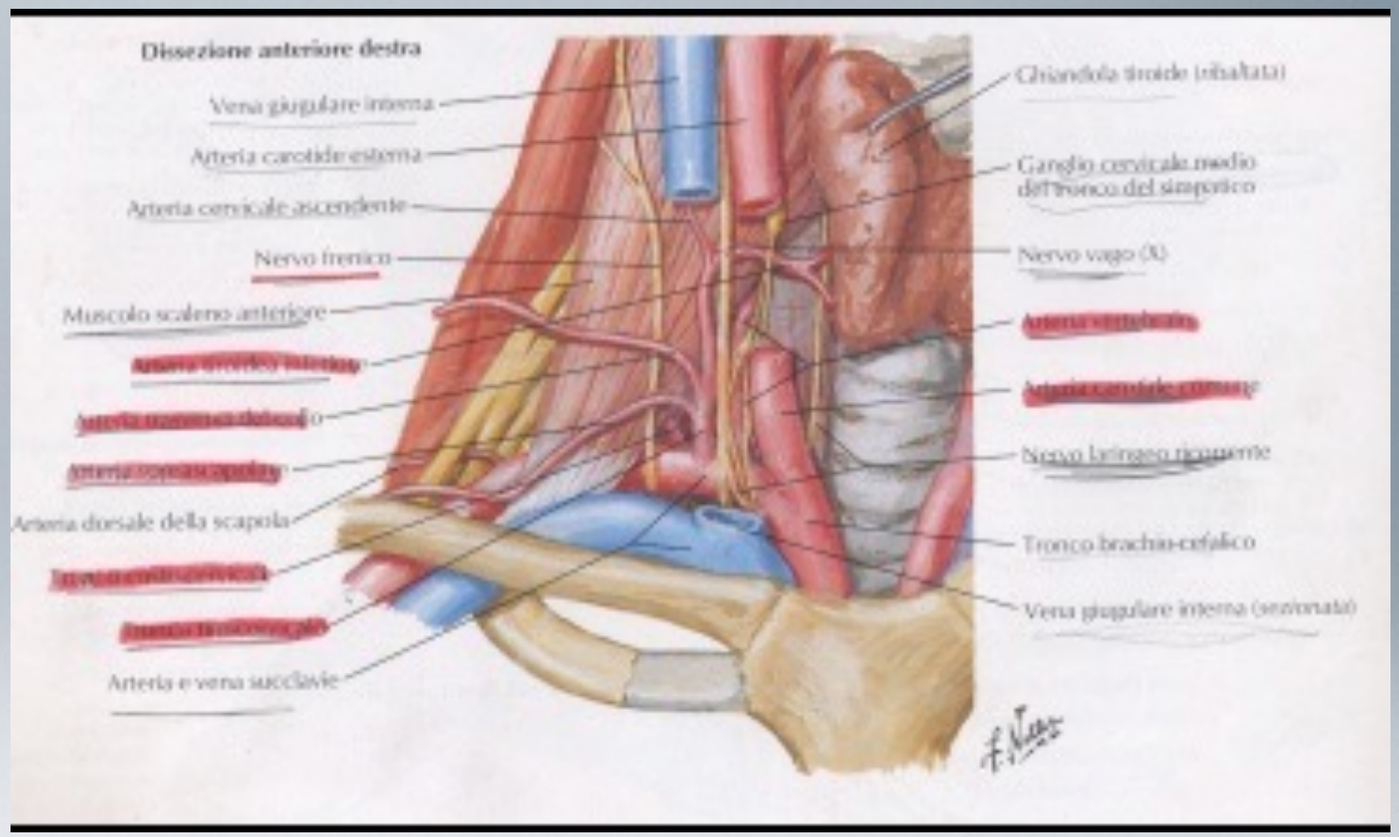
Fig. 229 - La fascia media del collo ed i muscoli che la tendono.

FASCIA CERVICALE MEDIA

A. CAROTIDE COMUNE

- a destra dalla a. anonima, a sn dall'arco aortico
- a livello del margine sup. cartilagine tiroide si divide in esterna e interna
- fascio nerveovascolare del collo sepimentato


Ramo anteriore della vena retromandibolare
Vena retromandibolare
Ramo posteriore della vena retromandibolare
Vena auricolare posteriore
Nervo piccolo occipitale
Nervo grande auricolare
Vena facciale
Vena facciale comune
Vena giugulare esterna
Rami del nervo trasverso del collo
Nervi sopraclavicolari
Ghiandola parotide
Arteria e vena facciali
Ghiandola sottomandibolare
Muscolo milo-joideo
Nervo ipoglosso (XII)
Muscolo digastrico (ventre anteriore)
Arteria linguale
Arteria carotide esterna
Arteria carotide interna
Muscolo tiro-joideo
Arteria tiroidea superiore
Muscolo omo-joideo (ventre superiore) (sezionato)
Ansa dell'ipoglosso (o cervicale)
Radice superiore
Radice inferiore
Muscolo sterno-joideo
Muscolo sterno-tiroideo
Vena giugulare interna
Arteria carotide comune
Arteria tiroidea inferiore
Nervo vago (X)
Arteria vertebrale
Tronco tiro-cervicale
Arteria e vena succlavie
Nervo grande auricolare
Nervo piccolo occipitale
Muscolo sterno-cleido-mastoideo (sezionato e ribaltato verso l'alto)
Muscolo stilo-joideo
Muscolo digastrico (ventre posteriore)
Nervo II cervicale (ramo discendente)
Nervo accessorio (XI)
Nervo III cervicale (ramo anteriore)
Muscolo elevatore della scapola
Muscolo scaleno medio
Muscolo scaleno anteriore
Nervo V cervicale (ramo anteriore)
Arteria trasversa del collo
Nervo frenico
Muscolo omo-joideo (ventre inferiore) (sezionato)
Plesso brachiale
Arteria dorsale della scapola
Arteria soprascapolare


Dissezione anteriore destra
Vena giugulare interna
Arteria carotide esterna
Arteria cervicale ascendente
Nervo frenico
Muscolo scaleno anteriore
Arteria dorsale della scapola
Arteria e vena succlavie
Ghiandola tiroide (ribaltata)
Ganglio cervicale medio del tronco del simpatico
Nervo vago (X)
Nervo laringeo ricorrente
Tronco brachio-cefalico
Vena giugulare interna (sezionata)

A. CAROTIDE ESTERNA

- sale medialmente al ventre posteriore del digastrico e allo stiloioideo, penetra nello stroma della parotide e , dietro al condilo mandibolare si divide nei suoi rami terminali a. temporale superficiale e a. mascellare interna.
- collaterali anteriori: tiroidea superiore, linguale, faciale
- collaterali posteriori: occipitale, auricolare posteriore.
- ramo profondo: faringea ascendente

A. CAROTIDE ESTERNA

- a. linguale: coperta dal ventre posteriore del digastrico, e dallo stiloioideo, decorre sopra il grande corno dello ioide, scompare sotto il m. io-glosso, termina alla punta della lingua.

- Triangolo di Beclard: ventre posteriore digastrico, scm e grande corno ioide, repere per la a. linguale prima della diramazione per l'a. dorsale della lingua.

- Triangolo di Pirogoff: tendine intermedio digastrico, ipoglosso e margine posteriore miloioideo

A. FACIALE

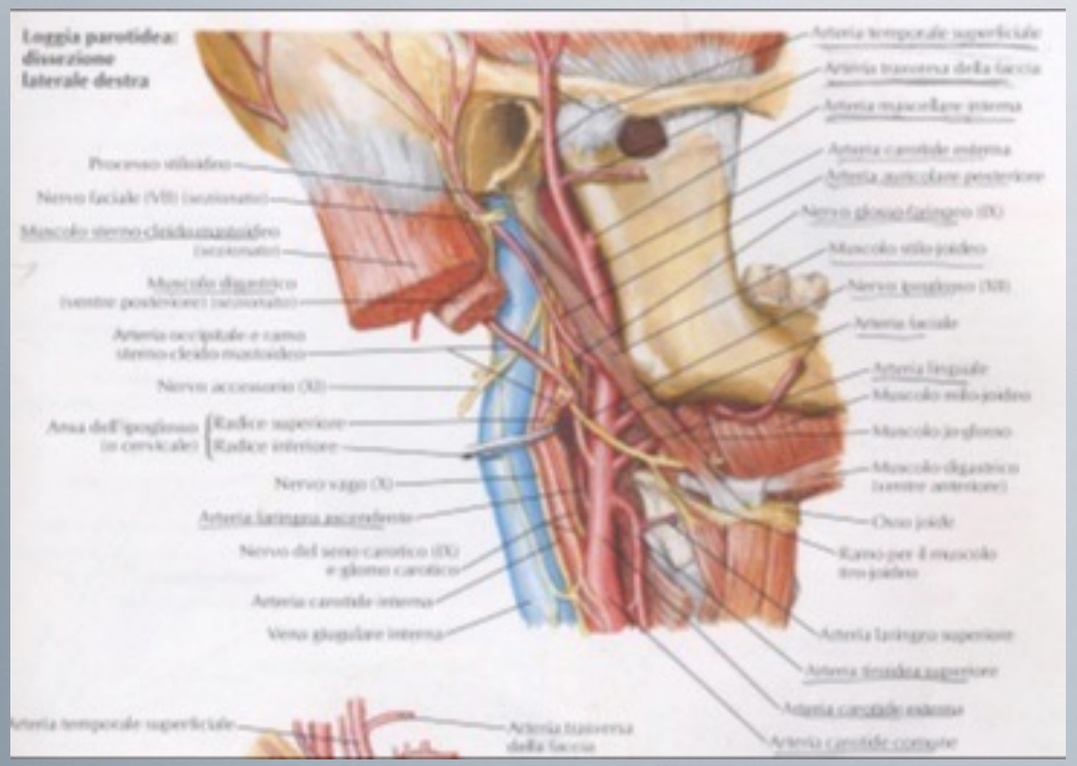
- da profondamente al ventre posteriore del digastrico e stiloioideo entra nella loggia sottomandibolare, passa tra ghiandola e margine inferiore della mandibola, davanti al massetere perfora la fascia superficiale sepeggia verso l'angolo mediale dell'occhio

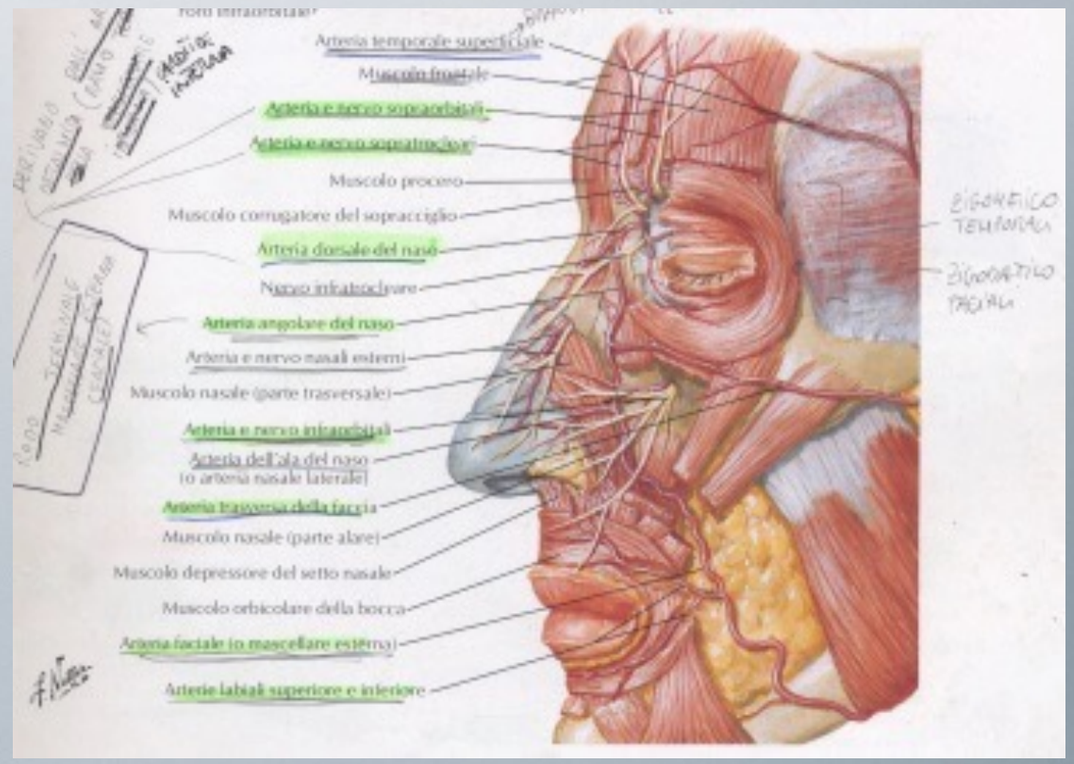
A. TEMPORALE SUPERFICIALE

- a. temporale superficiale dietro al condilo e davanti al trago perfora la fascia superficiale si situa al davanti dell'omonima vena ed al nervo auricolotemporale, dà un ramo anteriore frontale ed uno posteriore parietale, fornisce l'a. trasversa della faccia che decorre lungo il bordo inferiore dell'arco zigomatico e la temporale media che scende sotto al muscolo temporale, l'a. zigomatico-orbitale parallela superiormente all'arco

A. CAROTIDE ESTERNA

- a. mascellare interna, da medialmente al condilo si porta serpeggiando nella fossa pterigo-maxillo-palatina fino al foro sfeno-palatino: inizialmente contrae rapporti con la II branca del V; suoi rami inferiori sono la masseterina, la buccinatoria, le pterigoidee, la palatina superiore; rami anteriori alveolare posteriore superiore, infraorbitale





A. CAROTIDE ESTERNA

A. CAROTIDE INTERNA

- a. oftalmica, forame ottico, lateralmente poi si porta in alto e medialmente a dare a livello della troclea l'a. frontale interna a la frontale esterna o sorvaorbitaria, rami per le palpebre, dorso naso, retina, muscoli ciliari, gh. lacrimali. a. etmoidee ant e post.

SPAZI DEL COLLO
e drenaggi

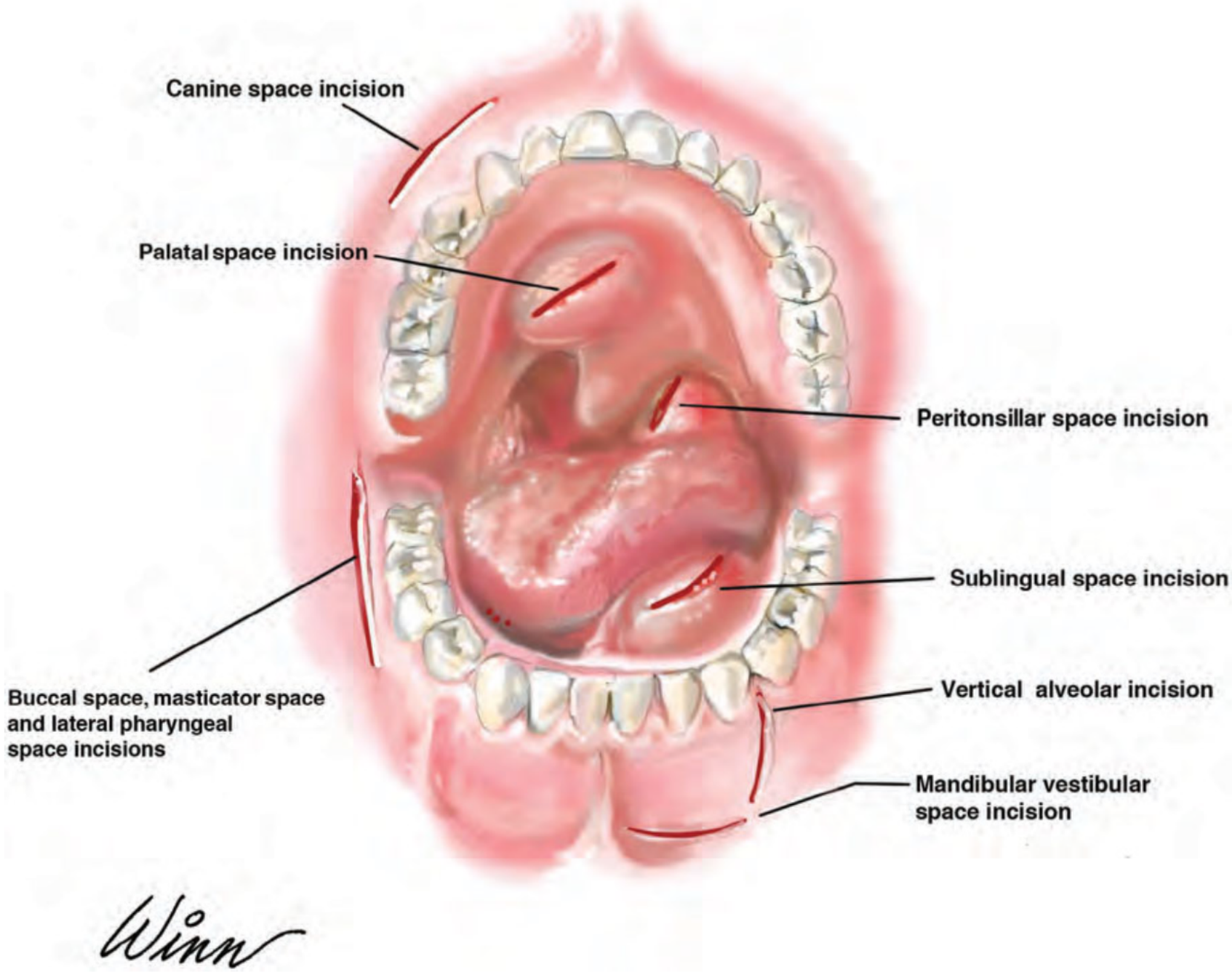


Figure 10.1. Intraoral drainage incision sites.

Vestibular Space

Boundaries

Superior: Buccinator muscle
Inferior: Buccinator muscle
Anterior: Intrinsic lip musculature
Posterior: Buccinator muscle
Lateral: Vestibular mucosa
Medial: Mandible or maxilla with overlying periosteum
Contents: Areolar connective tissue, parotid duct, long buccal, and mental nerves
Connections: Canine (infraorbital) space and buccal space
Signs and symptoms: Vestibular fluctuance
Approach: Drainage is achieved via an incision parallel to and in the depth of the vestibule, ideally at the height of fluctuance. Blunt dissection is utilized to explore the vestibular space. Vertical incisions are utilized in the region of the mental foramen to avoid injury to the mental nerve (Figure 10.1).

Key Points

The vestibular space is a potential space between the vestibular mucosa and the underlying muscles of facial expression.

Buccal Space (Buccinator Space)

Boundaries

Superior: Zygomatic arch
Inferior: Lower border of the mandible
Anterior: Labial musculature (zygomatic and depressor muscles at the angle of the mouth)
Posterior: Pterygomandibular raphe
Lateral: Skin of the cheek
Medial: Buccinator muscle and the overlying buccopharyngeal fascia
Contents: Buccal fat pad, Stensen's duct, transverse facial artery and vein, and the anterior facial artery and vein
Connections: Canine space, submandibular space, masticator space, and infratemporal space
Signs and symptoms: Cheek edema (Figure 10.2)
Approach: The buccal space may be drained intraorally or extraorally. Intraoral drainage is best accomplished via a mandibular or maxillary vestibular incision with dissection through the buccinator muscle (Figure 10.1). Extraoral drainage is achieved via a submandibular incision (Figure 10.3). Blunt dissection is directed superiorly and superficial to the buccinator muscle to enter the buccal space (Figure 10.4).

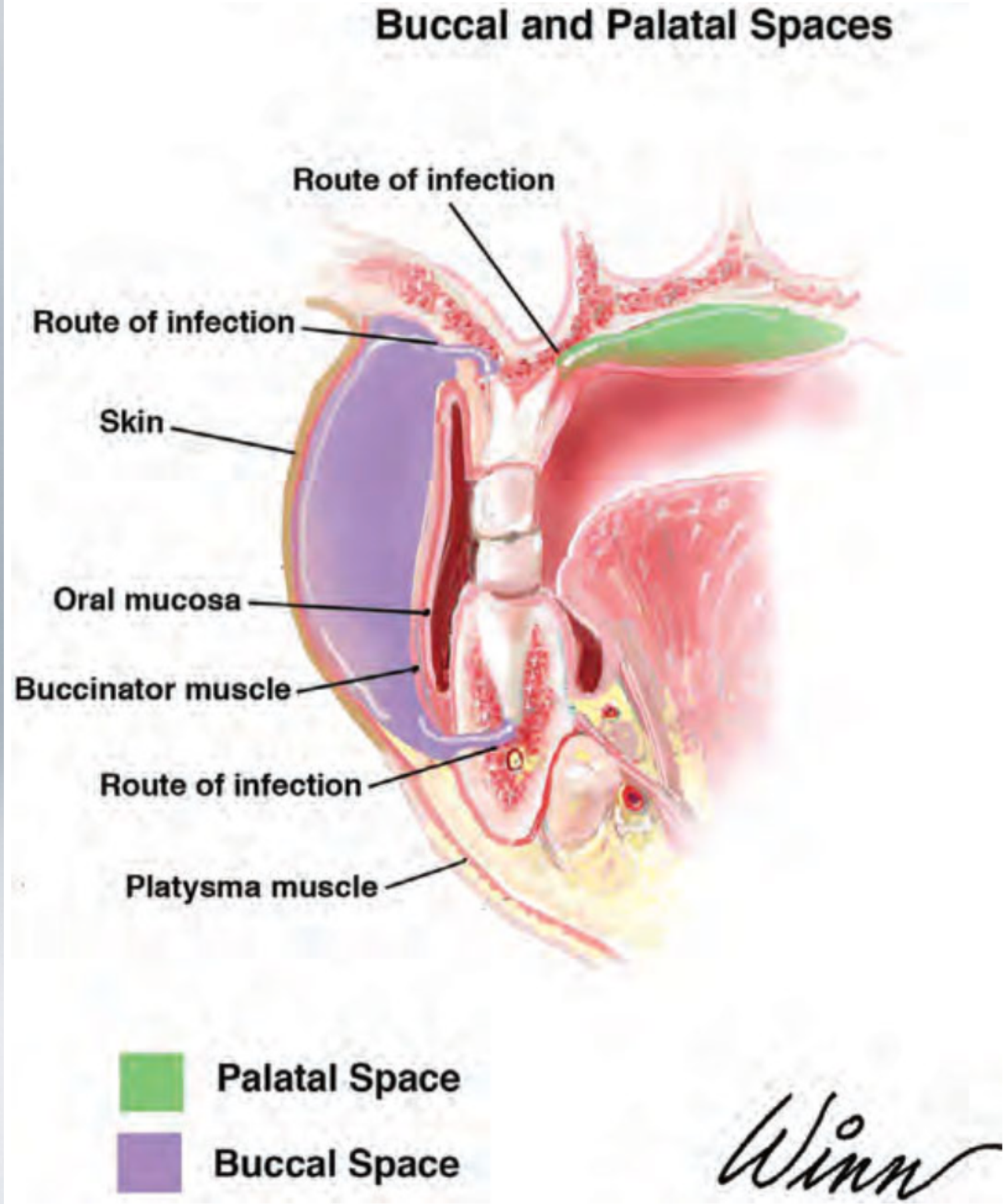


Figure 10.4. Anatomy of the buccal and palatal spaces.

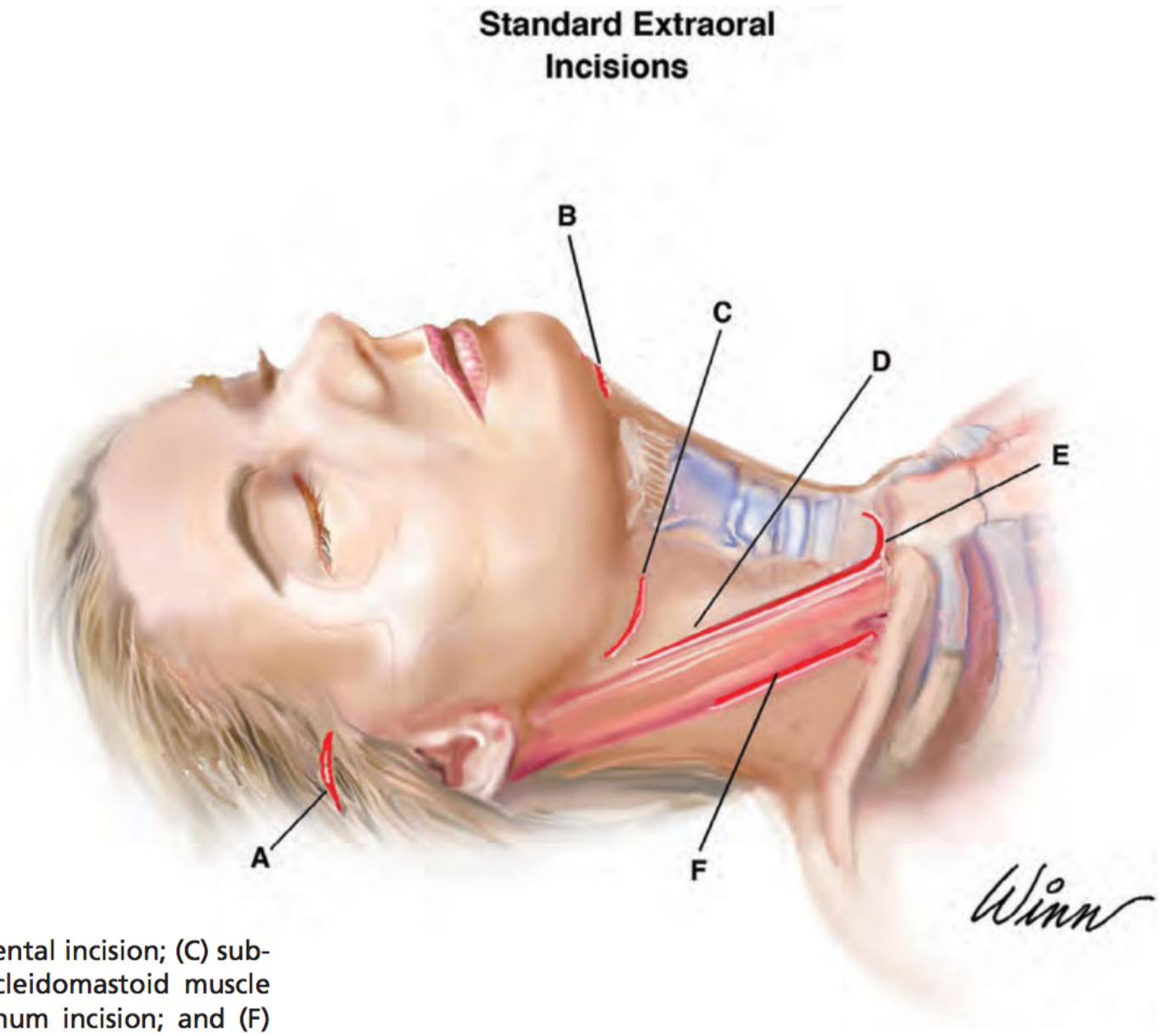


Figure 10.3. (A) Gillies incision; (B) submental incision; (C) submandibular incision; (D) anterior sternocleidomastoid muscle (SCM) incision; (E) transcervical mediastinum incision; and (F) posterior SCM incision.

Palatal Space

Boundaries

Superior: Palate
Inferior: Periosteum
Anterior: Alveolar process of the maxilla
Posterior: Periosteal attachment to the palate and the maxilla
Lateral: Maxillary alveolus
Medial: Midline space (however, abscesses are typically contained laterally due to firm periosteal attachment)
Contents: Greater palatine nerve, artery, and vein, and nasopalatine nerve
Connections: None
Signs and symptoms: Localized palatal swelling
Approach: Drainage is achieved via an incision through palatal mucosa into the abscess cavity that parallels the regional vasculature, in particular the greater palatine neurovascular bundle (Figure 10.1).

Key Points

Palatal space infections typically arise from the palatal roots of maxillary molars and premolars (Figure 10.4).

Canine Space (Infraorbital Space)

Boundaries

Superior: Infraorbital rim
Inferior: Oral mucosa
Anterior: Quadratus labii superioris muscles (levator labii superioris alaeque nasi, levator labii superioris, zygomaticus minor, and zygomaticus major)
Posterior: Levator anguli oris (caninus) muscle
Lateral: Buccal space
Medial: Nasal cartilages and subcutaneous tissue
Contents: Angular artery and vein and the infraorbital nerve
Connections: Vestibular space and buccal space
Signs and symptoms: Obliteration of the nasolabial fold and periorbital edema
Approach: Intraoral drainage is accomplished via an incision located within the depth of the vestibule, immediately adjacent to the abscessed tooth (Figure 10.1). Blunt dissection is carried superiorly through the levator anguli oris (caninus) muscle and into the canine space.

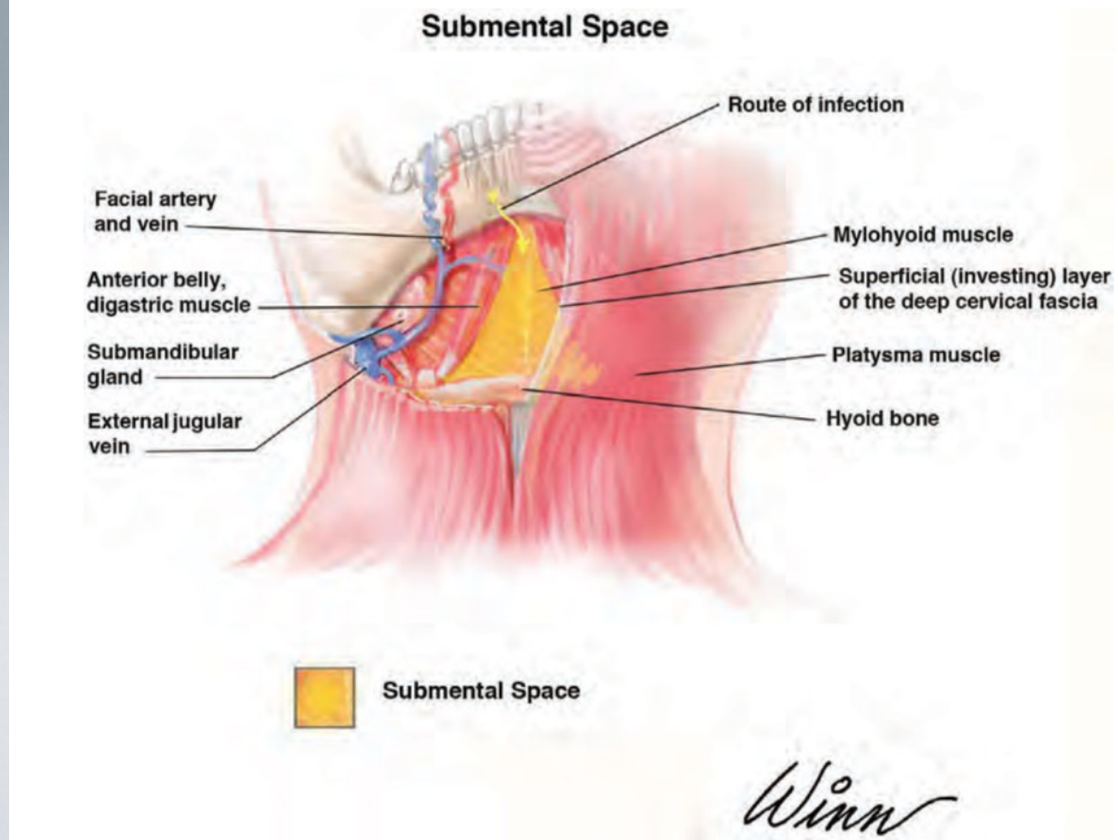
Key Points

1. Canine space infections typically arise when an anterior maxillary periapical abscess (typically from a canine) erodes through the buccal plate superior to the attachment of the caninus muscle.
2. Care must be taken to avoid damage to the infraorbital nerve during exploration of the canine space.
3. The facial veins are generally valveless (allowing bidirectional flow). Infections of the canine space can result in septic thrombophlebitis or emboli of the angular vein. Cavernous venous sinus thrombosis can result from ascension from the angular vein, to the inferior ophthalmic vein, and into the cavernous sinus. Prompt and aggressive treatment of canine space infections are necessary to avoid this exceeding rare, but potentially devastating sequela.

Submental Space

Boundaries

Superior: Mylohyoid muscle
Inferior: Superficial (investing) layer of the deep cervical fascia
Anterior: Inferior border of the mandible
Posterior: Hyoid bone
Lateral: Anterior bellies of the digastric muscles
Medial: No true medial border as it is a midline space
Contents: Anterior jugular veins and lymph nodes
Connections: Submandibular space
Signs and symptoms: Submental edema and erythema



Approach: Drainage is accomplished via a horizontal midline incision just anterior to the hyoid bone within the submental skin crease (Figure 10.3). Incisions placed near the hyoid bone provide gravity dependent drainage as the hyoid bone is the most inferior boundary of the submental space (Figure 10.6). Blunt dissection is directed superiorly through skin, subcutaneous tissue, and the platysma muscle to enter the submental space. Care must be taken to avoid the anterior jugular veins. The submental space may also be drained intraorally via a vestibular incision continued through the mentalis muscle. The intraoral approach fails to provide dependent drainage.

Key Points

1. The submental space is commonly involved via medial extension of submandibular space infections. Other potential sources of infection include direct spread from the mandibular incisors and symphyseal fractures.
2. The spread of infection from the submental space posterolateral to the anterior digastric muscles allows for direct bilateral extension of infections to the submandibular and sublingual spaces. Bilateral brawny cellulitis of the submental, sublingual, and submandibular spaces is termed Ludwig's angina.

Submandibular Space (Submaxillary Space, Submylohyoid Space)

Boundaries

Superior: Inferior and lingual surfaces of the mandible and the mylohyoid muscle
Inferior: Investing fascia with the digastric tendon at the apex
Anterior: Anterior belly of the digastric muscle
Posterior: Posterior belly of the digastric muscle and the stylohyoid muscle
Lateral: Platysma muscle and investing fascia
Medial: Hyoglossus and mylohyoid muscles
Contents: Facial artery and vein, marginal mandibular nerve, mylohyoid nerve, submandibular gland, and lymph nodes
Connections: Lateral pharyngeal space, submental space, sublingual space, and buccal space
Signs and symptoms: Swelling at the inferior border of the mandible that extends medially to the anterior digastric muscle and posteriorly to the hyoid bone
Approach: Drainage is accomplished via an extraoral submandibular approach (Figure 10.3). A 2–4 cm incision is placed 2–3 cm caudal to the inferior border of the mandible, parallel to the resting skin tension lines at the level of the hyoid bone and at the point that will allow for maximum gravity-dependent drainage (see Figure 10.10 in Case Report 10.1). A hemostat is introduced through the skin incision and is directed toward the inferior border of the mandible. The hemostat is then directed lingual to the mandible to enter the submandibular space. Blunt dissection continues superiorly along the lingual aspect of the body of the mandible and is continued superiorly to the mylohyoid muscle.

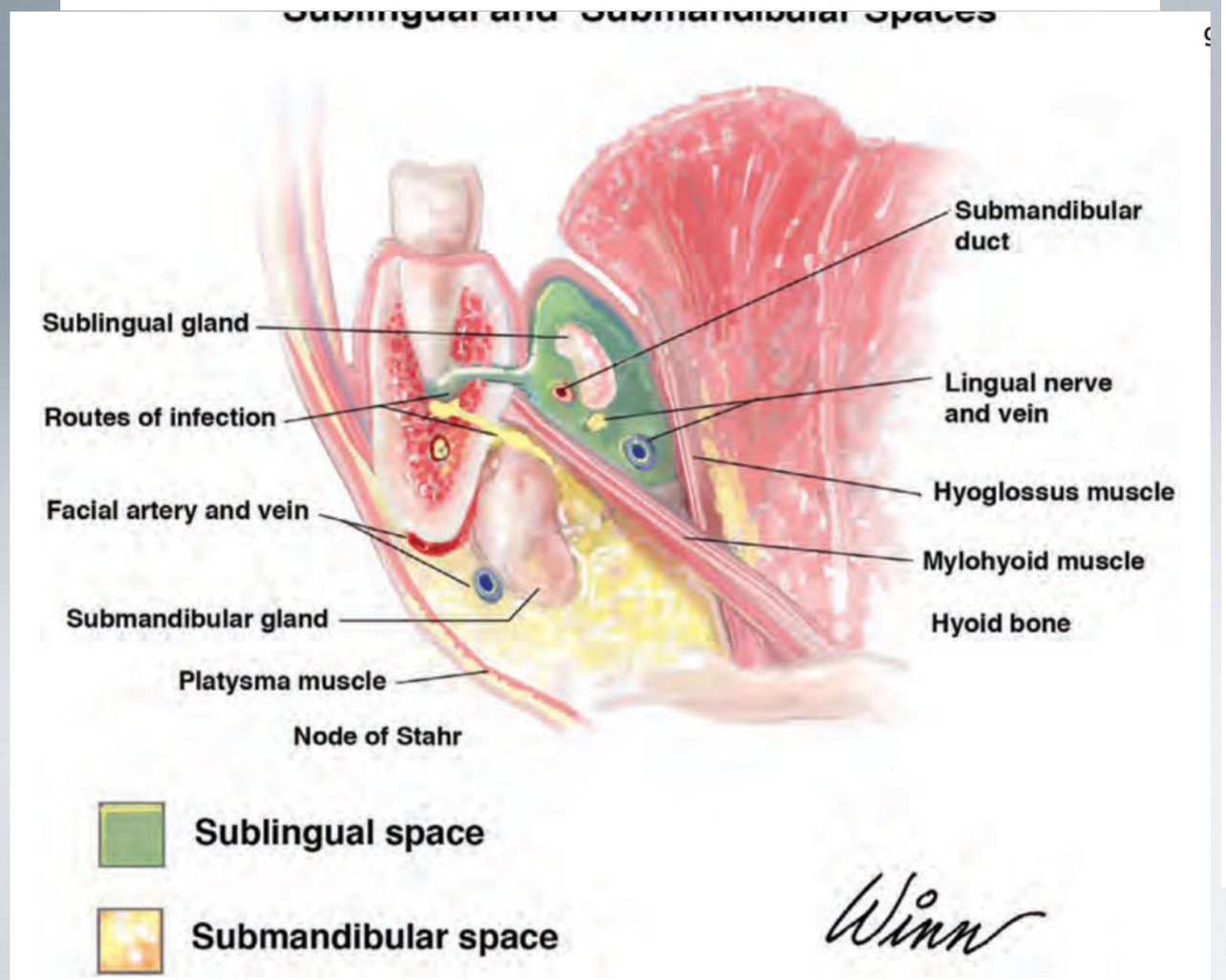
Key Points

The submandibular approach provides extraoral access to the sublingual, submandibular, buccal, masticator (pterygomandibular and masseteric), and lateral pharyngeal spaces.

Sublingual Space

Boundaries

Superior: Oral mucosa of the floor of the mouth
Inferior: Mylohyoid muscle
Anterior: Mandible
Posterior: Open
Lateral: Lingual cortex of the mandible
Medial: Muscles of the tongue
Contents: Sublingual gland, lingual nerve, Wharton's duct, hypoglossal nerve, and the sublingual artery and vein
Connections: Submandibular space and the lateral pharyngeal space
Signs and symptoms: Floor of the mouth and tongue elevation, dysphasia, and sialorrhea



Approach: Drainage is best accomplished via an extraoral submandibular approach (Figure 10.3). Once the submandibular space is explored, blunt dissection continues superiorly along the lingual aspect of the body of the mandible and is continued through the mylohyoid muscle to enter the sublingual space. Nondependent drainage can be achieved via an intraoral incision placed at the anterior and lateral portion of the floor of the mouth, parallel and lateral to the submandibular duct (Figure 10.1). Blunt dissection proceeds through the oral mucosa and directly into the sublingual space.

Key Points

1. Infections of the sublingual space are typically odontogenic in origin. Whether an odontogenic infection occurs within the sublingual space or the submandibular space is a result of the spread of the infection in relation to the attachment of the mylohyoid muscle (Figure 10.7). Infections originating superior to the attachment of the mylohyoid muscle (teeth anterior to the second molar) will occur within the sublingual space. Infections originating inferior to the attachment of the mylohyoid muscle (second and third molars) will present within the submandibular space.
2. Posteriorly, the sublingual space is contiguous with the submandibular space, allowing for rapid spread of infection.

Masticator Space (Masticatory Space, Masseter–Mandibulopterygoid Space)

The masticator space consists of four subspaces:

Masseteric (submasseteric) space
Pterygomandibular space
Superficial temporal space
Deep temporal space

Boundaries

Superior: Temporal crest
Inferior: Pterygomasseteric sling and the inferior border of the mandible
Anterior: Orbital rim and the anterior border of the ramus
Posterior: Posterior border of the mandible
Lateral: Parotideomasseteric fascia (superficial layer of the deep cervical fascia)
Medial: The greater wing of the sphenoid bone, the squamous portion of the temporal bone, and the superficial layer of the deep cervical fascia deep to the medial pterygoid
Contents: Muscles of mastication (temporalis, masseter, medial, and lateral pterygoids), internal maxillary artery, mandibular division of the trigeminal nerve, and the buccal fat pad
Connections: All subspaces are interconnected (Figure 10.14). Connections also exist between the buccal, lateral pharyngeal, and infratemporal spaces.
Signs and symptoms: Trismus and edema

Key Points

1. The masticator space contains the masseteric (submasseteric), pterygomandibular, deep, and superficial temporal spaces (Figure 10.14).
2. Individual subspaces will be discussed in detail in the following four subsections.

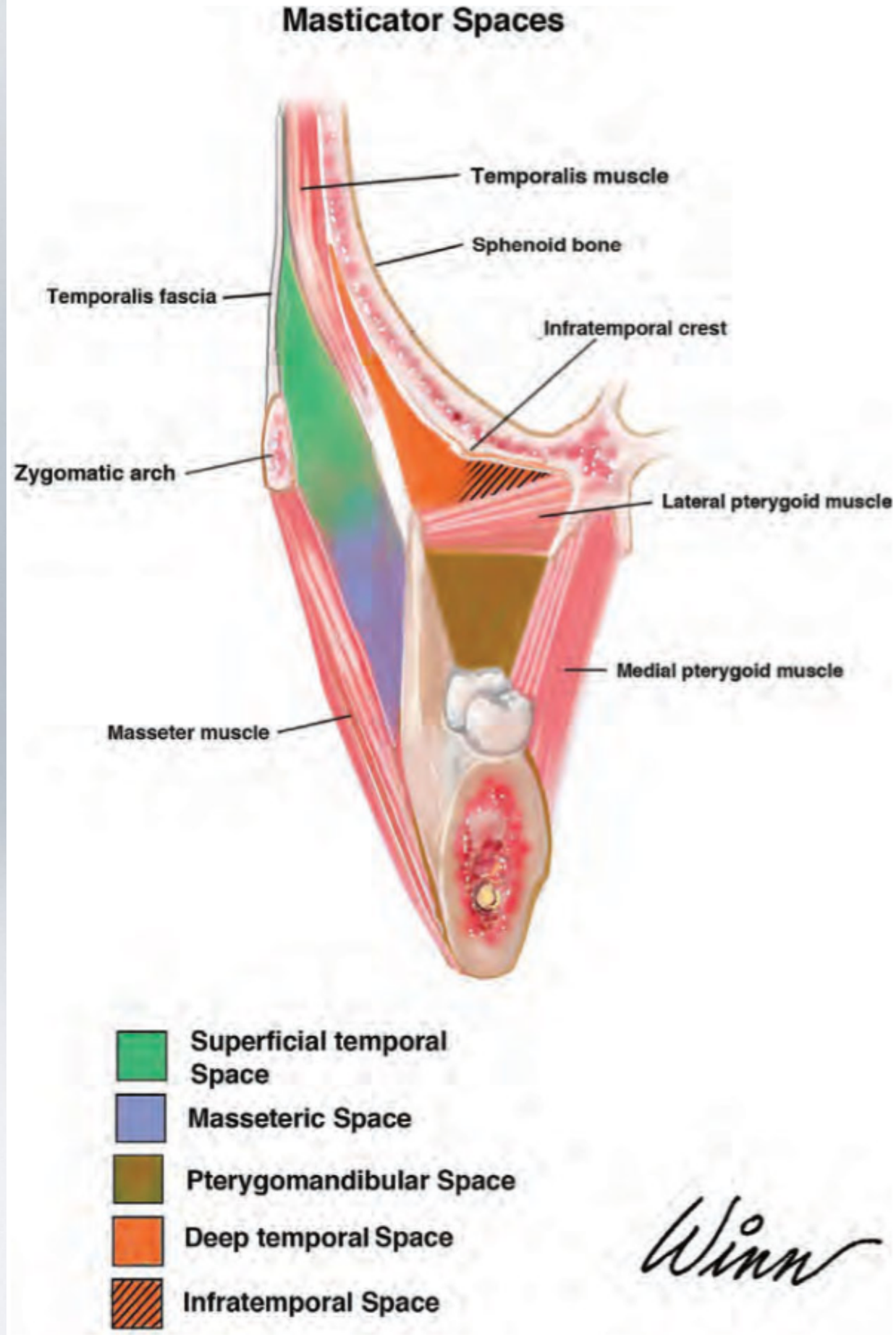


Figure 10.14. Anatomy of the masticator space.

Masseteric (Submasseteric) Space

Boundaries

Superior: Zygomatic arch
Inferior: Inferior border of the mandible
Anterior: Anterior border of the ramus
Posterior: Posterior border of the ramus
Lateral: Parotideomasseteric fascia (superficial layer of the deep cervical fascia)
Medial: Vertical ramus of the mandible
Contents: Masseter muscle, masseteric artery, and vein
Connections: Superficial temporal space and pterygomandibular space
Signs and symptoms: Trismus and posterior mandibular angle edema
Approach: Drainage is best accomplished via an extraoral submandibular approach to allow for gravity dependent drainage (Figure 10.3). After entering the submandibular space, blunt dissection is continued posteriorly through the pterygomasseteric sling to enter the masseteric space located between the body of the masseter and the lateral ramus of the mandible. Alternatively, the masseteric space may be accessed intraorally (Figure 10.1) via a vertical incision lateral and parallel to the pterygomandibular raphe. Sharp dissection is carried through the buccinator muscle, and blunt dissection is continued to enter the masseteric space.

Key Points

1. Common sources of infection include pericoronitis, third molar abscesses, and mandibular angle fractures.
2. The intraoral approach is often impractical due to the presence of trismus and the inability to establish dependent drainage.

Pterygomandibular Space

Boundaries

Superior: Lateral pterygoid muscle
Inferior: Pterygomasseteric sling
Anterior: Anterior border of the ramus
Posterior: Posterior border of the ramus
Lateral: Ascending ramus
Medial: Superficial layer of the deep cervical fascia
Contents: Inferior alveolar artery, vein, and nerve; lingual and mylohyoid nerves
Connections: Masseteric space, infratemporal space, and lateral pharyngeal space
Signs and symptoms: Trismus
Approach: Extraoral drainage is accomplished via a submandibular approach (Figure 10.3). Once the inferior border of the mandible is reached, blunt dissection proceeds posteriorly through the pterygomasseteric sling to enter the pterygomandibular space located between the body of the medial pterygoid muscle and the medial ramus of the mandible. Intraorally, the space may be accessed through an incision placed lateral and parallel to the pterygomandibular raphe through the buccinator muscle (Figure 10.1). Blunt dissection is carried into the pterygomandibular space on the medial side of the mandible. In addition, the intraoral approach may be carried inferiorly through the pterygomandibular space, passing through the pterygomasseteric sling into the submandibular space. This may then be connected to a submandibular approach, and a through-and-through intraoral-extraoral drain can be passed with resulting gravity-dependent drainage.

Peritonsillar Space (Paratonsillar Space)

Boundaries

Superior: Hard palate
Inferior: Piriform fossa
Anterior: Anterior tonsillar pillar (palatoglossus muscle)
Posterior: Posterior tonsillar pillar (palatopharyngeus muscle)
Lateral: Superior pharyngeal constrictor
Medial: Oropharyngeal mucosa
Contents: Loose connective tissue
Connections: Lateral pharyngeal space via perforation of the superior constrictor and buccopharyngeal fascia
Signs and symptoms: "Hot potato" voice, odynophagia, drooling, uvular deviation, palatal asymmetries, and medial displacement of the tonsil
Approach: Treatment of peritonsillar abscess includes aspiration and incision and drainage (Figure 10.26). When a peritonsillar abscess is suspected, aspiration confirms the diagnosis and evacuates purulence. An 18-gauge needle is inserted into the pointing area, the pharyngeal mucosa is penetrated, and aspiration is performed. If purulence is detected on aspiration, an incision-and-drainage procedure is performed. A #15 blade is utilized to create a curvilinear incision along the perimeter of the tonsillar capsule (Figure 10.1) and through the point from which purulence was evacuated. A blunt hemostat is inserted into the incision and opened widely (Figure 10.27). The entire peritonsillar space is explored with blunt dissection with the hemostat. The peritonsillar space is then copiously irrigated with saline.

Key Points

1. When performing aspiration, the needle is advanced less than 1 cm in order to prevent injury to the glossopharyngeal nerve and the internal carotid artery, which may be aberrantly located within the parapharyngeal space.
2. A drain is typically not placed within the peritonsillar space.
3. Irrigating the peritonsillar space with half-strength hydrogen peroxide may aid in hemostasis.

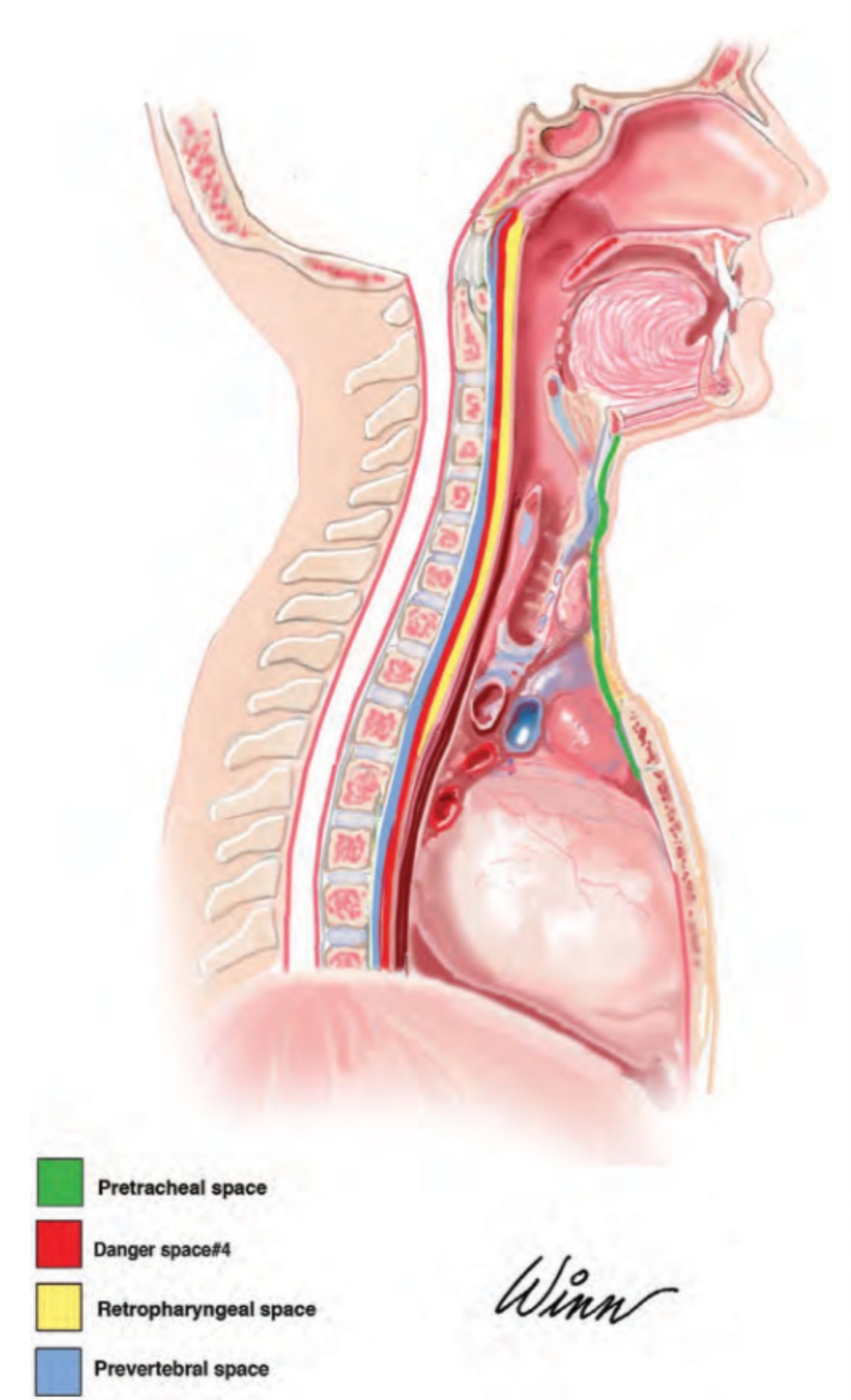


Figure 10.35. Sagittal view of the deep spaces of the neck.

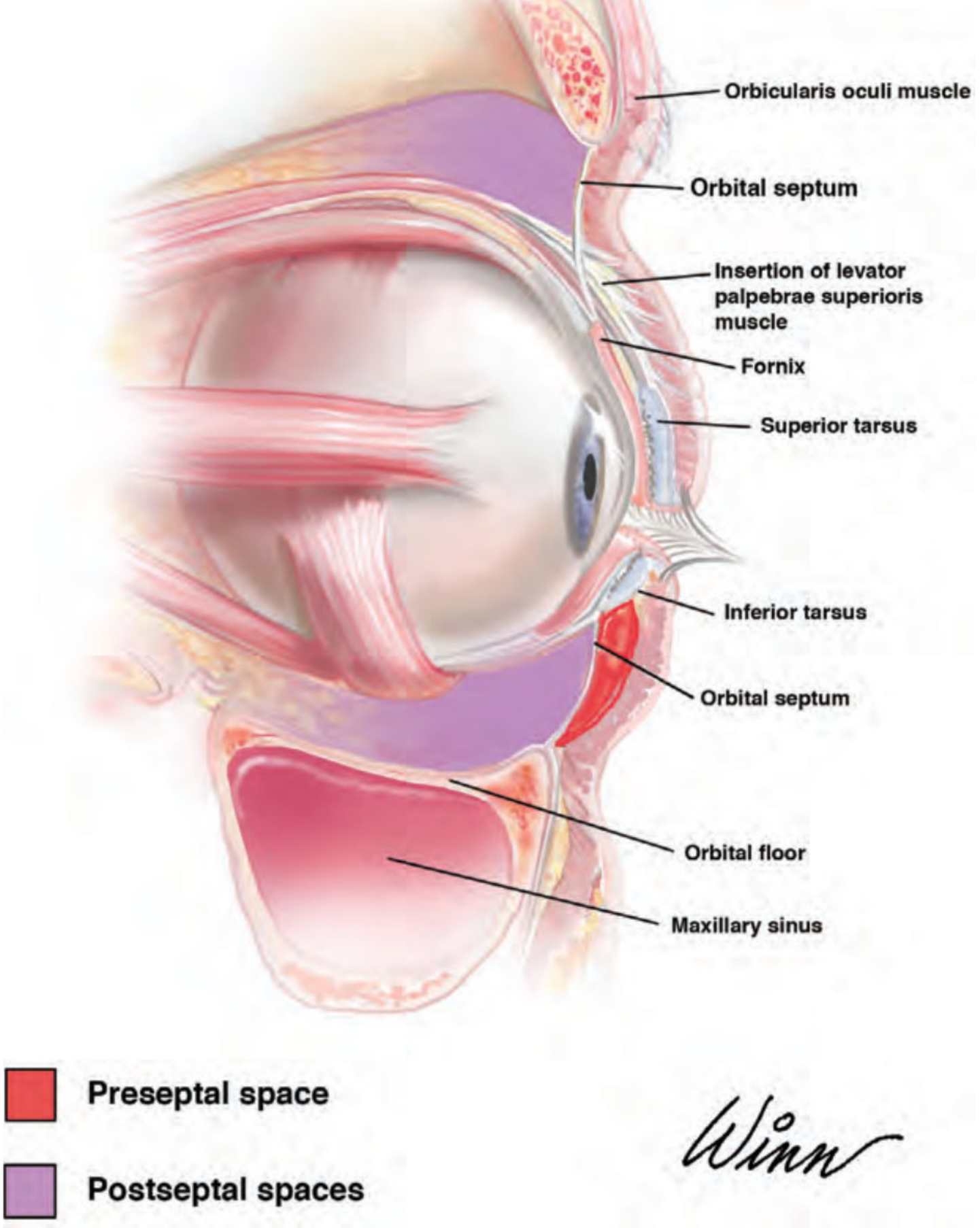


Figure 10.36. Sagittal view of the periorbital (preseptal) and orbital (postseptal) spaces.

TRACHEOTOMIA

TRACHEOTOMIA

- per stenosi respiratorie glottiche o sovraglottiche
- preliminare ad intervento demolitivo
- precauzionale in caso di rischio di stenosi respiratoria (edema, paresi del n. ricorrente, emorragie, radioterapia)
- tr. di necessità esistono cannule specifiche dotate di mandrino da inserire nello spazio intercricotiroideo
- tr. di elezione

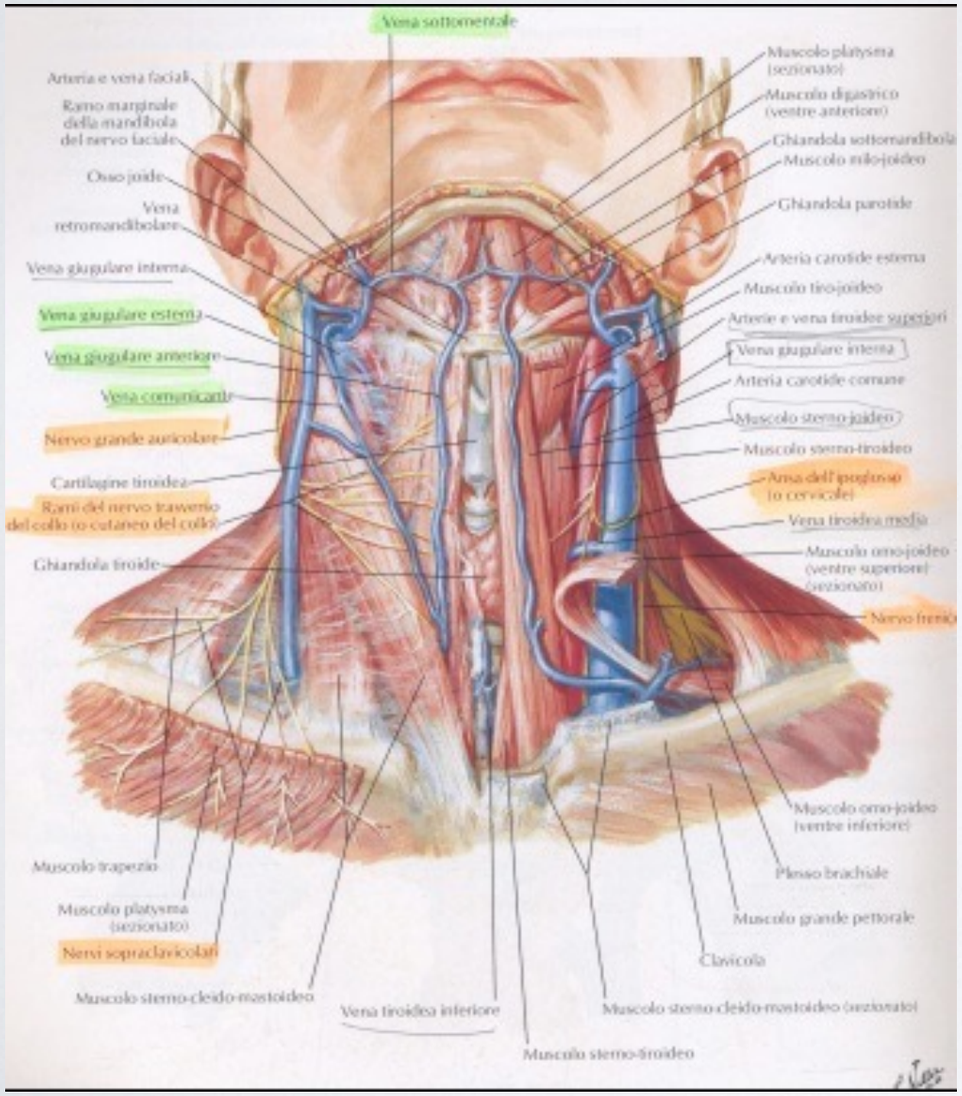
TRACHEOTOMIA SOTTOISTMICA DI ELEZIONE

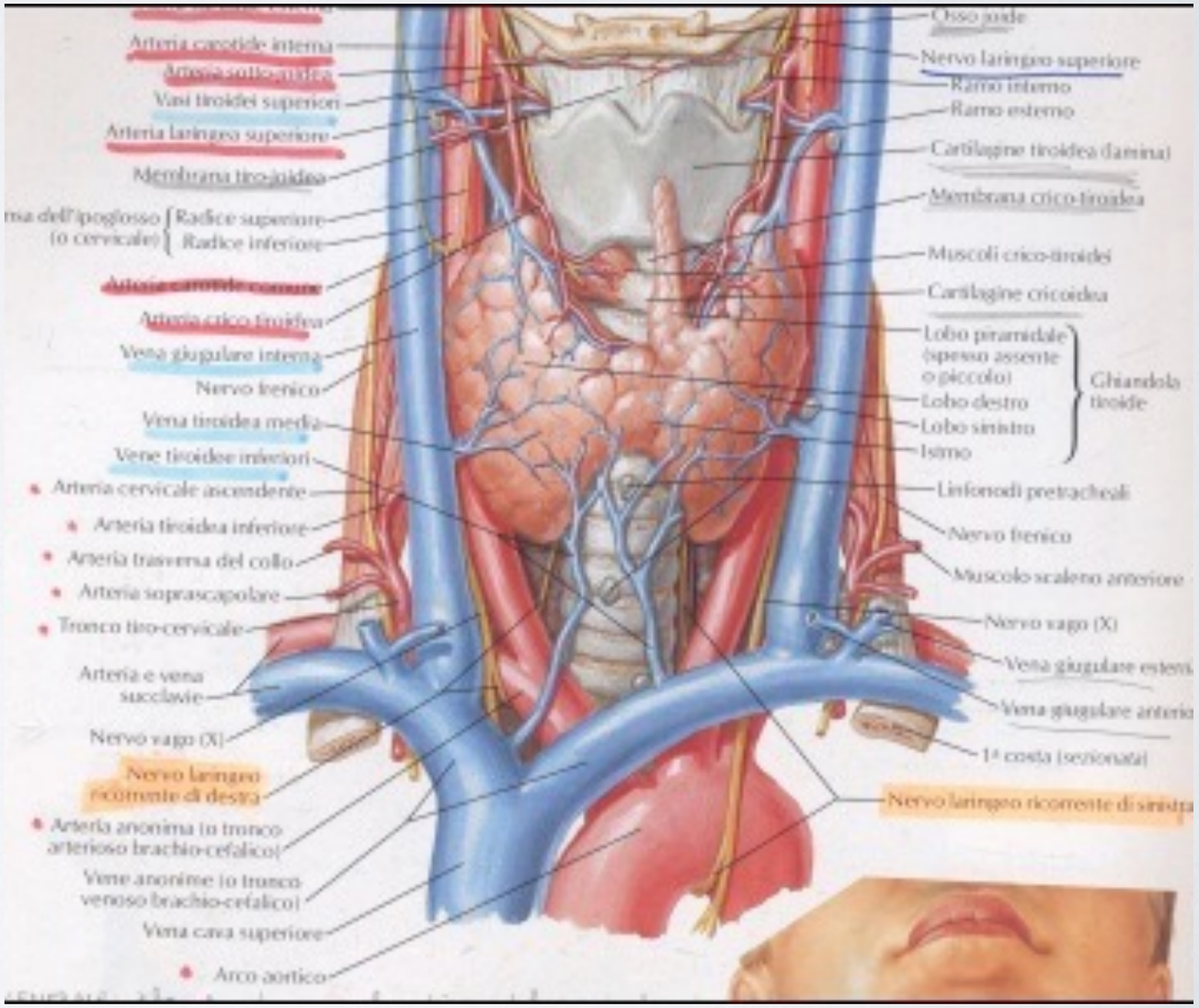
- Collo iperesteso, con rotolo di telo sotto le scapole.
- Palpo tra tiroide e cricoide e segno una linea trasversale, scendo di tre cm e segno una seconda linea trasversale orizzontale.
- Anestesia locale della cute e del sottocute.

TRACHEOTOMIA SOTTOISTMICA

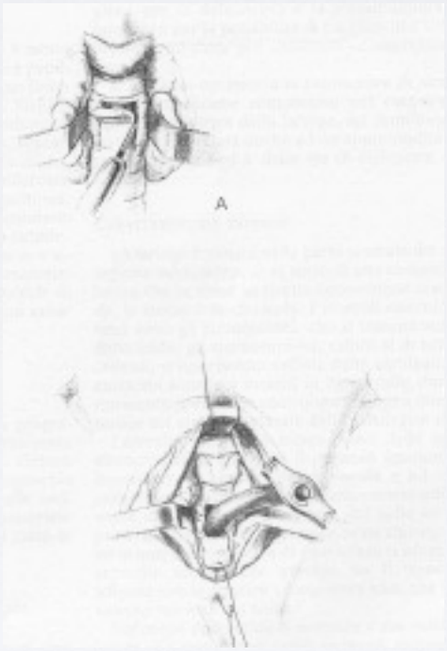
- Incido orizzontalmente cute e sottocute, faccio due taglietti verticali al centro dei lembi sul grasso cranialmente e caudalmente, espongo lo strato muscolare, separo i muscoli sterno-tiroidei lungo la linea alba, scendo per piani scollando e divaricando fino a sentire la trachea, facendo attenzione a che non sia dislocata lateralmente, incido tra primo e secondo o tra secondo e terzo anello poi nello spazio sotto poi taglio lo sportello di cartilagine: se calcificato uso le forbici.

TRACHEOTOMIA SOTTOISTMICA

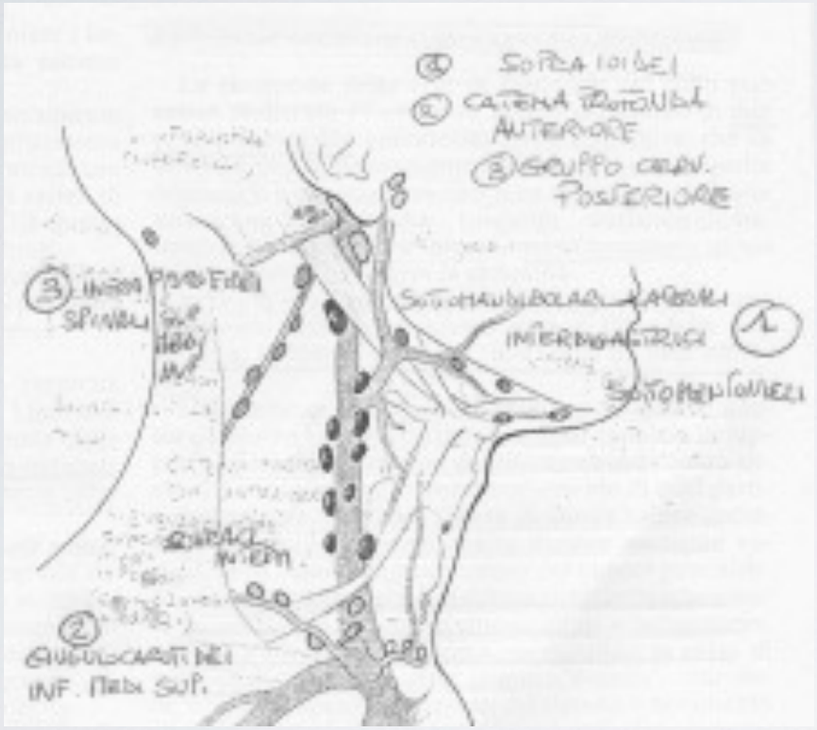


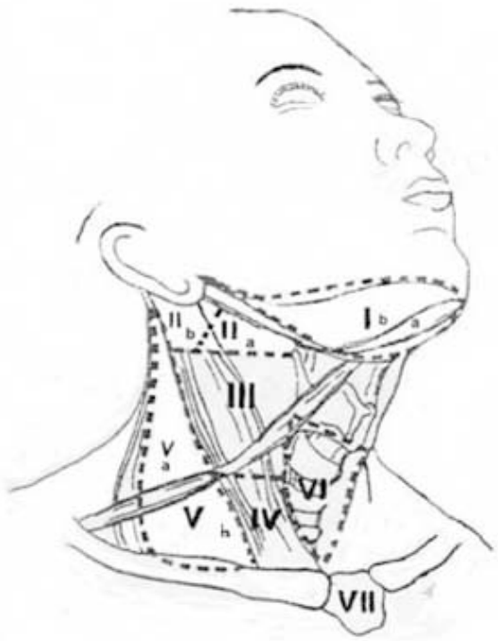


TRACHEOTOMIA SOTTOISTMICA



SVUOTAMENTO LATEROCERVICALE RADICALE





Livello	Sede
I	Linfonodi sottomandibolari
IA	Linfonodi sottomentonieri
IB	Linfonodi della loggia sottomandibolare
II	Linfonodi giugulari alti
IIA	Linfonodi giugulari alti antero-mediali al nervo accessorio spinale
IIB	Linfonodi giugulari alti postero-laterali al nervo accessorio spinale
III	Linfonodi giugulari medi
IV	Linfonodi giugulari inferiori
V	Linfonodi del triangolo posteriore
VA	Linfonodi del triangolo posteriore localizzati superiormente al ventre posteriore del muscolo omoioideo.
VB	Linfonodi del triangolo posteriore localizzati inferiormente al ventre posteriore del muscolo omoioideo.
VI	Linfonodi del comparto anteriore (compreso fra l'osso ioide superiormente e il tronco anonimo inferiormente e lateralmente delimitato dalle arterie carotidi comuni)
VII	Linfonodi del mediastino superiore

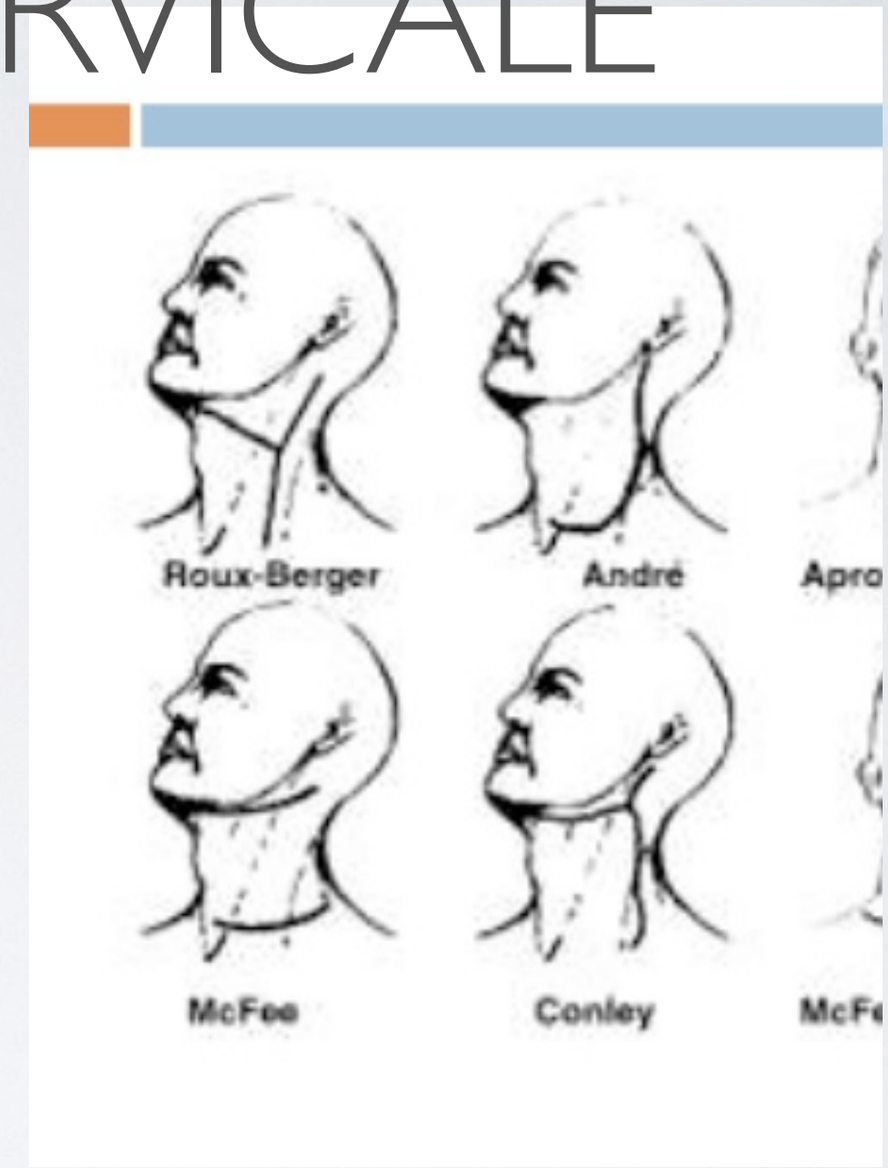
Fig. 1 - Livelli linfonodali cervicali.

SVUOTAMENTO LATEROCERVICALE RADICALE

- rimozione in blocco di tutto l'albero linfatico e del pacchetto cellulo-adiposo a valle di una neoplasia infiltrante comprendente fasce e aponeurosi, più SCM, v. giugulare interna e n.accessorio spinale.

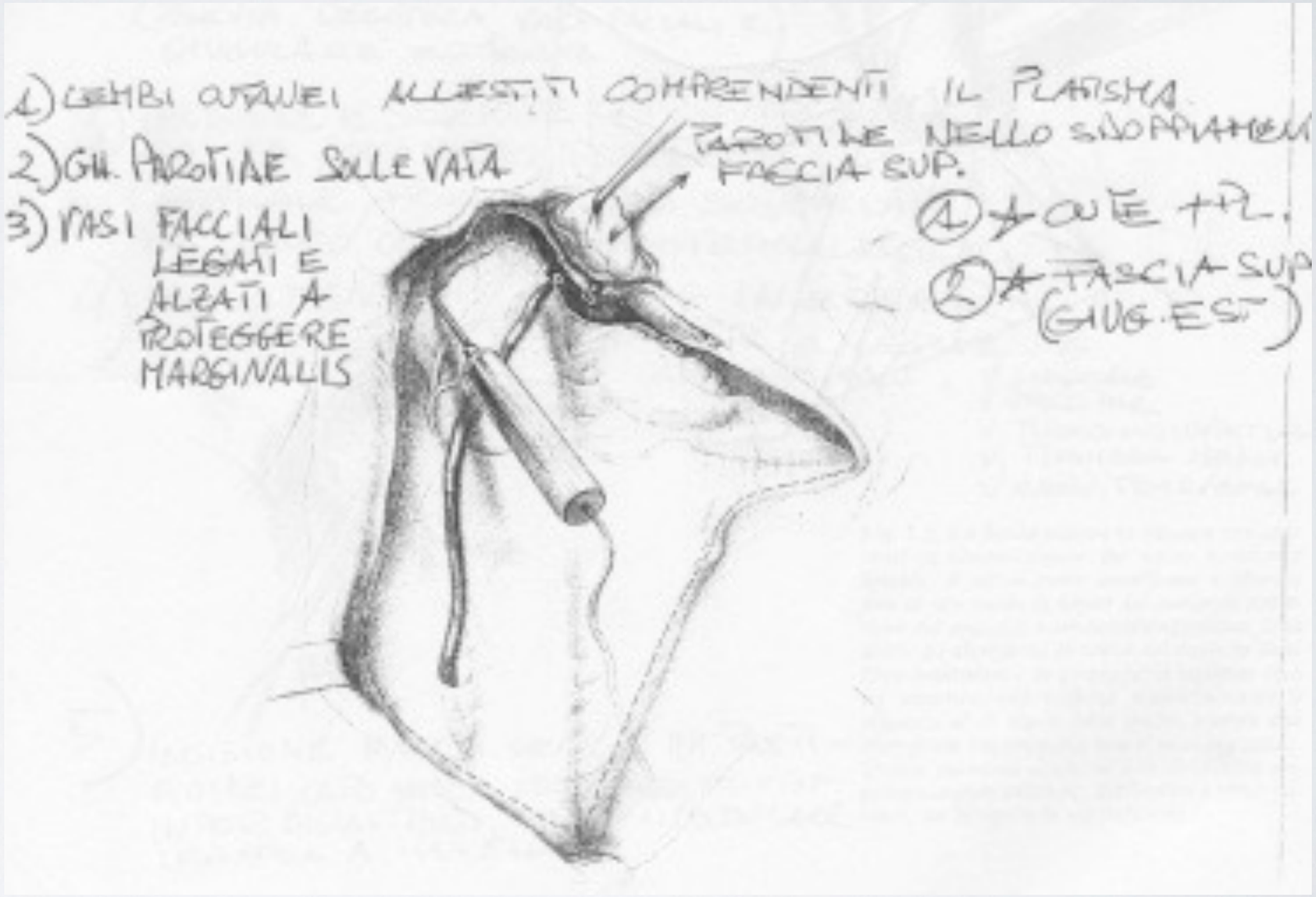
SVUOTAMENTO LATEROCERVICALE

- capo iperesteso ed orientato dal lato opposto, dalla mastoide al mento un dito sotto il margine della mandibola



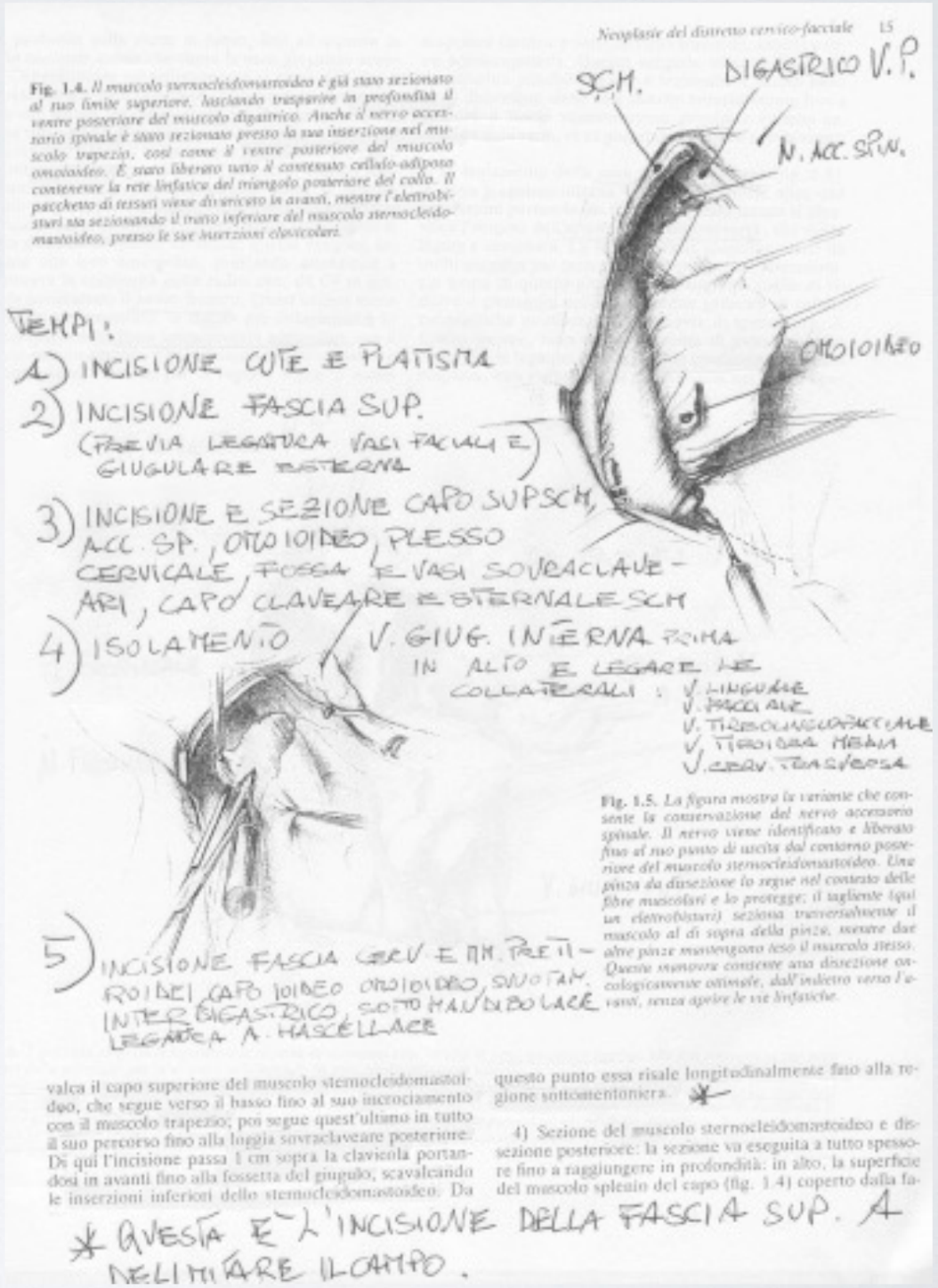
SVUOTAMENTO LATEROCERVICALE

- Smas compreso nell'incisione, incisione fascia superficiale



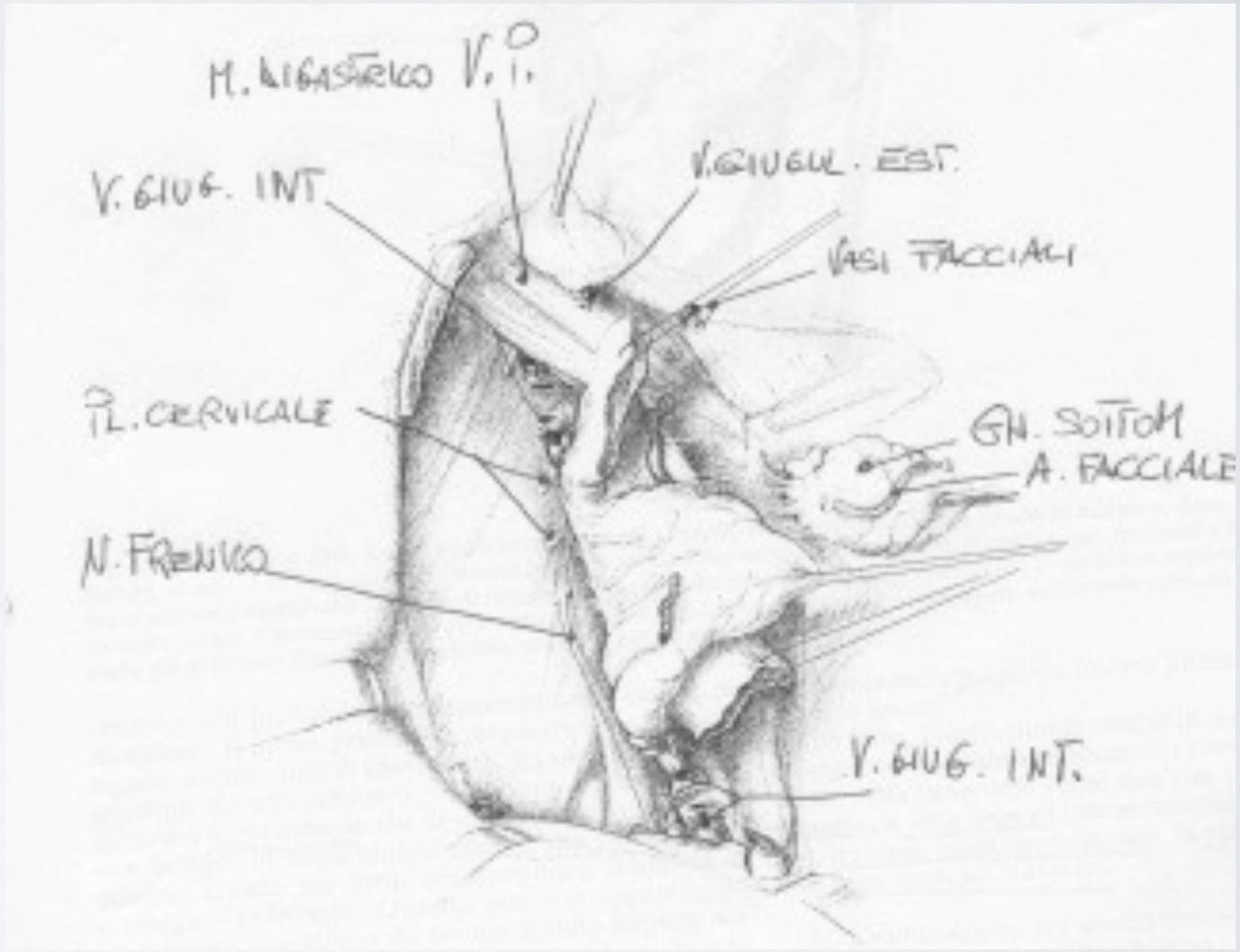
SVUOTAMENTO LATEROCERVICALE

- sezione capo mastoideo SCM, esposizione e sezione n.acc.spinale
- sezione ventre post. omoioideo, plesso cervicale
- sezione claveare SCM



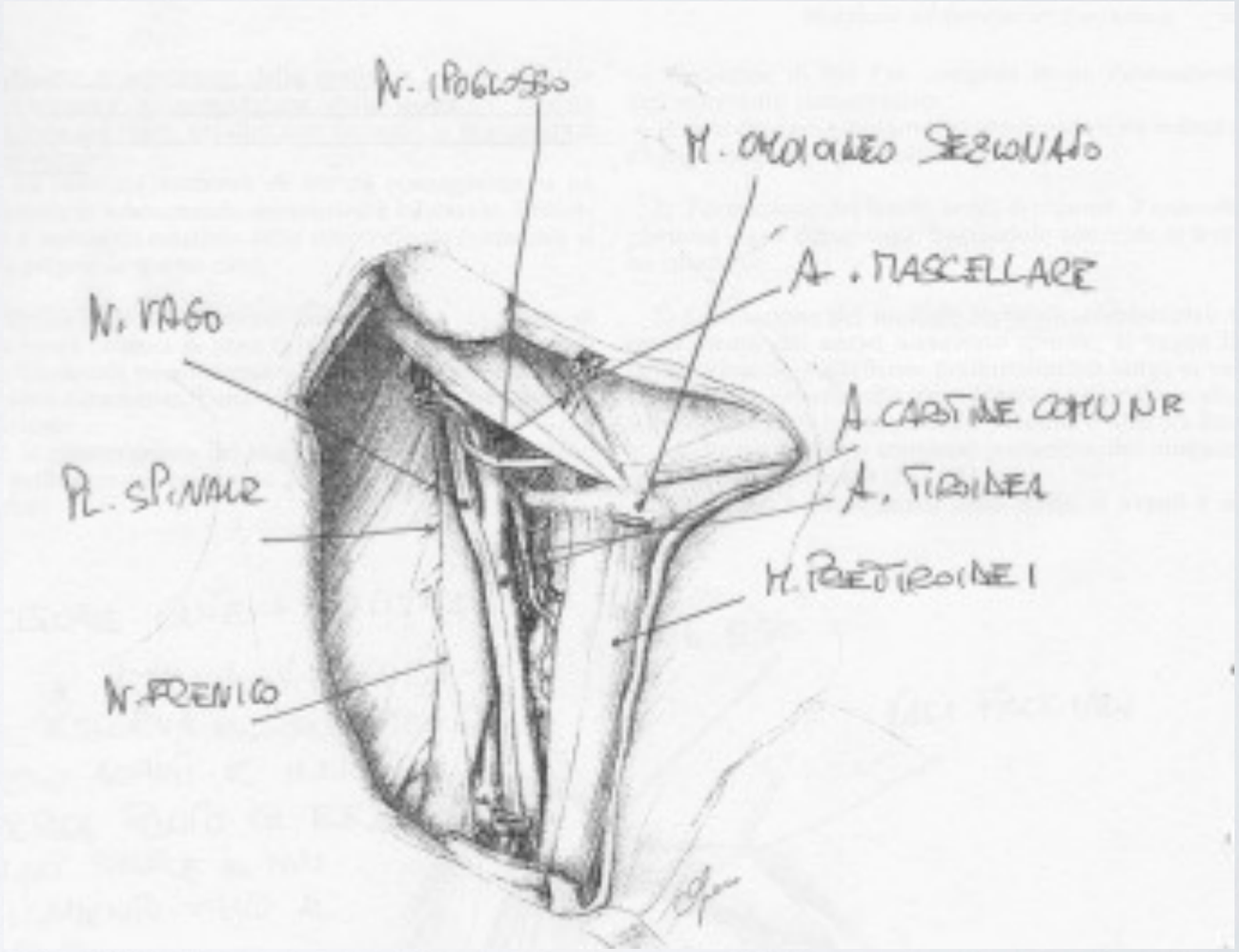
SVUOTAMENTO LATEROCERVICALE

- isolamento v.giugulare interna e tutte le sue collaterali (cerv.trasversa, tiroidea media, tr.tireolinguofacciale, linguale e facciale



SVUOTAMENTO LATEROCERVICALE

- isolamento ipoglosso tra la biforcazione della carotide
- sezione tratto anteriore omoioideo
- rimozione tessuto celluloadiposo interdigastrico
- rimozione



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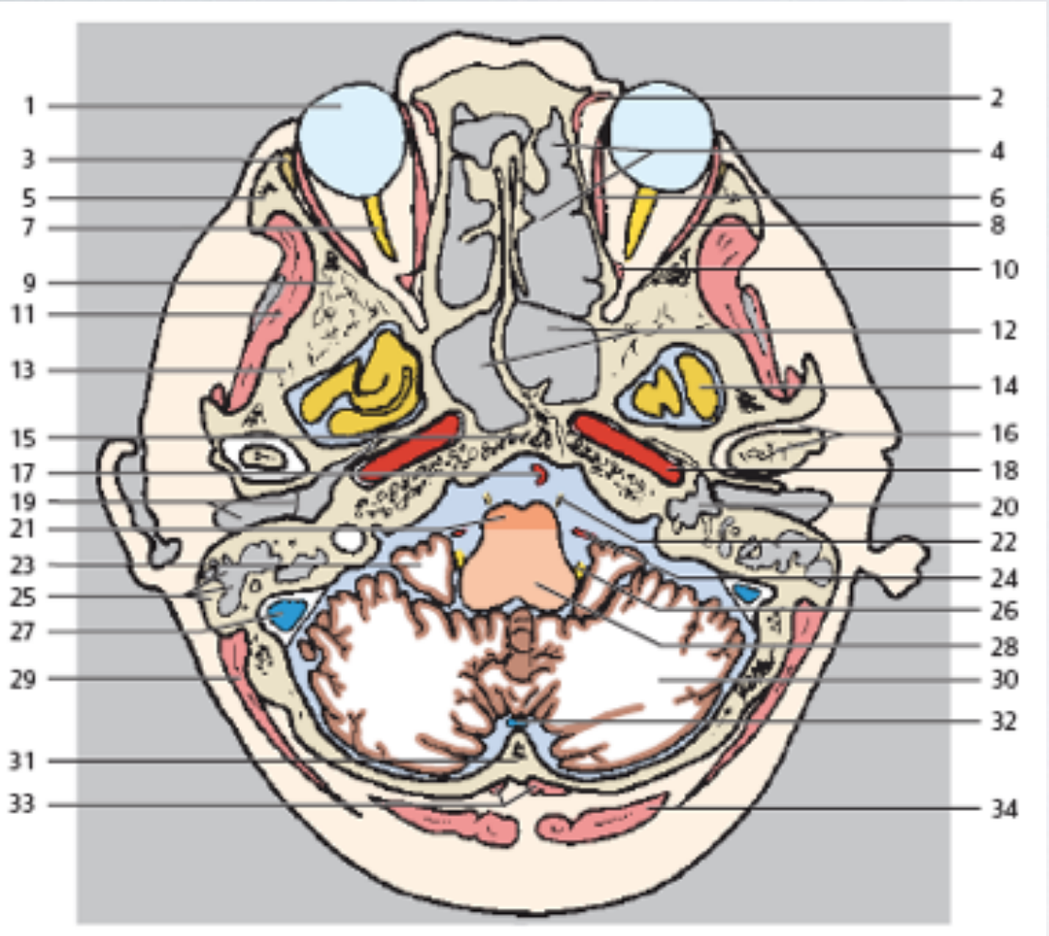
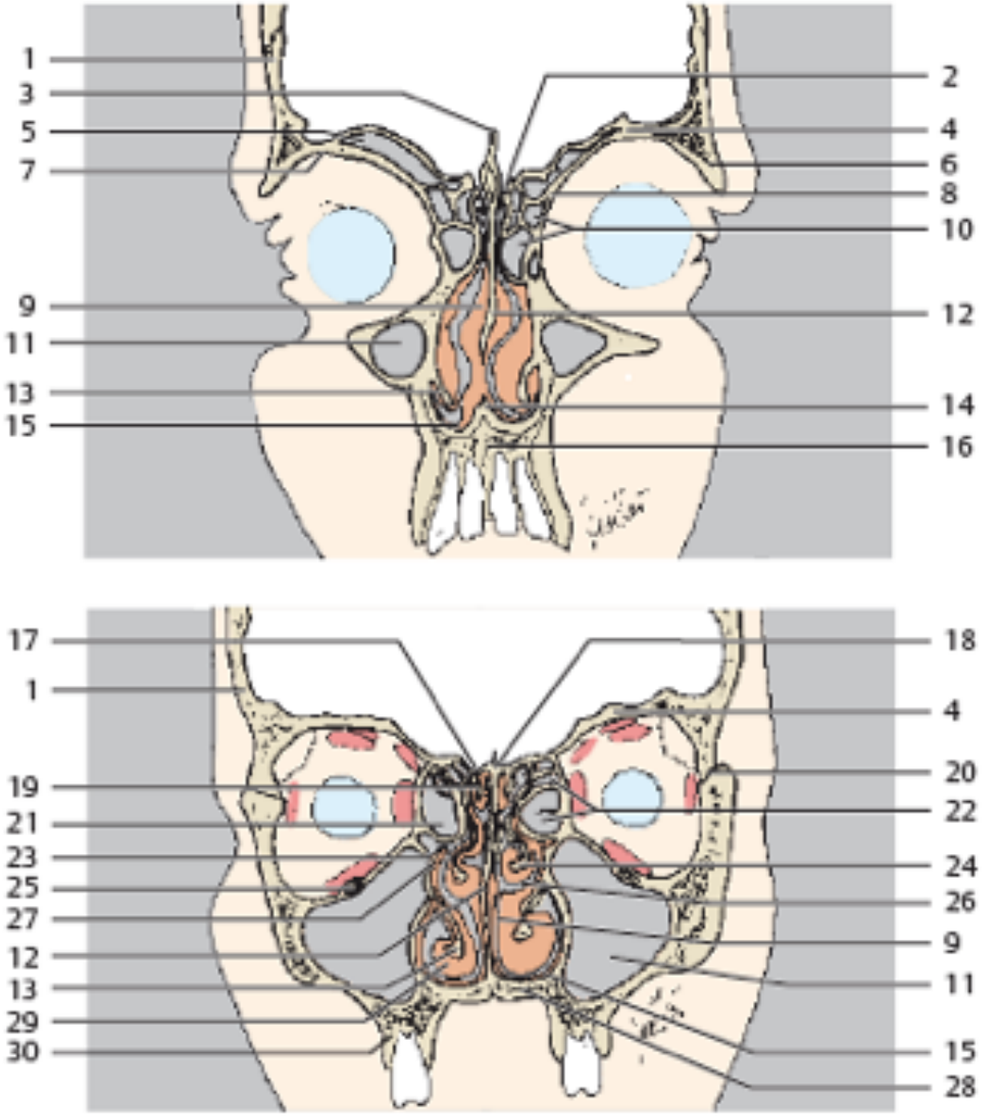
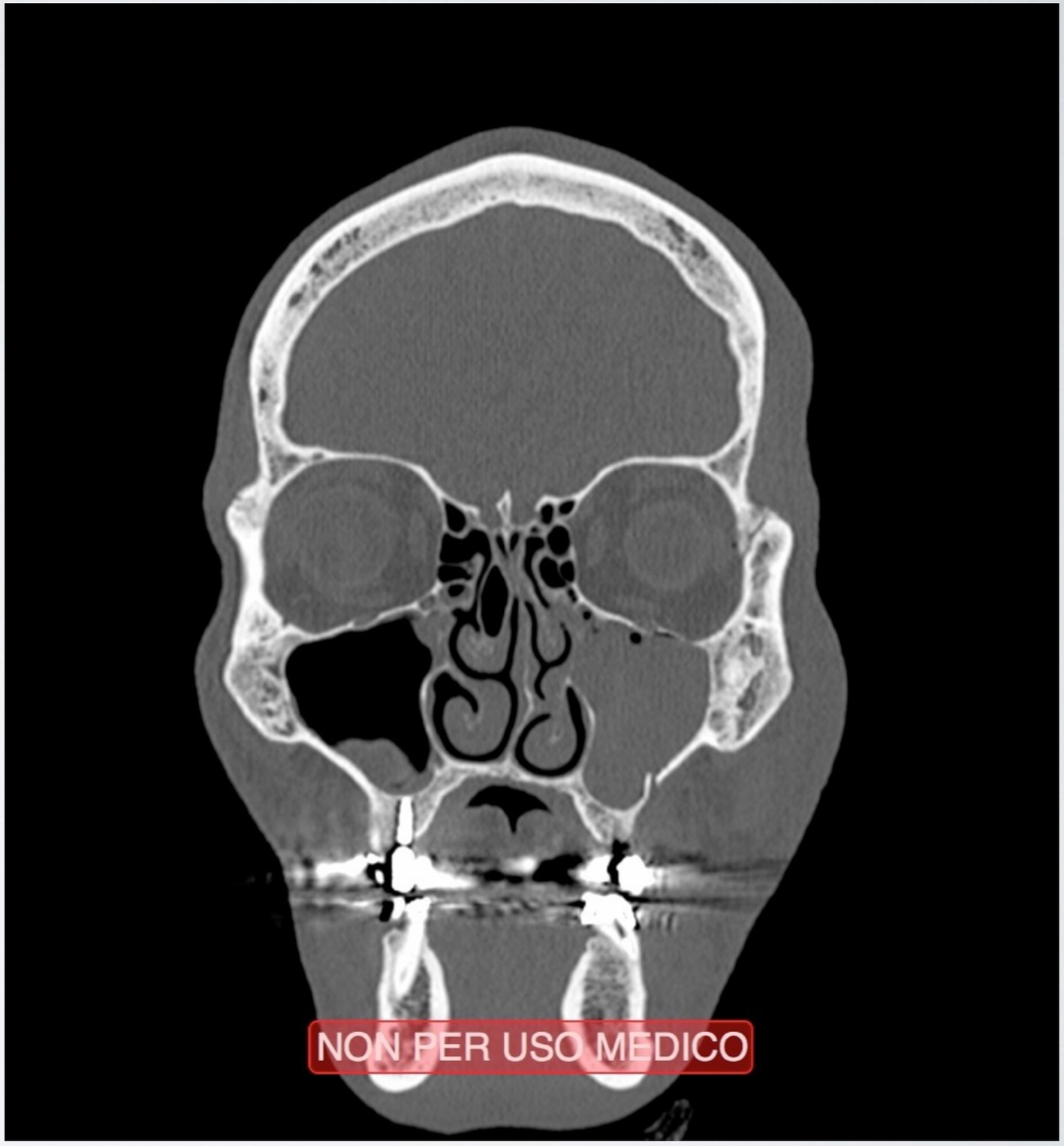


1 Eyeball
2 Superior oblique muscle
3 Lacrimal gland
4 Ethmoidal cells
5 Zygomatic bone
6 Medial rectus muscle
7 Optic nerve
8 Lateral rectus muscle of eyeball
9 Sphenoidal bone
10 Superior rectus muscle
11 Temporal muscle
12 Sphenoidal sinus
13 Temporal bone
14 Temporal lobe (base)
15 Clivus
16 Temporomandibular joint and head of mandible
17 Basilar artery
18 Internal carotid artery
19 External auditory meatus and eardrum (tympanic membrane)
20 Tympanic cavity
21 Pons
22 Abducent nerve (VI)
23 Flocculus
24 Anterior inferior cerebellar artery
25 Mastoid process and mastoid cells
26 Glossopharyngeal (IX) and vagus (X) nerves
27 Sigmoid sinus
28 Medulla oblongata (myelencephalon)
29 Splenius capitis muscle
30 Cerebellar hemisphere
31 Occipital bone
32 Occipital sinus
33 Rectus capitis posterior minor muscle
34 Semispinalis capitis muscle

TC



1 Frontal bone
2 Cribriform plate
3 Crista galli
4 Roof of orbit
5 Frontal sinus
6 Zygomatic process
7 Supraorbital notch
8 Orbital plate
9 Nasal cavity
10 Anterior ethmoidal cells
11 Maxillary sinus
12 Nasal septum
13 Inferior nasal concha
14 Vomer
15 Inferior nasal meatus
16 Alveolar process of maxilla
17 Ethmoidal notch
18 Ethmoidal bone (cribriform plate)
19 Superior nasal concha
20 Frontozygomatic suture
21 Orbital plate of ethmoidal labyrinth
22 Ethmoidal cells (middle)
23 Maxillary hiatus
24 Middle nasal concha
25 Infraorbital foramen
26 Middle nasal meatus
27 Uncinate process
28 Hard palate
29 Inferior nasal concha
30 Maxilla (alveolar process)



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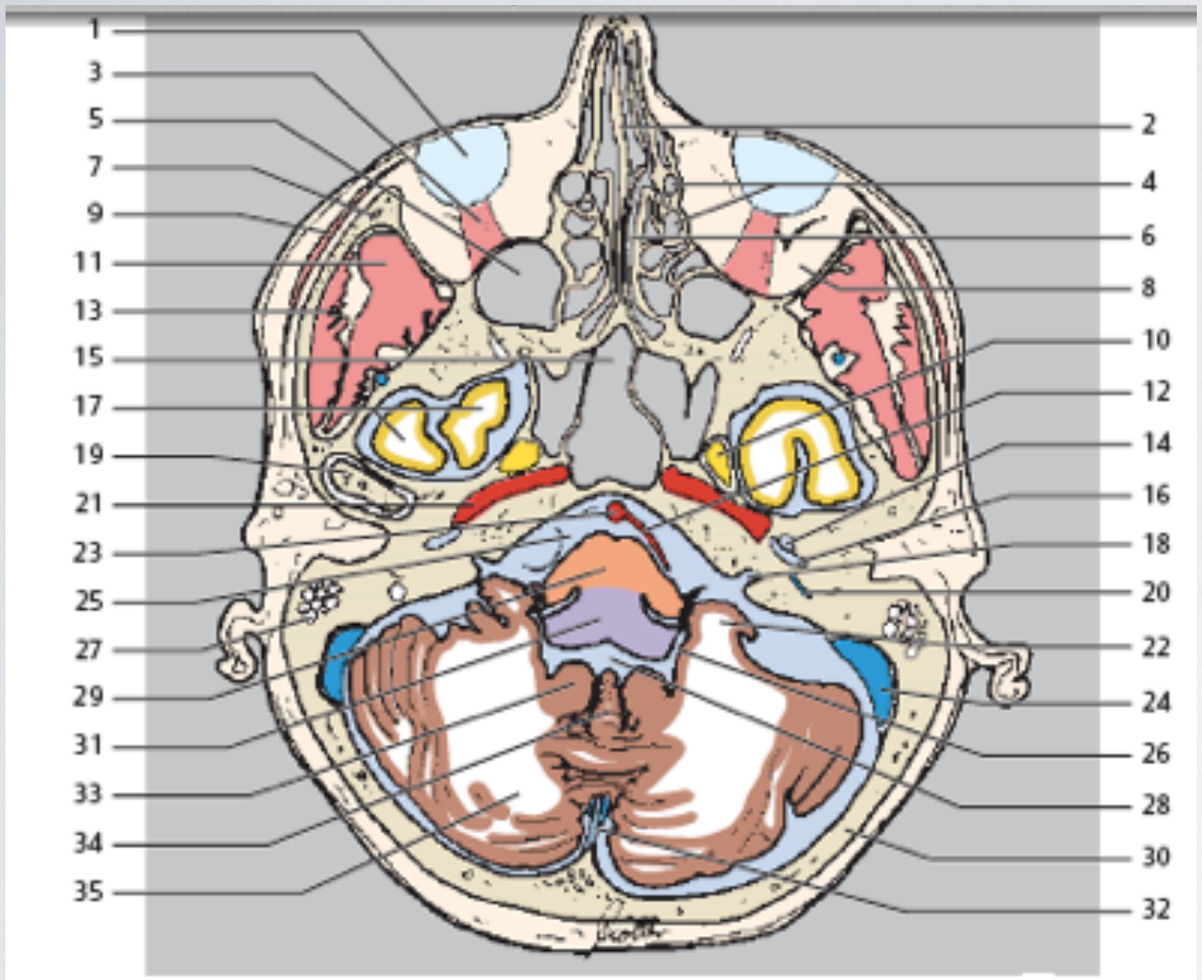
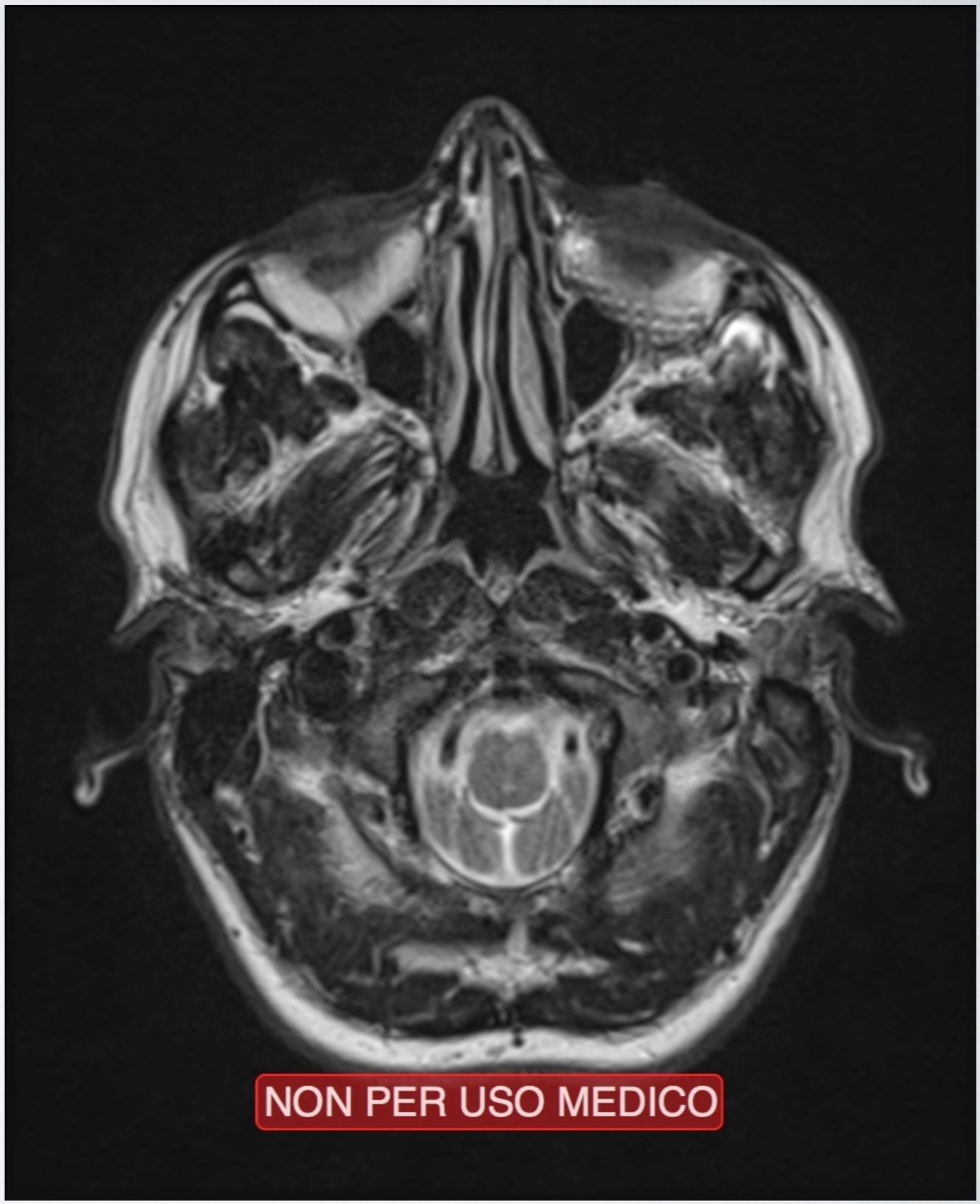


1 Eyeball
2 Nasal septum
3 Inferior rectus muscle
4 Ethmoidal cells
5 Maxillary sinus
6 Nasal sinus
7 Zygomatic bone
8 Retrobulbar fat
9 Orbicularis oris muscle
10 Trigeminal nerve (V)
11 Temporal muscle
12 Anterior inferior cerebellar artery
13 Masseter muscle
14 Cochlea
15 Sphenoidal sinus
16 Vestibule
17 Inferior temporal gyrus
18 Internal acoustic meatus
19 Head of mandible
20 Posterior semicircular canal
21 Internal carotid artery
22 Flocculus
23 Basilar artery
24 Transverse sinus
25 Pontocerebellar cistern
26 Lateral aperture of fourth ventricle (foramen of Luschka)
27 Mastoid cells
28 Fourth ventricle
29 Pons
30 Occipital bone
31 Medulla oblongata
32 Falx cerebelli
33 Tonsil of cerebellum
34 Vermis of cerebellum
35 Cerebellum



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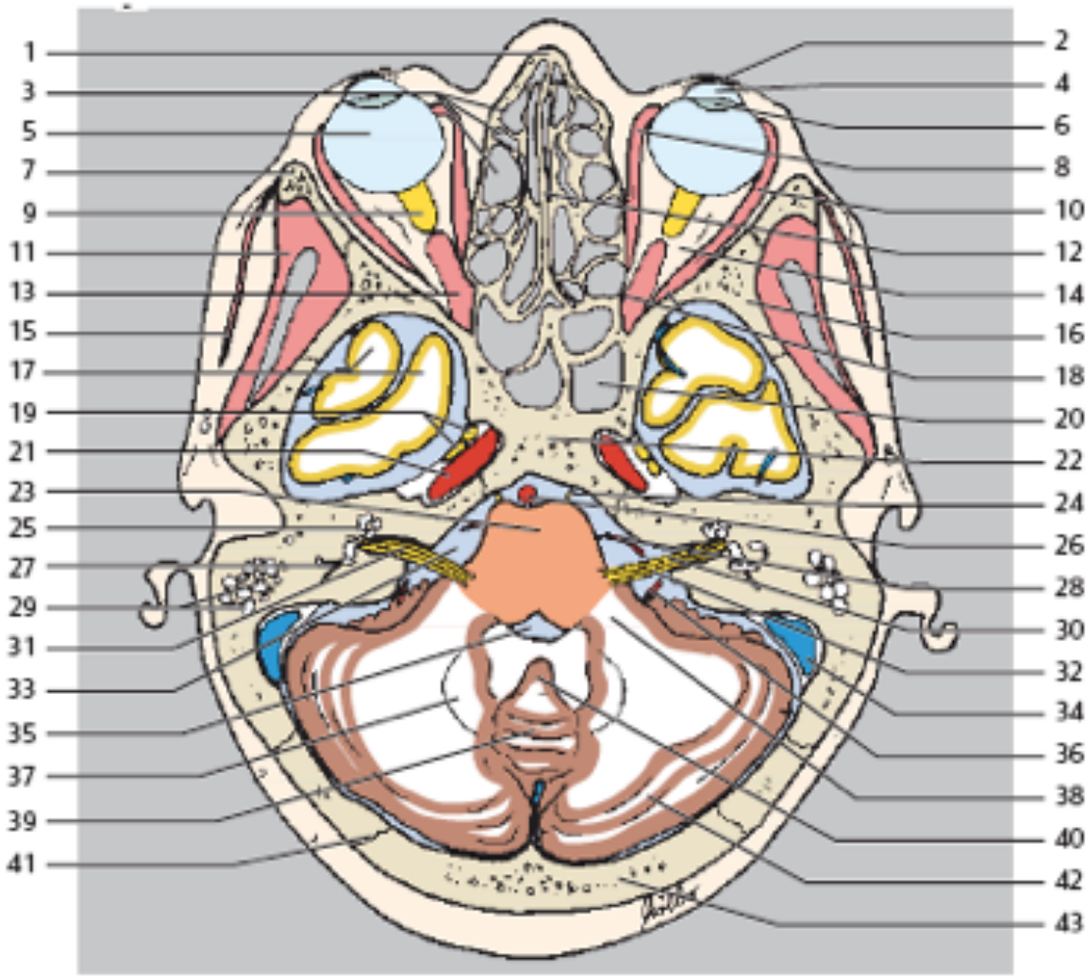
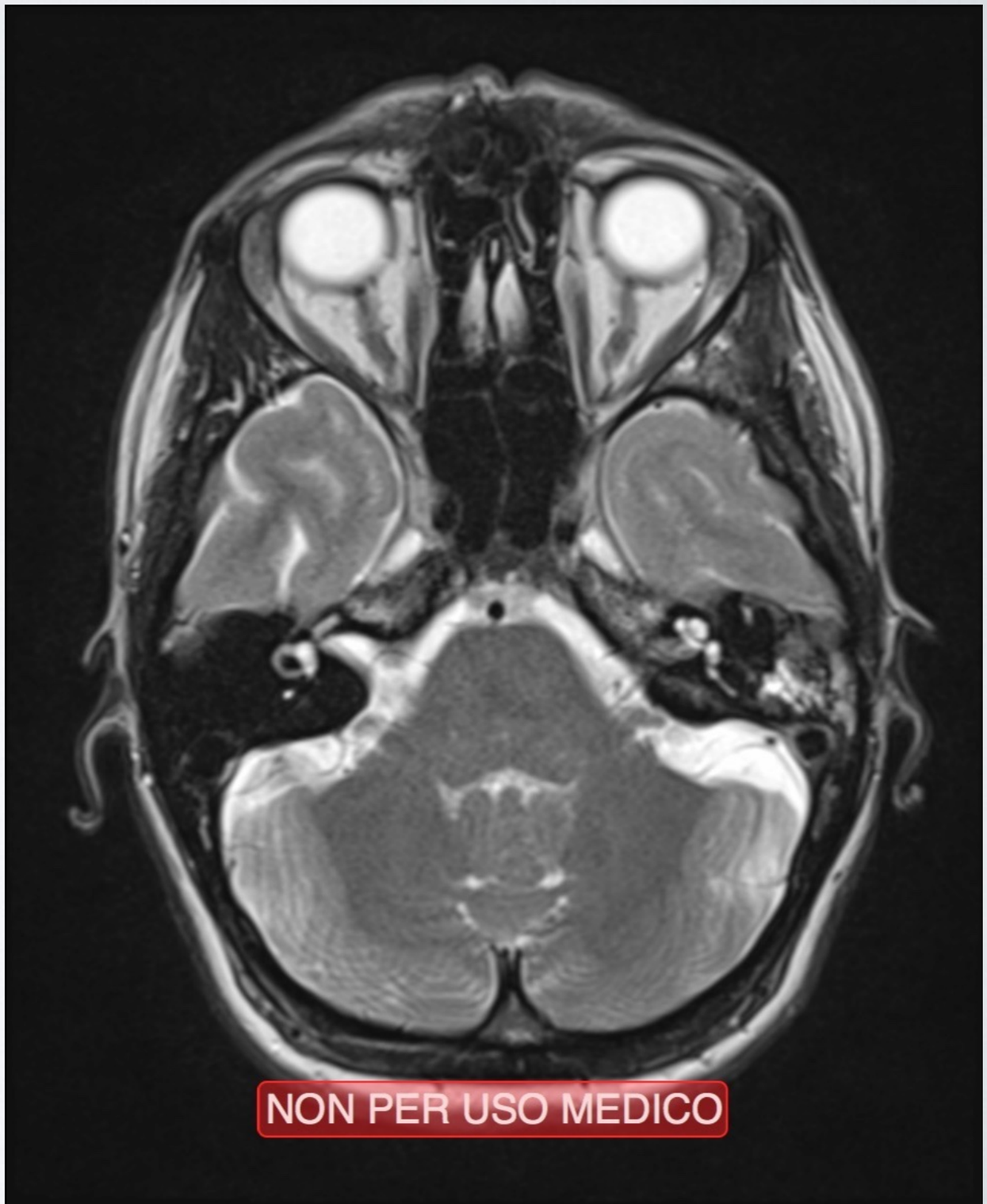


11 Temporal muscle
12 Nasal septum
13 Superior rectus muscle and levator palpebrae superioris muscle
14 Retro-orbital fatty tissue
15 Temporoparietal muscle
16 Sphenoidal bone
17 Temporal pole
18 Superior orbital fissure
19 Maxillary and mandibular nerves
20 Sphenoidal sinus
21 Internal carotid artery
22 Clivus
23 Pons
24 Abducent nerve (VI)
25 Cochlea
26 Basilar artery
27 Posterior semicircular canal
28 Superior cerebellar artery
29 Mastoid cells
30 Facial nerve (VII) and intermediate nerve
31 Internal acoustic meatus
32 Vestibulocochlear (auditory) nerve (VIII)
33 Pontocerebellar cistern
34 Sigmoid sinus
35 Fourth ventricle
36 Anterior inferior cerebellar artery
37 Dentate nucleus
38 Middle cerebellar peduncle
39 Vermis of cerebellum
40 Uvula of vermis
41 Lambdoid suture
42 Caudal lobule of cerebellum
43 Occipital bone



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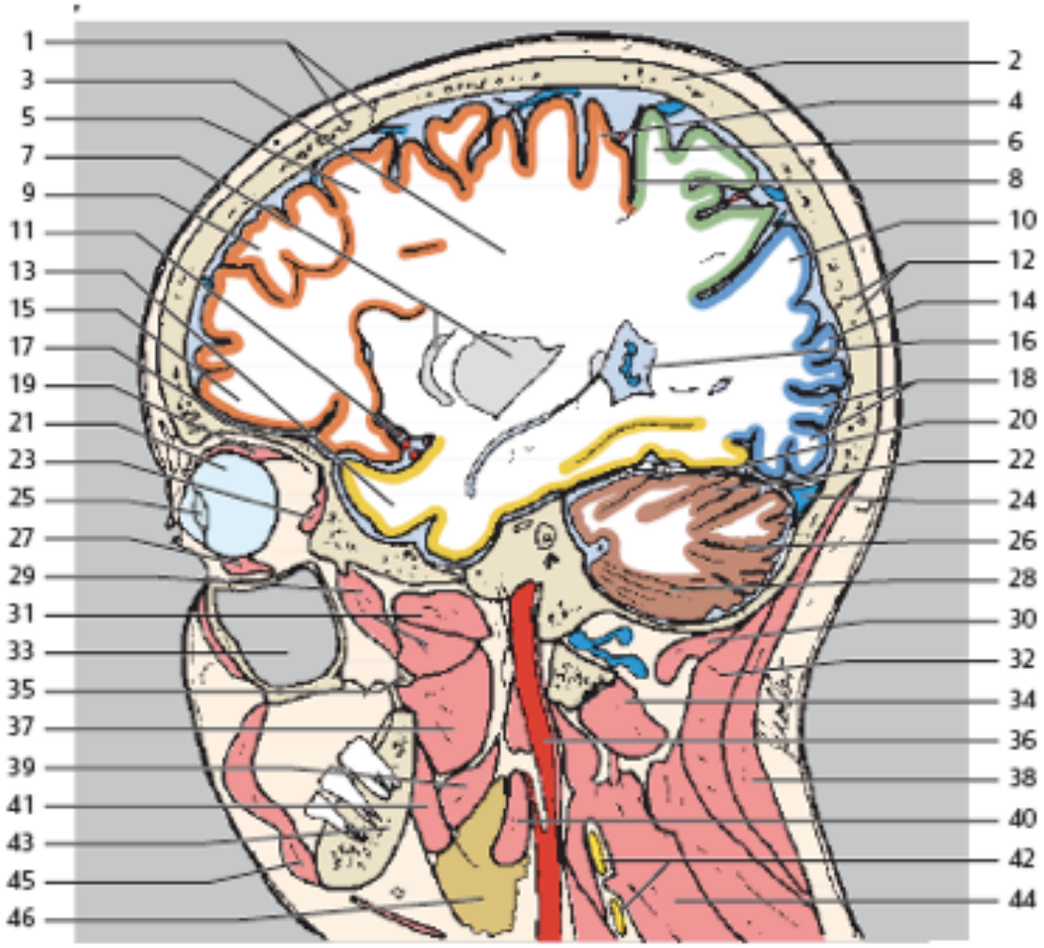

8 Central sulcus
9 Middle frontal gyrus
10 Precuneus
11 Insular arteries
12 Occipital bone and lambdoid suture
13 Temporal pole
14 Cuneus
15 Orbital gyrus
16 Lateral ventricle (occipital horn)
17 Roof of orbit
18 Occipital gyri
19 Superior rectus muscle
20 Tentorium cerebelli
21 Eyeball
22 Anterior lobe of cerebellum
23 Lateral rectus muscle
24 Transverse sinus
25 Lens
26 Horizontal fissure
27 Inferior rectus muscle
28 Posterior lobe of cerebellum
29 Temporal muscle
30 rectus capitis posterior major muscle
31 Lateral pterygoid muscle
32 Semispinalis capitis muscle
33 Maxillary sinus
34 Obliquus capitis inferior muscle
35 Pterygoid process, lateral plate
36 Internal carotid artery
37 Medial pterygoid muscle
38 Trapezius muscle
39 Styloglossus muscle
40 Digastric muscle
41 Mylohyoid muscle
42 Spinal nerve roots (cervical plexus)
43 Mandible
44 Levator scapulae muscle
45 Orbicularis oris muscle
46 Submandibular gland