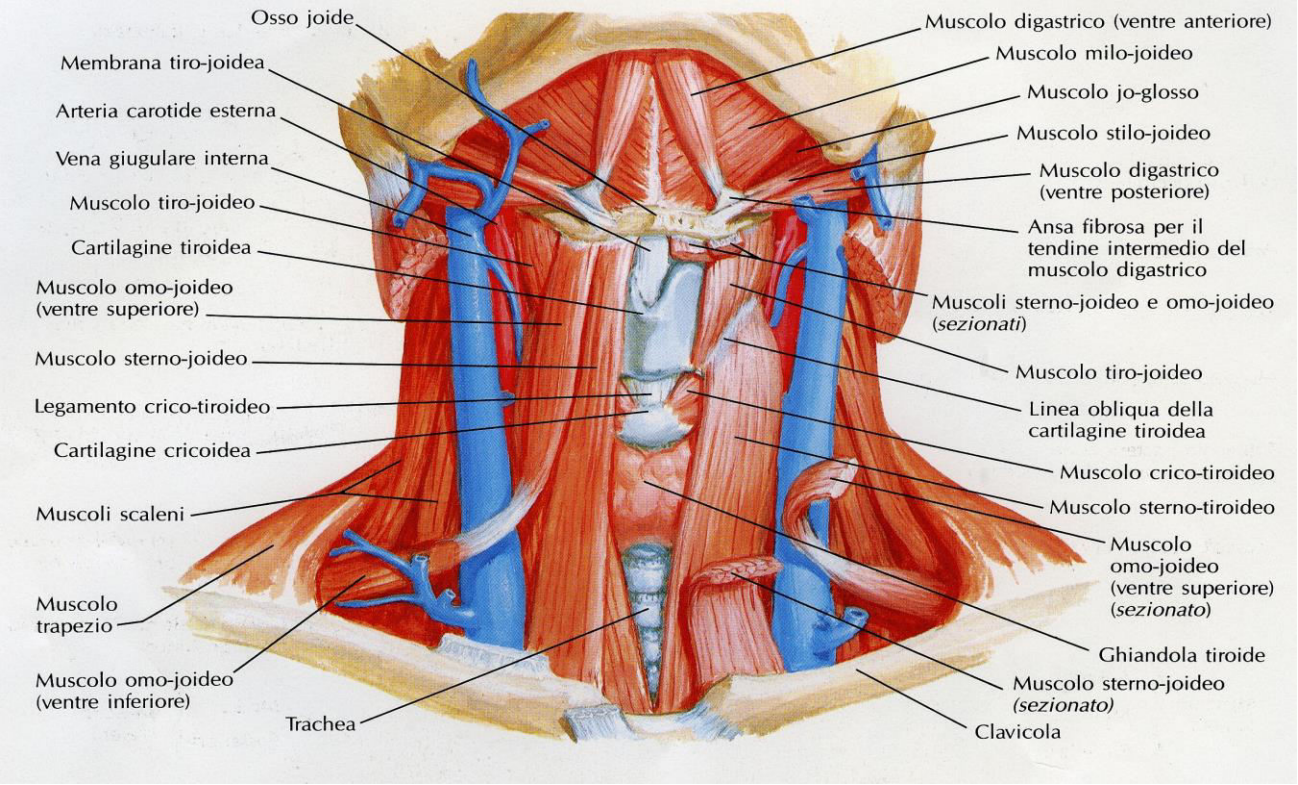
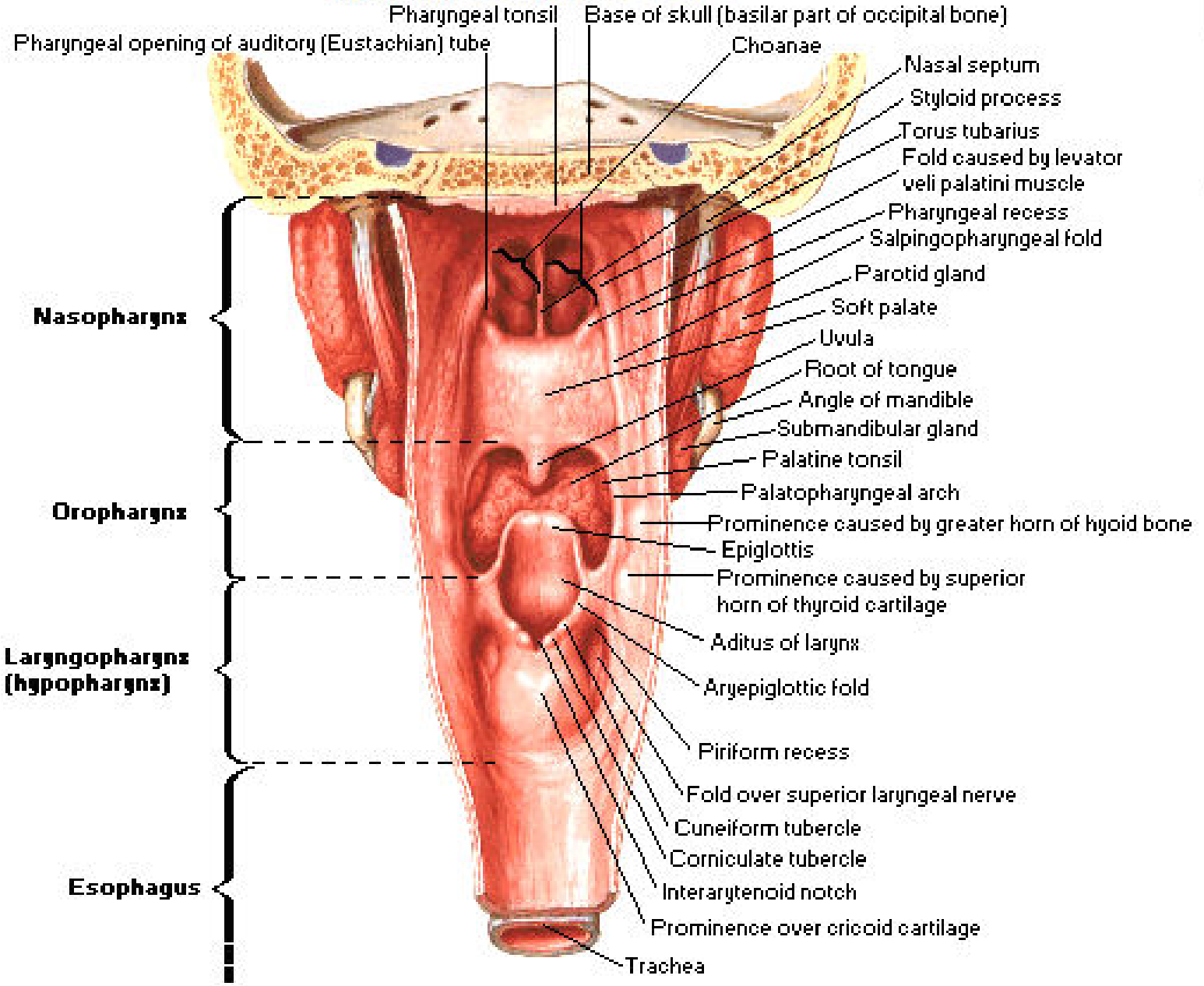
La laringe

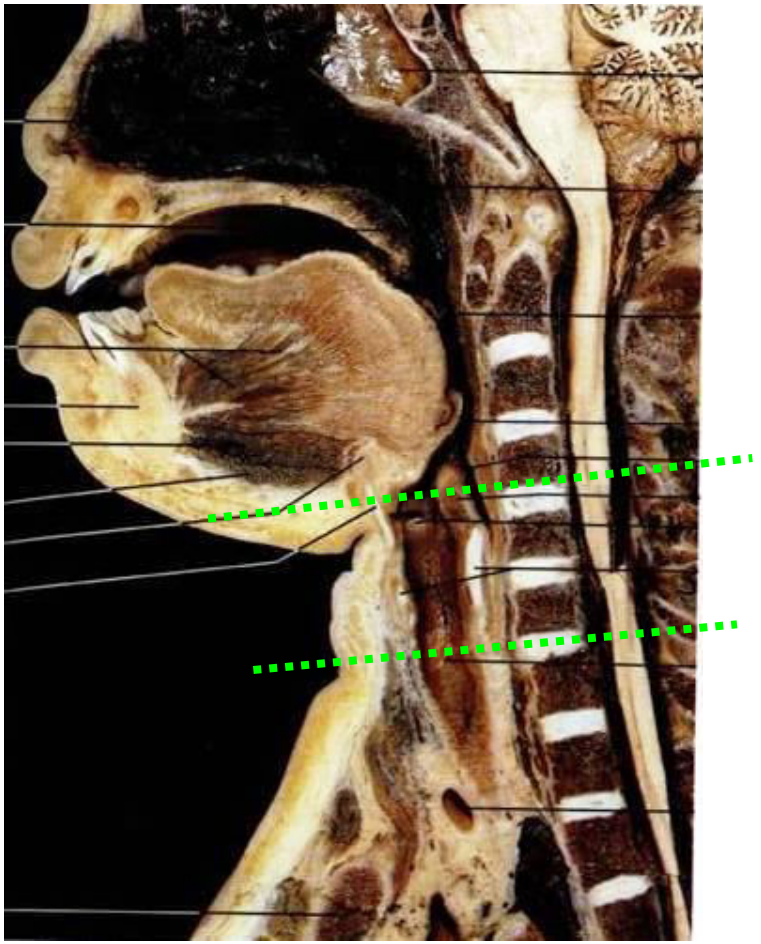

Osso joide
Membrana tiro-joidea
Arteria carotide esterna
Vena giugulare interna
Muscolo tiro-joideo
Cartilagine tiroidea
Muscolo omo-joideo (ventre superiore)
Muscolo sterno-joideo
Legamento crico-tiroideo
Cartilagine cricoidea
Muscoli scaleni
Muscolo trapezio
Muscolo omo-joideo (ventre inferiore)
Trachea
Muscolo digastrico (ventre anteriore)
Muscolo milo-joideo
Muscolo jo-glosso
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

Opened Posterior View



Ha forma di piramide triangolare con base posterosuperiore corrispondente alla faringe e all'osso ioide e con apice inferiore corrispondente all'orifizio superiore della trachea.

In alto il margine superiore della cartilagine tiroidea corrisponde a C4, in basso il margine inferiore della cartilagine cricoidea corrisponde a C6.



- È costituita dall'insieme di **11 cartilagini**:

3 cartilagini impari e mediane:

- C. tiroidea
- C. cricoidea
- Epiglottide

4 cartilagini pari:

- Aritenoidi
- C. corniculate del Santorini
- C. cuneiformi di Wrisberg
- C. sesamoidi posteriori

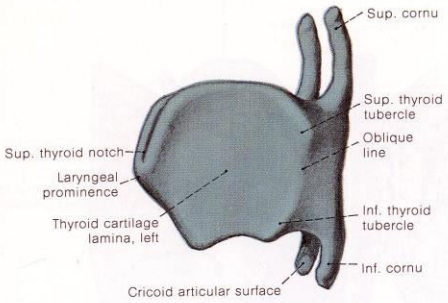


Fig. 319. Thyroid cartilage, seen from left side.

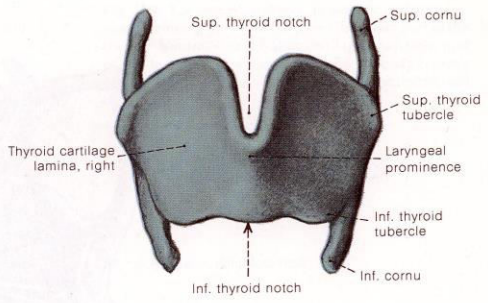


Fig. 320. Thyroid cartilage, seen from ventral.

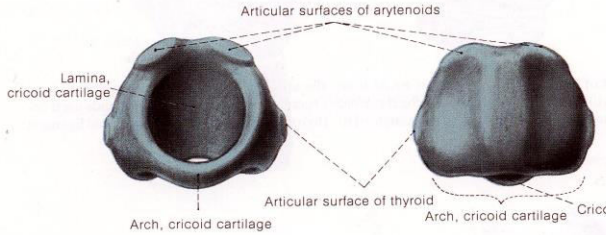


Fig. 321. Cricoid cartilage, seen from cranial and ventral.

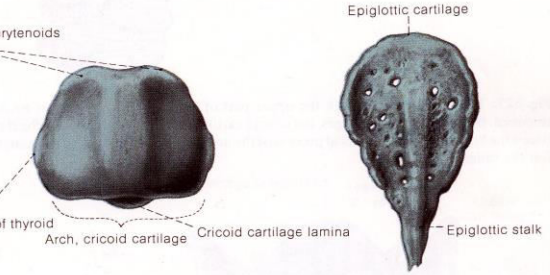


Fig. 322. Cricoid cartilage, seen from dorsal.

Fig. 323. Epiglottic cartilage, seen from dorsal.

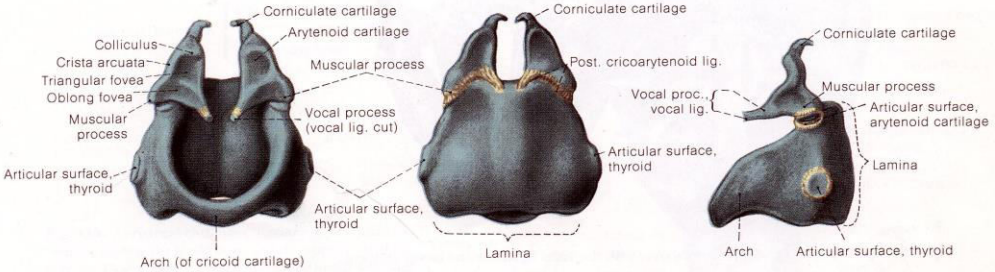


Fig. 324. **Fig. 325.** **Fig. 326.**

Figs. 324–326. Articulated cricoid, arytenoid and corniculate cartilages. Fig. 324 from above, Fig. 325 from dorsal, Fig. 326 from left side.

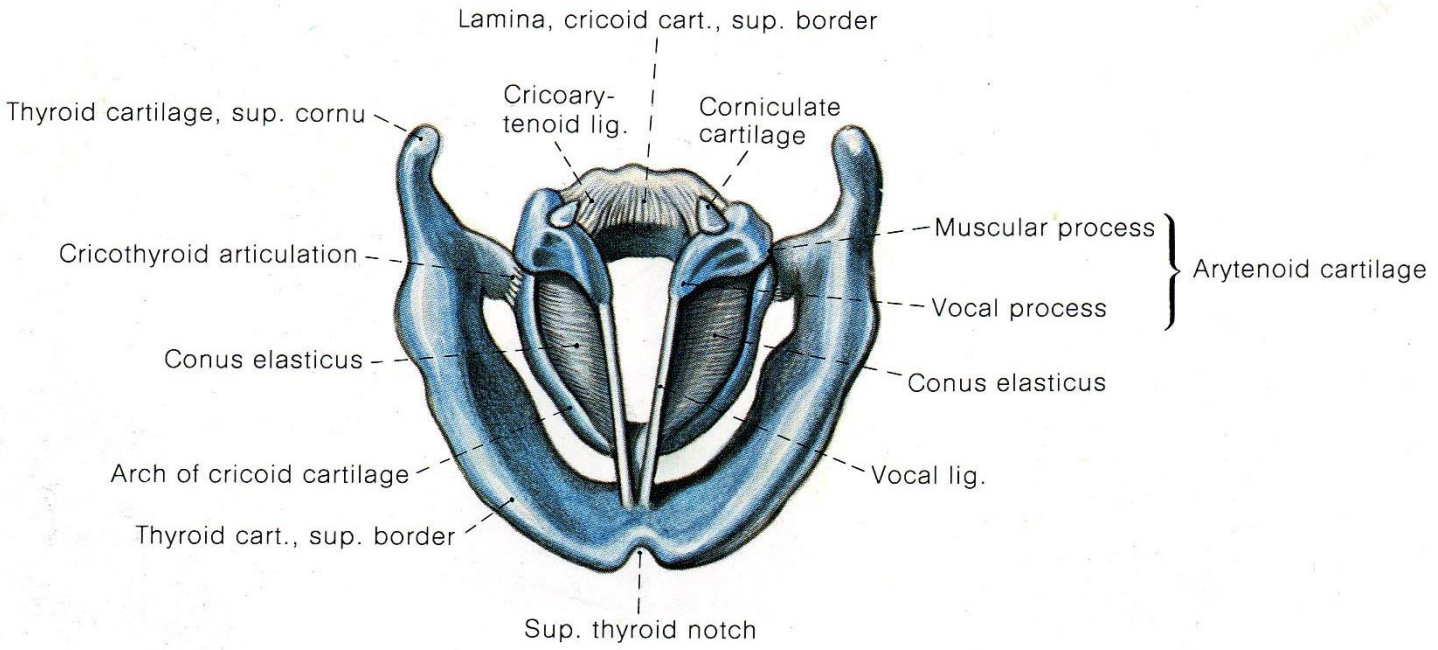
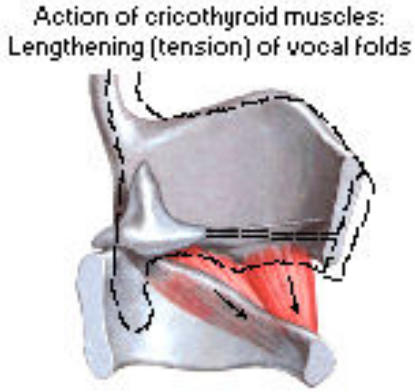
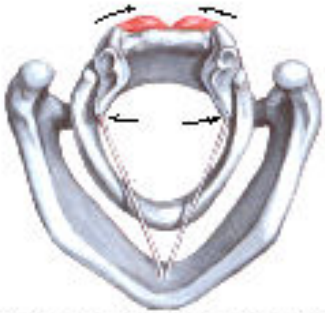


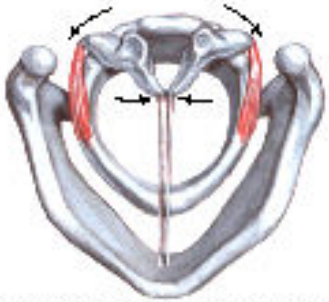
Fig. 328. The laryngeal cartilages from above, with the vocal ligament and conus elasticus.

Muscolatura intrinseca

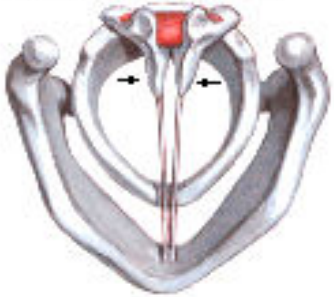




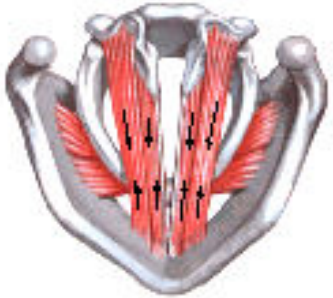
Action of posterior cricoarytenoid muscles:
Abduction of vocal folds



Action of lateral cricoarytenoid muscles:
Adduction of vocal folds

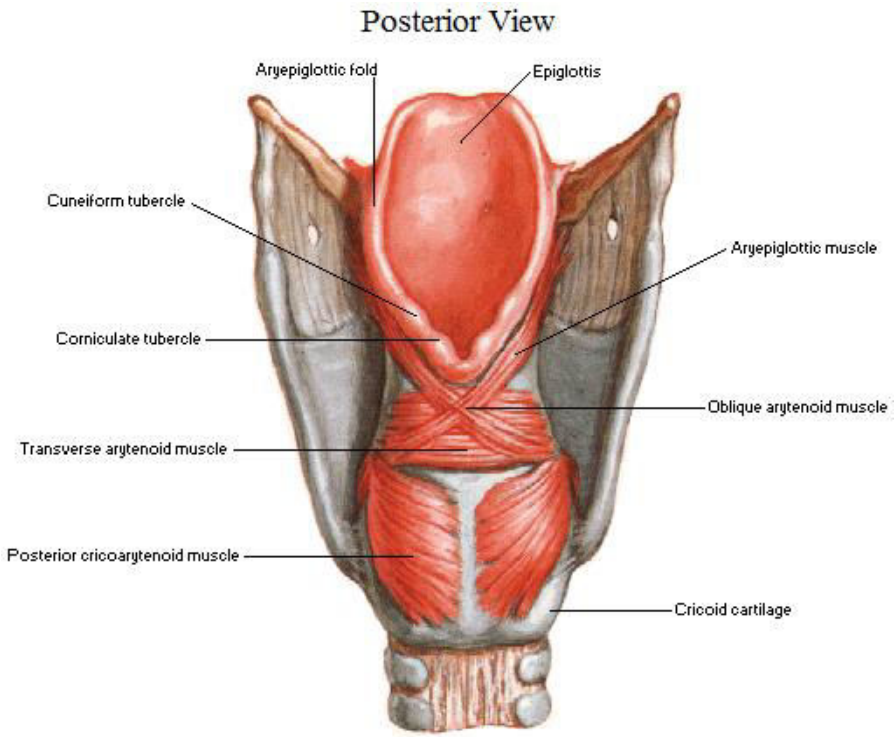


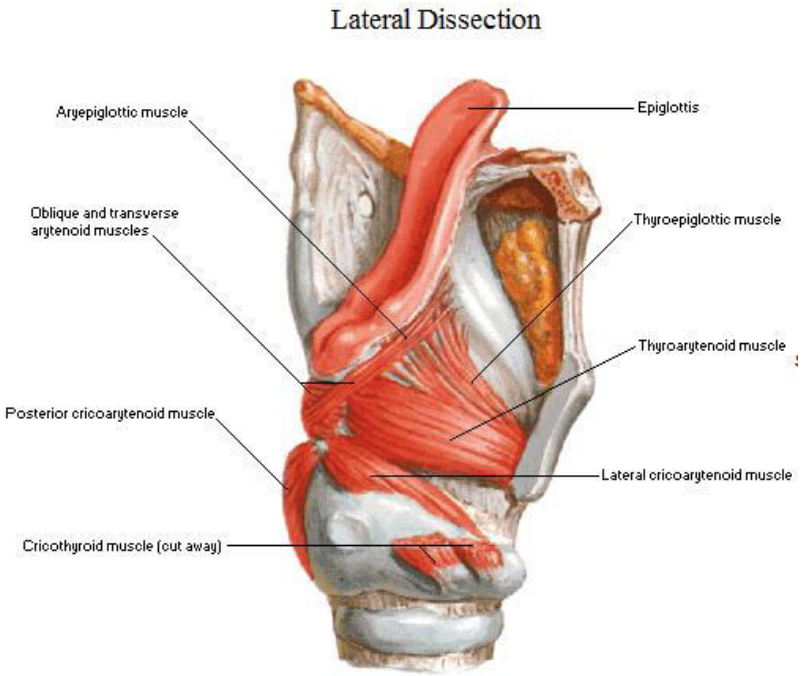
Action of arytenoid muscle:
Adduction of vocal folds



Action of vocalis and thyroarytenoid muscles
Shortening (relaxation) of vocal folds

M. cricotiroideo
TENSORE
M. cricoaritenoideo posteriore
ABDUTTORE
M. aritenoideo trasverso
ADDUTTORE
M. tiroaritenoideo laterale
ADDUTTORE
M. vocale o tiroaritenoideo mediale
TENSORE
M. tiroaritenoideo superiore
ADDUTTORE





M. ari-epiglottico
ADDUTTORE
M. aritenoideo obliquo
ADDUTTORE
M. cricoaritenoideo laterale
ADDUTTORE
M. cricoepiglottico
CHIUSURA GLOTTIDE

VASCOLARIZZAZIONE DELLA LARINGE

1)ARTERIE:

A. Laringea superiore:

mucosa e muscoli piano superiore della laringe

A. Laringea media:

mucosa e piano inferiore della laringe

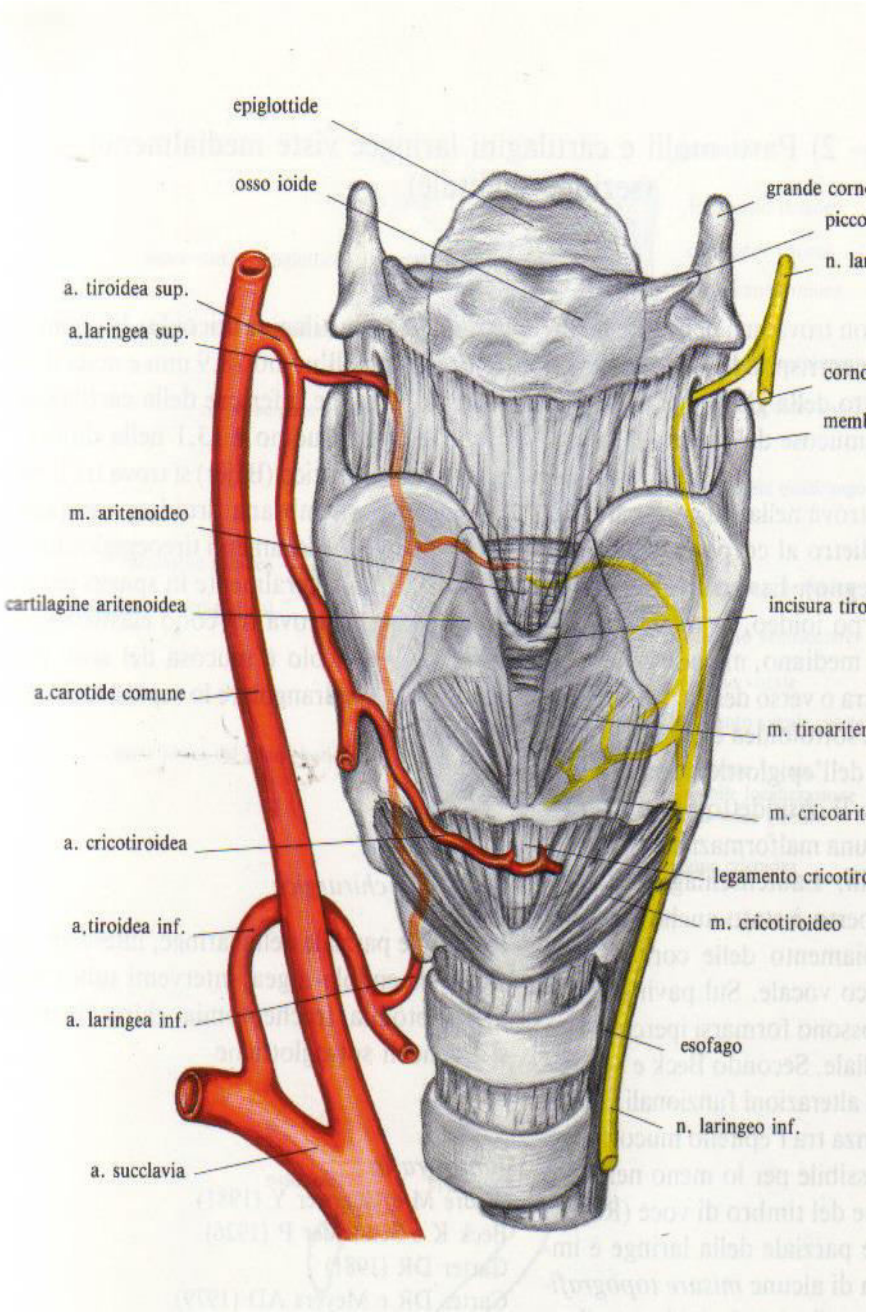
A. Laringea inferiore:

muscoli e mucosa posteriore della laringe

2)VENE:

Vena laringea sup → vena tiroidea sup → vena giugulare interna e, attraverso questa, nella vena cava superiore

Vena laringea inf → vena tiroidea inf → vena anonima (sin) e vena brachio-cefalica (dx)



INNERVAZIONE DELLA LARINGE

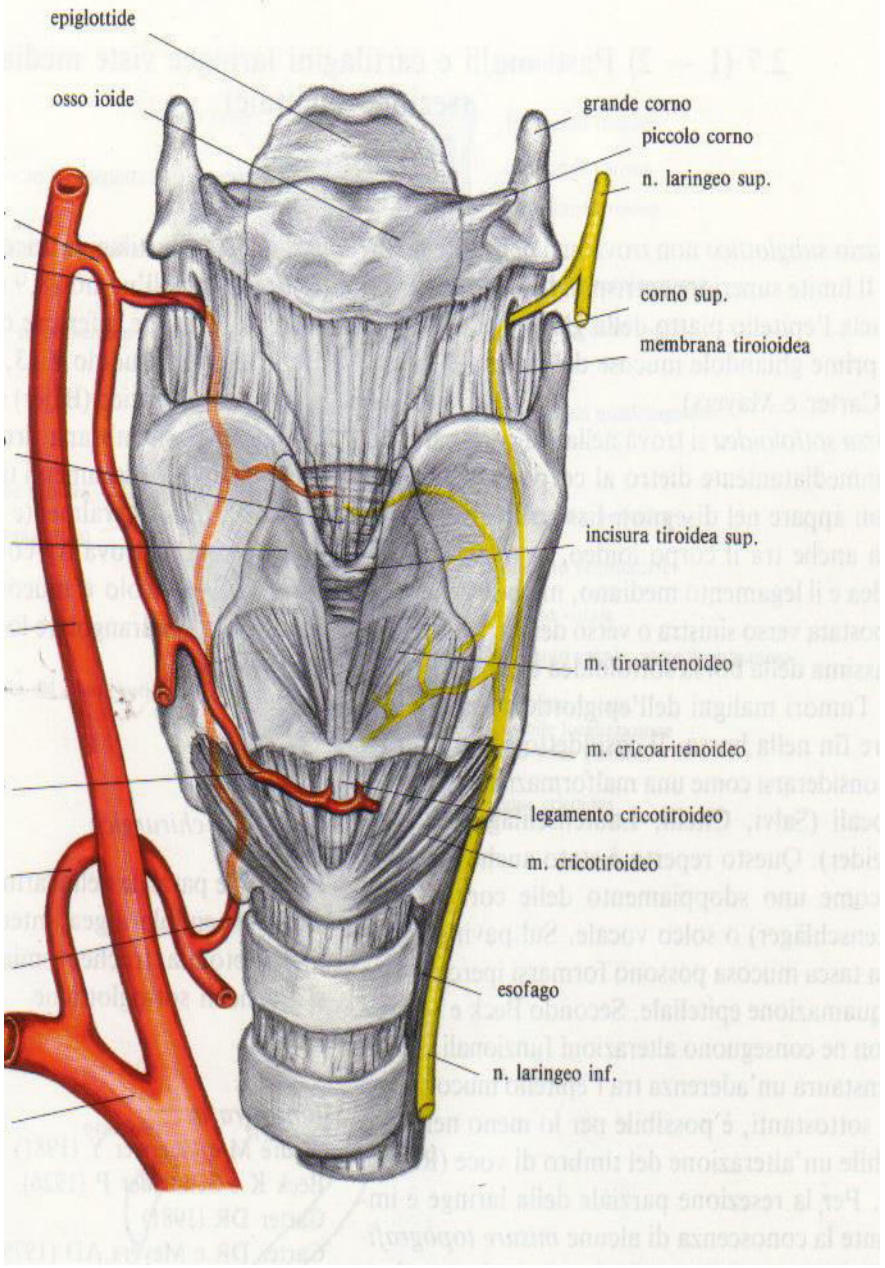
- N. laringeo superiore:

  un **ramo mediale o superiore** innervazione sensitiva della mucosa superiore della laringe, faringe e base lingua;

  un **ramo inferiore o laterale** innervazione sensitiva del piano medio ed inferiore della laringe + muscolo cricotiroideo

- N. laringeo inferiore:

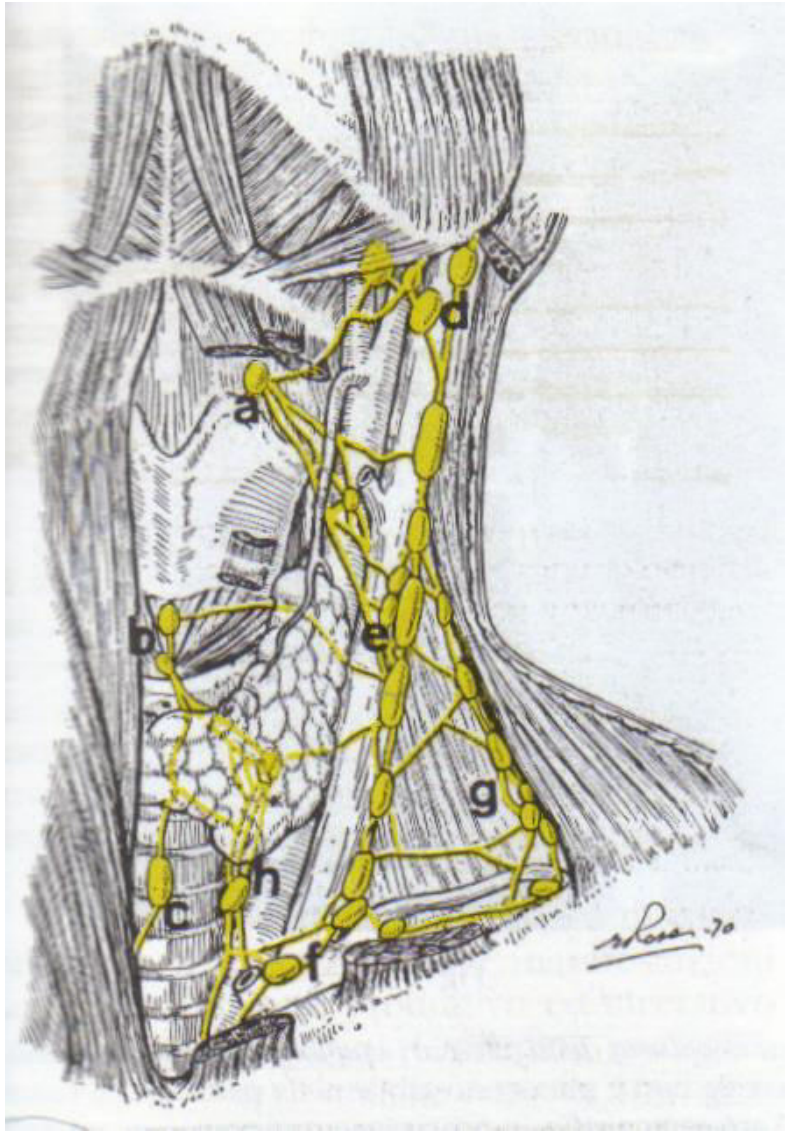
  3 rami (**ansa di Galeno**, un **ramo posteriore** ed uno **anteriore**) innerva la mucosa posteriore e tutti i muscoli della laringe



DRENAGGIO LINFATICO DELLA LARINGE

Tre peduncoli che seguono la disposizione arteriosa:

- <u>P. superiore</u>: ln. giugulari medi
- <u>P. anteroinferiore :</u> ln. precricoidei e catena giugulare
- <u>P. posteroinferiore</u> : ln. catena del ricorrente, giugulari inferiori e sovraclaveari



Laringoscopia indiretta

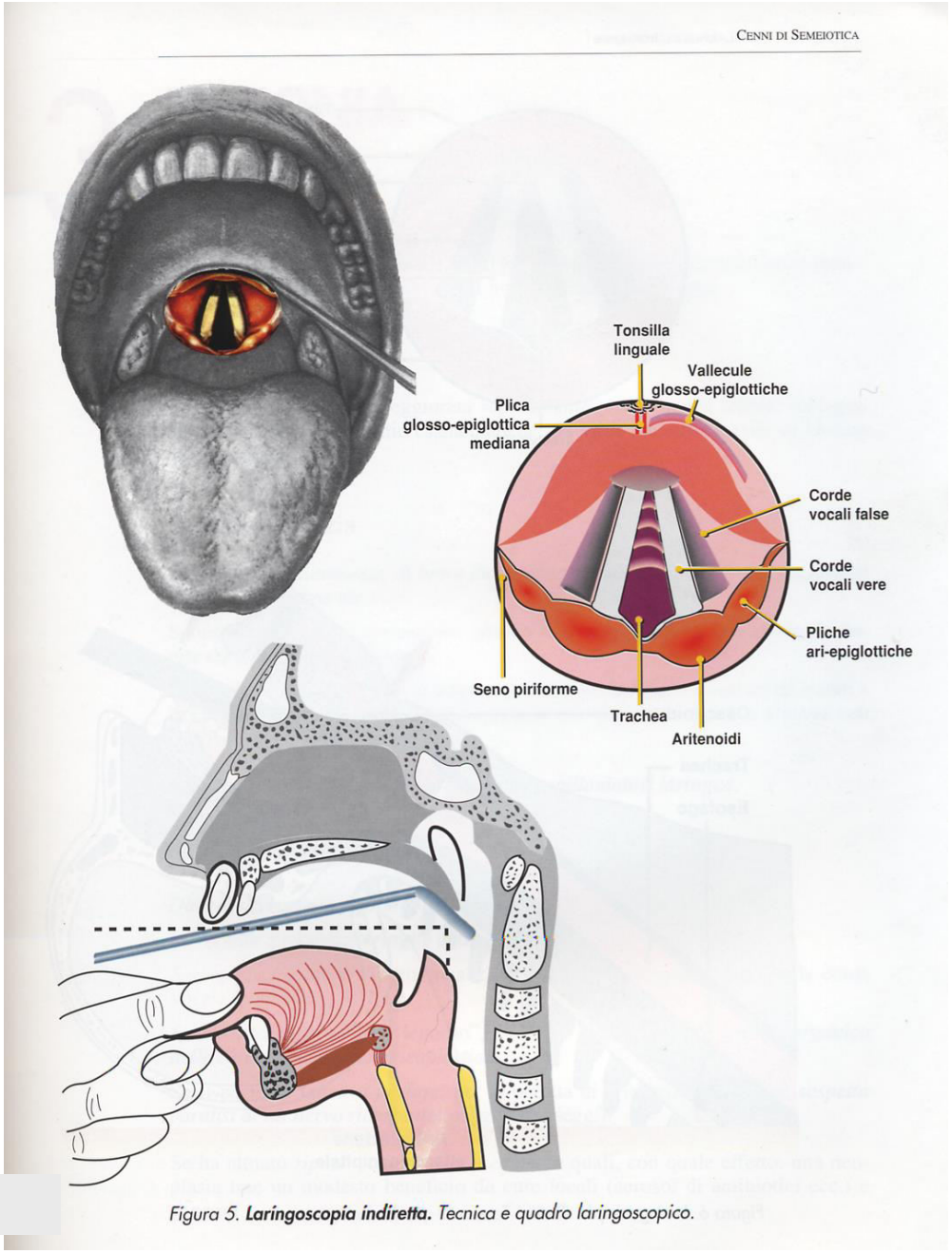
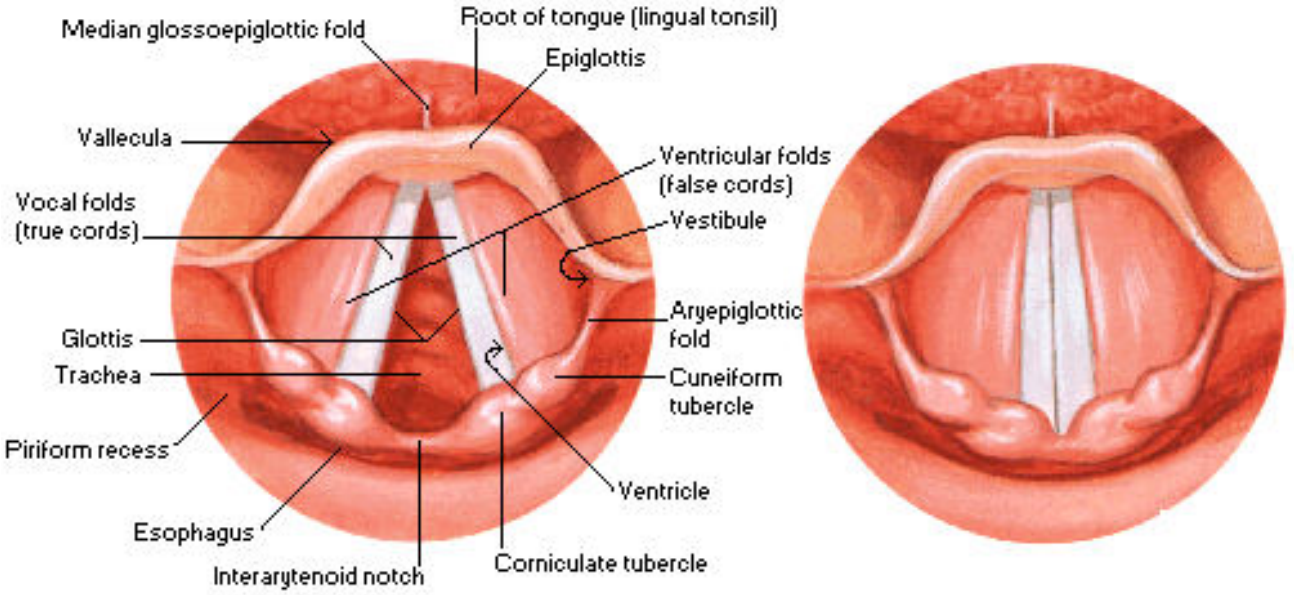
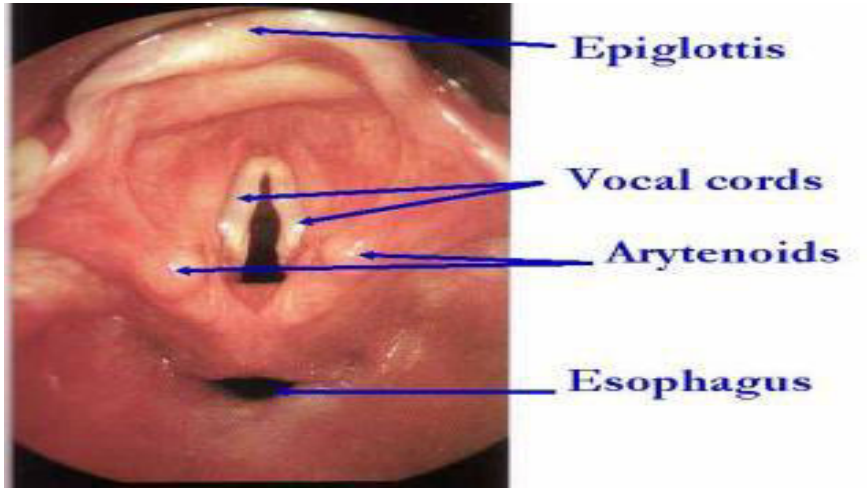


Figura 5. ***Laringoscopia indiretta.*** *Tecnica e quadro laringoscopico.*



Normal larynx: inspiration

Normal larynx: phonation



Laringoscopia diretta

(microlaringoscopia)

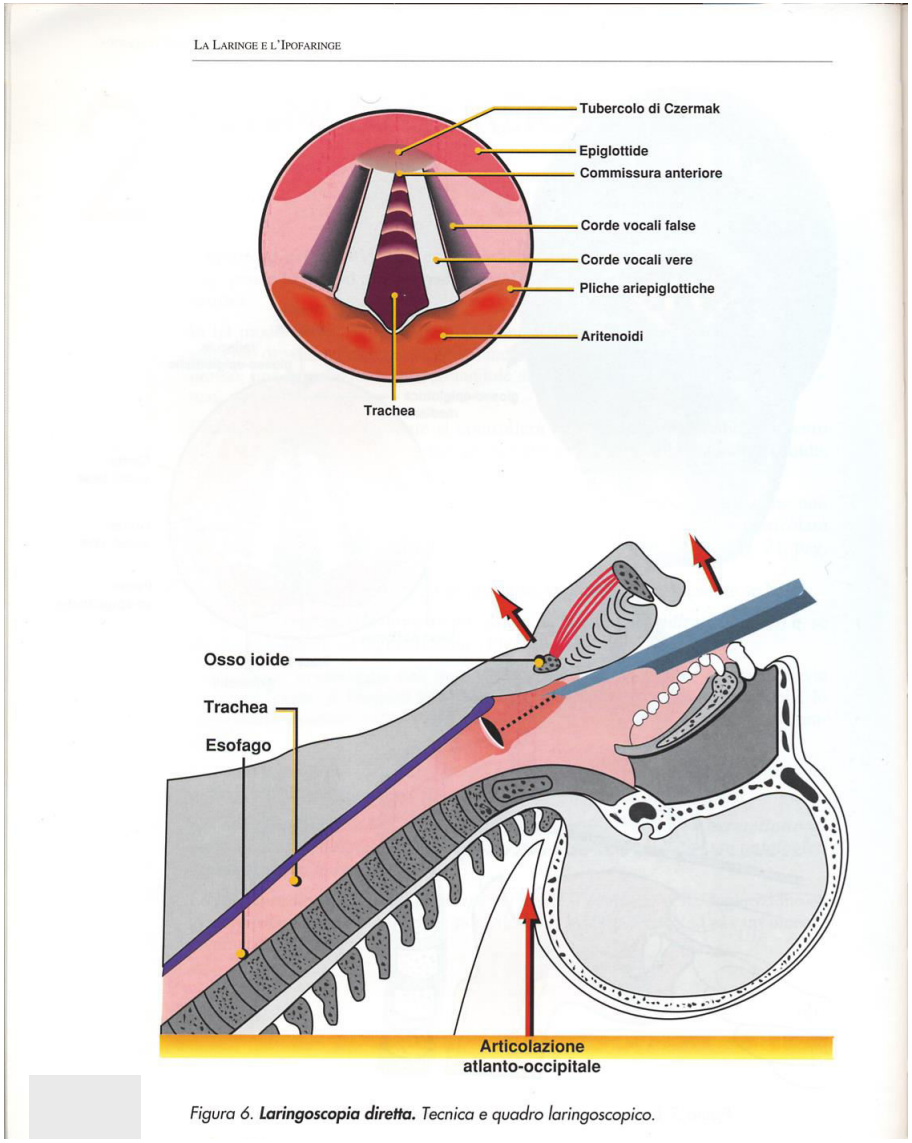
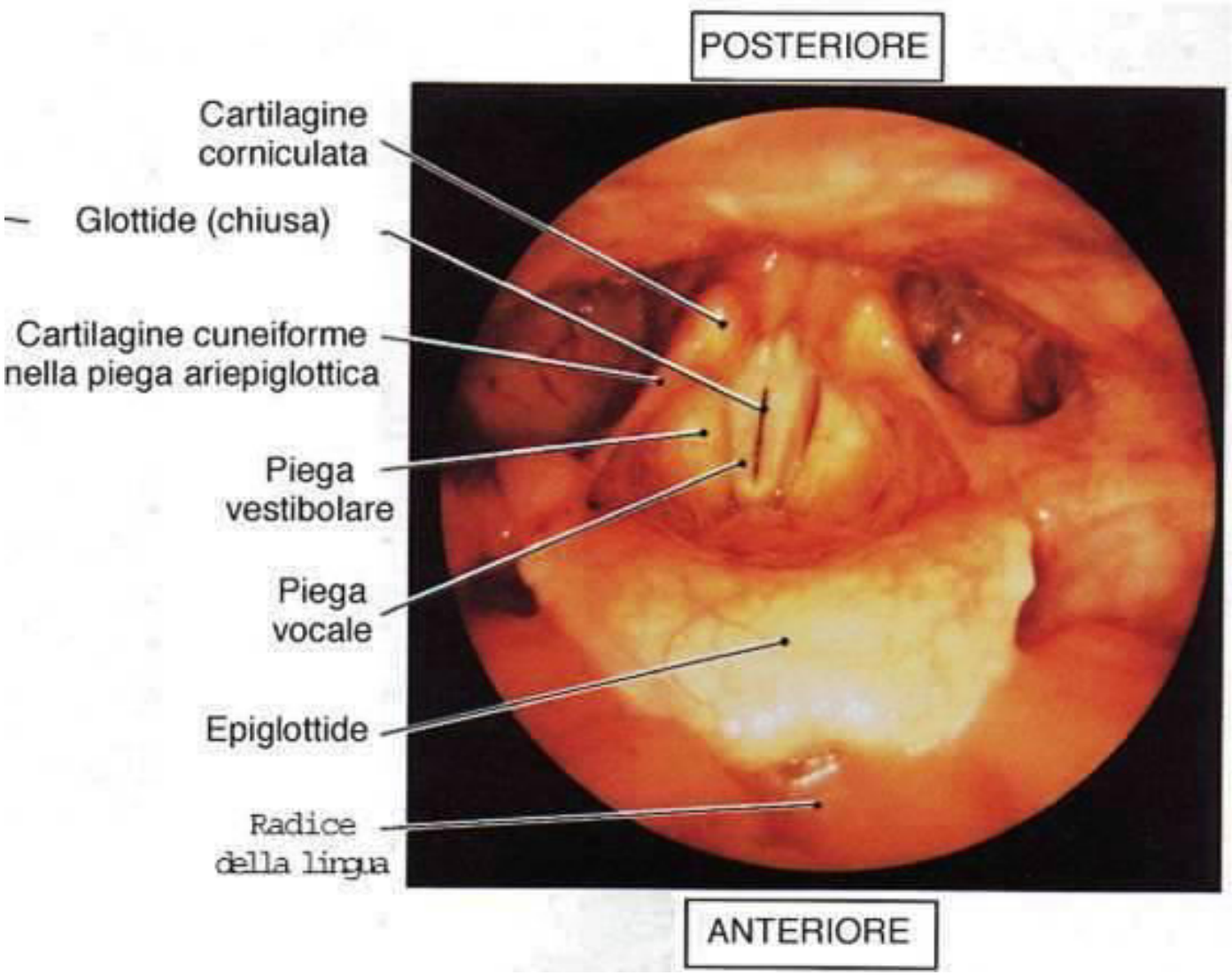
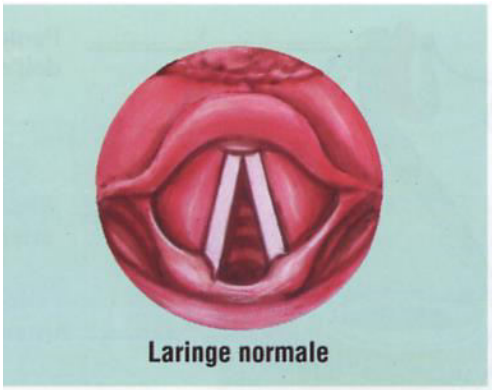
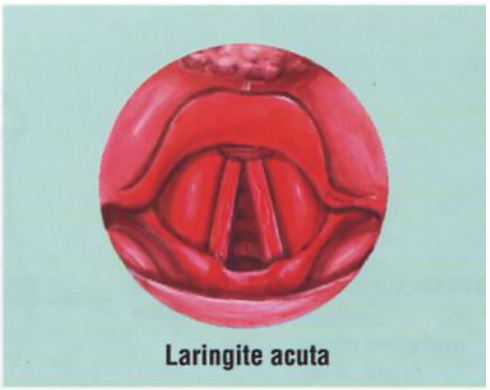


Figura 6. ***Laringoscopia diretta.*** *Tecnica e quadro laringoscopico.*

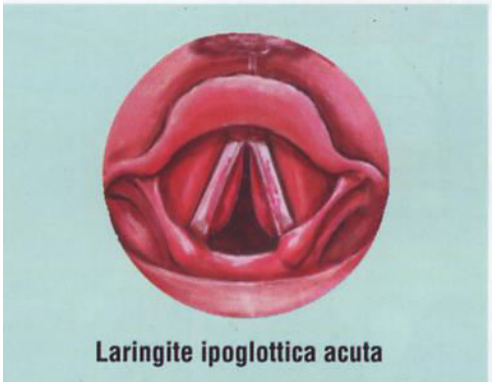

POSTERIORE
Cartilagine corniculata
Glottide (chiusa)
Cartilagine cuneiforme nella piega ariepiglottica
Piega vestibolare
Piega vocale
Epiglottide
Radice della lingua
ANTERIORE



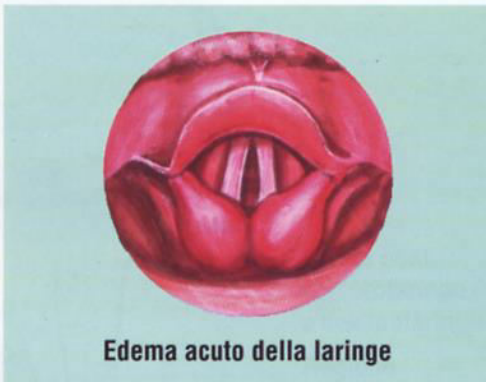
Laringe normale



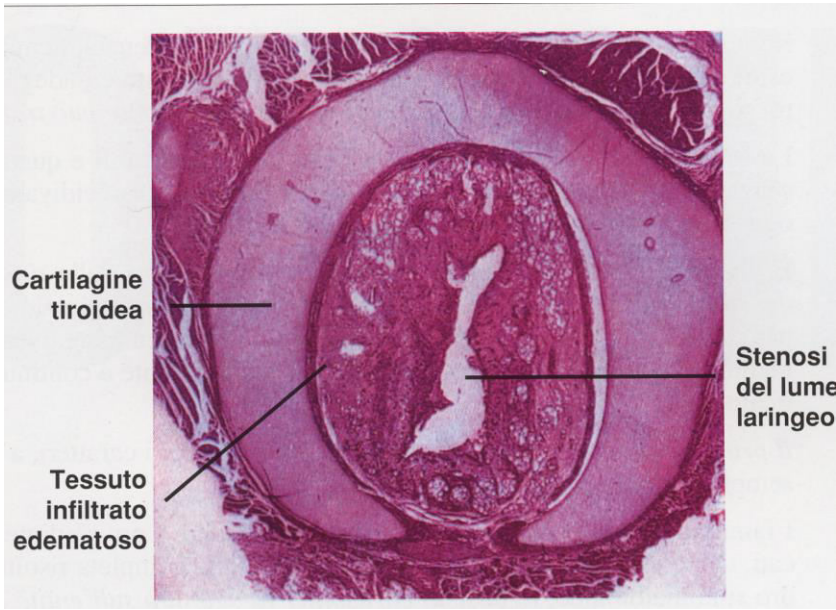
Laringite acuta

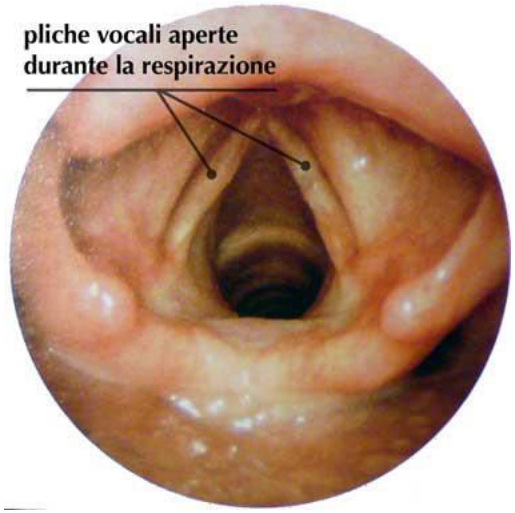


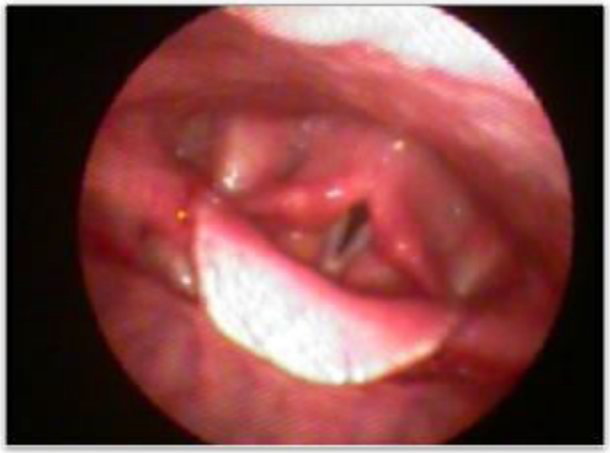
Laringite ipoglottica acuta

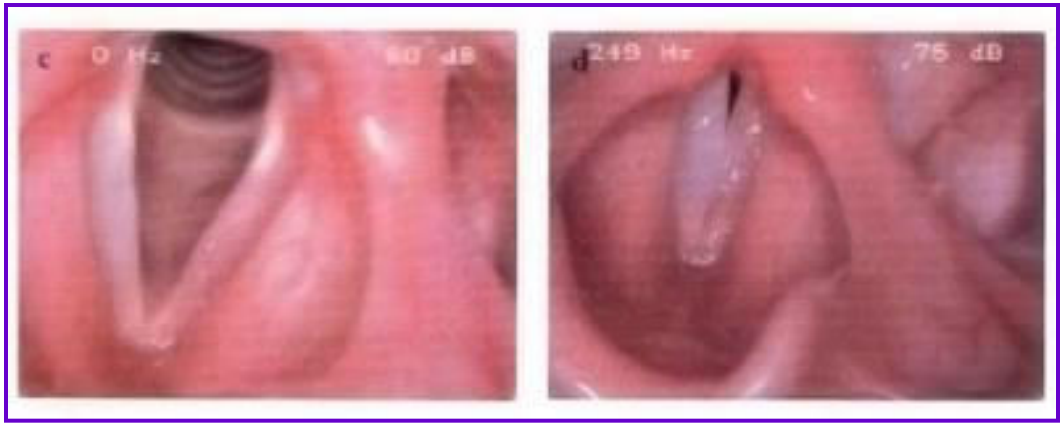


Edema acuto della laringe



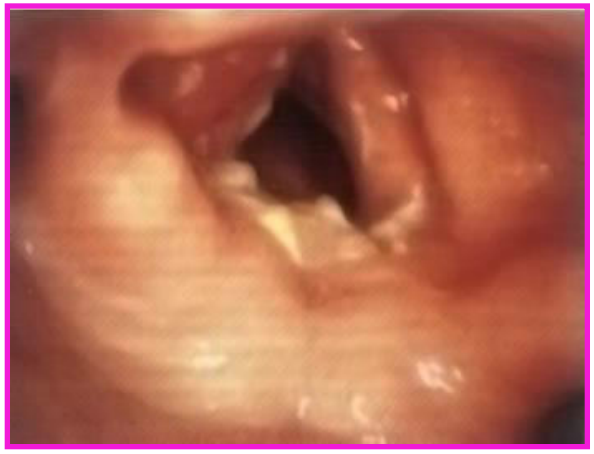


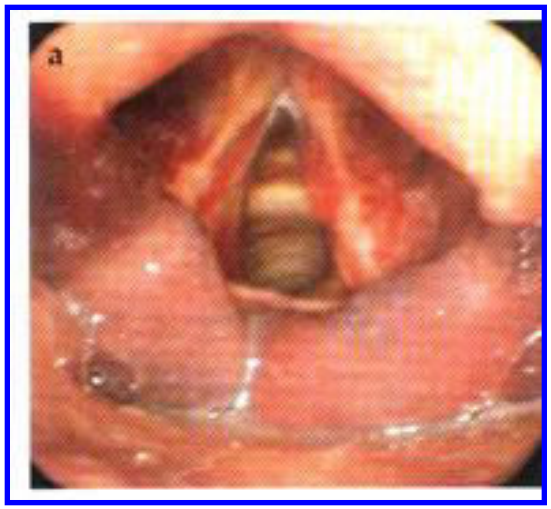




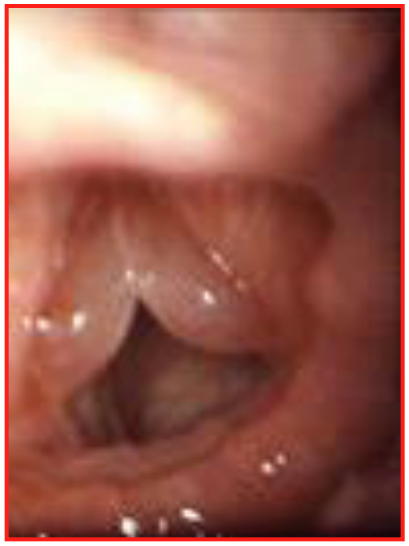
Monocordite sinistra in posizione respiratoria e in fonazione

Laringite acuta virale con essudato di fibrina



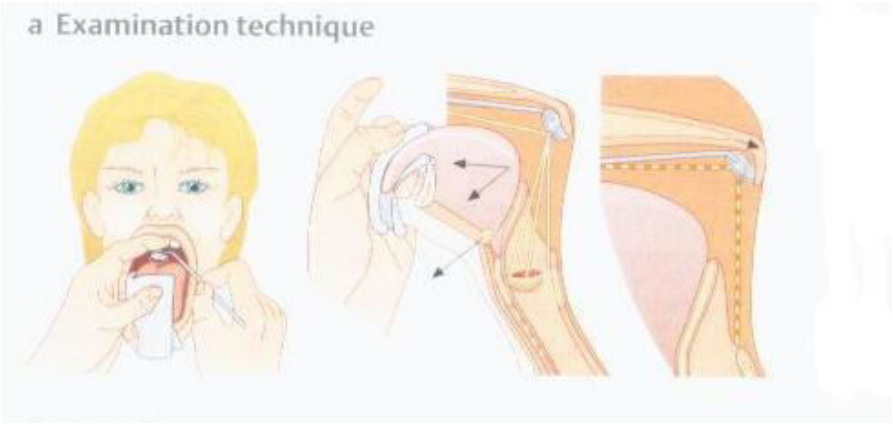


Ematoma laringe (posizione fonatoria)



Edema di Reinke

Laringoscopia

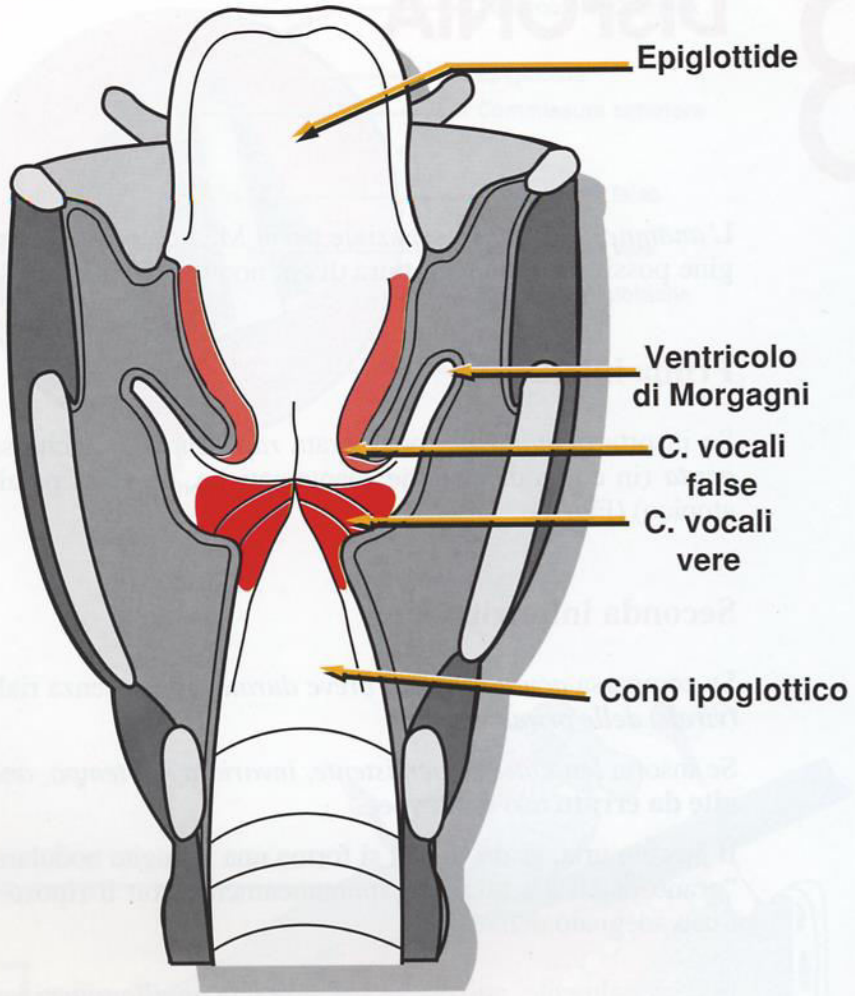


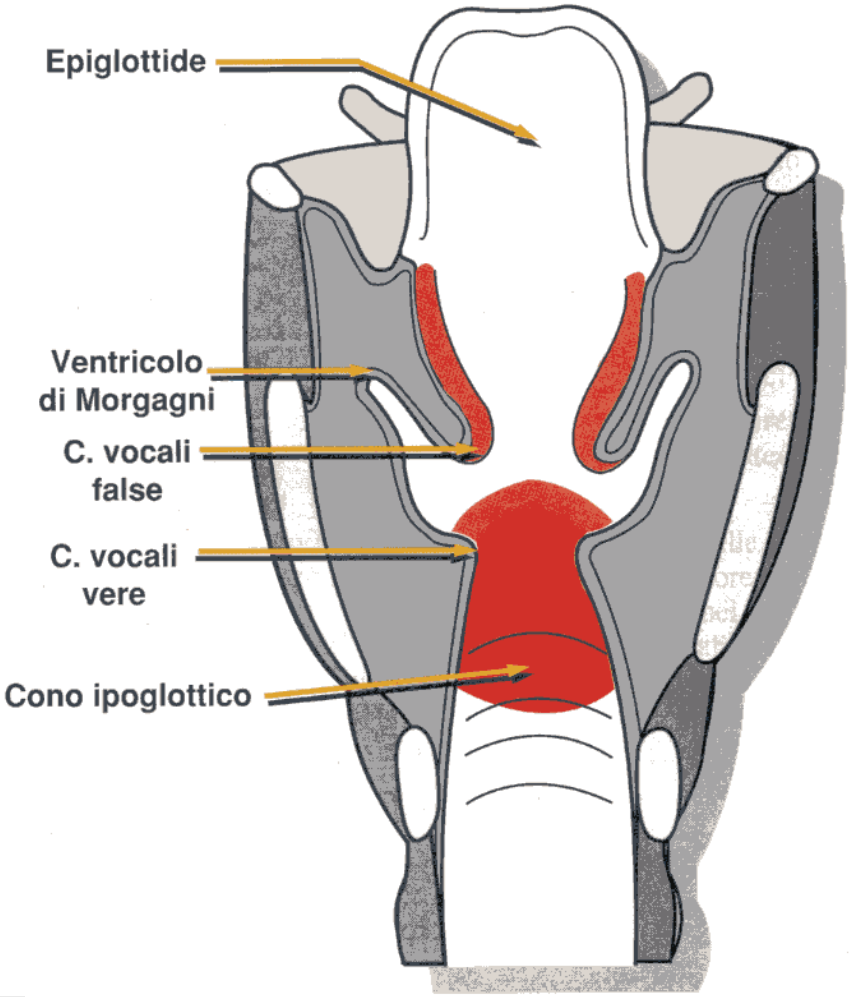
- Lo specchietto

- Il fibroscopio flessibile

- L'ottica rigida

	OTTICA RIGIDA	FIBROSCOPIO	SPECCHIETTO
Via di introduzione:	bocca	naso	bocca
Riflessi:			
-Velofaringeo	+++	0	++
-Leringeo (tosse)	0	++	0
Definizione immagine	++	+	+++
Ingrandimento	+++	+	+
Respirazione	Buona	Buona	Buona
Fonazione	“e”,”i”	Voce parlata/cantata	“e”
Stroboscopia	+++	+/-	+/-
Costo	+++	++	-


Epiglottide
Ventricolo di Morgagni
C. vocali false
C. vocali vere
Cono ipoglottico



Rappresentazione schematica dei distretti laringei il cui interessamento determina come primo sintomo la comparsa di dispnea. *L'intensità del colore rosso è tanto maggiore quanto più precoce ed intensa è la comparsa della dispnea.*

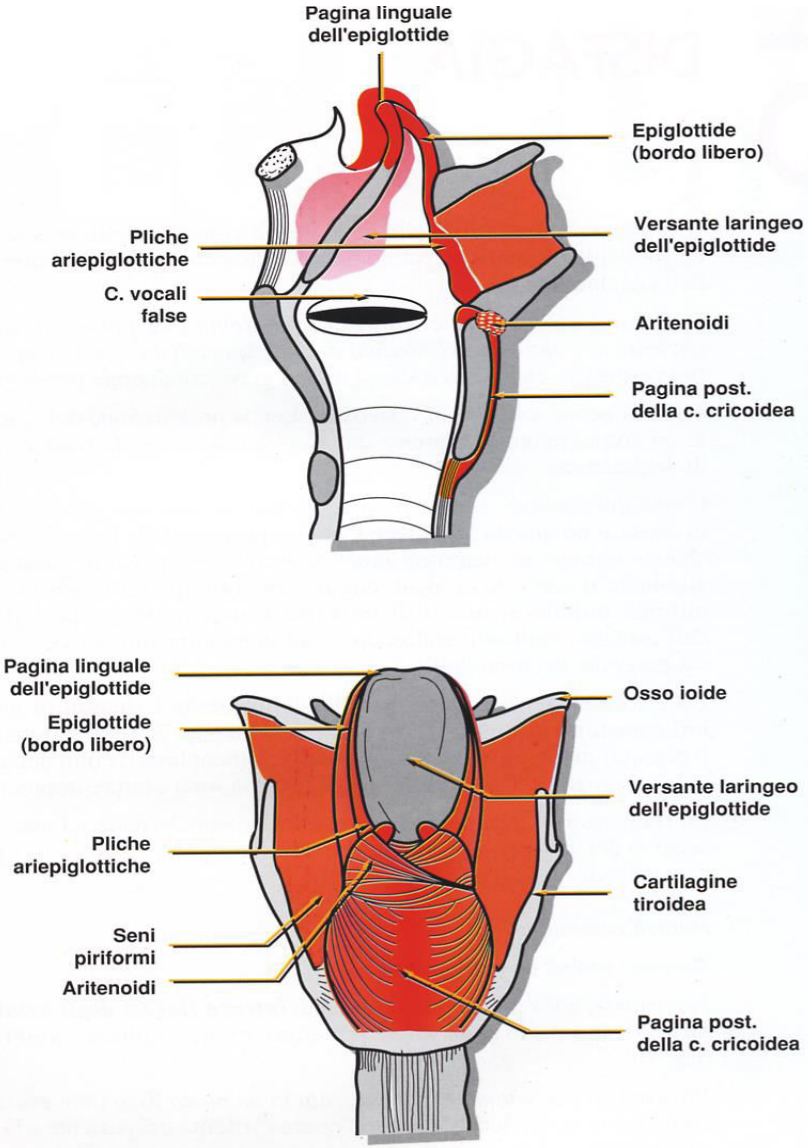
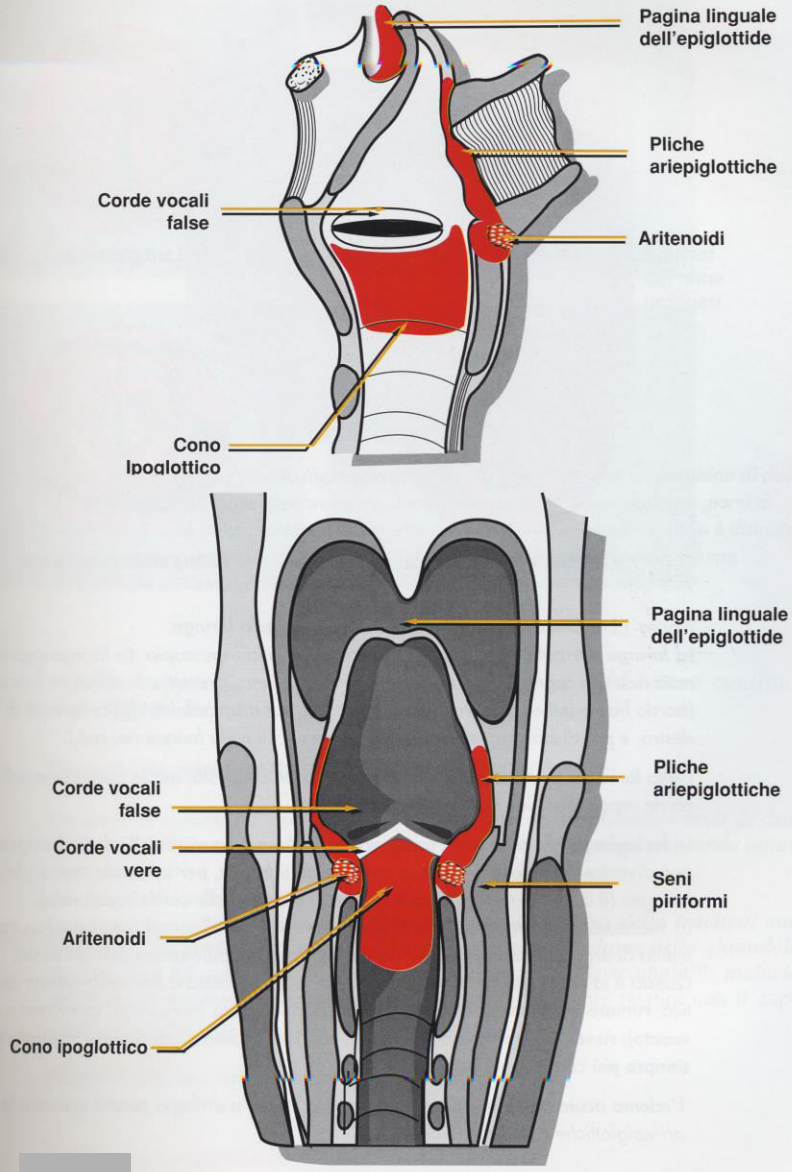
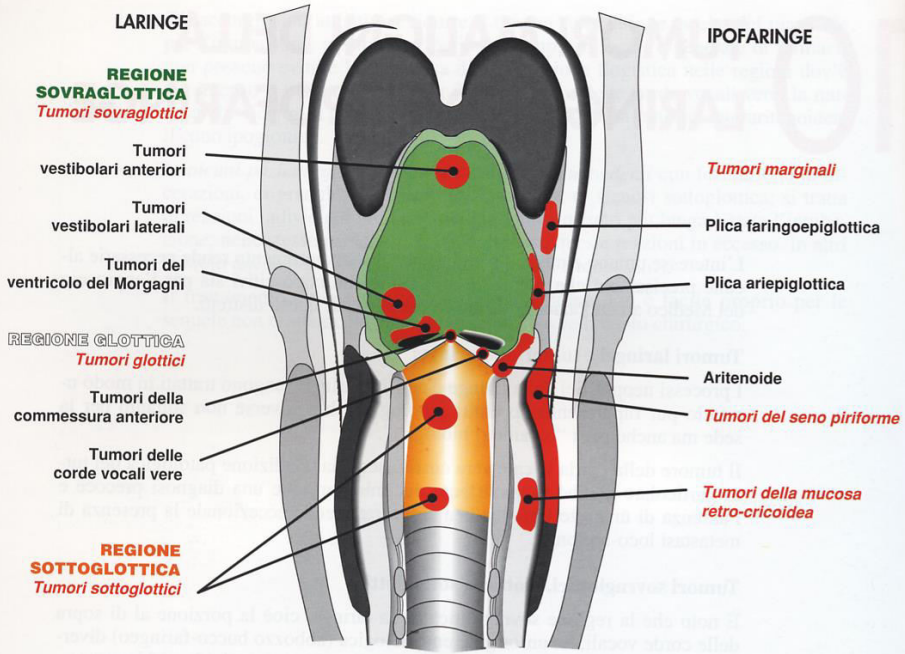


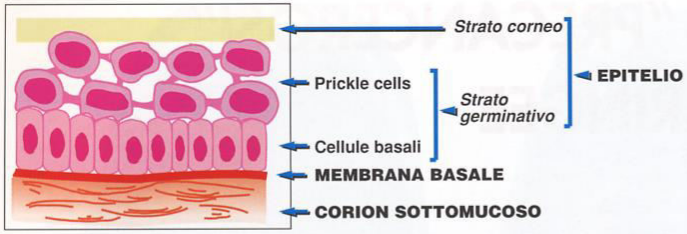
Figura 12. ***Rappresentazione schematica dei distretti laringei il cui interessamento determina come primo sintomo la comparsa di disfagia e/o di odinofagia.*** *L'intensità del colore rosso è tanto maggiore quanto più precoce ed intensa è la comparsa della disfagia e dell'odinofagia.*



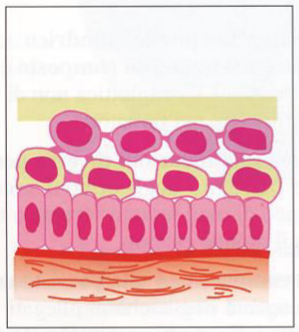
Rappresentazione schematica delle sedi elettive dell'edema laringeo.
L'intensità del colore è tanto maggiore quanto più precocemente e rapidamente si stabilisce l'edema della mucosa.



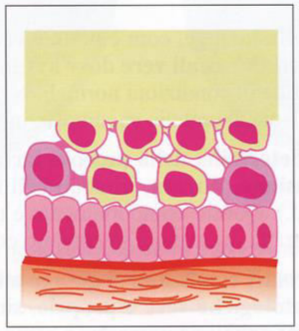
Rappresentazione schematica delle più comuni localizzazioni dei tumori maligni della laringe e dell'ipofaringe.
Sono indicate con differenti colori le tre regioni nelle quali viene divisa la laringe: sovraglottica, glottica (piano delle corde vocali vere), sottoglottica (ipoglottica).
In realtà, le neoplasie maligne della regione sovraglottica possono superare il "vallo biologico", come viene definito il limite tra regione sovraglottica e piano glottico.



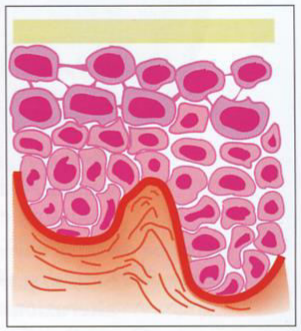
A - MUCOSA NORMALE



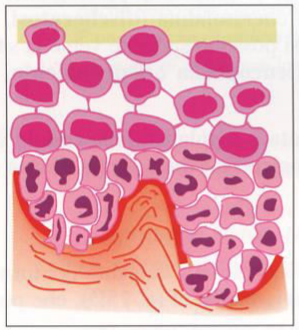
B - DISCHERATOSI



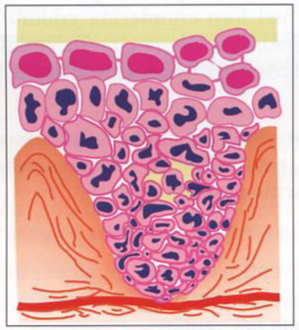
C - LEUCOPLACHIA o LEUCOPLASIA



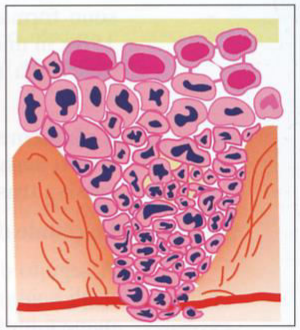
D - DISPLASIA LIEVE



E - DISPLASIA GRAVE



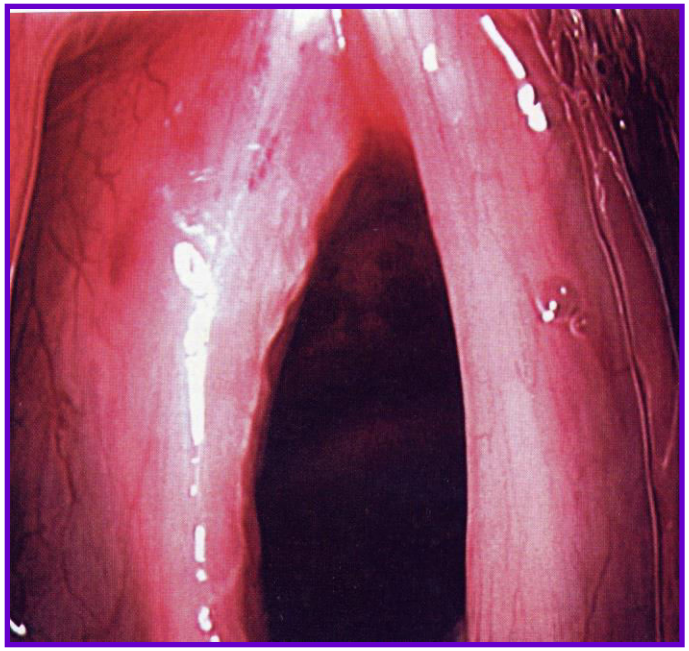
F - CARCINOMA IN SITO

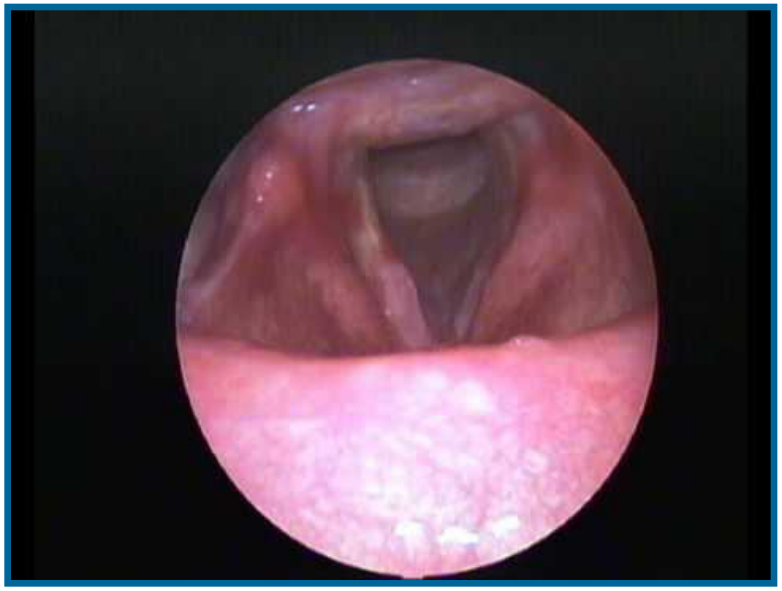


G - CARCINOMA MICROINFILTRANTE o MICROINVASIVO

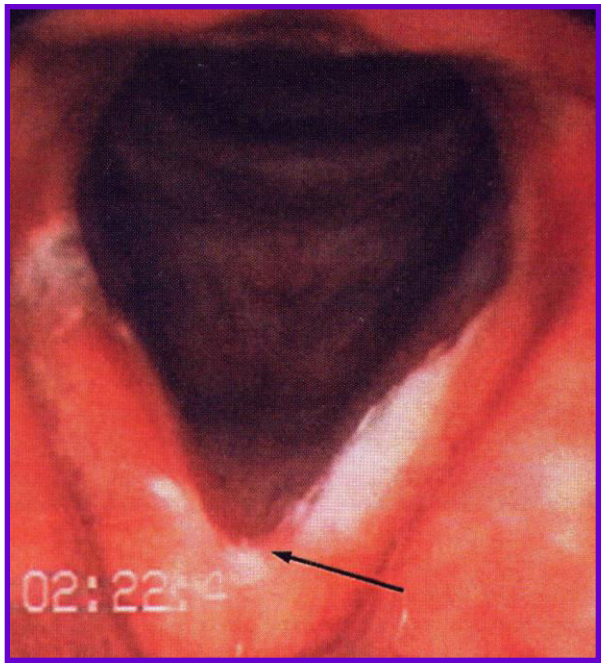
. Le "precancerosi" laringee.

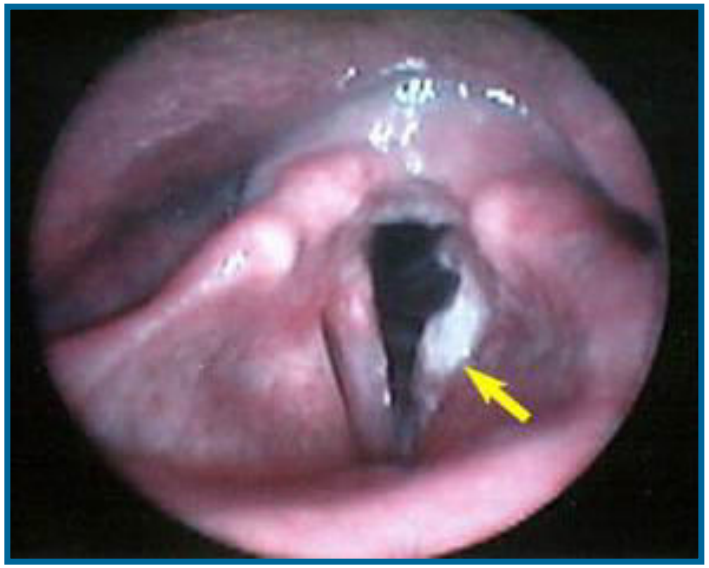
Displasie

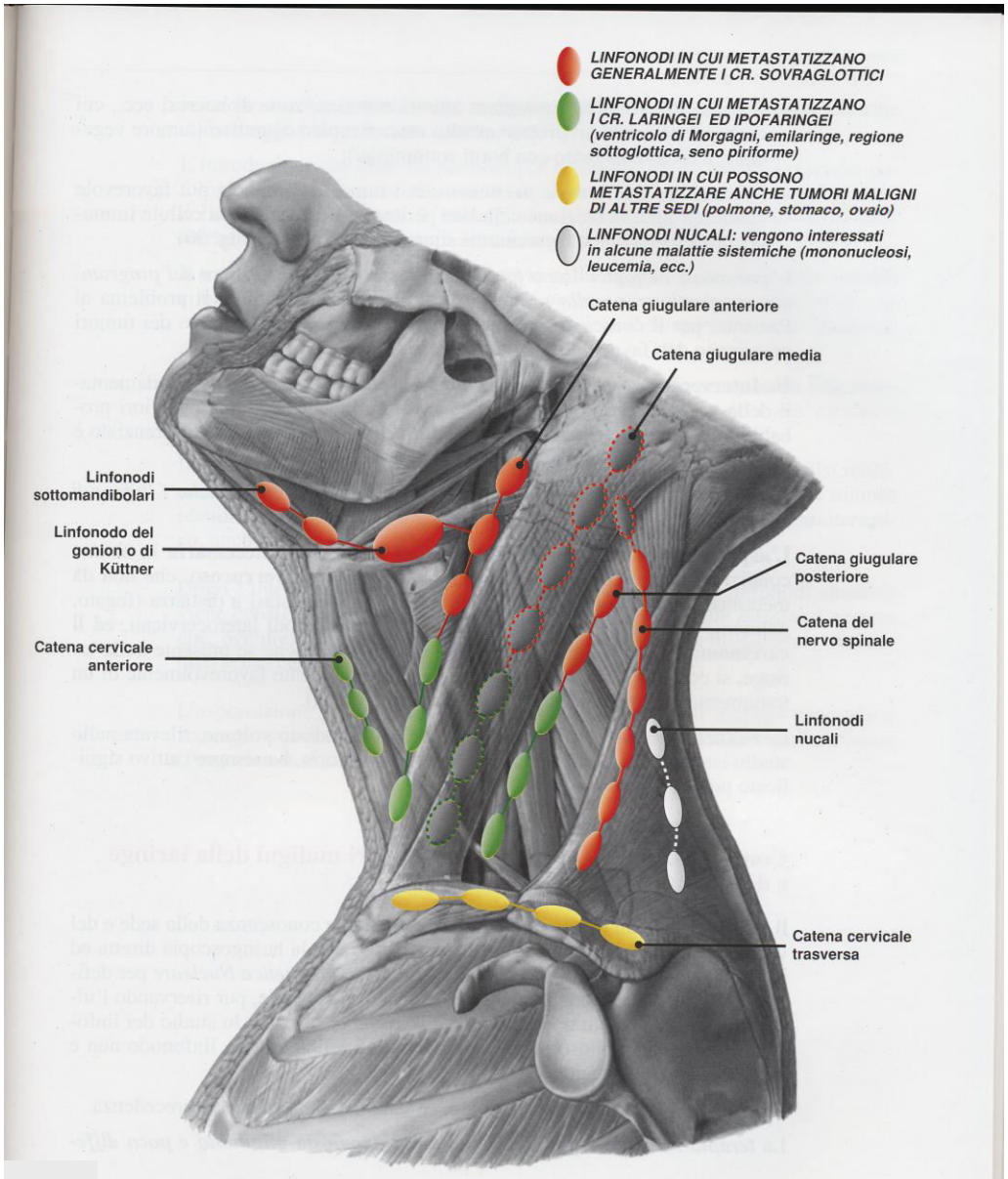




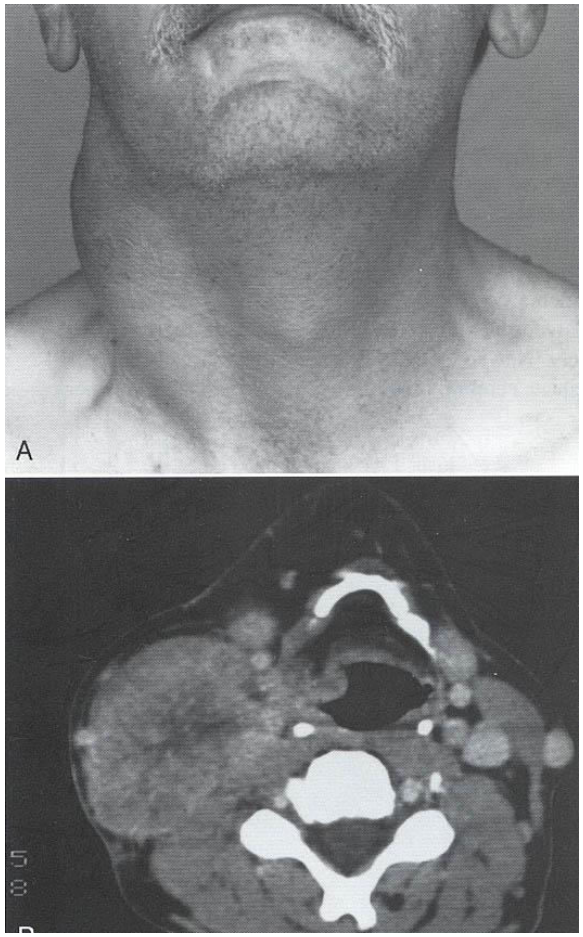
Neof. Infiltro-vegetanti

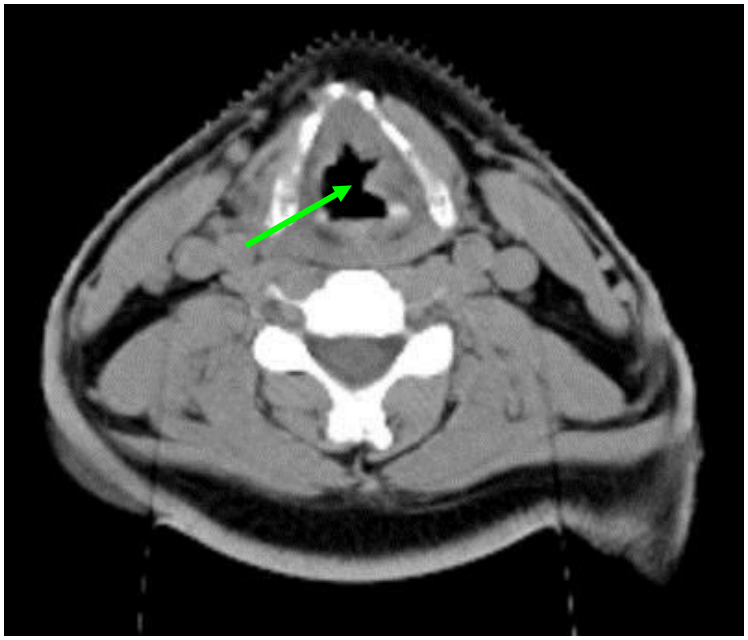


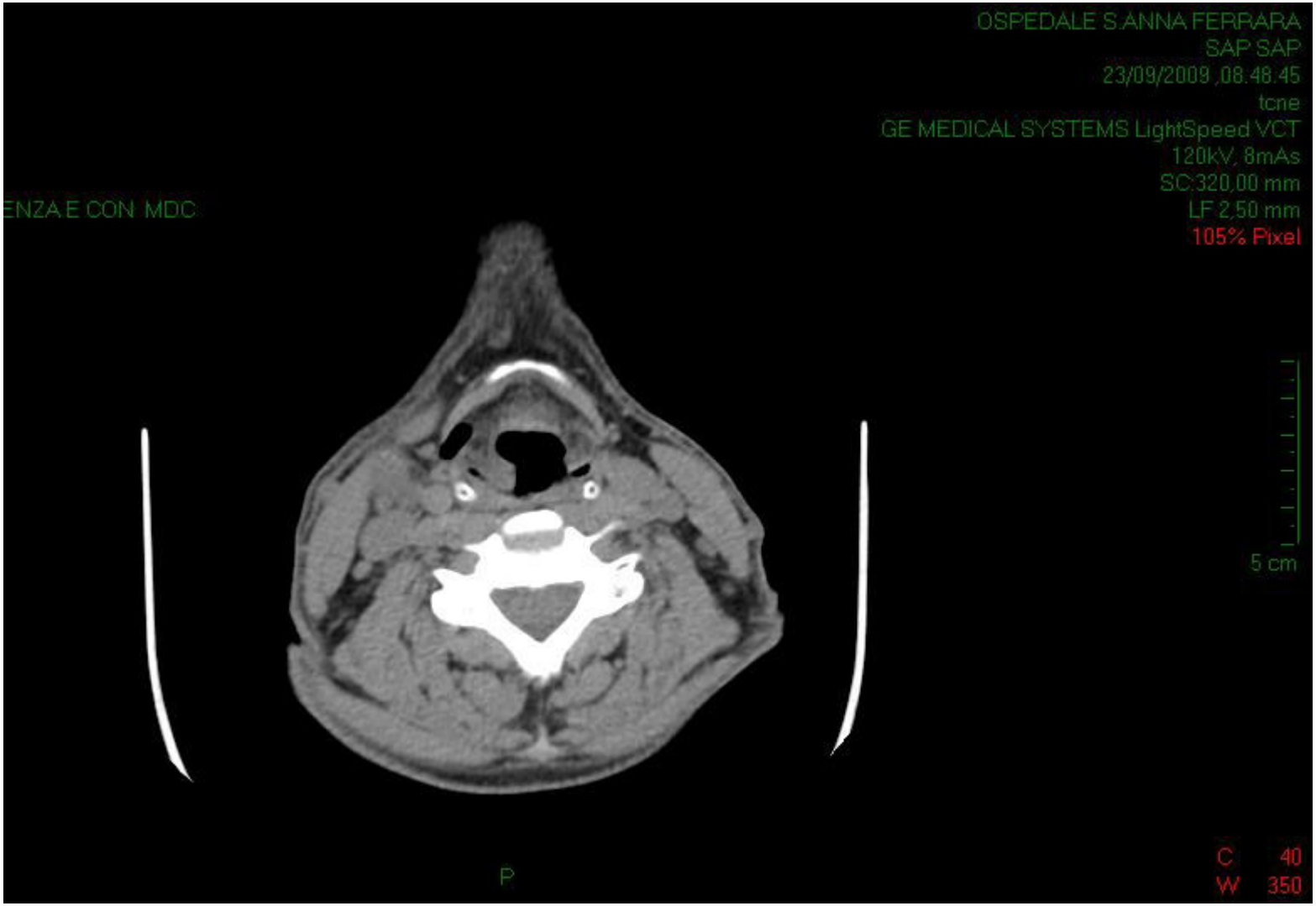




Nello schema vengono indicate le catene linfonodali *(soprattutto profonde)* ***più importanti, ed il rapporto più costante tra sede della neoplasia e linfonodi tributari.*** *In realtà, un processo tumorale laringo-ipofaringeo di alta malignità si diffonde rapidamente ai linfonodi latero-cervicali omo- e controlaterali. Non viene preso in considerazione l'interessamento linfonodale da processi neoplastici della ghiandola tiroide.*


A

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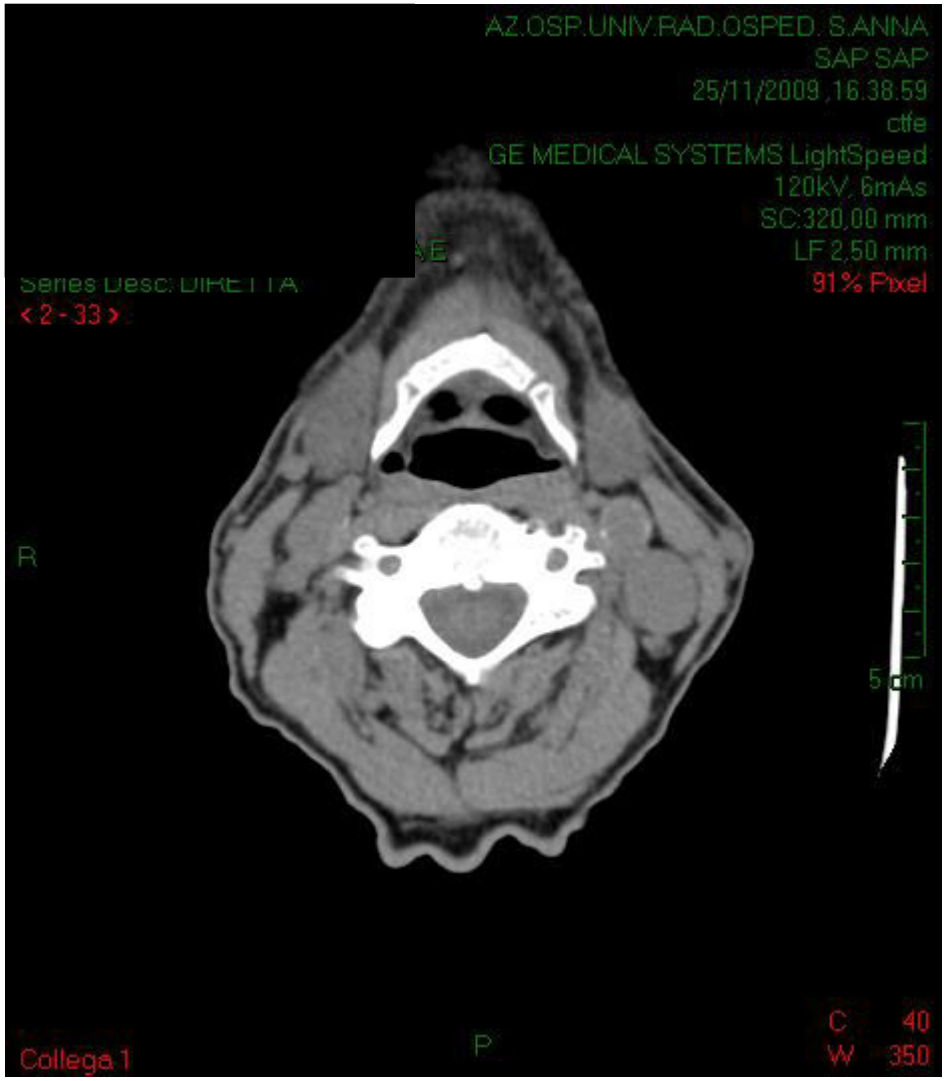
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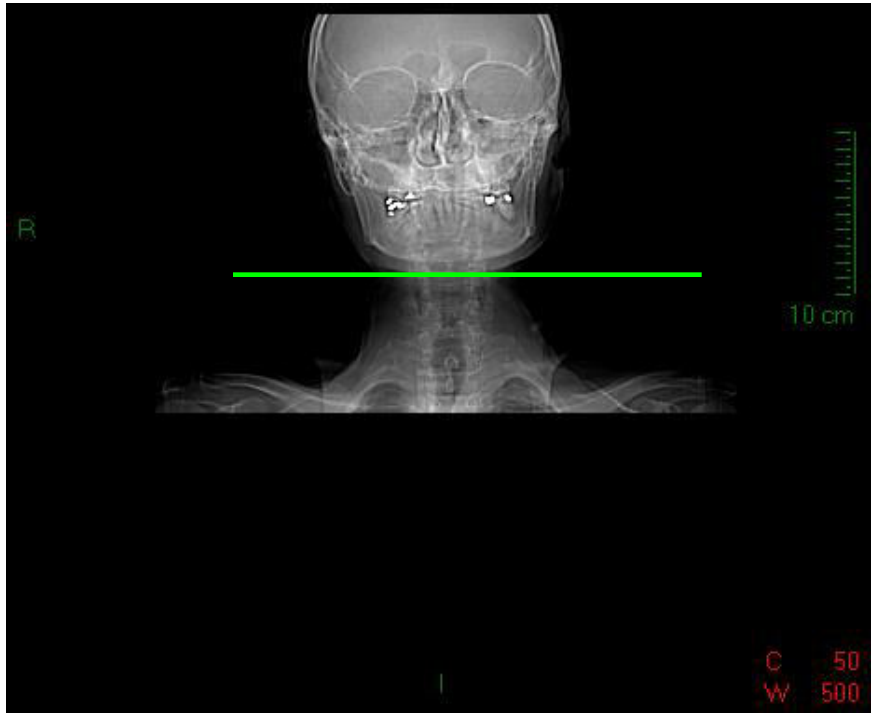
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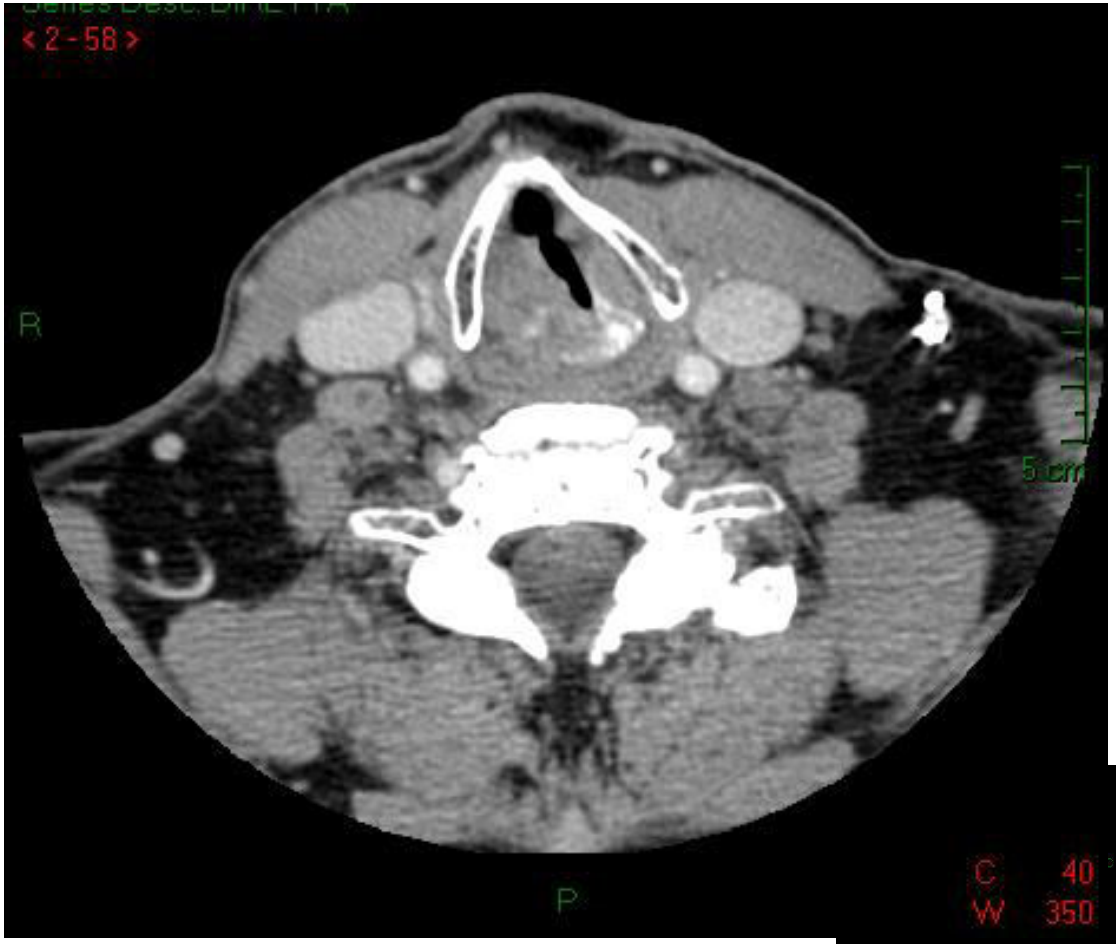
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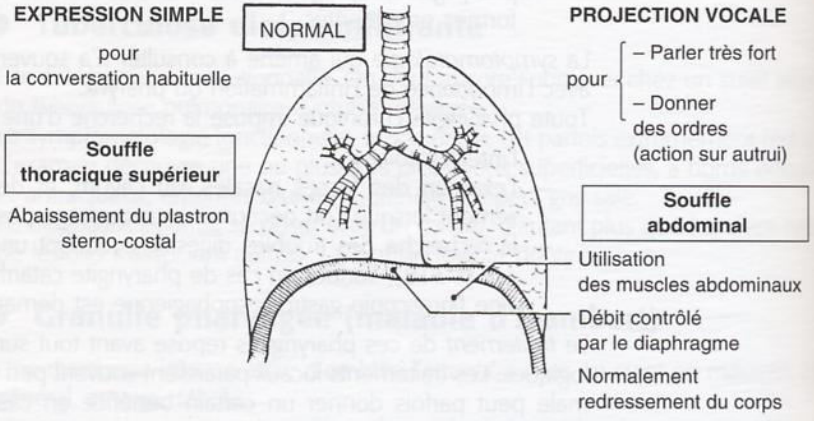
. Le cercle vicieux de l'effort vocal.
Deux types de souffle → Deux types d'expression. ➤



EFFORT VOCAL

Localisation anormale du souffle thoracique supérieur

Tendance à la flexion de la partie supérieure du tronc
crispations musculaires diffusant : – aux organes thoraciques
– à la face du cou

Le larynx doit, outre son rôle phonatoire, assurer le débit du souffle, car le diaphragme ne peut contrôler le souffle thoracique supérieur.

→ Désorganisation du mécanisme laryngé

Difficulté à l'émission vocale

Aggravation des

Accroissement de l'effort vocal

Désorganisation
du mécanisme laryngé

Accroissement momentané d'efficacité

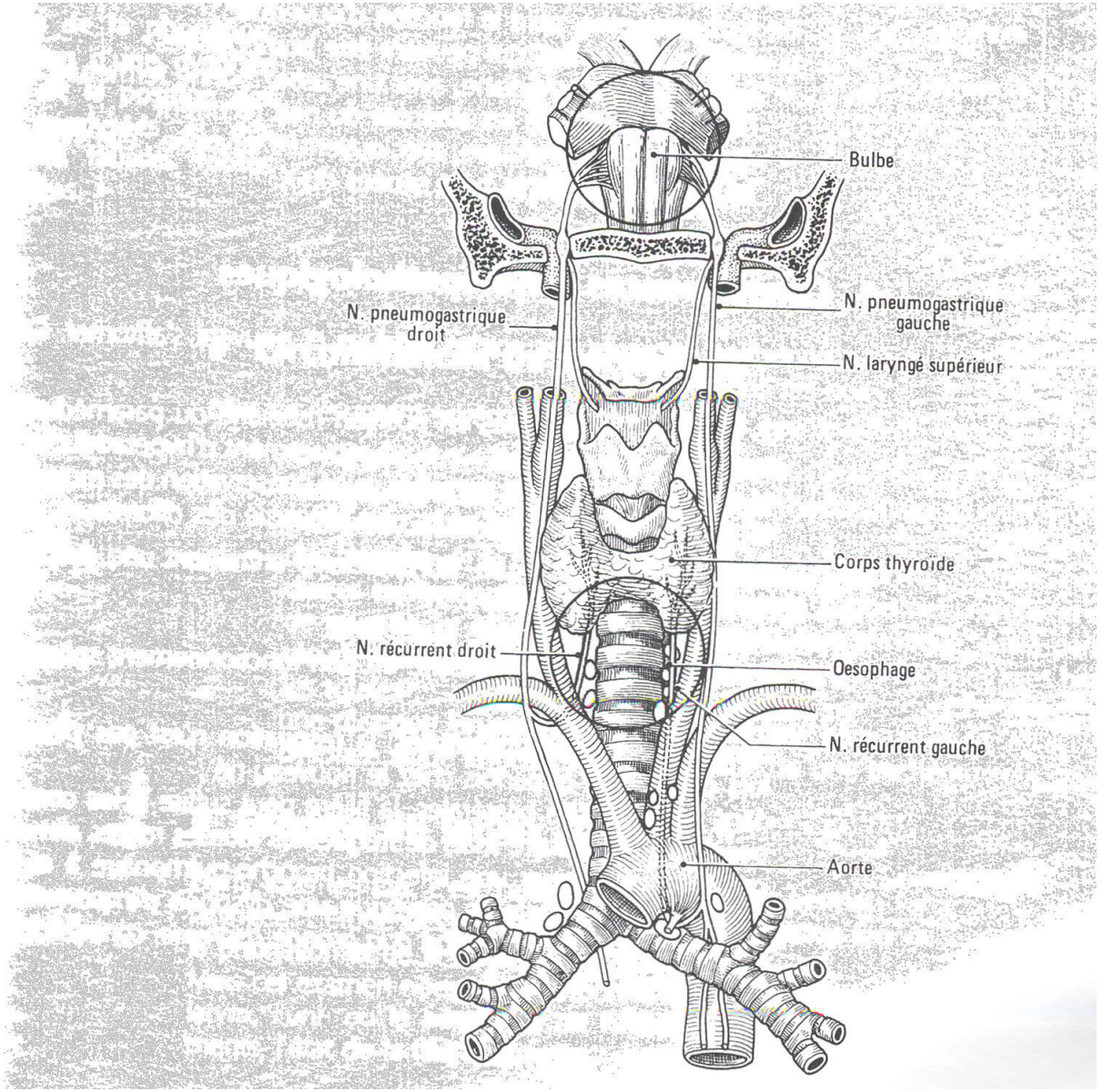
Réaction saine

Réaction mauvaise

Utilisation du
souffle thoracique
supérieur

Réduction
de la production vocale

Forçage vocal


Bulbe
N. pneumogastrique droit
N. pneumogastrique gauche
N. laryngé supérieur
Corps thyroïde
N. récurrent droit
Oesophage
N. récurrent gauche
Aorte

i. La symptomatologie dépend du type de la paralysie laryngée.

A. *Paralysie laryngée gauche*. Pendant la respiration (a), bonne filière laryngée. Pendant la phonation (b), s'il y a compensation par le côté droit, la phonation est correcte. Sinon, il y a un enrouement.

B. *Paralysie des dilatateurs*. La fermeture glottique assure une bonne phonation (a). L'absence d'ouverture laryngée provoque habituellement une dyspnée (b). Elle peut être liée à une atteinte bulbaire ou une atteinte partielle des récurrents.

C. *Paralysie totale des deux récurrents*. L'absence de fermeture entraîne une fuite d'air lors de la phonation. L'apparition d'une dyspnée dépend de la position des cordes paralysées et des éventuelles fausses routes alimentaires. ➤