Anatomia della regione cervicale

A.N.Presta, A.Presta

Otorhinolaryngology

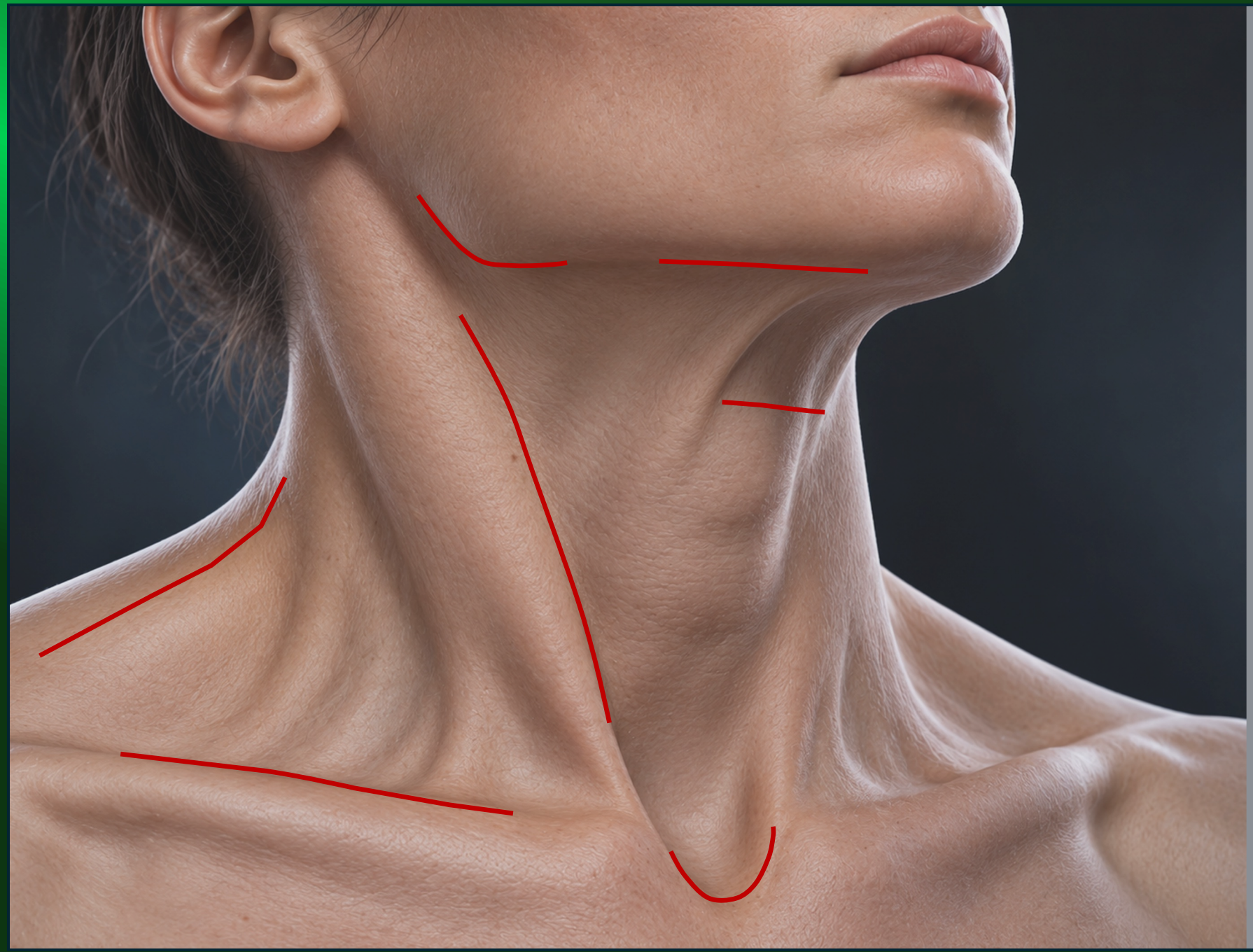
Head and Neck

Surgery

San Paolo, Savona, Italy







LANDMARKS

Angolo della mandibola

Margine inferiore della mandibola

Margine anteriore SCM

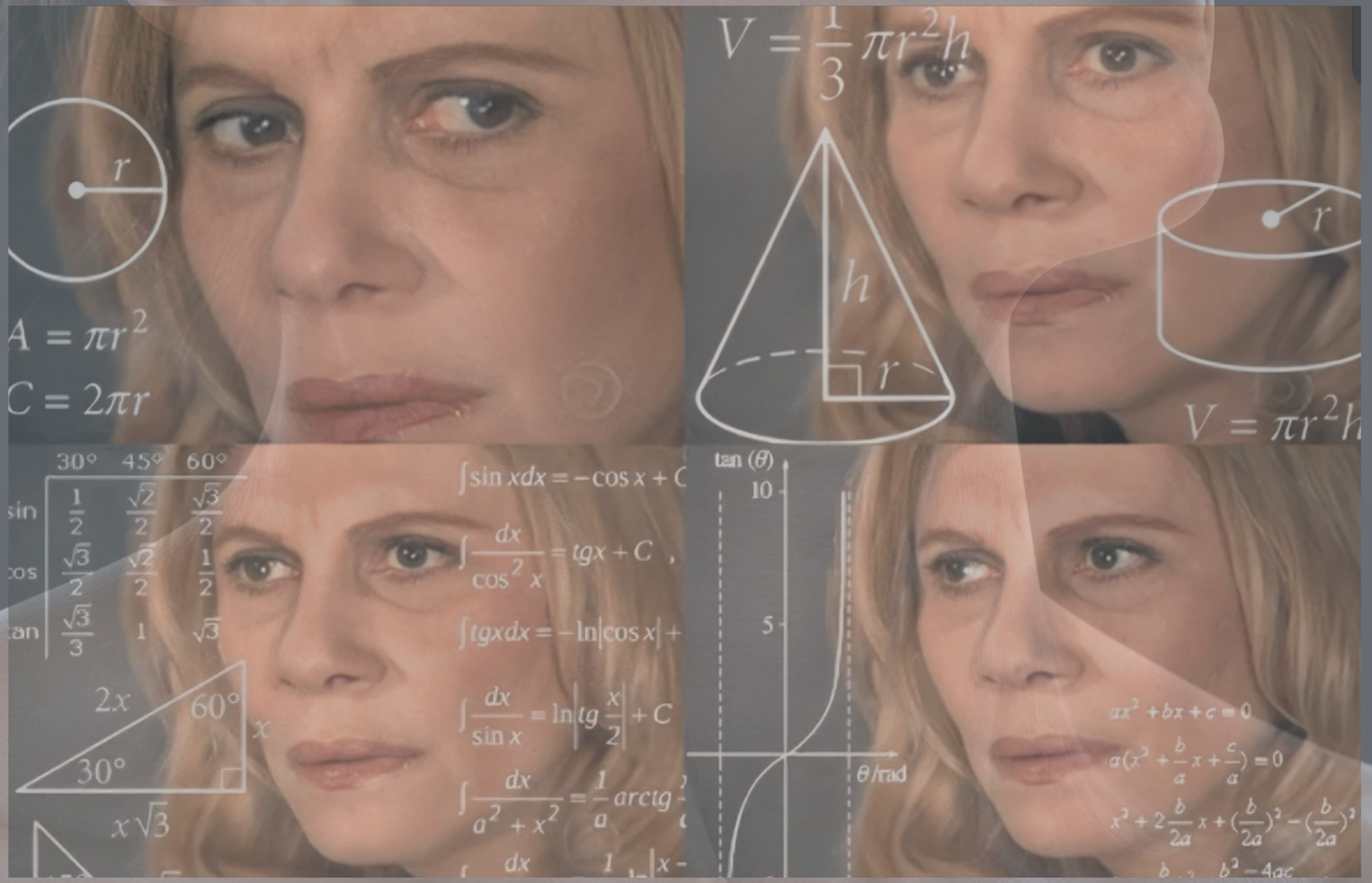
Margine anteriore trapezio

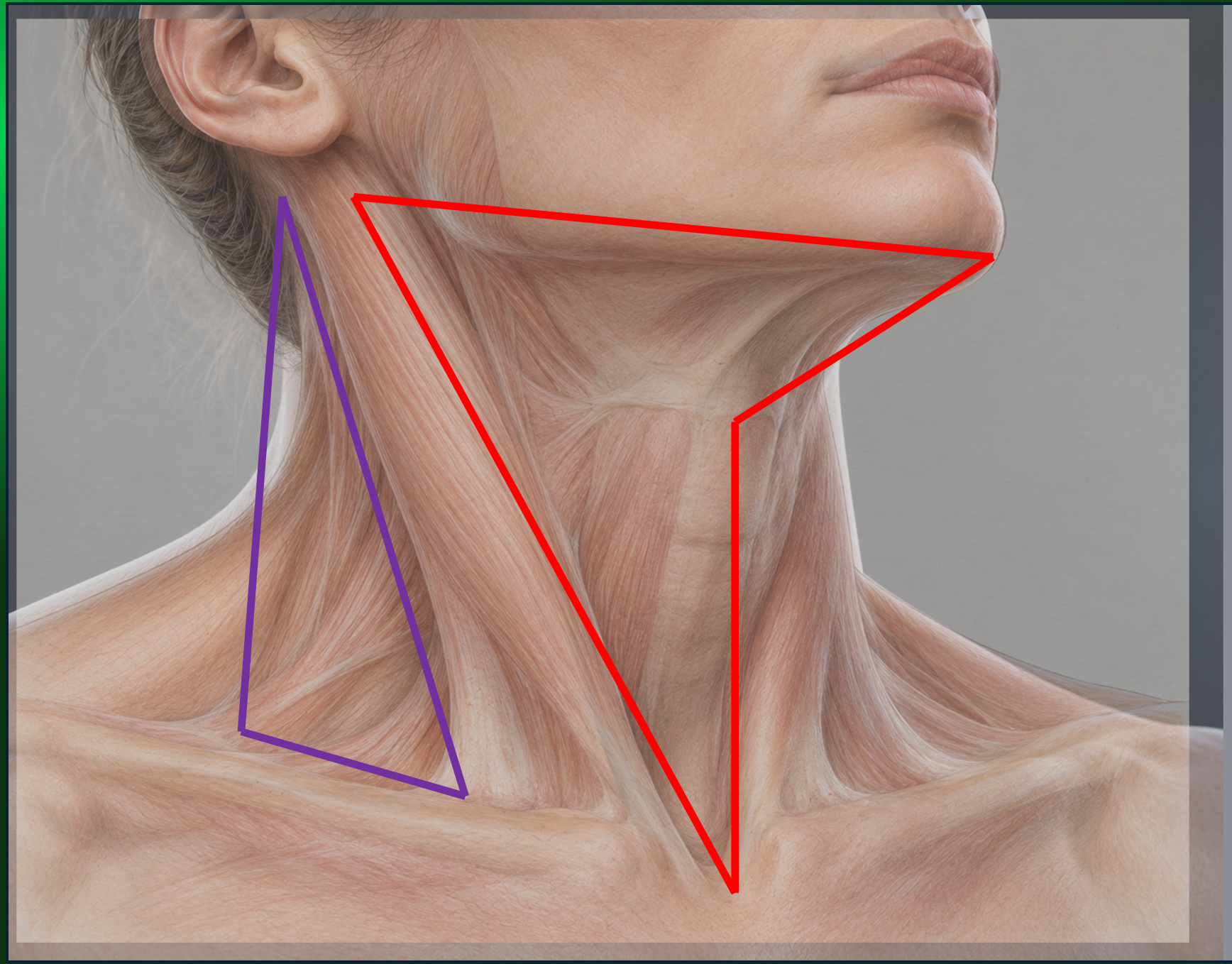
Margine superiore clavicola

Incisura giugulare

Osso ioide

LANDMARKS

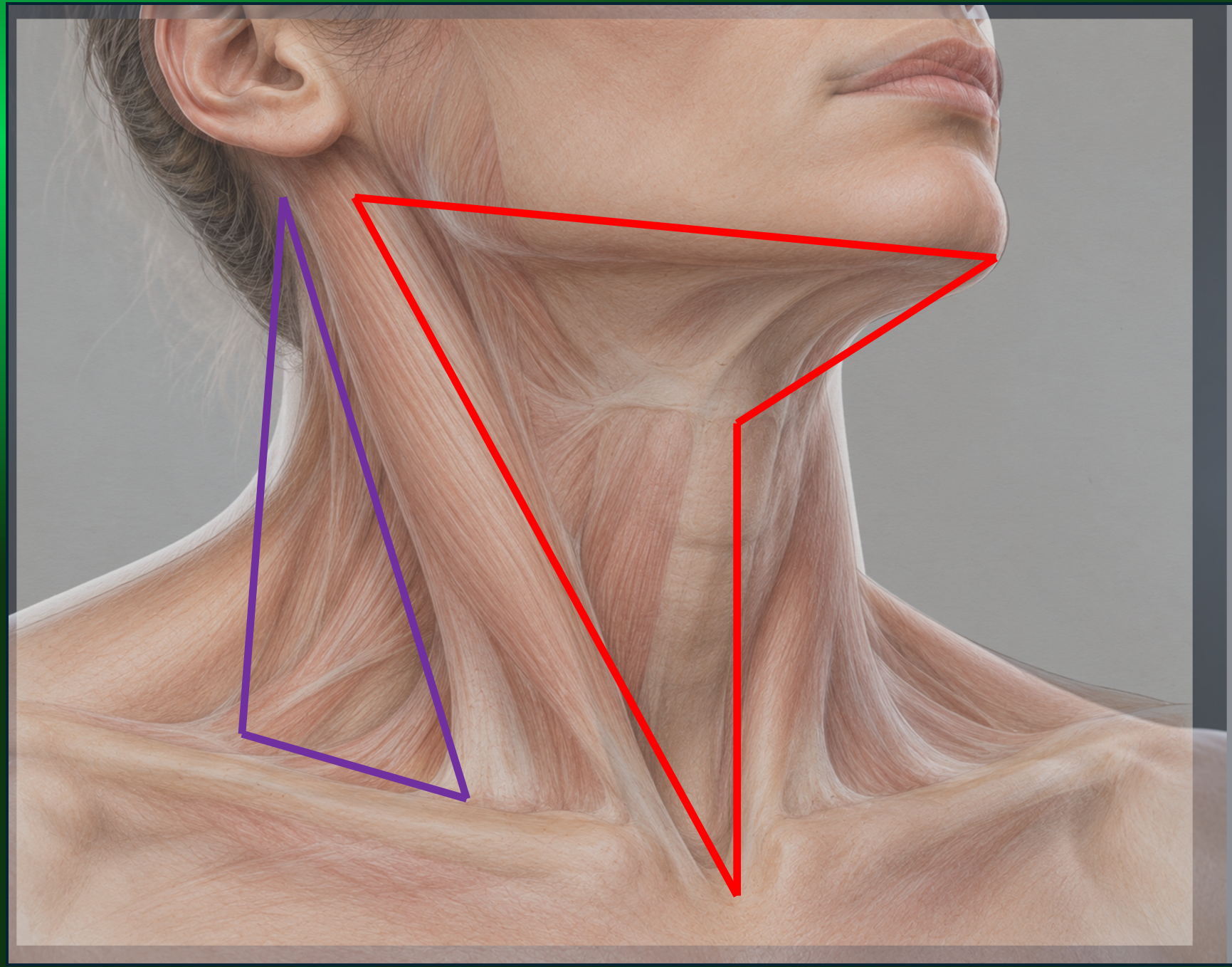

$A = \pi r^2$
$C = 2\pi r$
$V = \frac{1}{3}\pi r^2 h$
$V = \pi r^2 h$
$\int \sin x dx = -\cos x + C$
$\int \frac{dx}{\cos^2 x} = tgx + C$
$\int tgx dx = -\ln|\cos x| +$
$\int \frac{dx}{\sin x} = \ln\left|tg\frac{x}{2}\right| + C$
$\int \frac{dx}{a^2 + x^2} = \frac{1}{a} arctg$
$ax^2 + bx + c = 0$
$a(x^2 + \frac{b}{a}x + \frac{c}{a}) = 0$
$x^2 + 2\frac{b}{2a}x + (\frac{b}{2a})^2 - (\frac{b}{2a})^2$
$b^2 - 4ac$
tan (θ)
θ/rad



Triangoli del collo

Triangolo anteriore

Triangolo posteriore



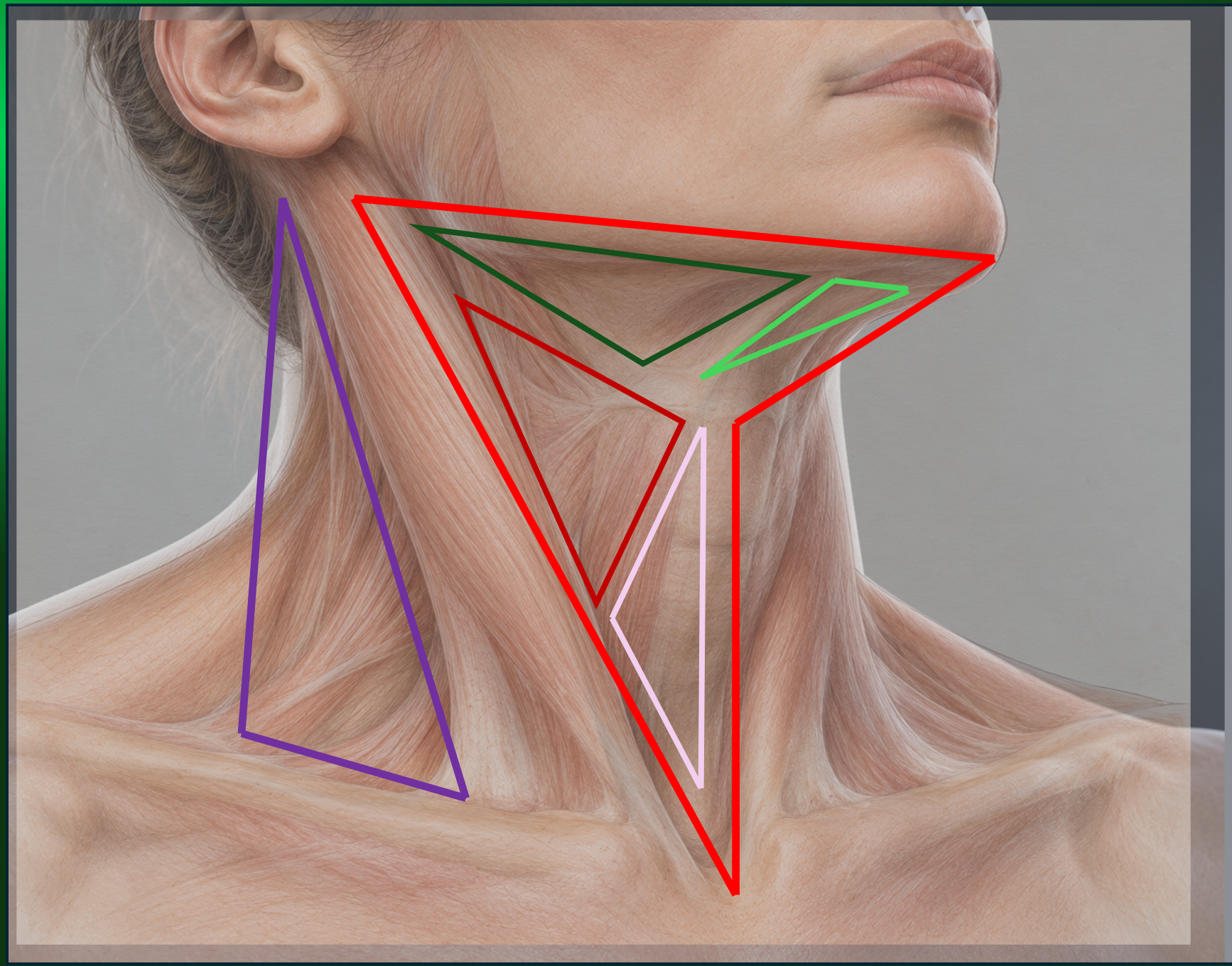
Triangoli del collo

Triangolo anteriore

- Margine anteriore **SCM**
- Margine inferiore **mandibola**
- **Linea mediana**

Triangolo posteriore

Margine posteriore muscolo **SCM**
Margine anteriore muscolo **trapezio**
Terzo medio della **clavicola**

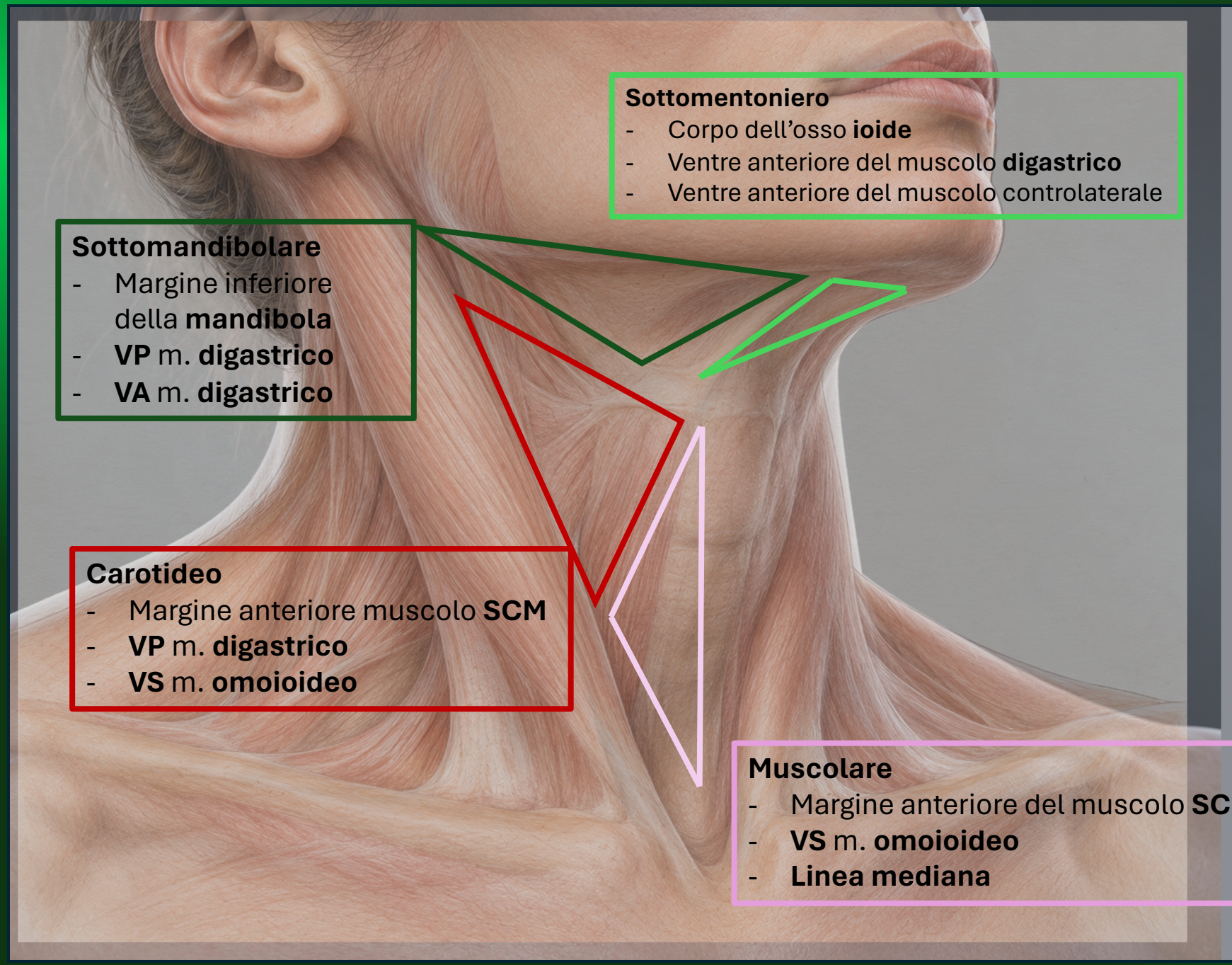


Triangoli del collo

Triangolo anteriore

- **Sottomentoniero**
- **Sottomandibolare**
- **Carotideo**
- **Muscolare**

Triangolo posteriore



Sottomentoniero
- Corpo dell'osso **ioide**
- Ventre anteriore del muscolo **digastrico**
- Ventre anteriore del muscolo controlaterale

Sottomandibolare
- Margine inferiore della **mandibola**
- **VP** m. **digastrico**
- **VA** m. **digastrico**

Carotideo
- Margine anteriore muscolo **SCM**
- **VP** m. **digastrico**
- **VS** m. **omoioideo**

Muscolare
- Margine anteriore del muscolo **SCM**
- **VS** m. **omoioideo**
- **Linea mediana**

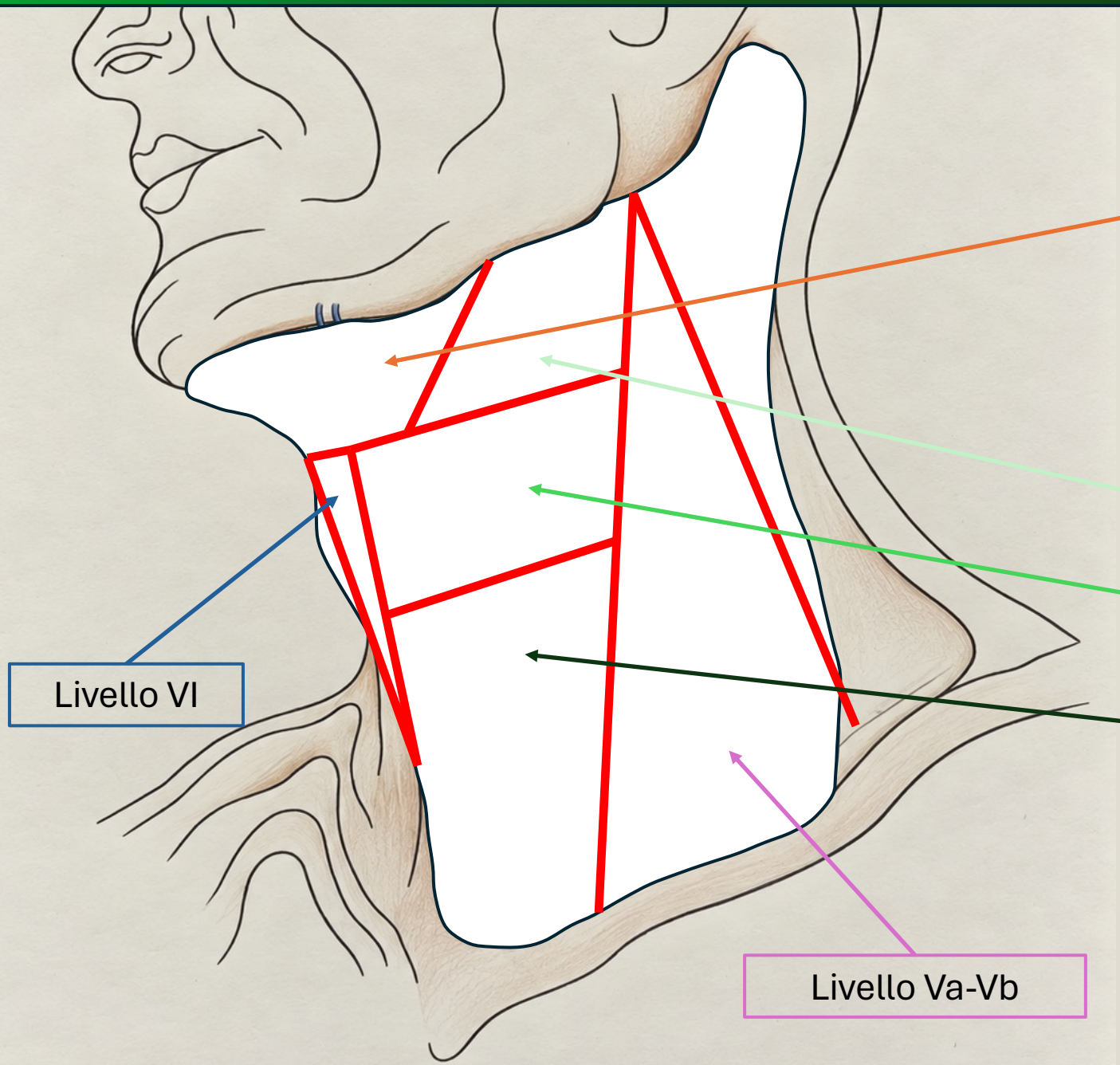
Triangoli del collo

Triangolo anteriore

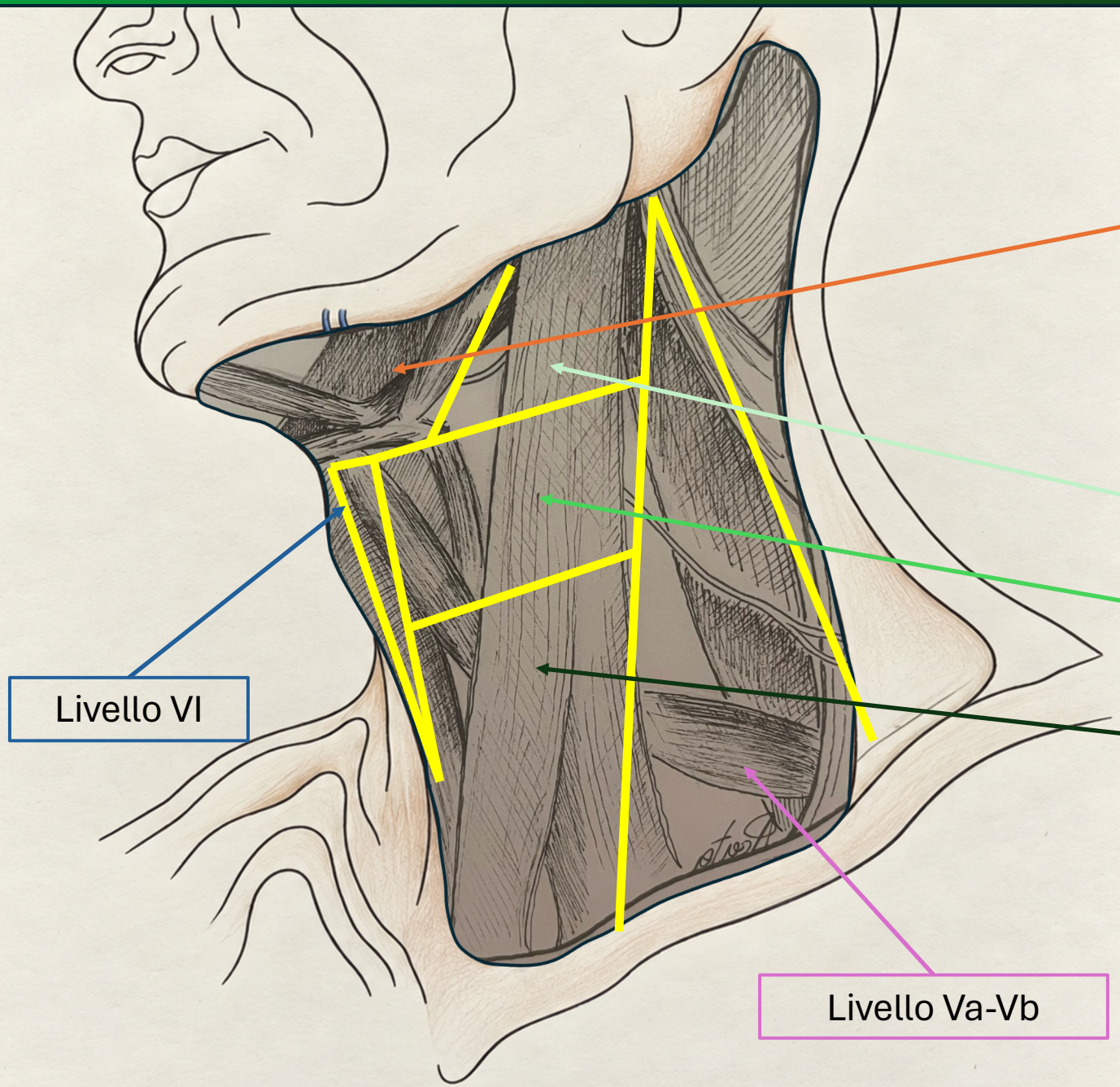
- Sottomentoniero
- Sottomandibolare
- Carotideo
- Muscolare

Triangolo posteriore

Livelli linfonodali sec. Robbins



Livelli linfonodali sec. Robbins



Livello Ia-Ib

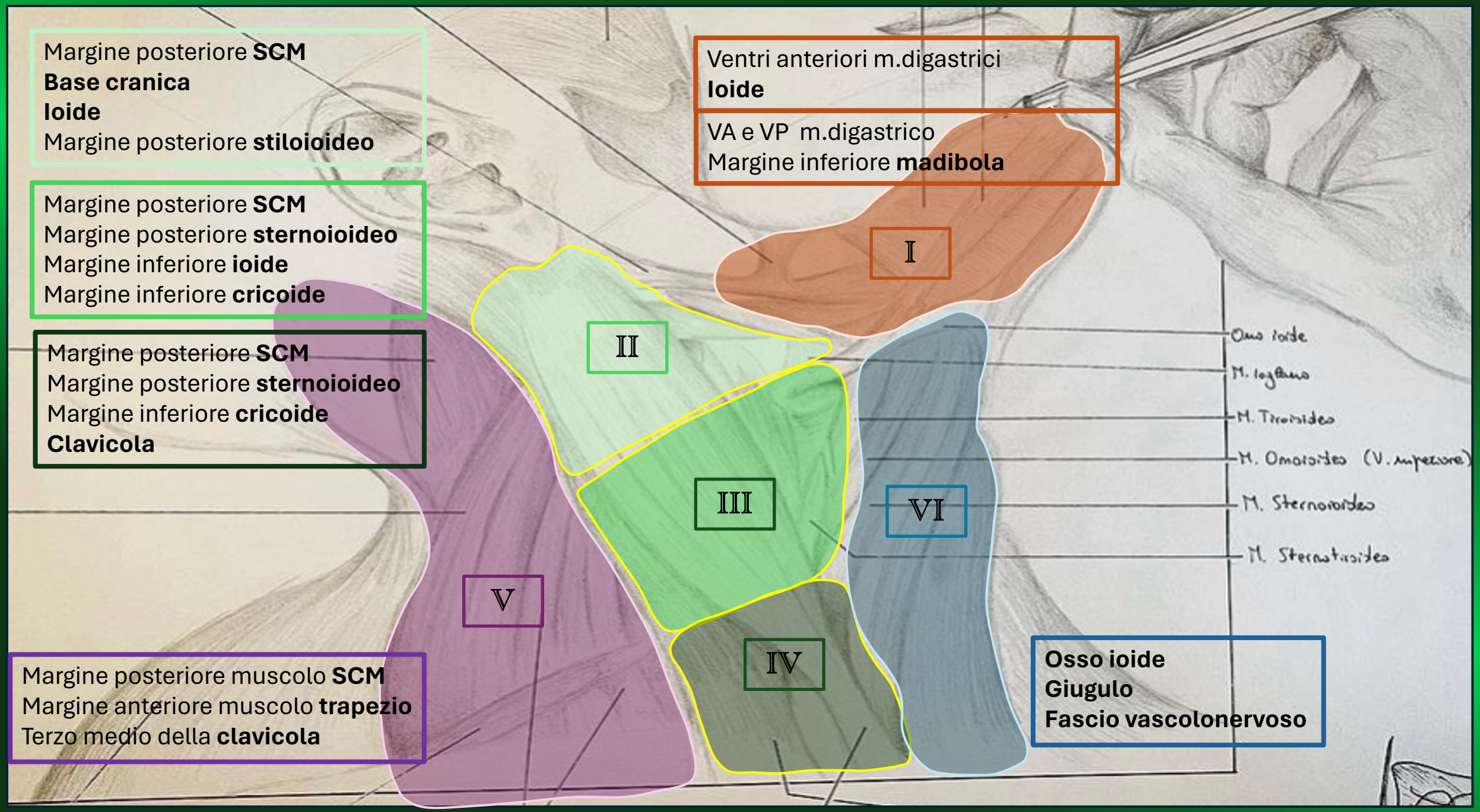
Livello IIa-IIb

Livello III

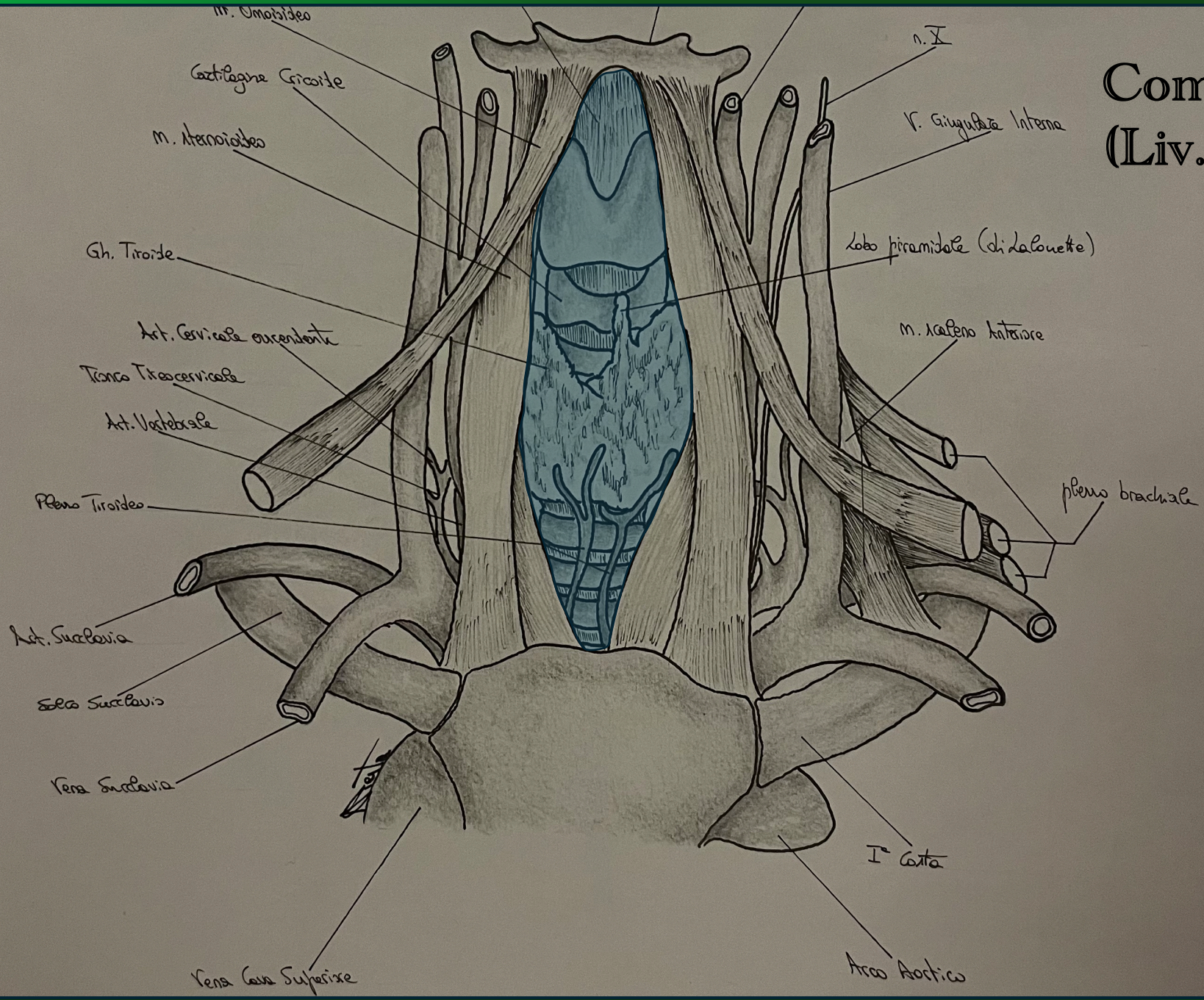
Livello IV

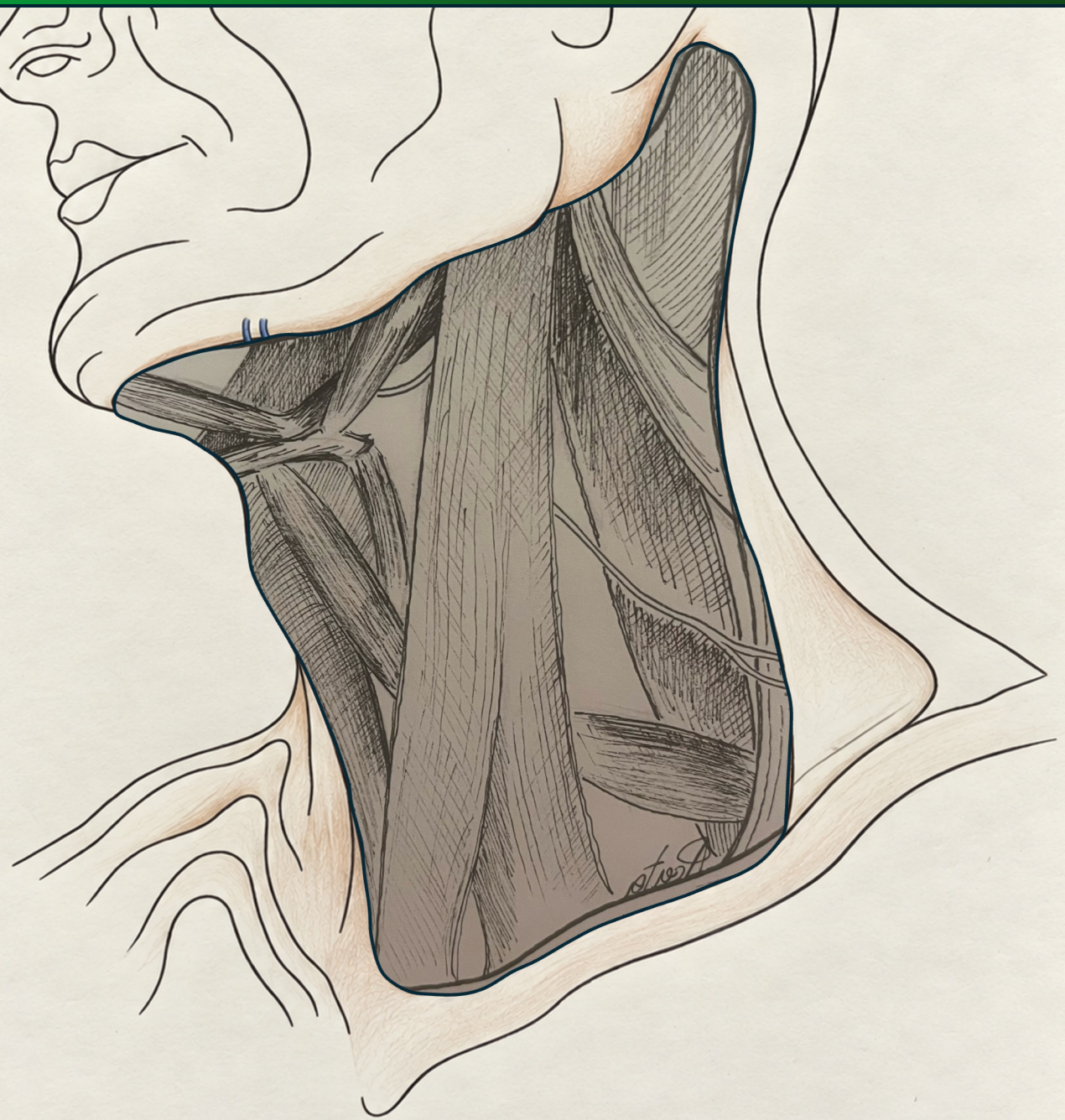
Livello VI

Livello Va-Vb

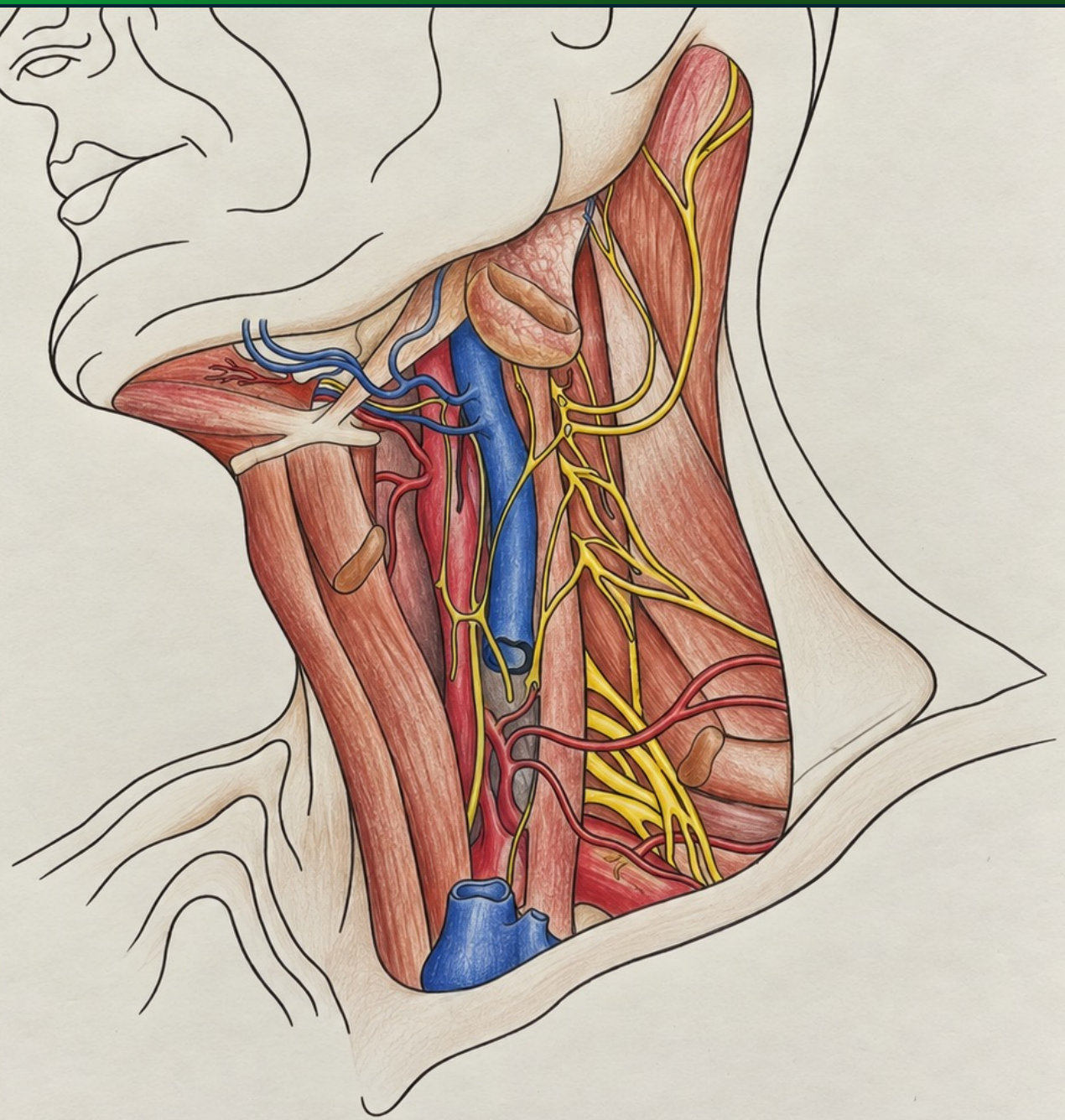

Margine posteriore **SCM**
Base cranica
Ioide
Margine posteriore **stiloioideo**
Margine posteriore **SCM**
Margine posteriore **sternoioideo**
Margine inferiore **ioide**
Margine inferiore **cricoide**
Margine posteriore **SCM**
Margine posteriore **sternoioideo**
Margine inferiore **cricoide**
Clavicola
Margine posteriore muscolo **SCM**
Margine anteriore muscolo **trapezio**
Terzo medio della **clavicola**
Ventri anteriori m.digastrici
Ioide
VA e VP m.digastrico
Margine inferiore **madibola**
Osso ioide
Giugulo
Fascio vascolonervoso
I
II
III
IV
V
VI
Osso ioide
M. Tiroideo
M. Omoioideo (V. superiore)
M. Sternoioideo

Compartimento centrale (Liv. VI sec. Robbins)





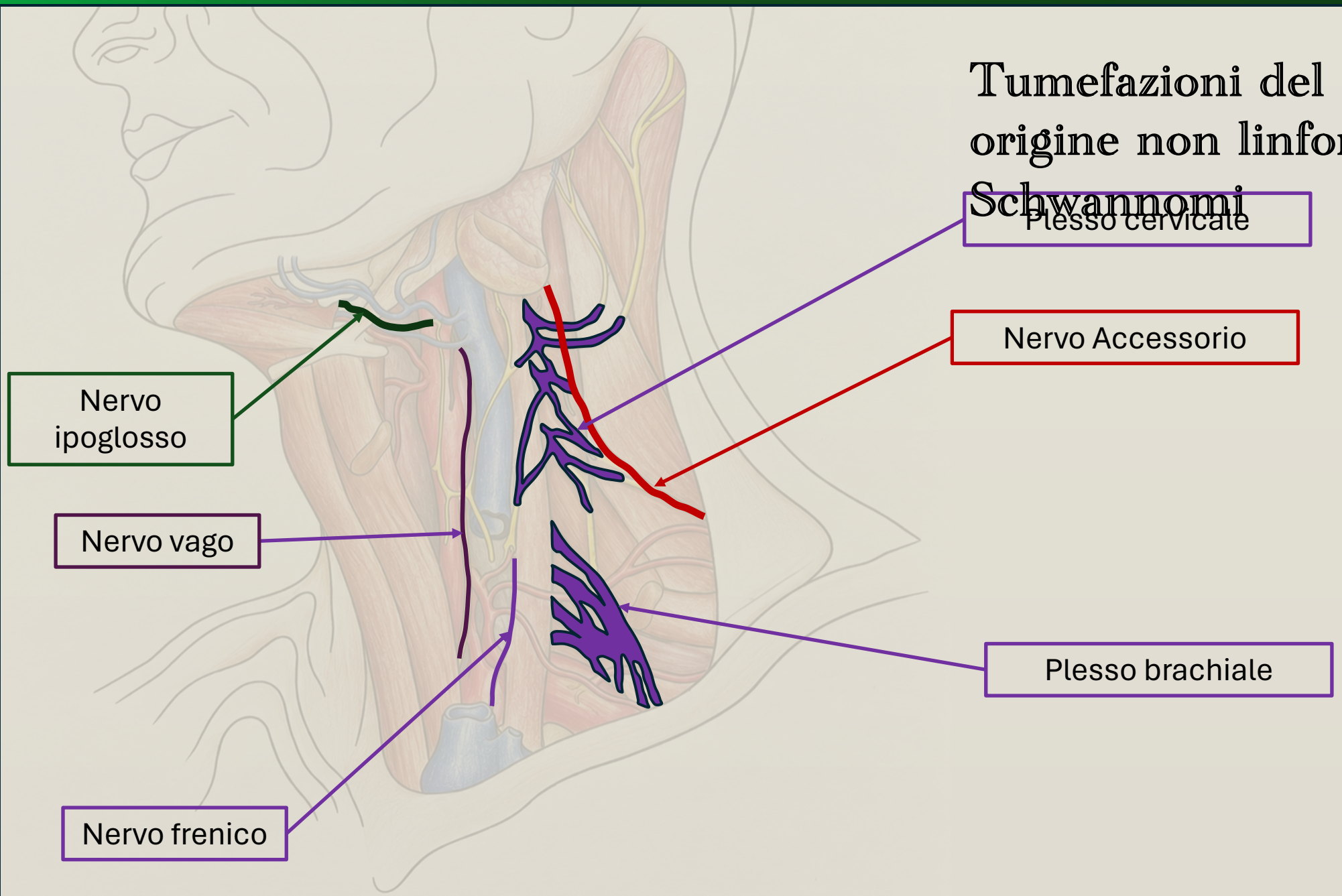
Tumefazioni del collo di origine non linfonodale

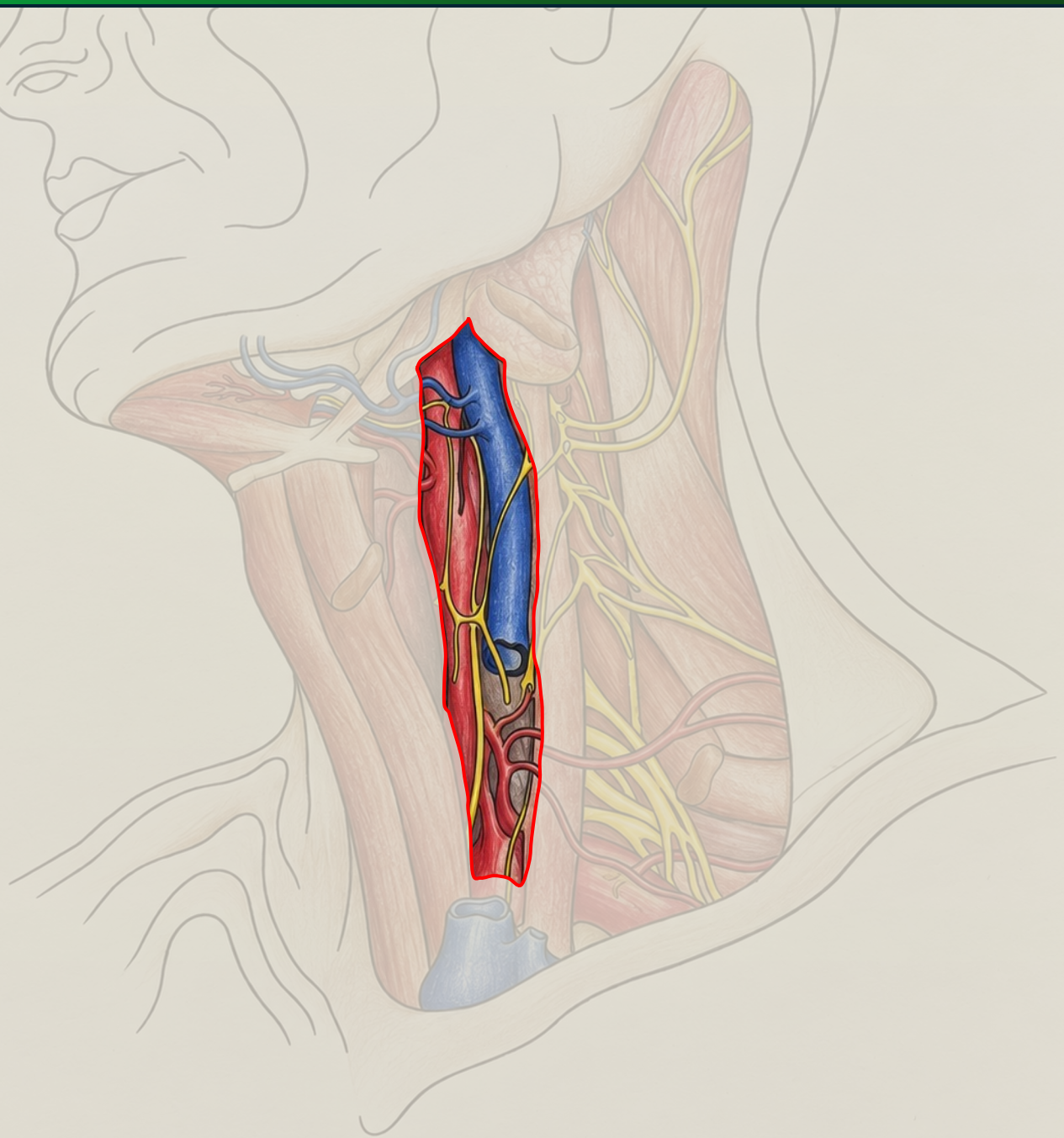


Tumefazioni del collo di origine non linfonodale - Schwannomi

- Plesso cervicale
- Plesso brachiale
- Nervo frenico
- Nervo vago
- Nervo ipoglosso
- Nervo Accessorio

Tumefazioni del collo di origine non linfonodale - Schwannomi





Tumefazioni del collo di origine non linfonodale - Paragangliomi



Fascio vascolo-nervoso del collo

- Vena giugulare interna
- Arteria carotide
- Nervo vago

Sedi di insorgenza più frequenti

- Glomo carotideo
- Paraganglioma vagale
- Paraganglioma della catena del simpatico

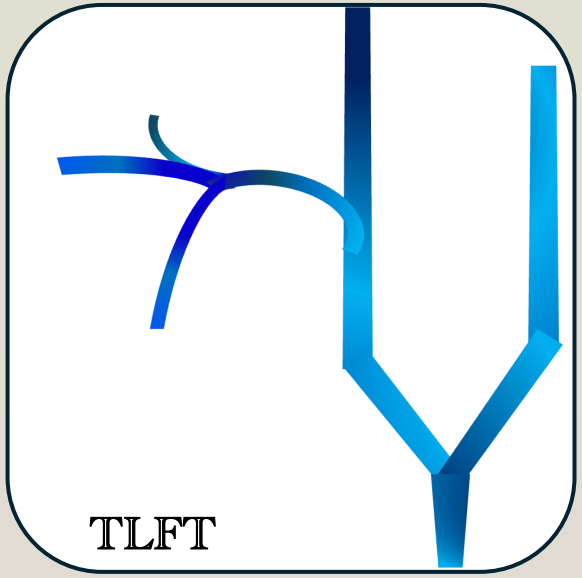
Varianti anatomiche vascolari cervicali

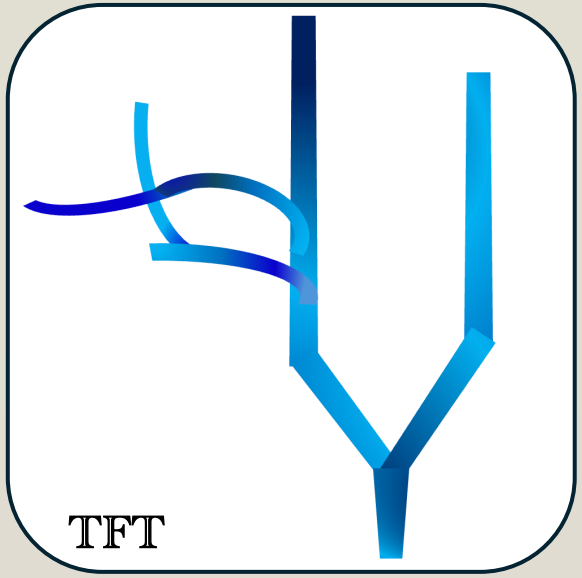
Vena Giugulare Interna

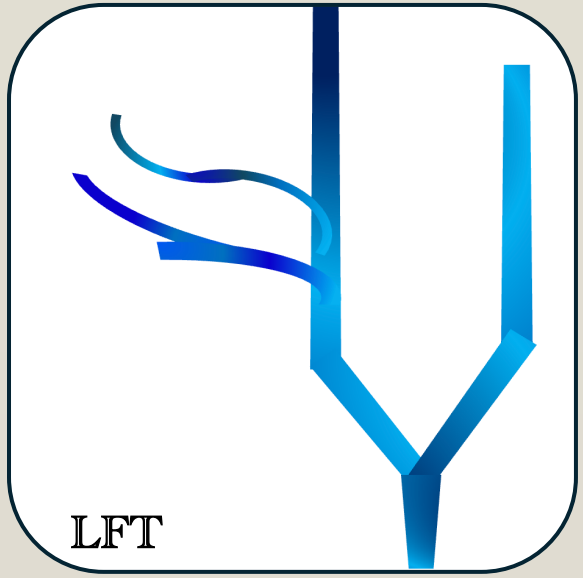
- Tronco tireo-linguo-facciale: 53.3%
- Tronco tireo-linguale: 20%
- Tronco tireo-facciale: < 5 %
- Tronco linguo-facciale: 23.3%

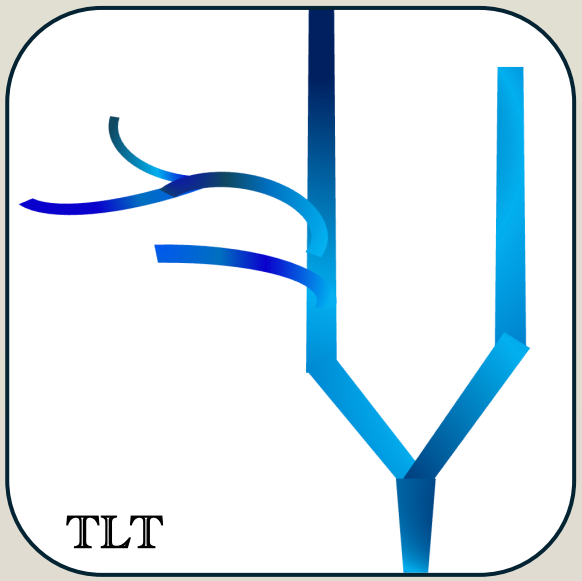
Cervical anatomical variants: Embryological basis and surgical relevance in neck dissection – a narrative review

Cristiana Moro [a,b], Edoardo Verda [a,b], Andrea Nicola Presta [a,b], Filippo Marchi [a,b], Marta Filauro [a], Giampiero Parrinello [a,b], Simone Caprioli [c,d], Frank Rikki Canevari [a,b], Francesco Mora [a,b], Luca Guastini [a,b], Giorgio Peretti [a,b], Andrea Iandelli [a,*]









Varianti anatomiche vascolari cervicali

Rapporto tra XI n.c. e IJV

- Anteriore: 56– 90 %
- Posteriore: 10 – 44 %
- Attraverso fenestrazione: raro



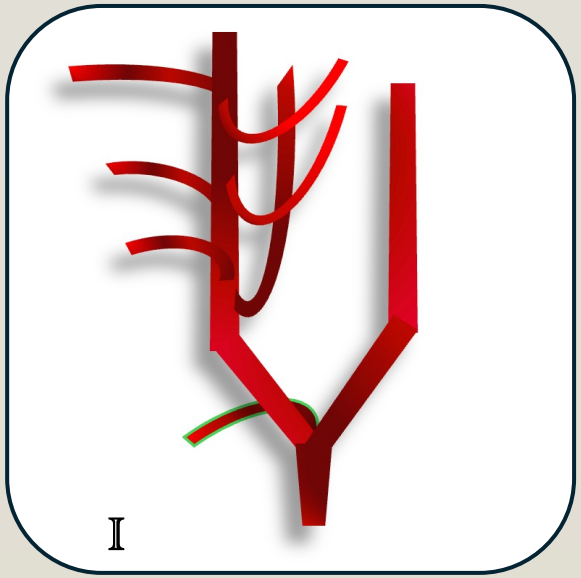


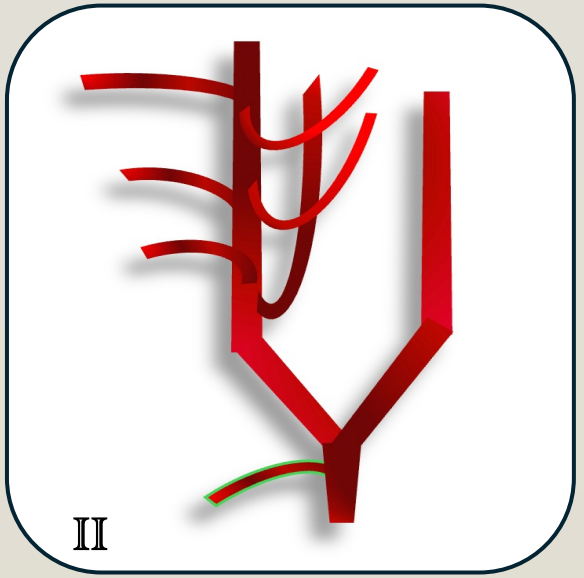


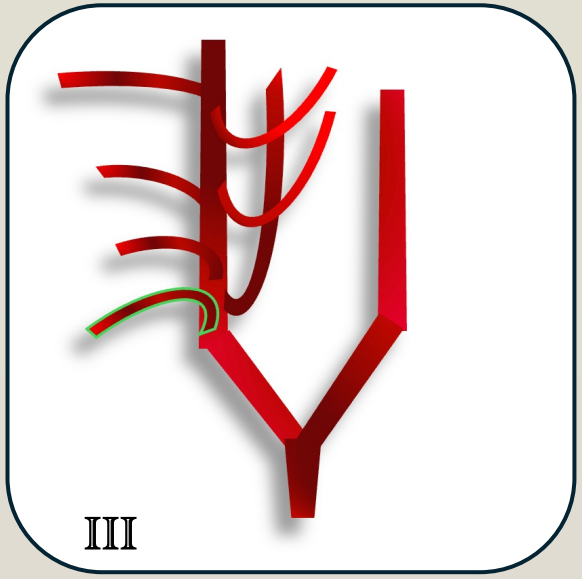
Varianti anatomiche vascolari cervicali

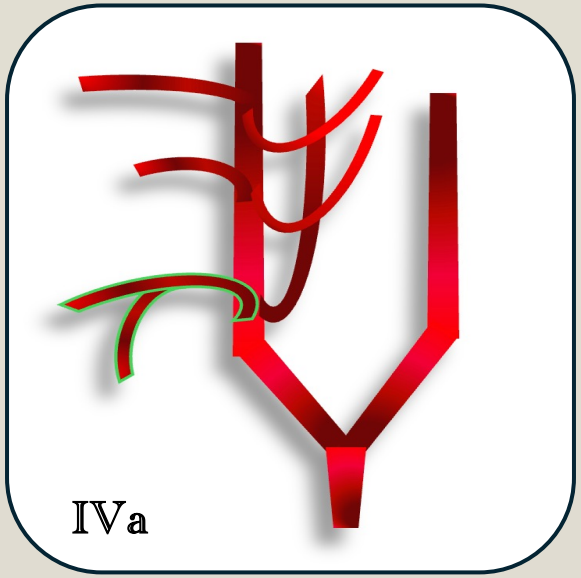
Origine dell'arteria tiroidea superiore

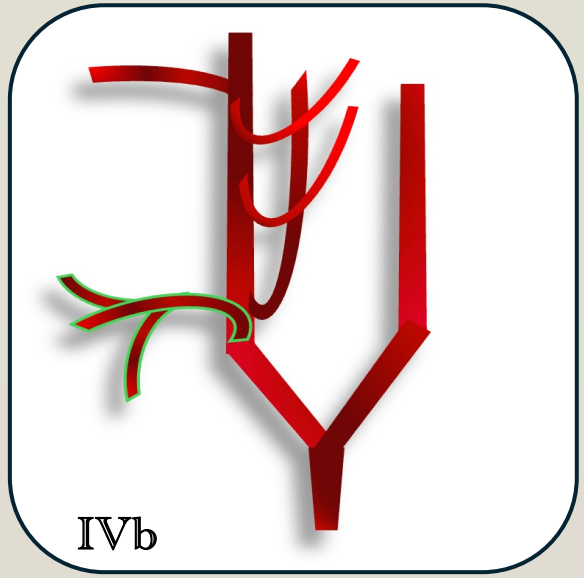
- Tipo I: biforcazione carotidea (44 – 49%)
- Tipo II: carotide comune (10 – 40%)
- Tipo III: arteria carotide esterna (tipologia più comune)
- Tipo IVa: tronco tiro-linguale (0.6 – 10.5%)
- Tipo IVb: tronco tireo-linguo-facciale (< 1%)







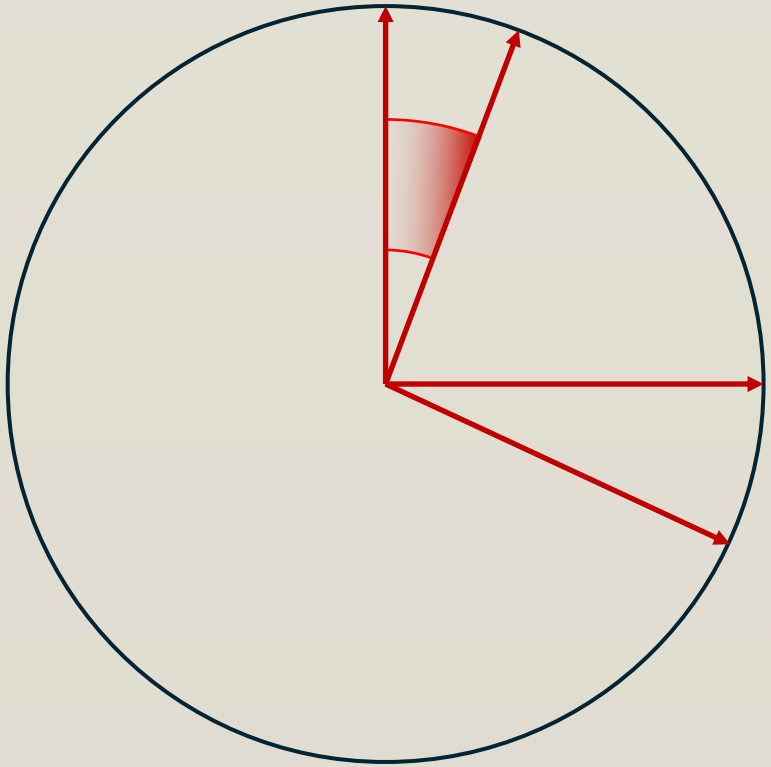




Varianti anatomiche vascolari cervicali

Arteria carotide, tratto extra-cranico (dolicoarteropatie) sec. Weibel & Fields

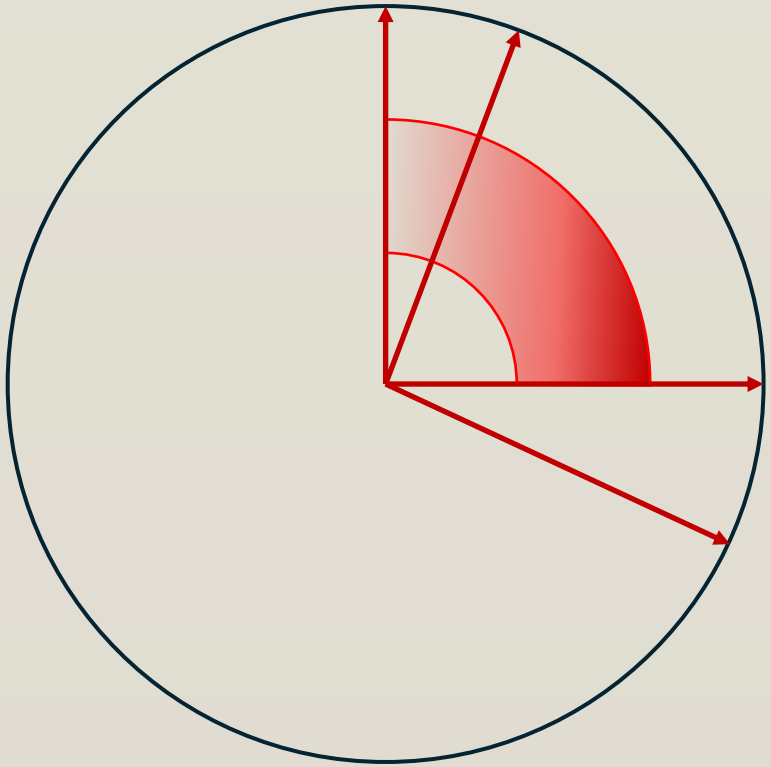
- **Decorso rettilineo: < 15°**
- Decorso tortuoso: 15° – 90°
- Kinking: 90° – 125°
- Coiling: 125° – 360°



Varianti anatomiche vascolari cervicali

Arteria carotide, tratto extra-cranico (dolicoarteropatie) sec. Weibel & Fields

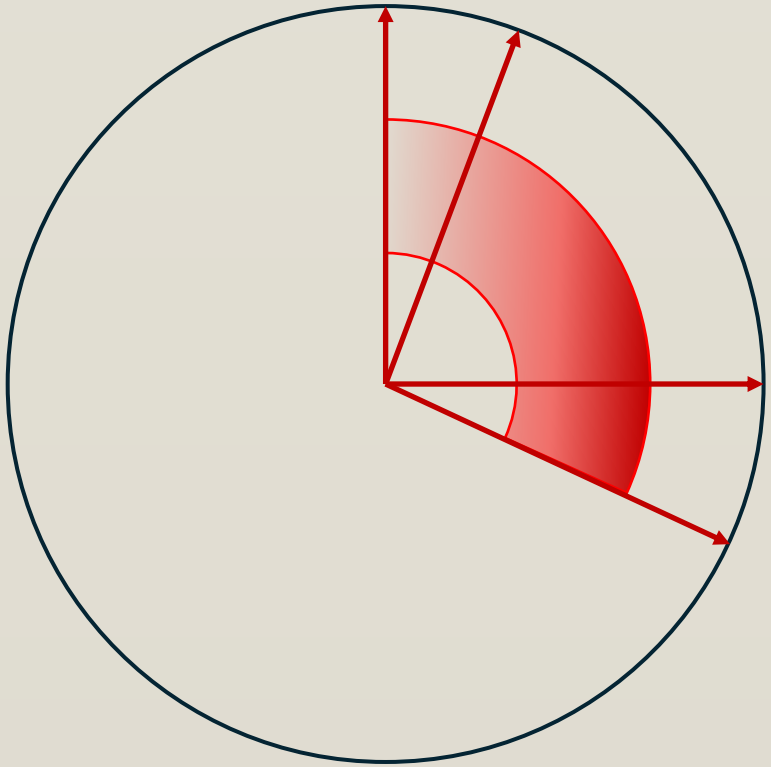
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Varianti anatomiche vascolari cervicali

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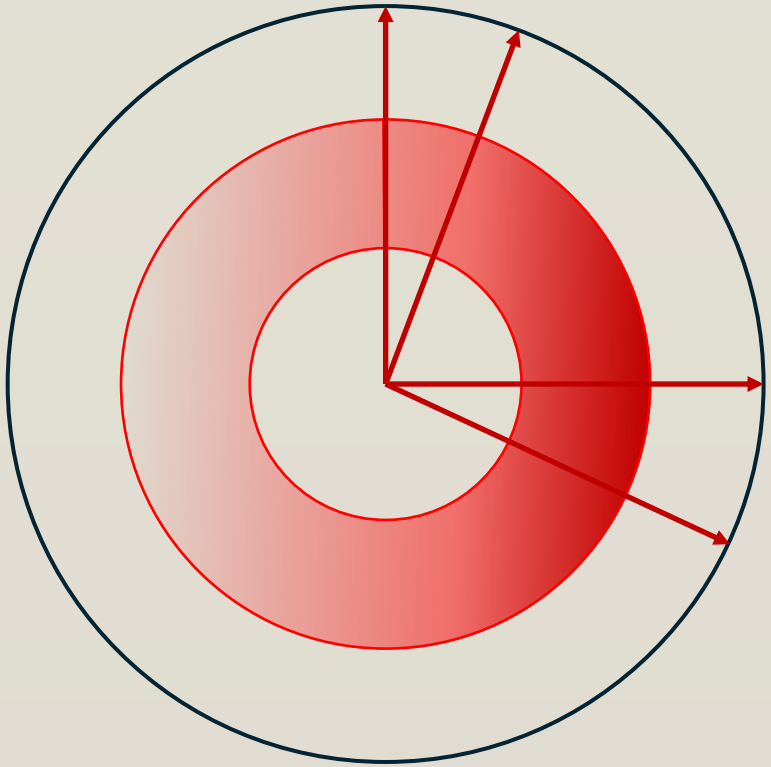
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Varianti anatomiche vascolari cervicali

Arteria carotide, tratto extra-cranico (dolicoarteropatie) sec. Weibel & Fields

- Decorso rettilineo: < 15°
- Decorso tortuoso: 15° – 90°
- Kinking: 90° – 125°
- **Coiling: 125° – 360°**



Fasce cervicali





Fascia superficiale

Fascia Profonda
- Strato superficiale
- Strato intermedio
- Strato profondo
- Guaina carotidea

Fascia Profonda



Strato superficiale

Inserzioni

- ⬅️ Processo spinoso vertebre cervicali, leg. nucale
- ➡️ Mento, ioide, sterno
- ⬆️ Protuberanza occipitale, mastoide, zigomo, ramo mandibolare
- ⬇️ Sterno

Fascia Profonda



Strato intermedio

Inserzioni

- Parte **muscolare**: fascia infraioidea
⬆️ Ioide, cartilagine tiroidea ⬇️ Sterno

- Parte **viscerale**: fascia buccofaringea
⬆️ Base cranica ⬇️ Fusione con fascia alare a livello del mediastino superiore

- Fascia **pretracheale**
⬆️ Laringe ⬇️ Pericardio

Fascia Profonda



Guaina carotidea

Inserzioni

- ⬆️ Base cranica
- ⬇️ Tessuto connettivo che circonda l’aorta

Fascia Profonda



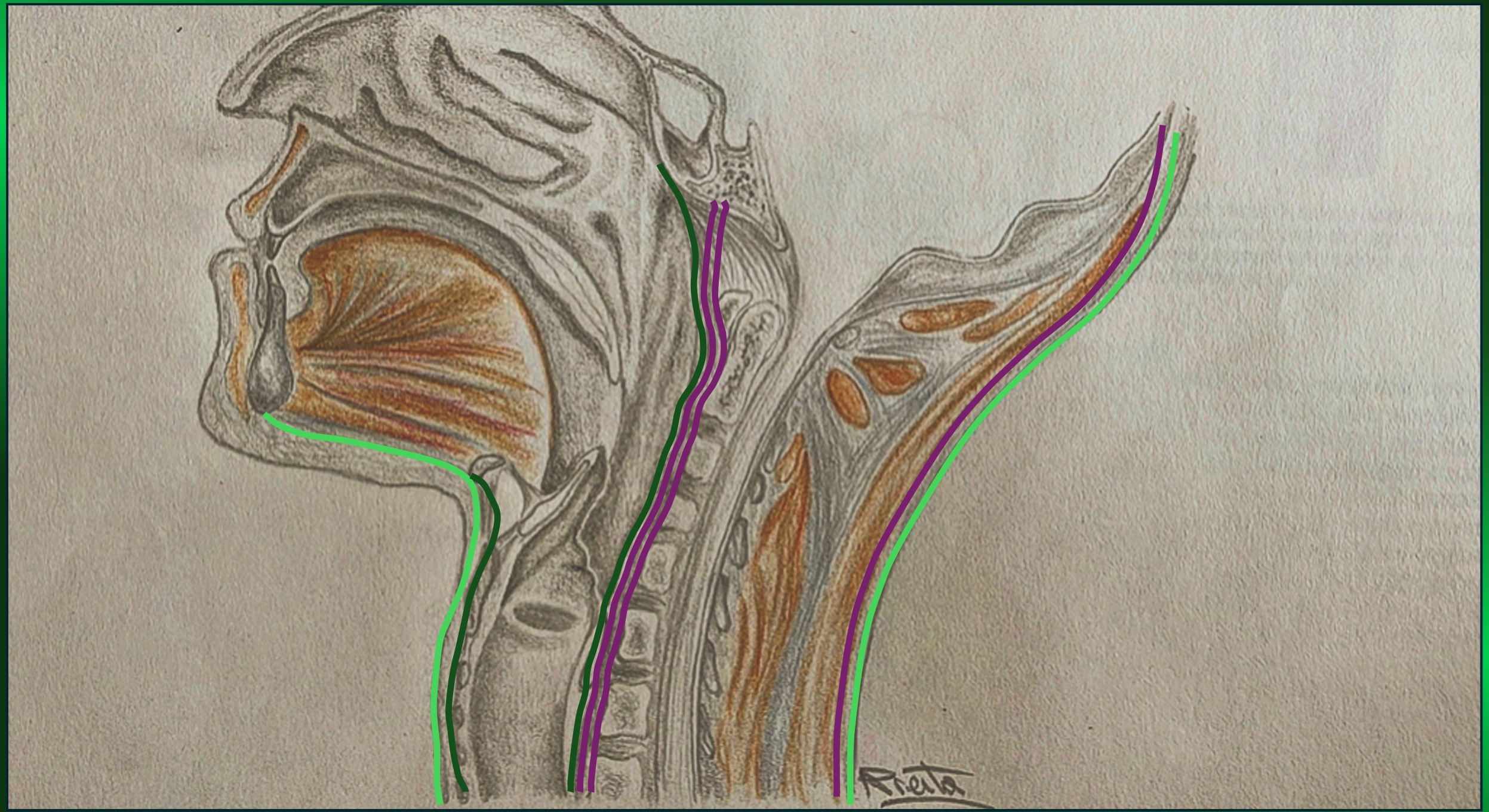
Strato profondo

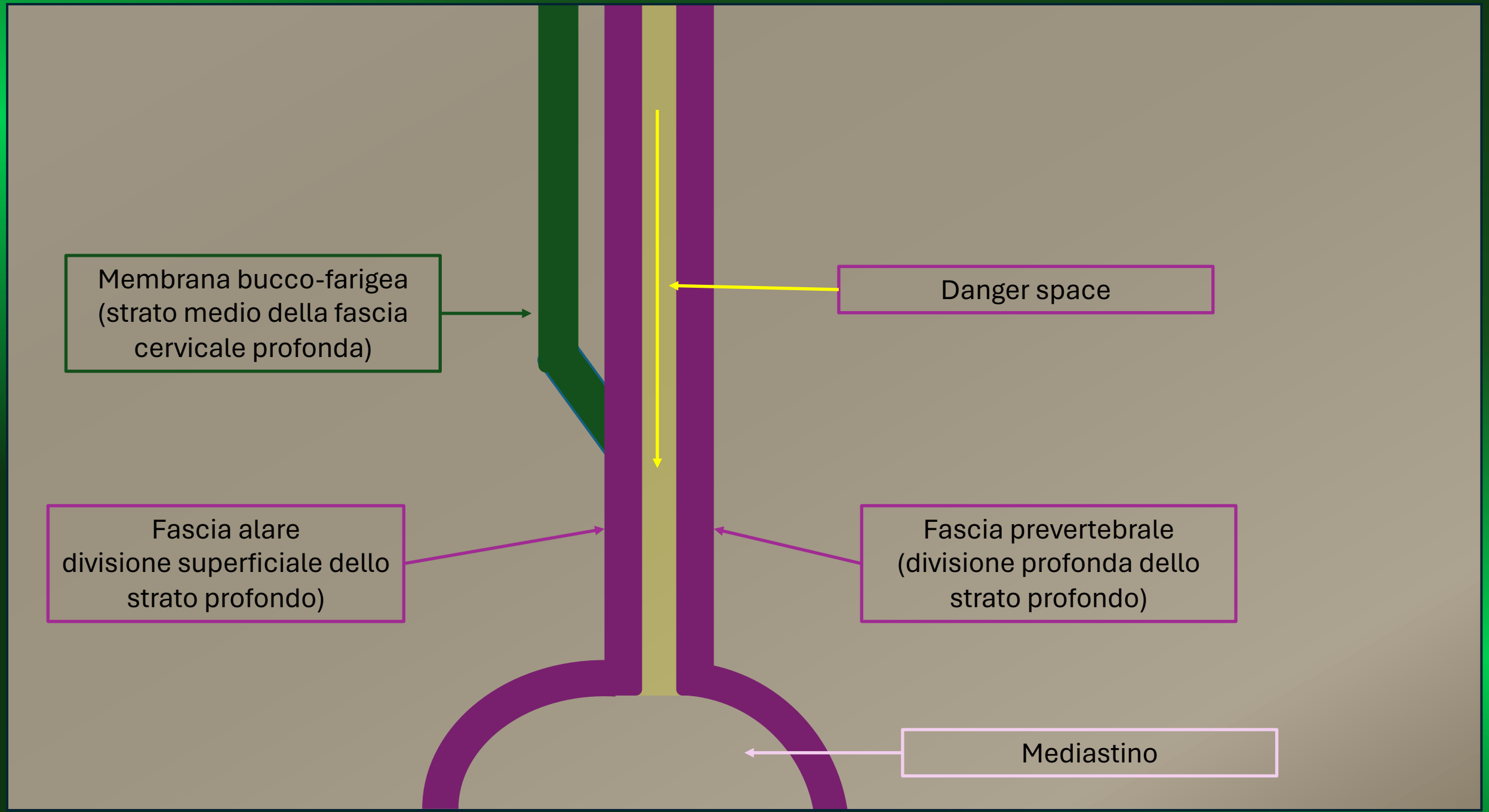
- Strato **prevertebrale**

⬆️ Base cranica ⬇️ Coccige

- Fascia **alare**

⬆️ Base cranica ⬇️ Fusione con membrana buccofaringea a livello di T2


Rieta


Membrana bucco-farigea (strato medio della fascia cervicale profonda)
Danger space
Fascia alare divisione superficiale dello strato profondo)
Fascia prevertebrale (divisione profonda dello strato profondo)
Mediastino



Membrana bucco-farigea (strato medio della fascia cervicale profonda)

ger space

Fascia alare divisione superficiale dello strato profondo)

prevertebrale
e profonda dello
to profondo)

Mediastino

Conclusioni

- La **localizzazione** anatomica precede l'ipotesi diagnostica
- La **sede** della tumefazione orienta la **diagnosi differenziale**
- Non sottovalutare le **varianti anatomiche**
- Non tutte le tumefazioni cervicali sono di origine linfonodale
- Fasce e spazi cervicali determinano i rapporti e le possibili **vie di propagazione**

