

Larynx and Hypopharynx

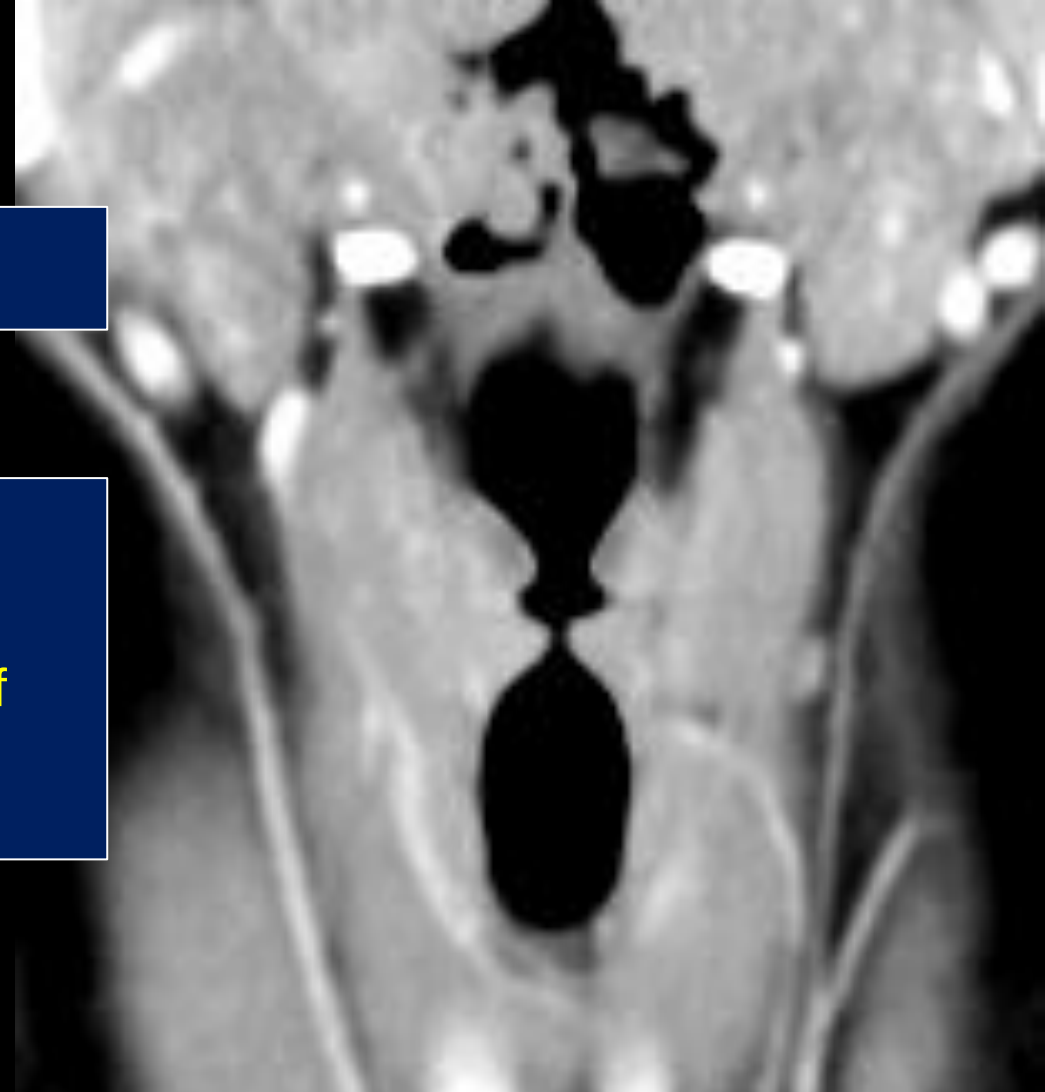
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Founder of The Cortex Club

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American College
of Radiology™

Froedtert



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WISCONSIN



Supraglottic?
Glottic?



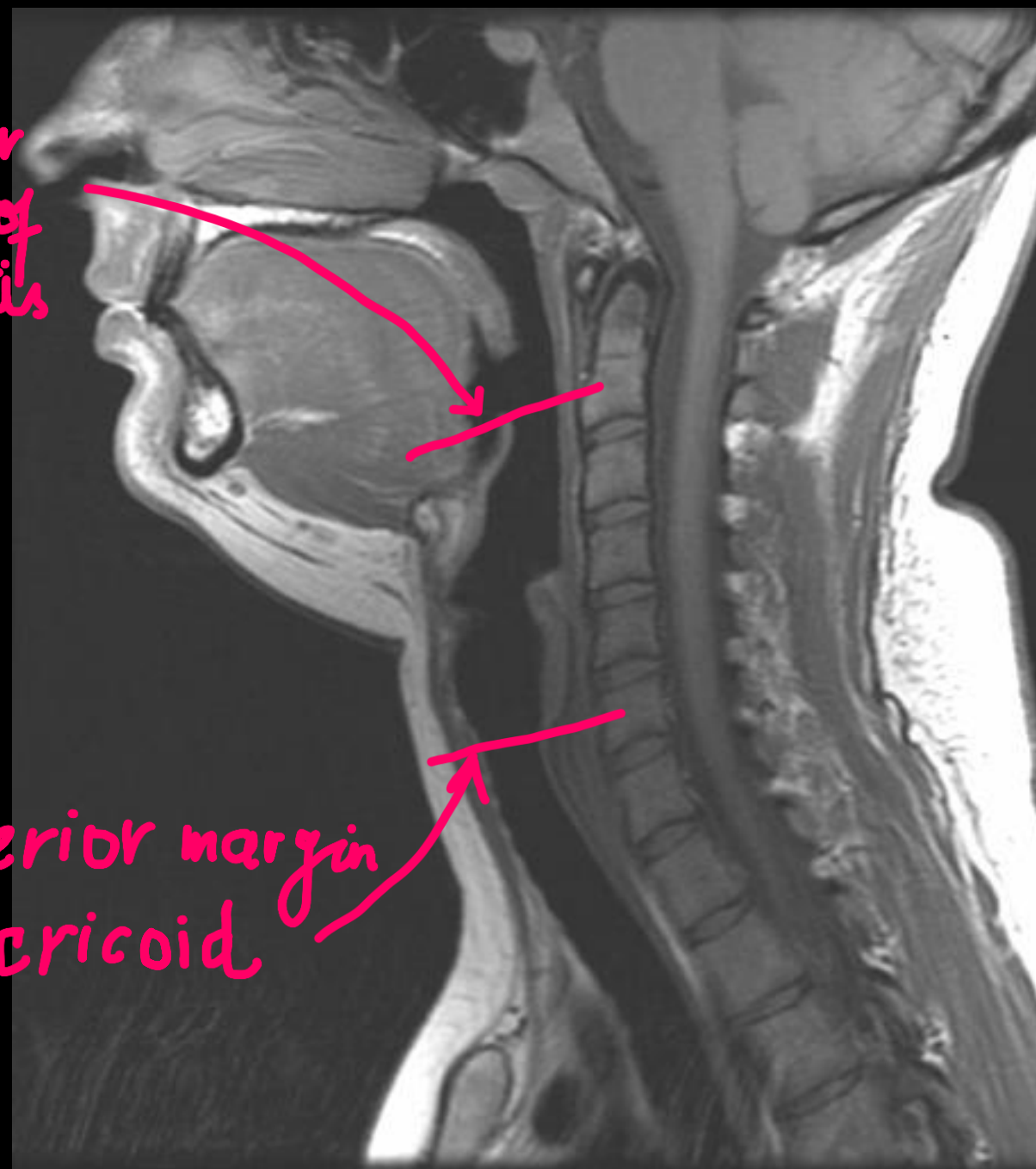
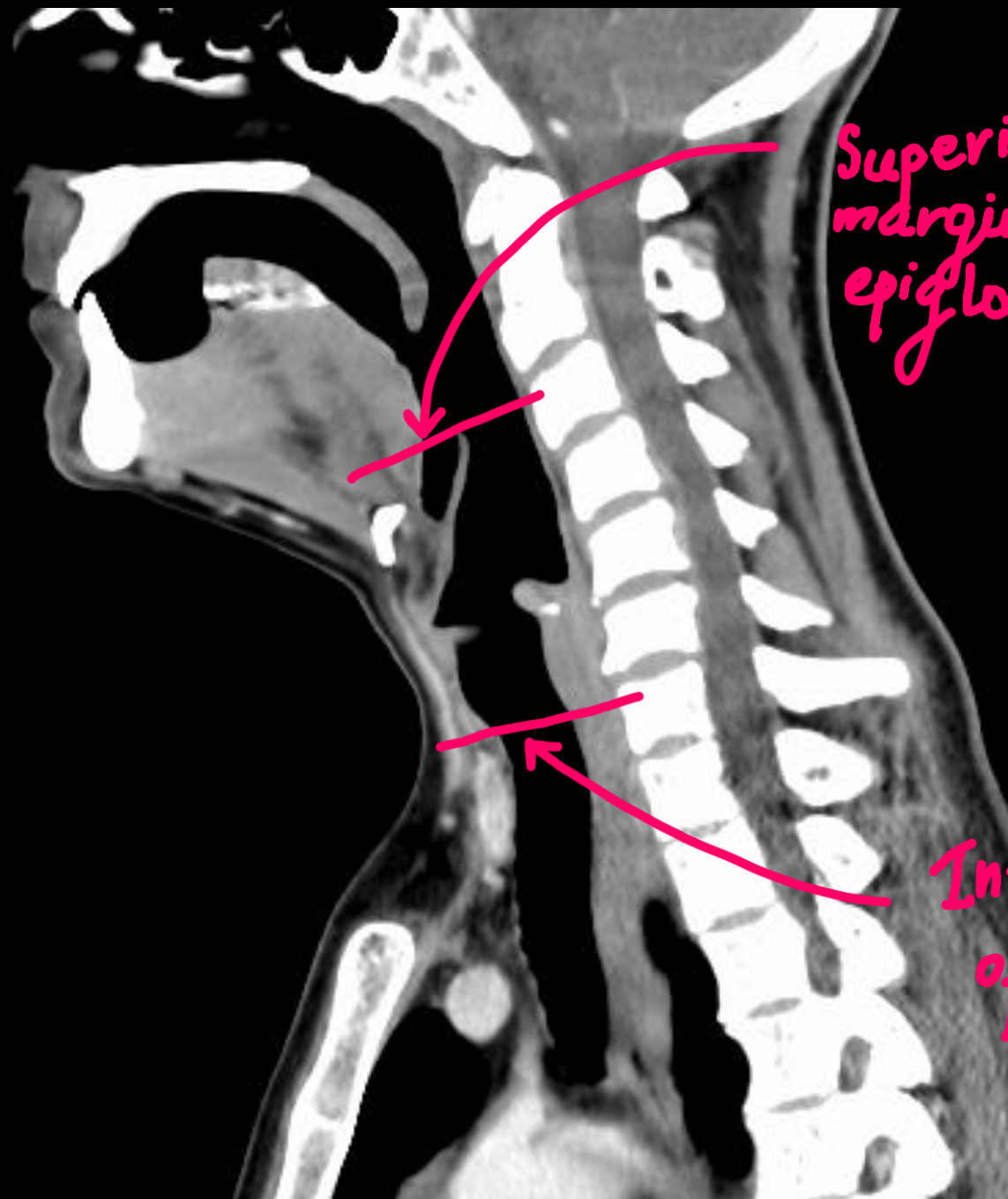
Internal?
Mixed?



Larynx?
Hypopharynx?

Objectives

- Review the anatomy of larynx and hypopharynx
- Discuss anatomic determinants of laryngeal and hypopharyngeal cancers
- Review other common pathologies





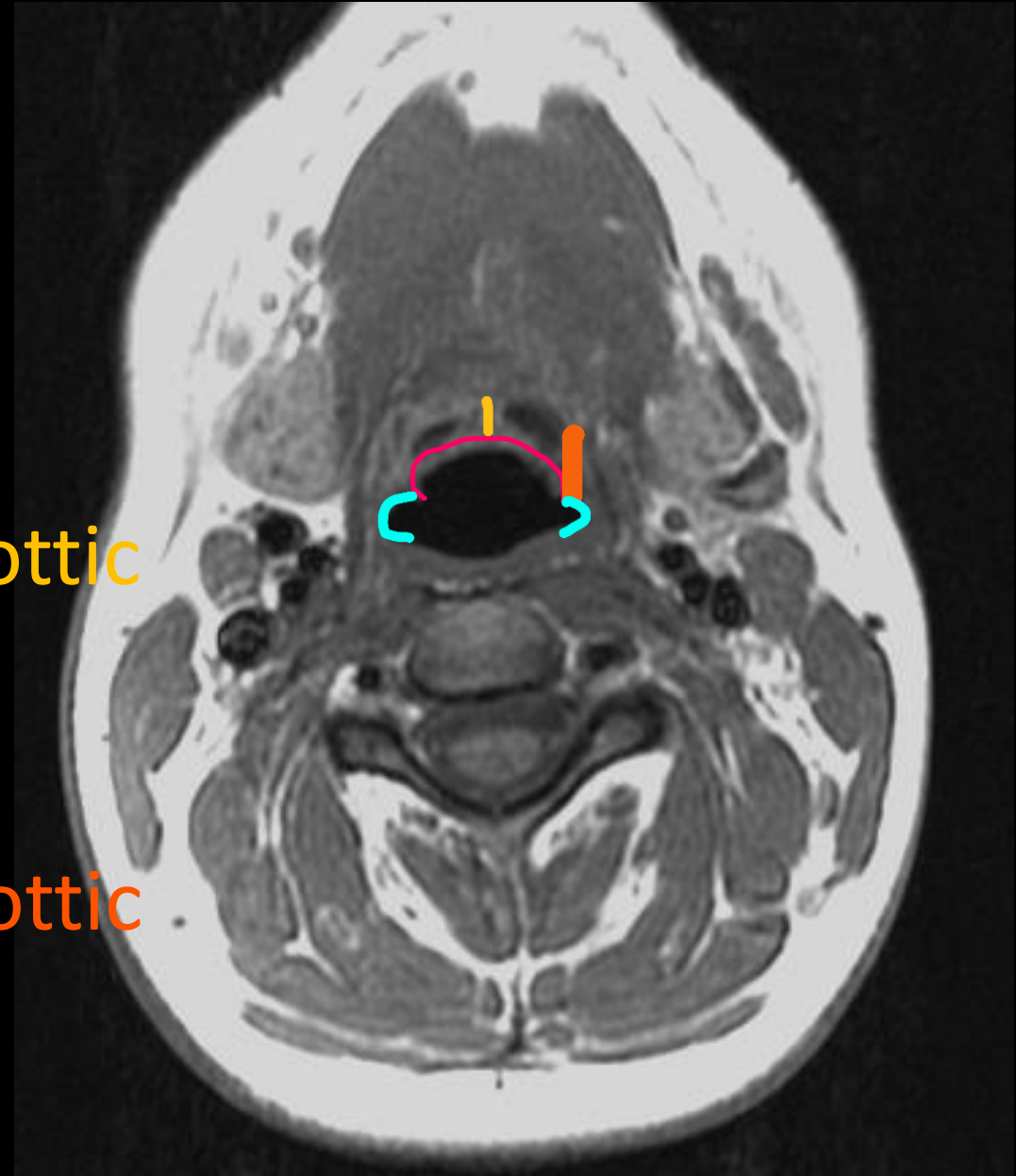
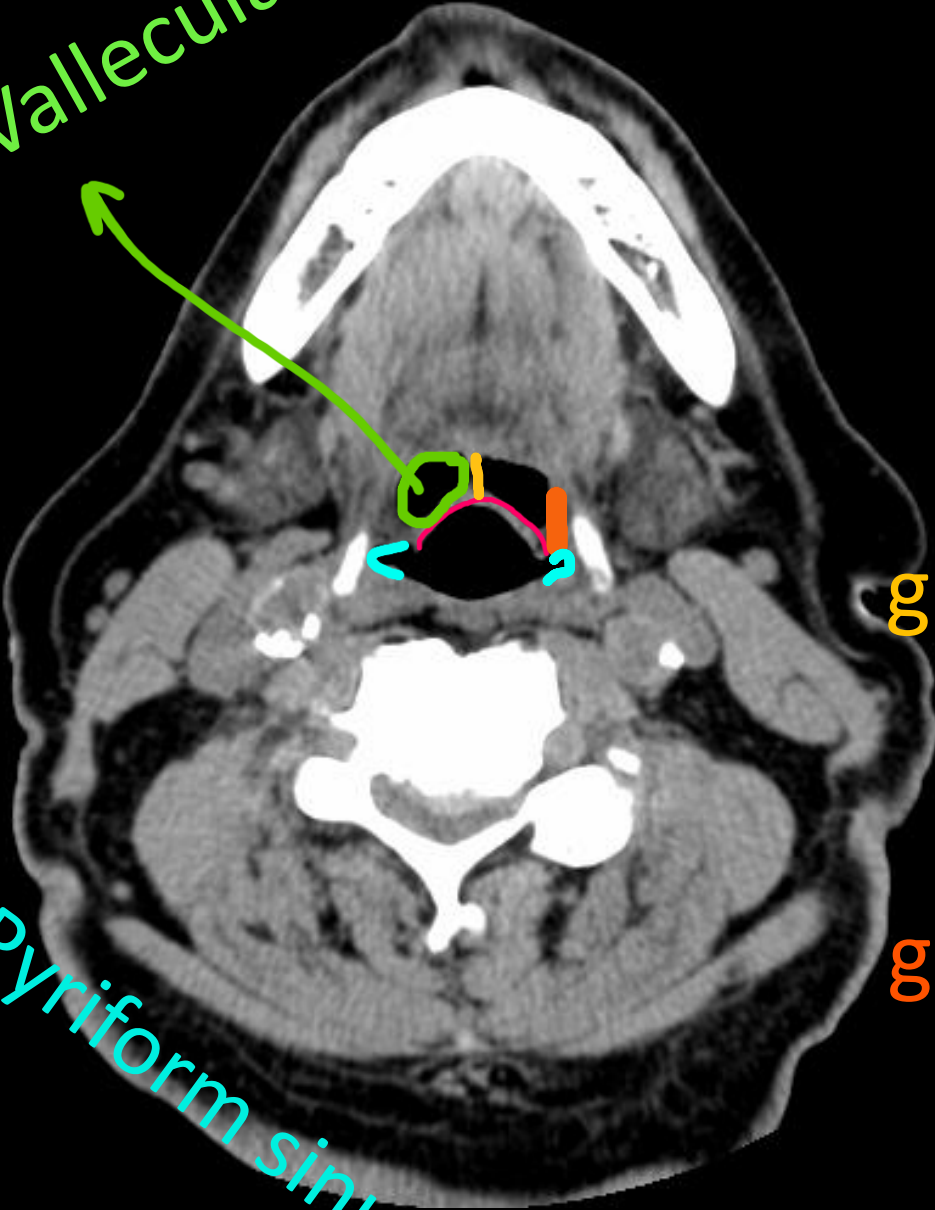
LARYNX

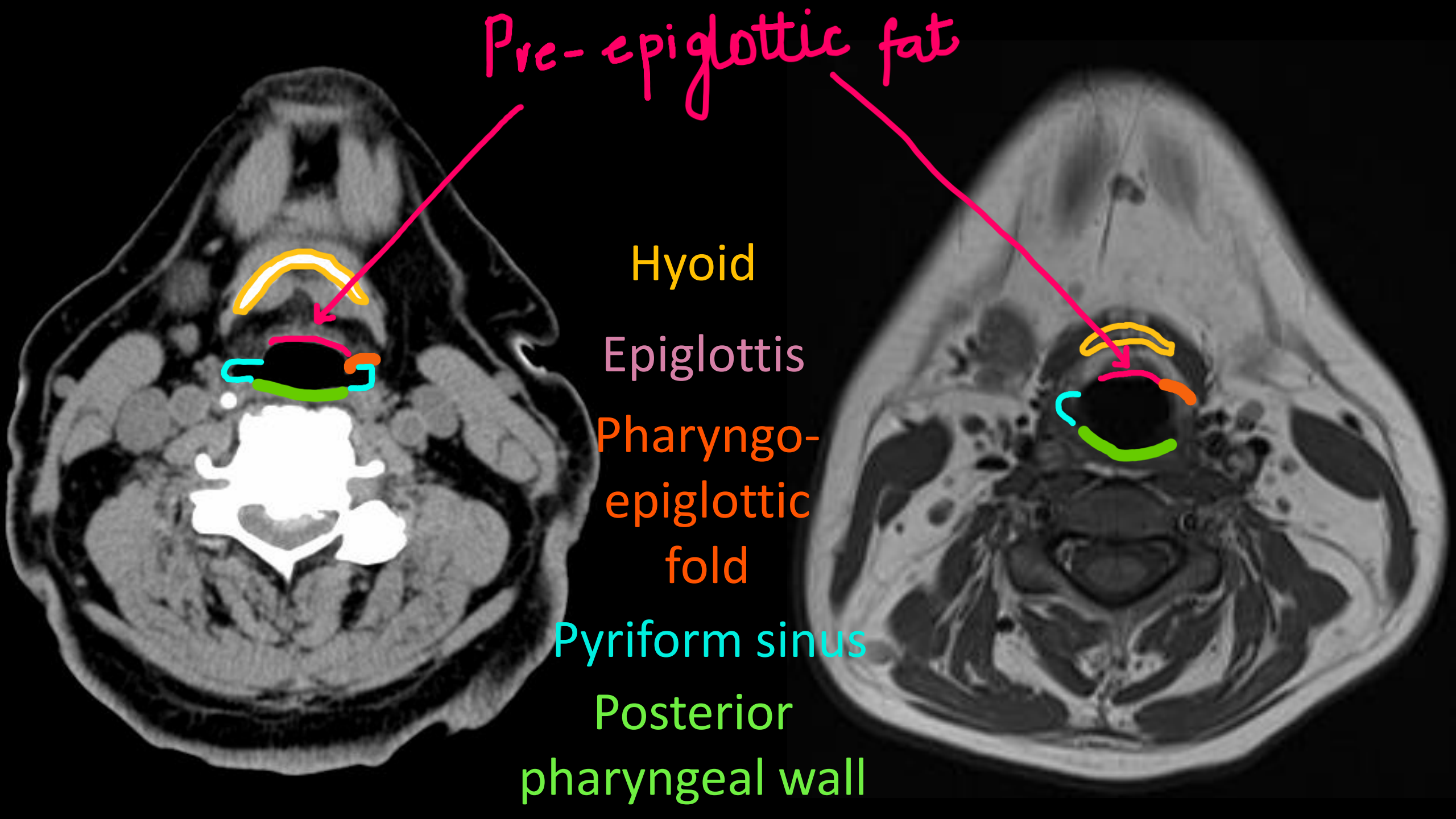
HYPOPHARYNX

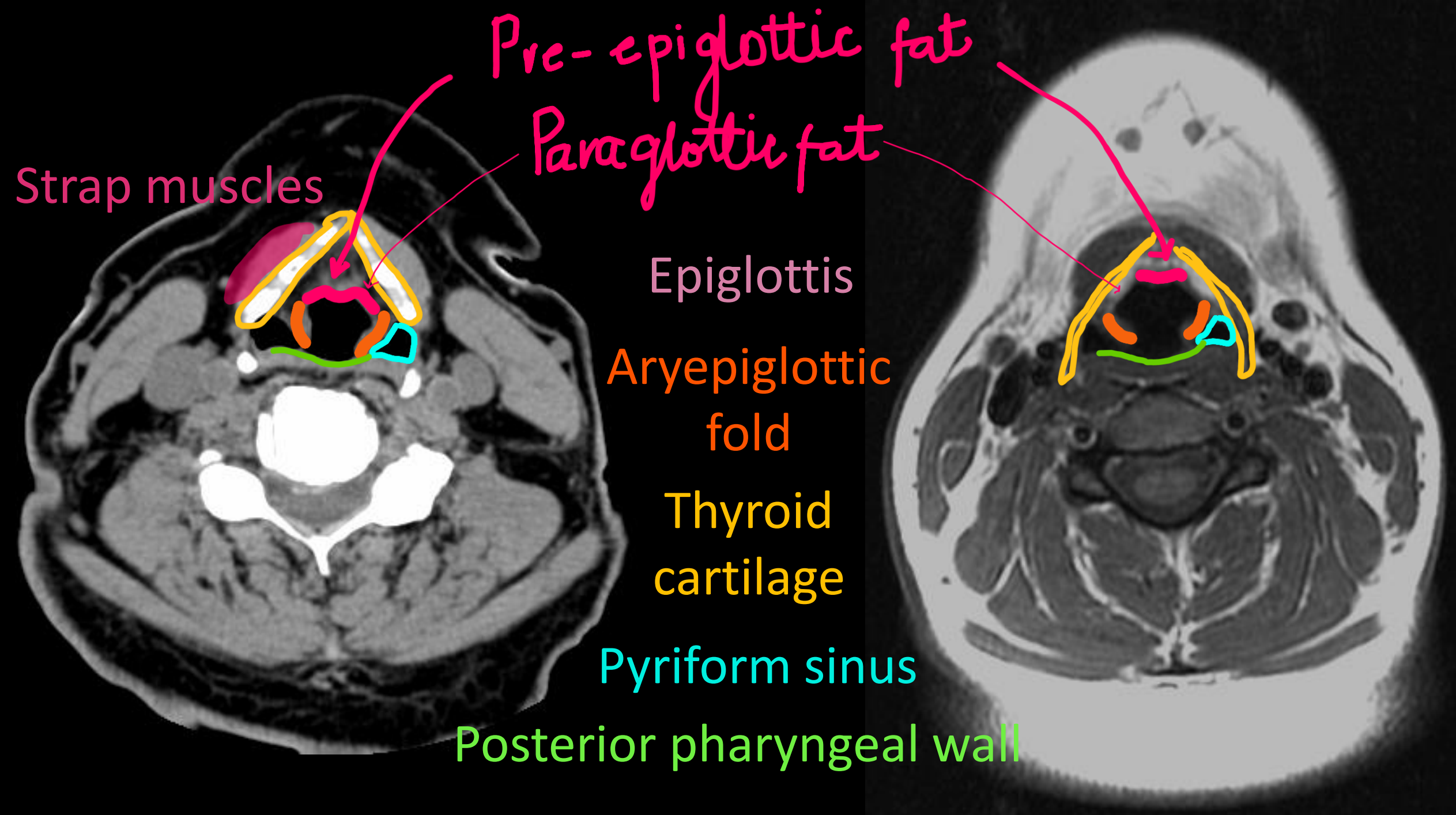
Vallecula

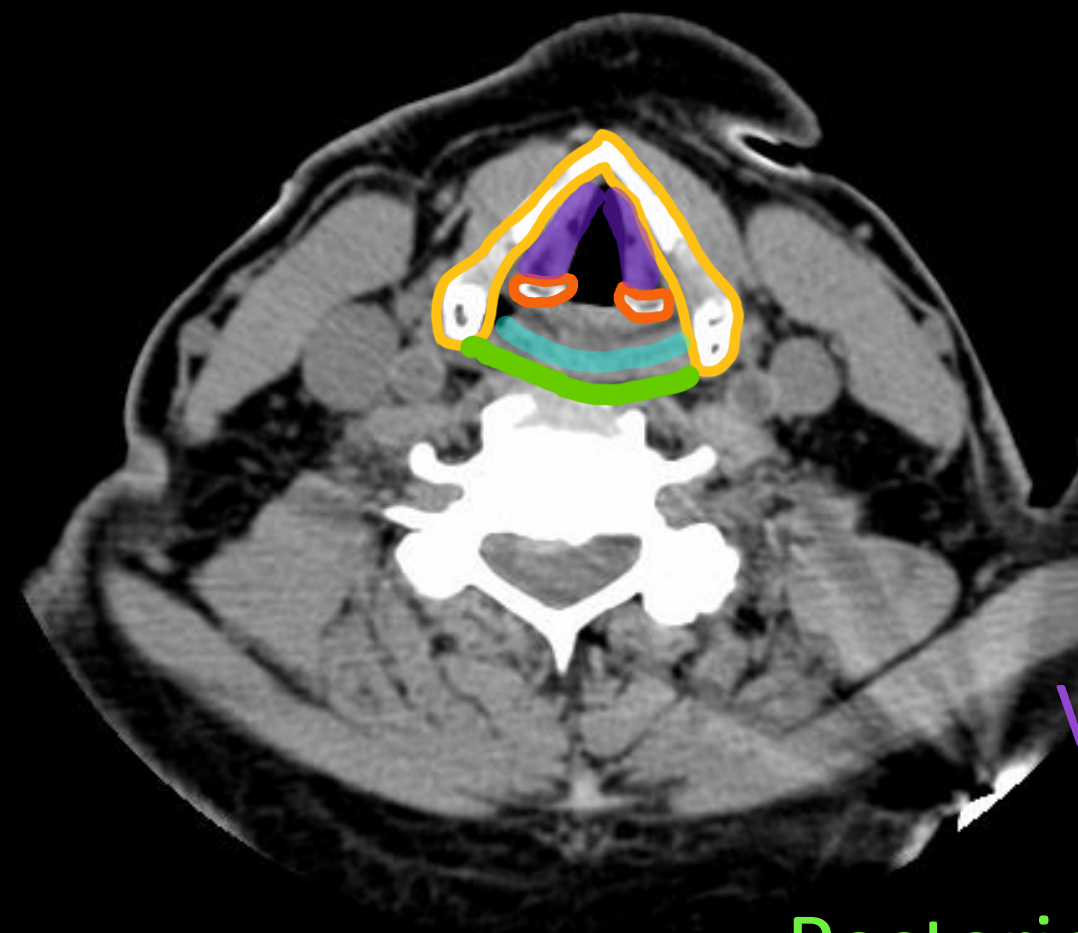
Pyriform sinus

Epiglottis
Median
glossoepiglottic
fold
Lateral
glossoepiglottic
fold









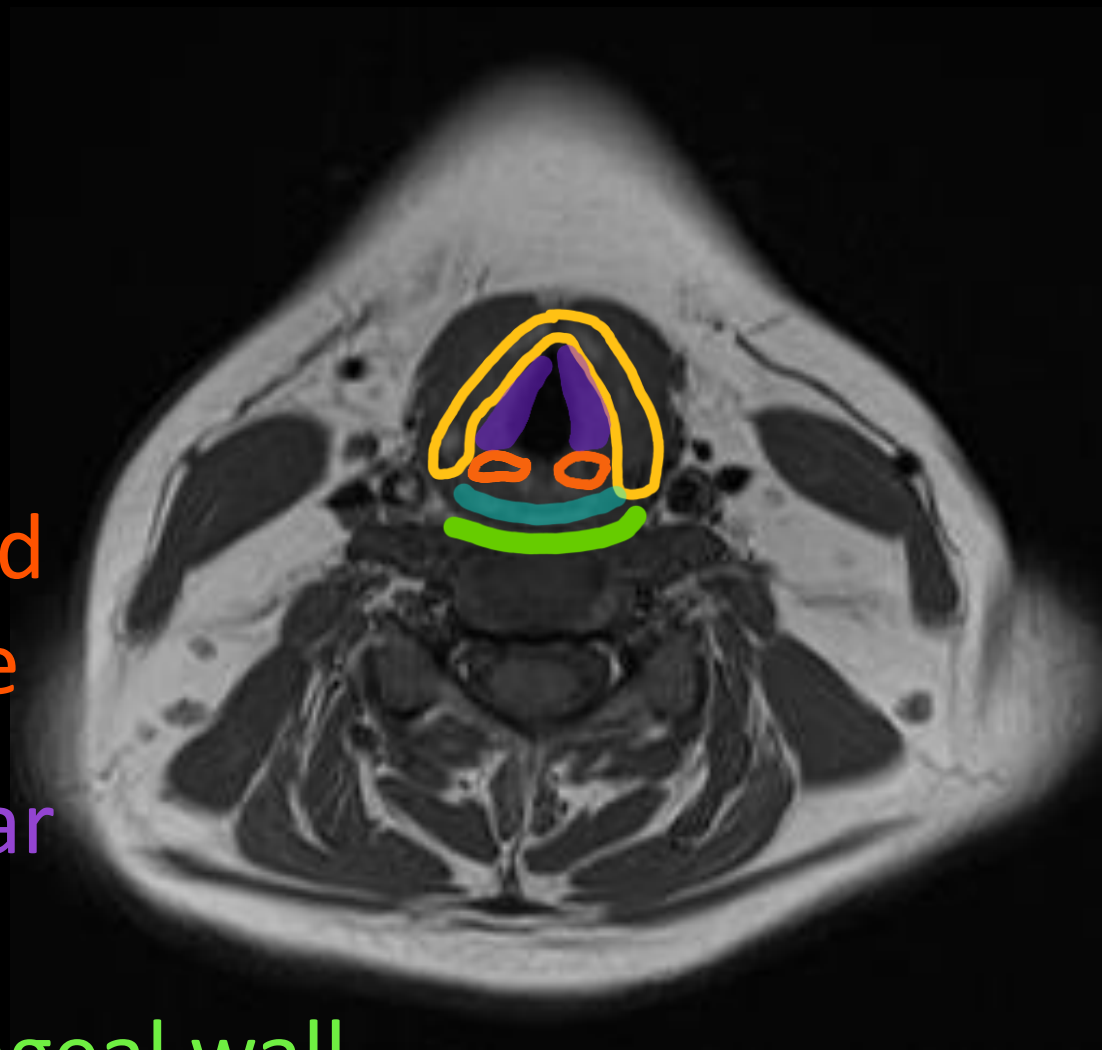
Thyroid
cartilage

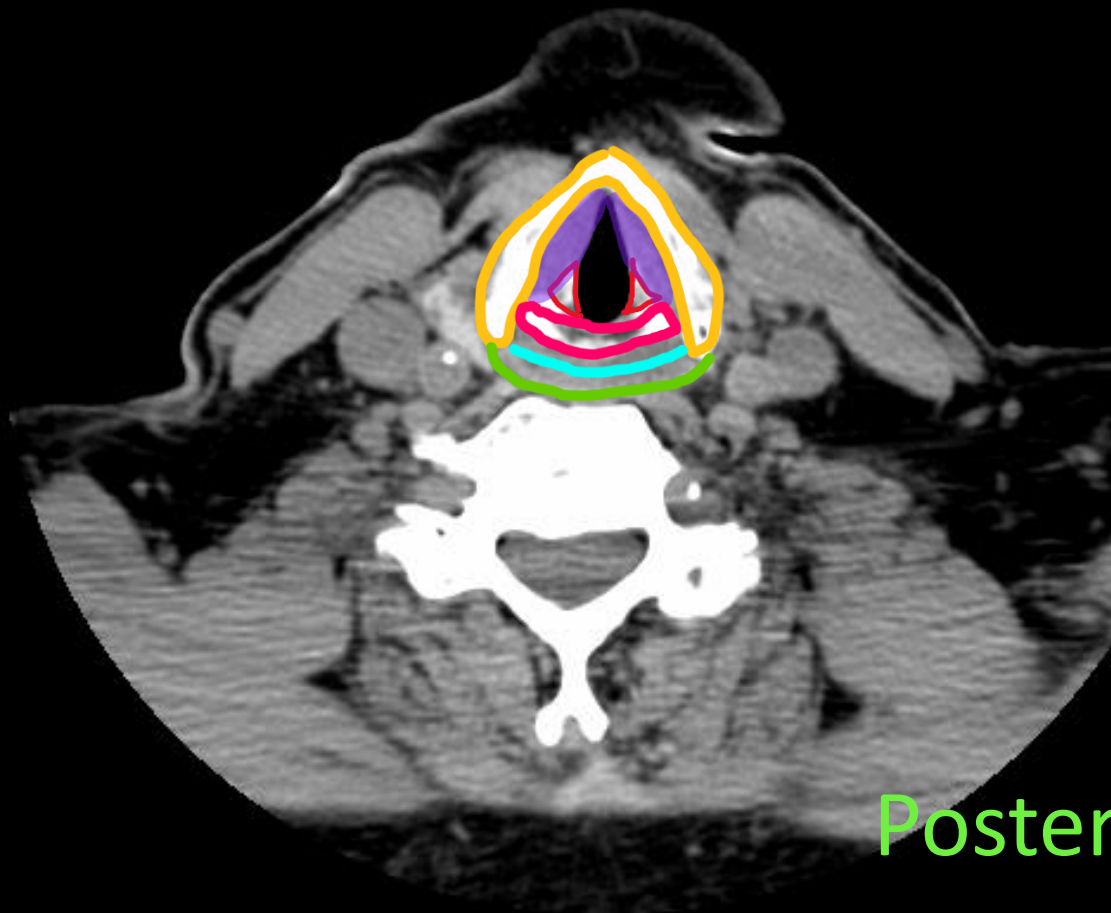
Arytenoid
cartilage

Ventricular
folds

Posterior pharyngeal wall

Postcricoid hypopharynx





Thyroid
cartilage

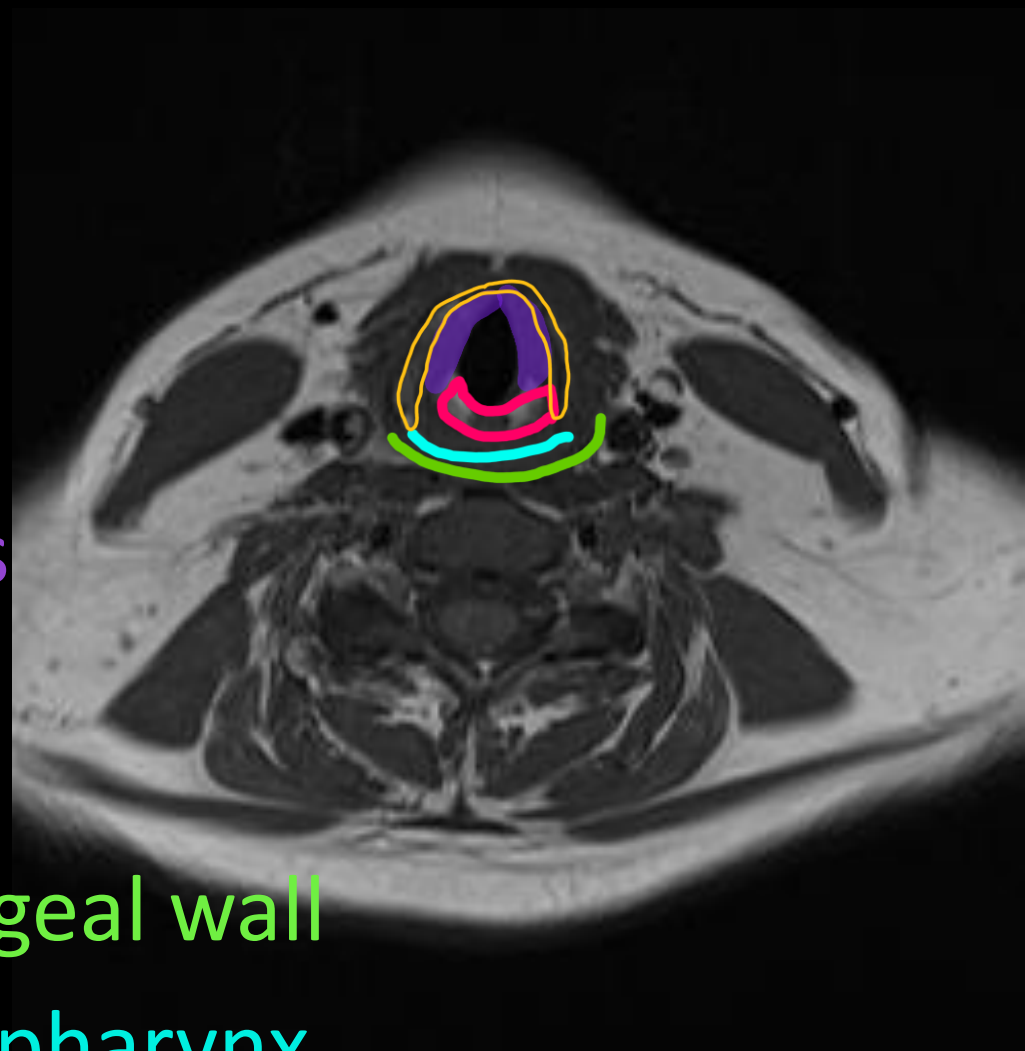
Arytenoid
cartilage

True
vocal cords

Cricoid
cartilage

Posterior pharyngeal wall

Postcricoid hypopharynx

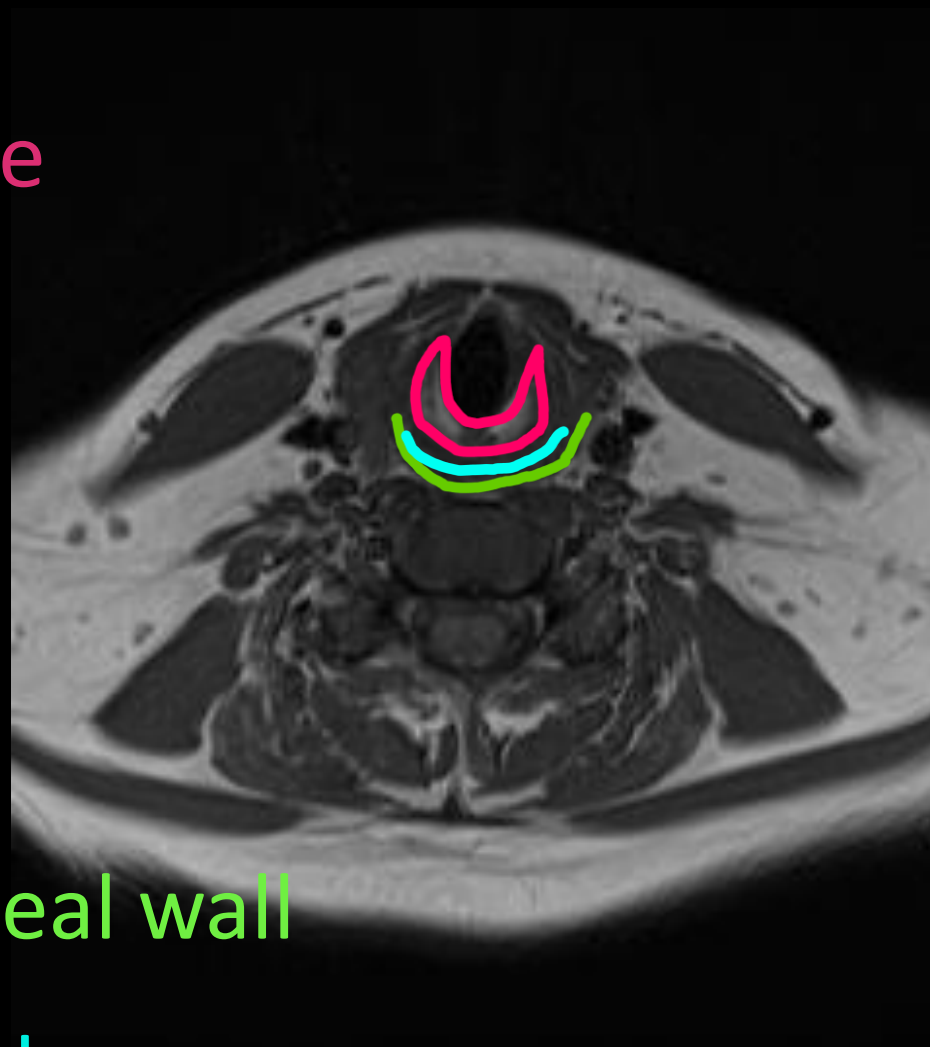


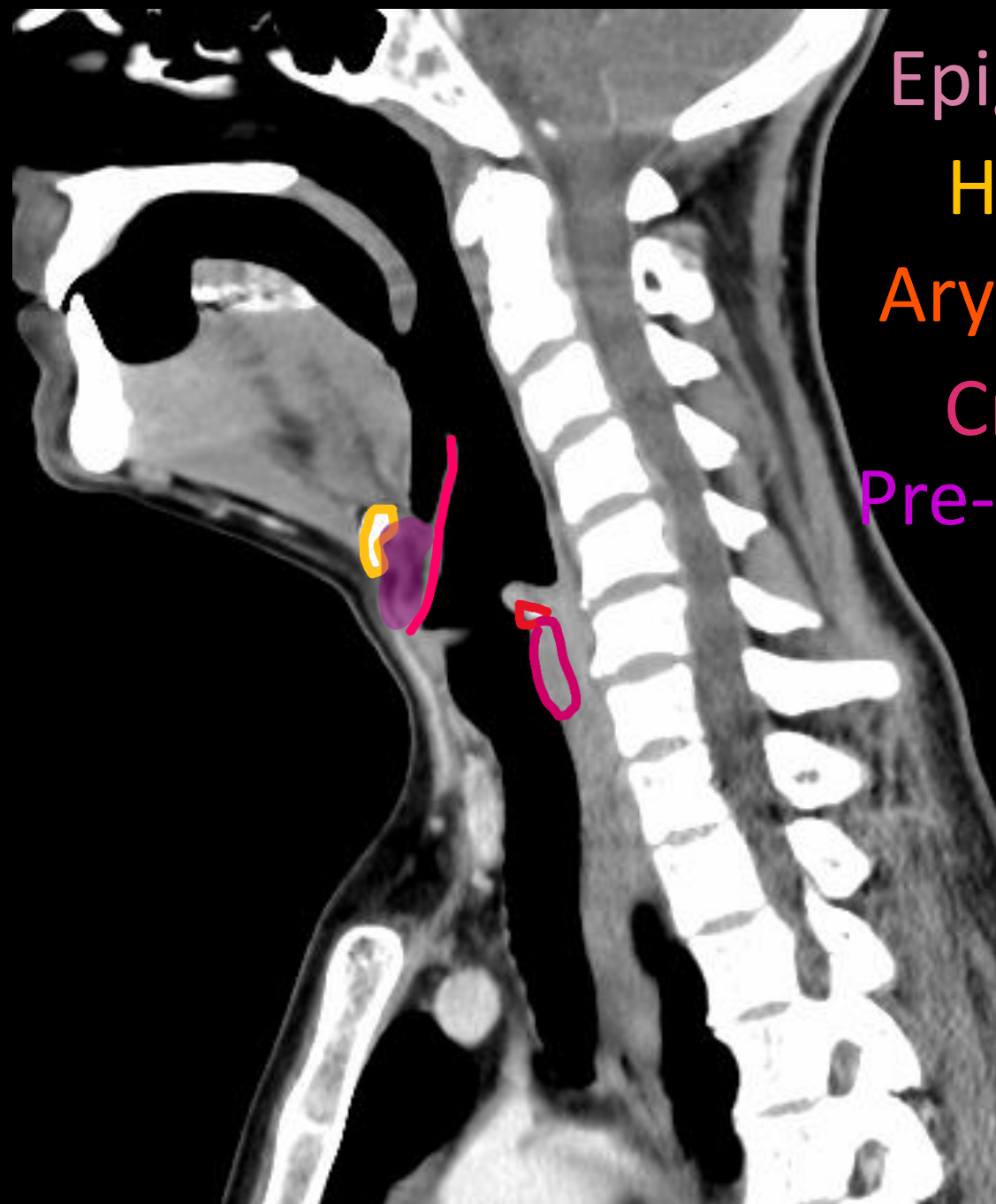
Cricoid cartilage



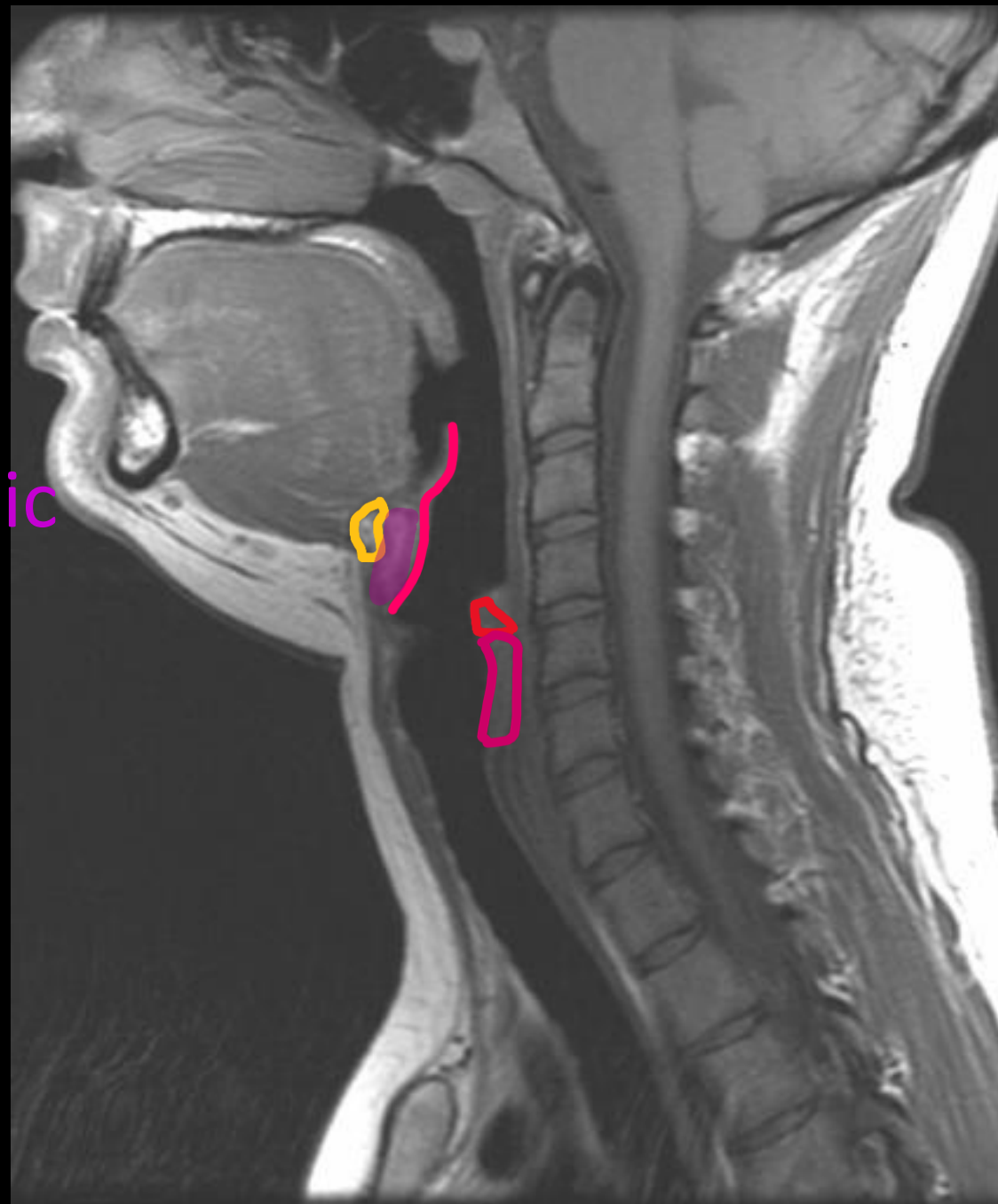
Posterior pharyngeal wall

Postcricoid hypopharynx





Epiglottis
Hyoid
Arytenoid
Cricoid
Pre-epiglottic
fat



Hyoid

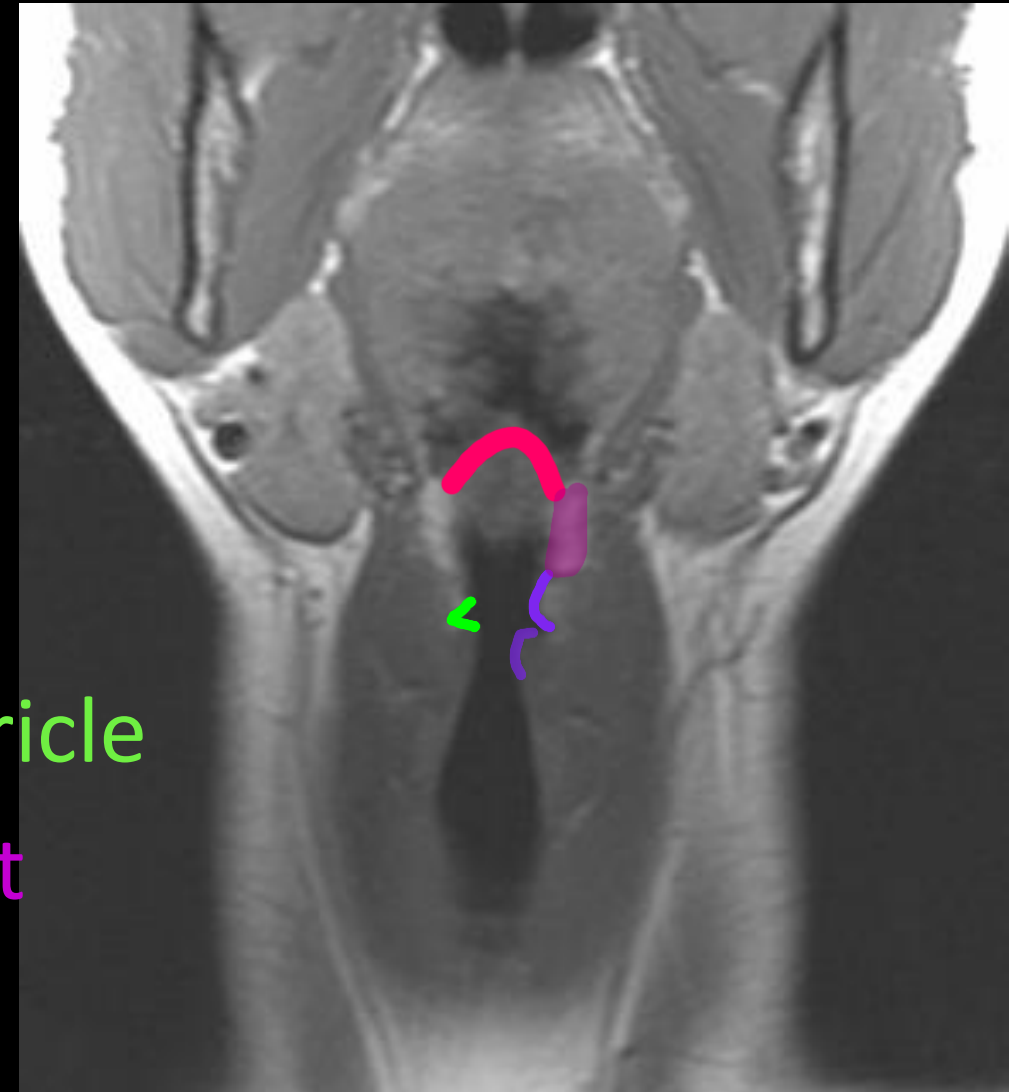
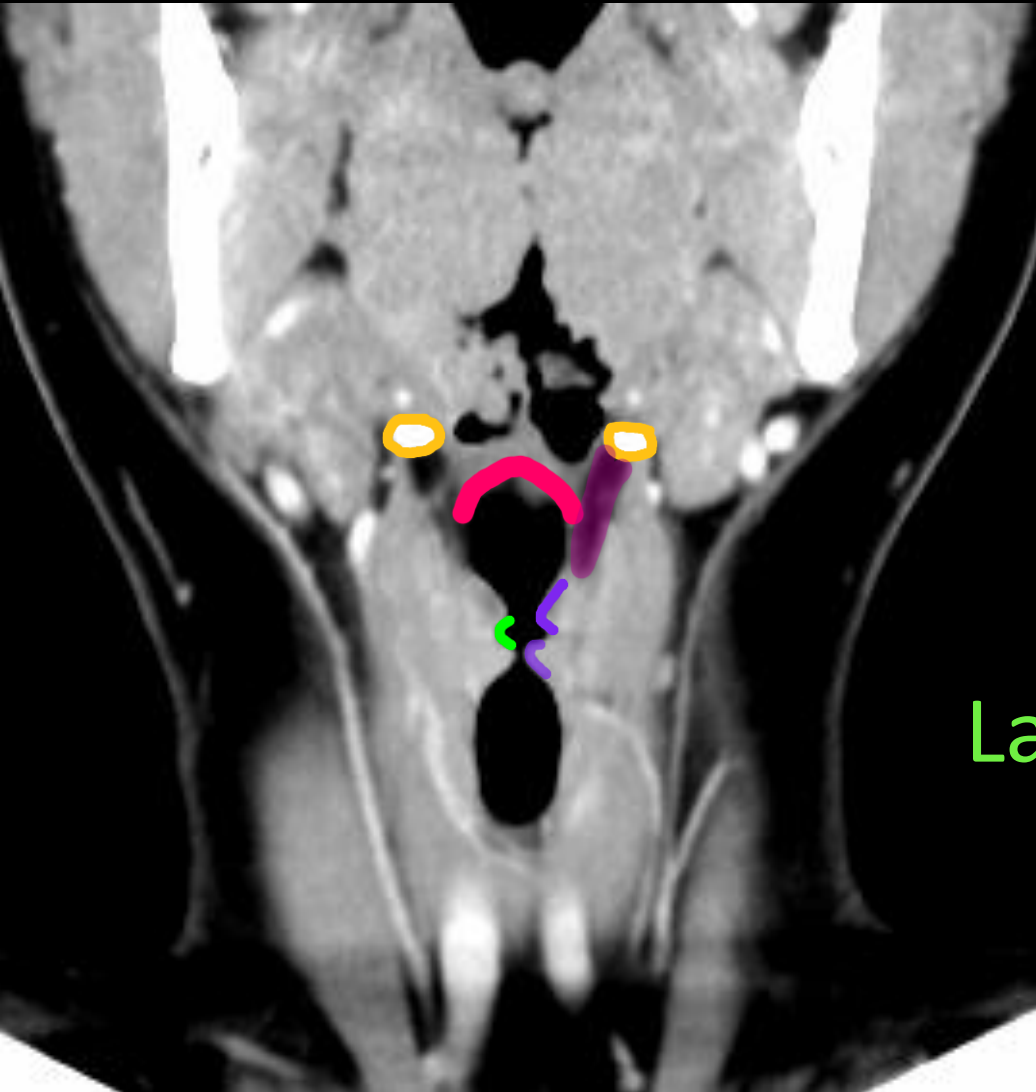
Epiglottis

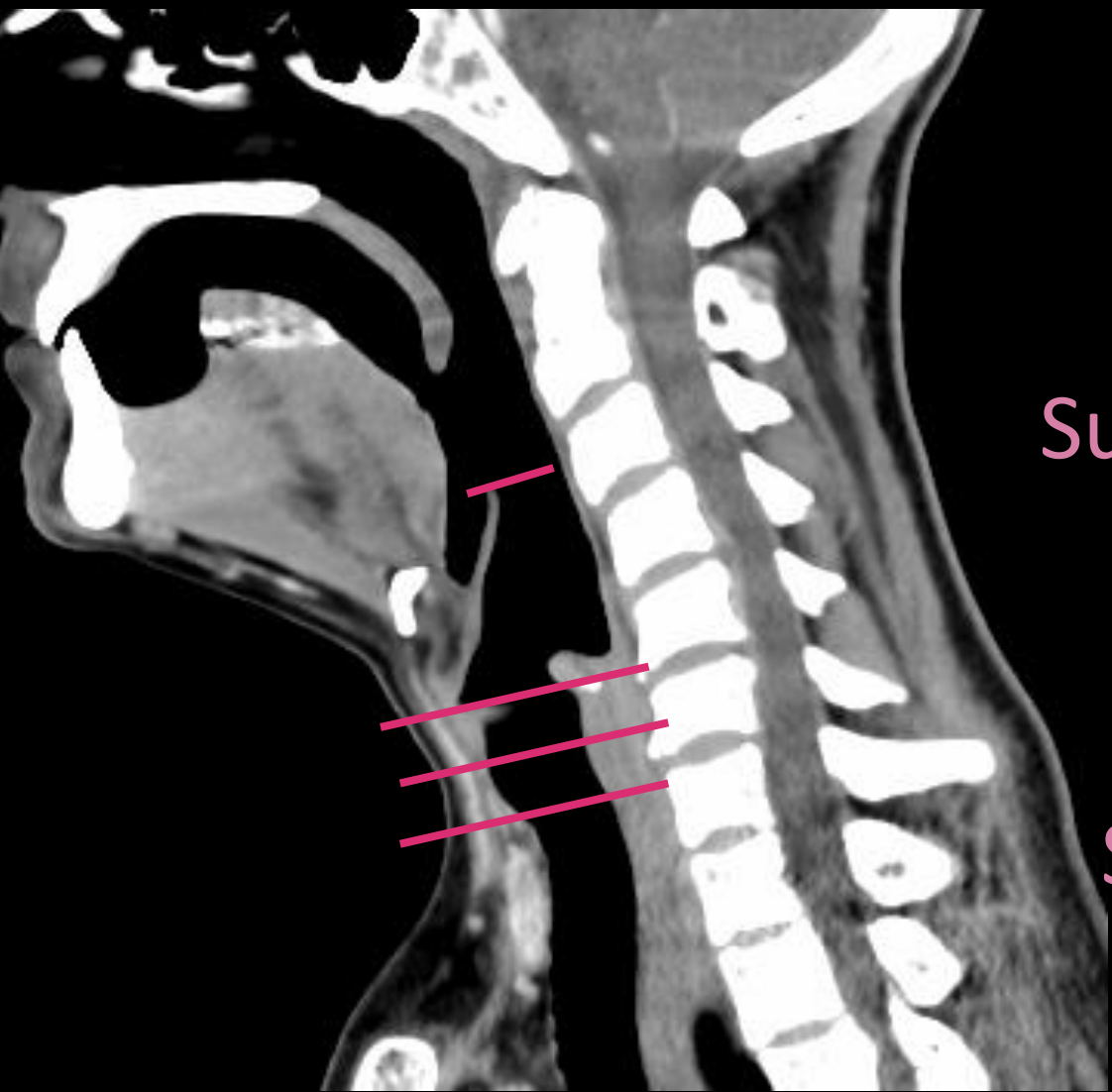
Ventricular
folds

True
vocal cords

Laryngeal ventricle

Paraglottic fat

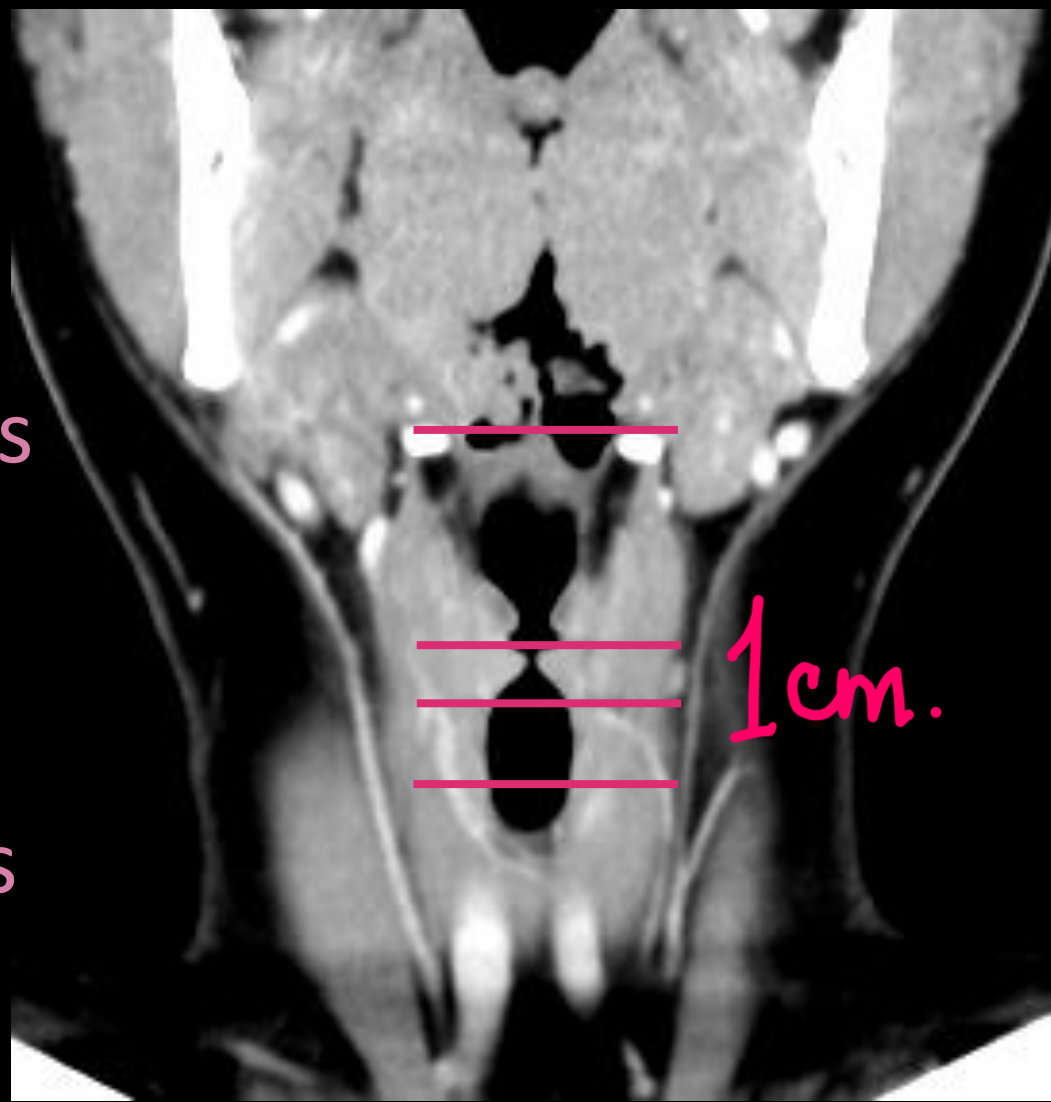


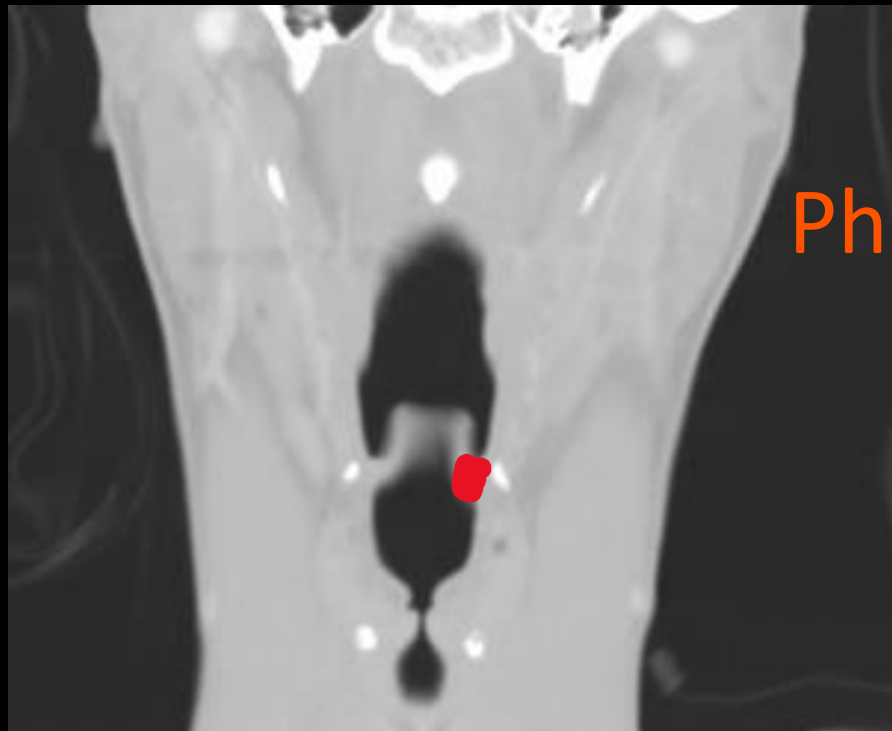


Supraglottis

Glottis

Subglottis

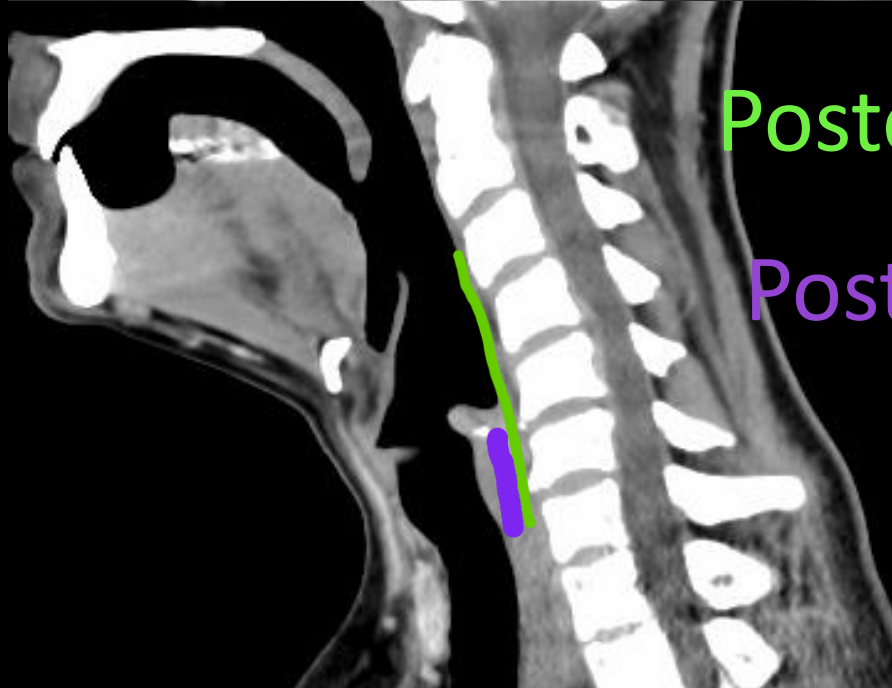




Pharyngo-epiglottic fold

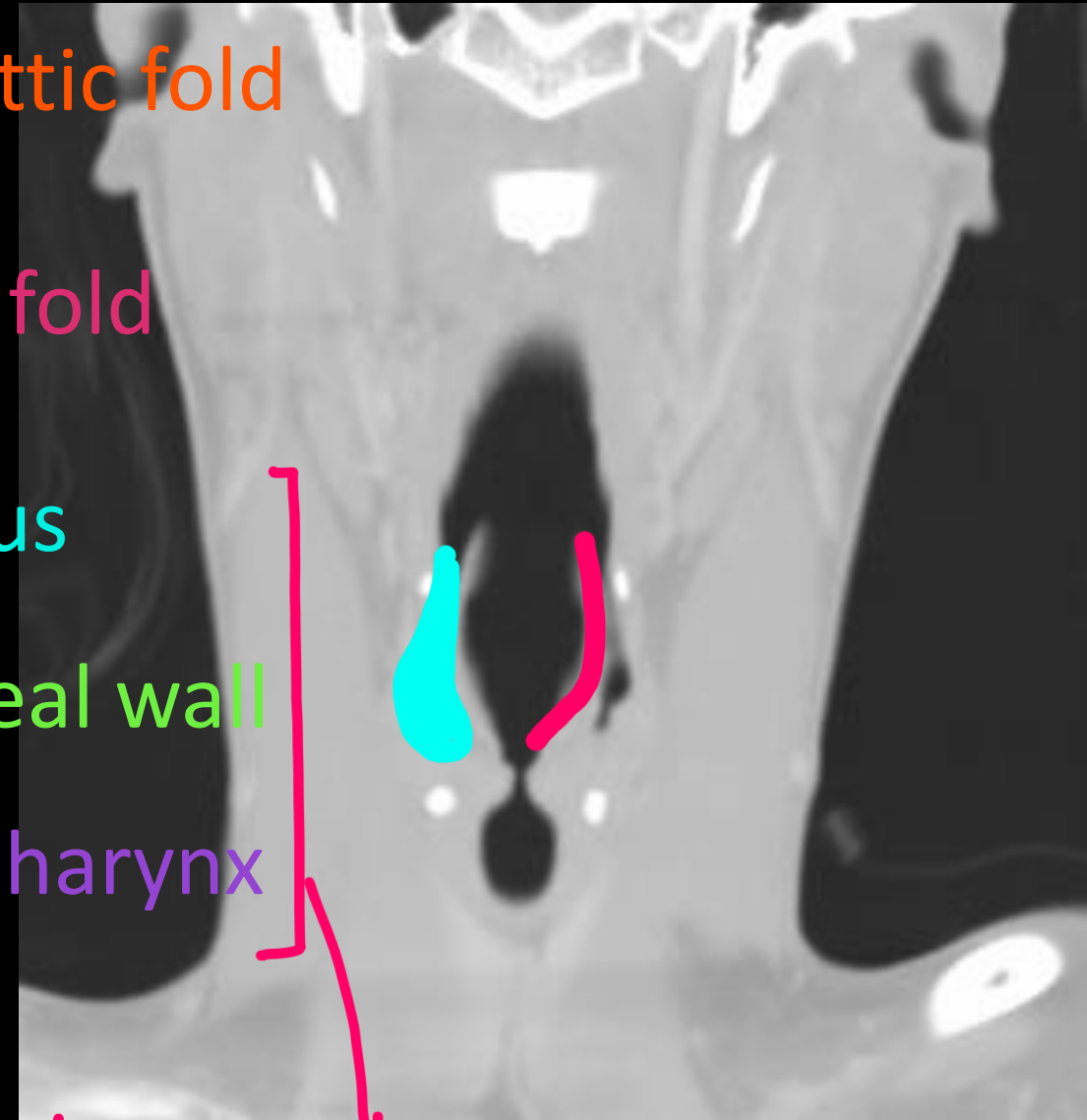
Aryepiglottic fold

Pyriform sinus



Posterior pharyngeal wall

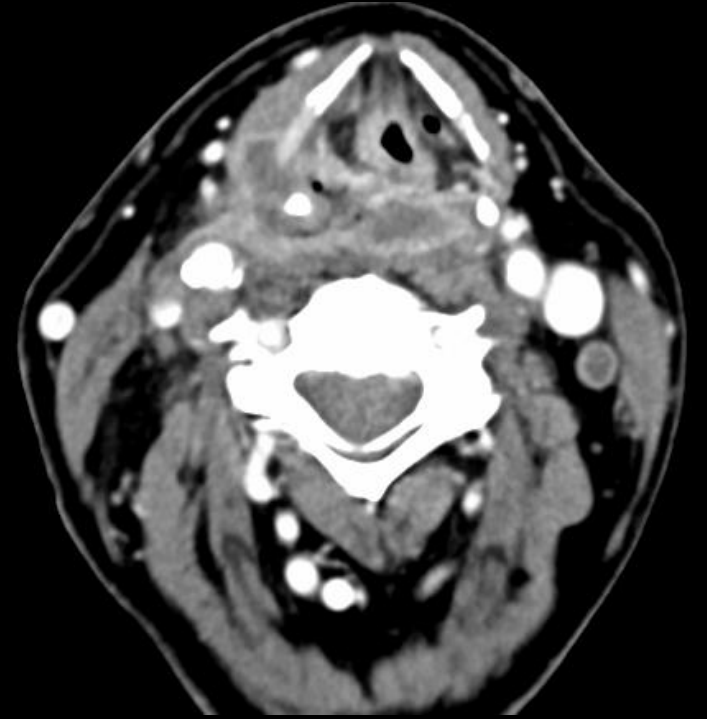
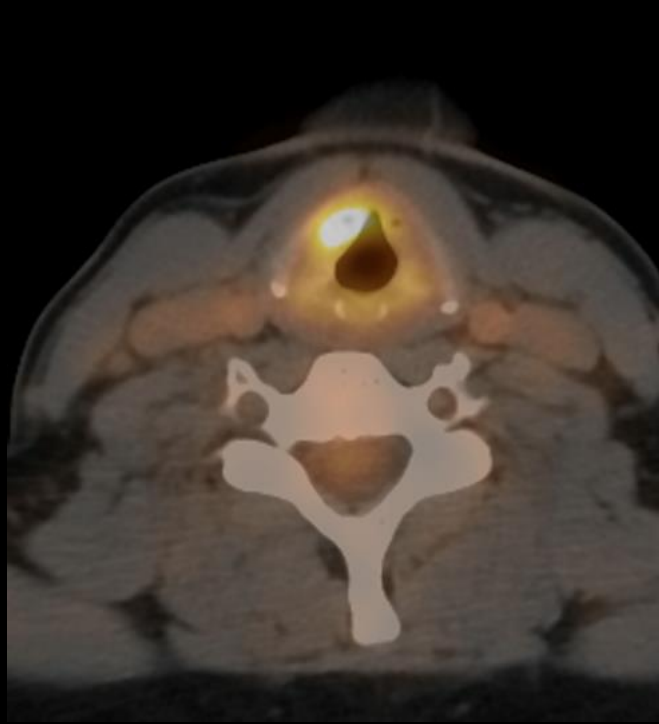
Postcricoid hypopharynx



Hypopharynx

Objectives

- Review the anatomy of larynx and hypopharynx
- Discuss anatomic determinants of laryngeal and hypopharyngeal cancers
- Review other common pathologies



Site/subsite, adjacent site involvement, NOT
size determines laryngeal cancer stage

Anatomic subsites - Larynx

Supraglottis

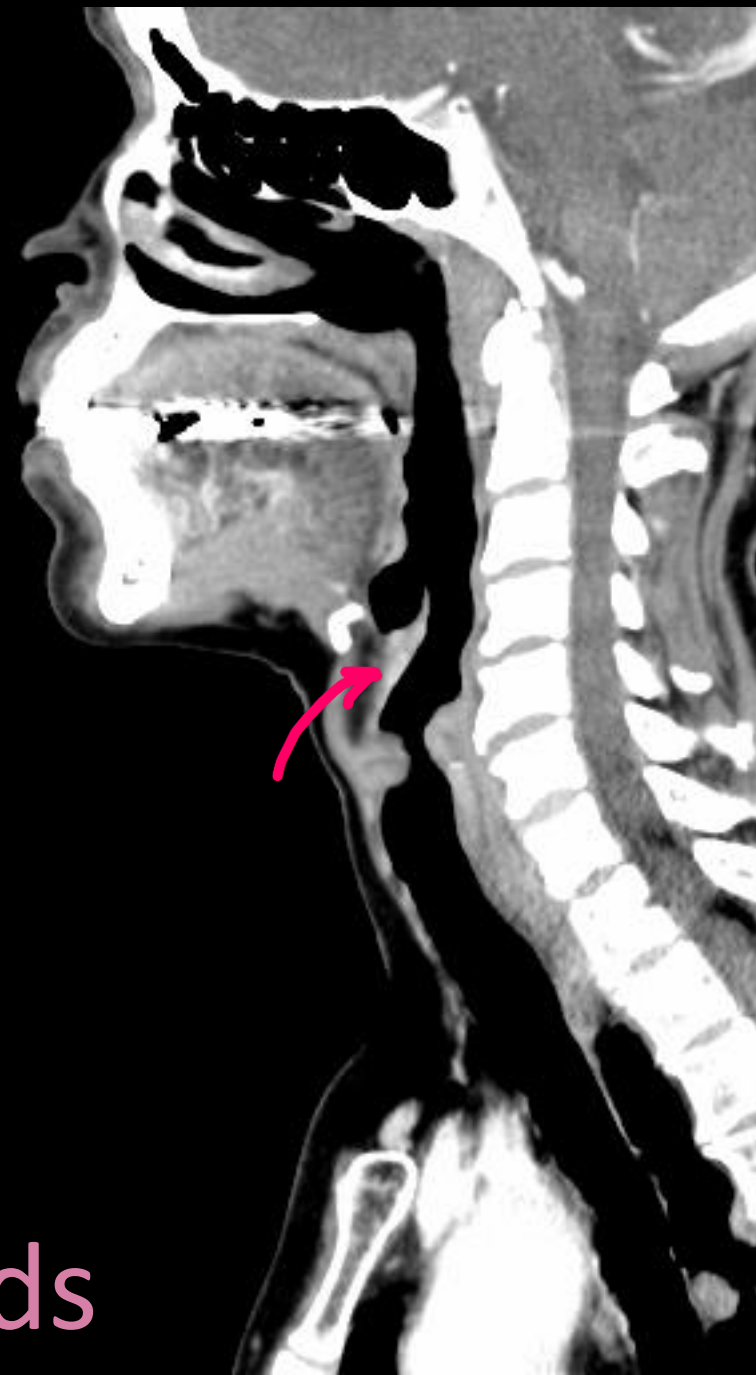
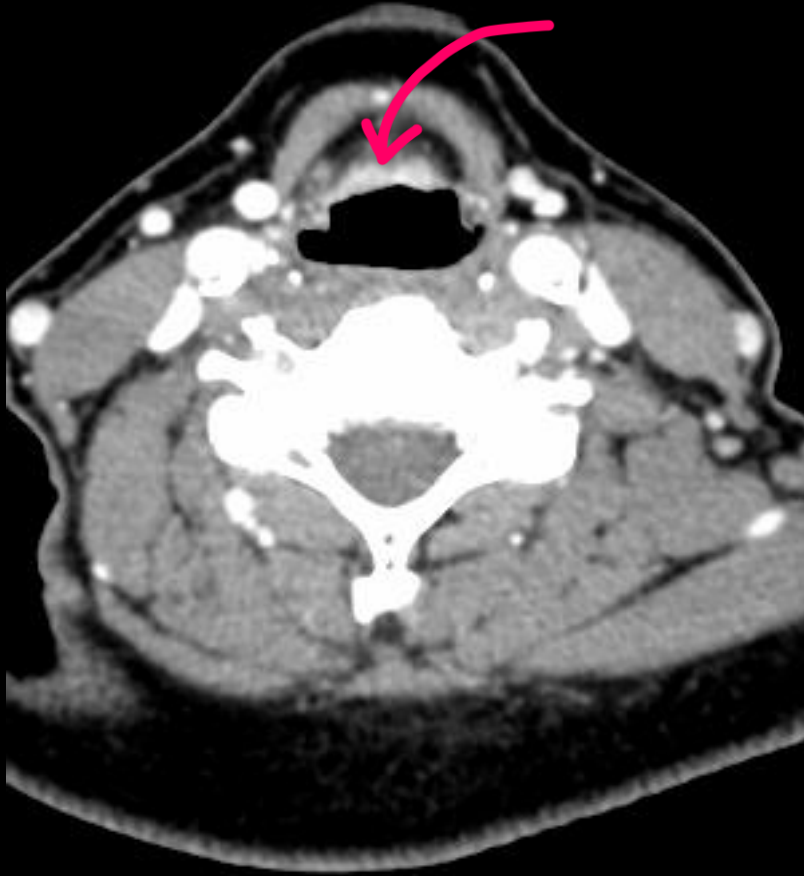
Suprahyoid epiglottis
Infrahyoid epiglottis
Aryepiglottic folds (laryngeal)
Arytenoids
False vocal cords

Glottis

True vocal cords
Anterior commissure
Posterior commissure

Subglottis

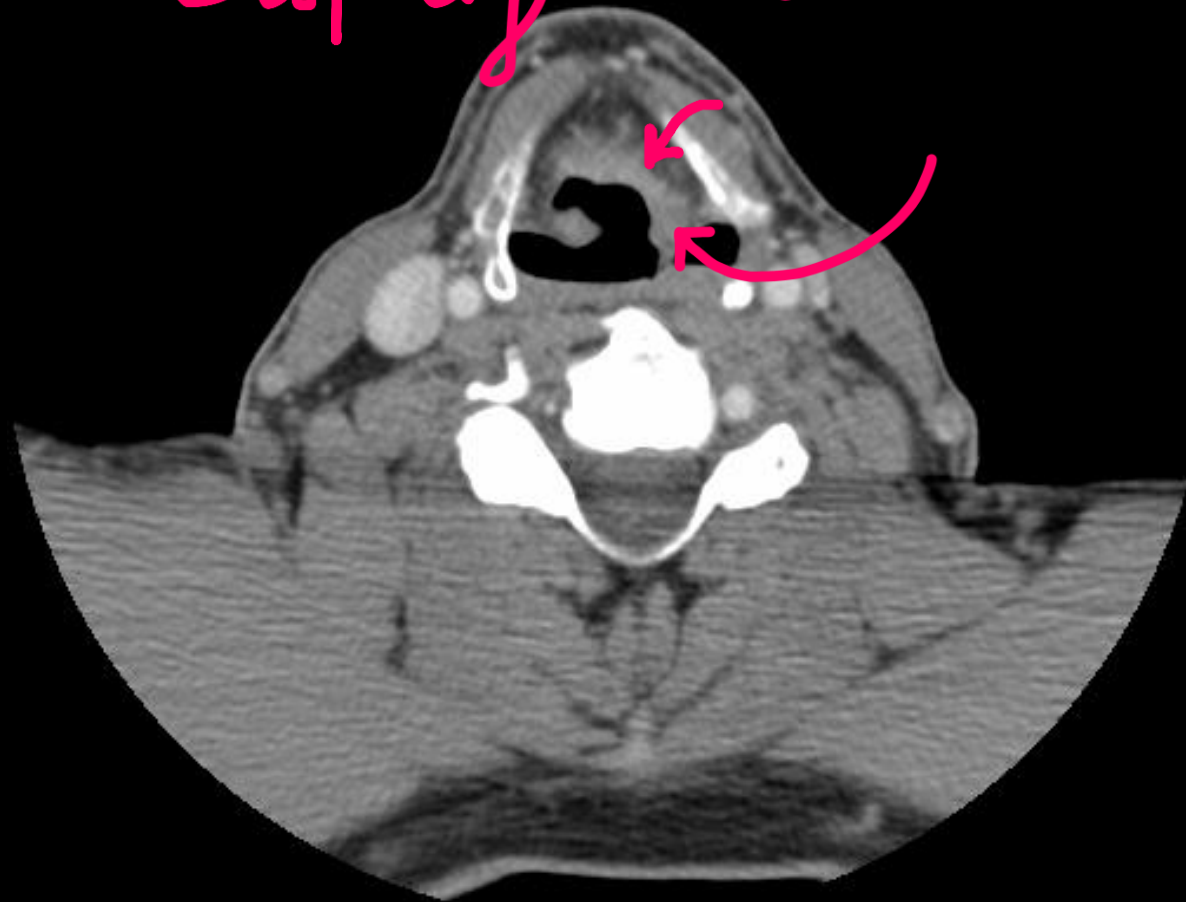
T₁ Supraglottic Ca



Single subsite
No pre or paraglottic ds

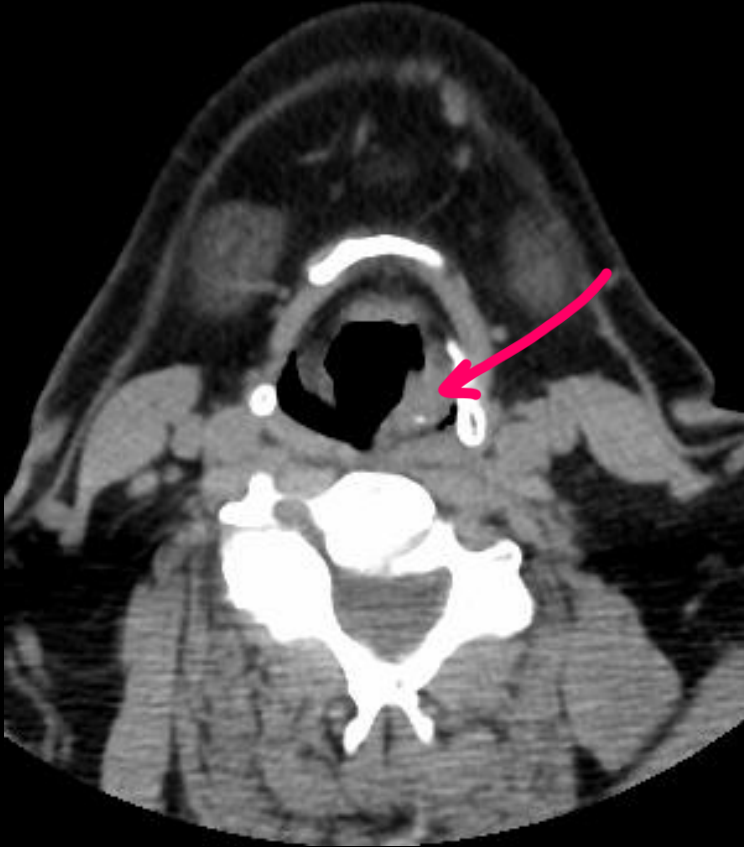


T2 Supraglottic Ca

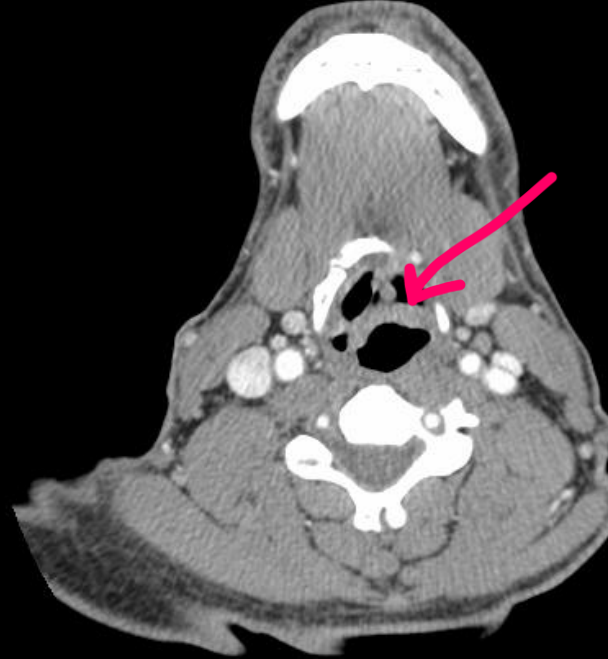


> 1 subsite
No pre or paraglottic ds

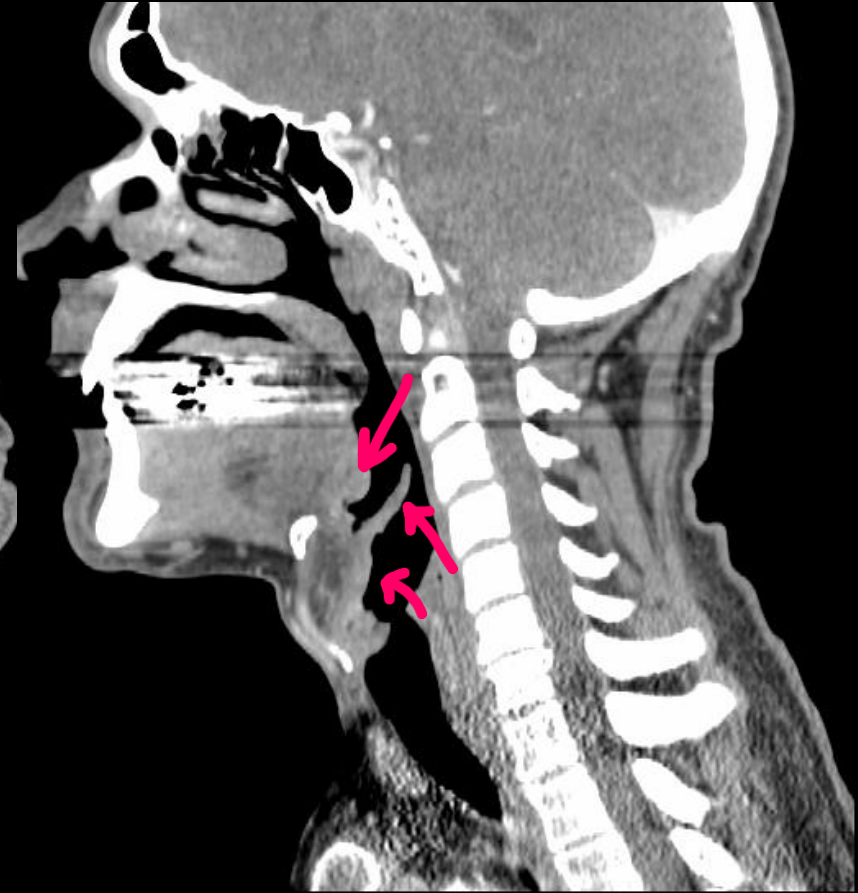
T2 Supraglottic Ca anatomic determinants



Single subsite BUT!
Adjacent region involved
(medial wall of pyriform sinus)



> 1 subsite (including glottis)
Adjacent region
(BOT mucosa)



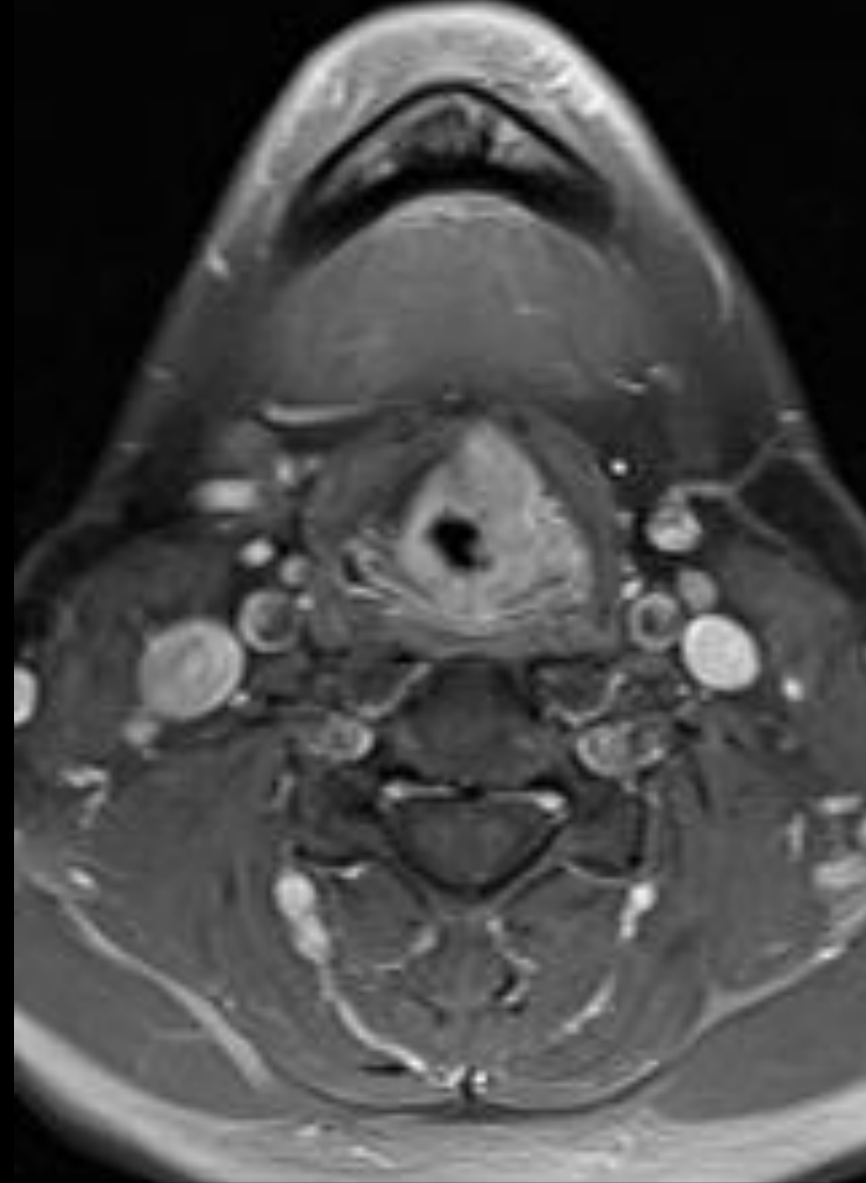
T3
Supraglottic
Ca



Pre-epiglottic fat involved
Paraglottic fat involved
Inner cortex thyroid cartilage

T3 Supraglottic Ca

Paraglottic
fat



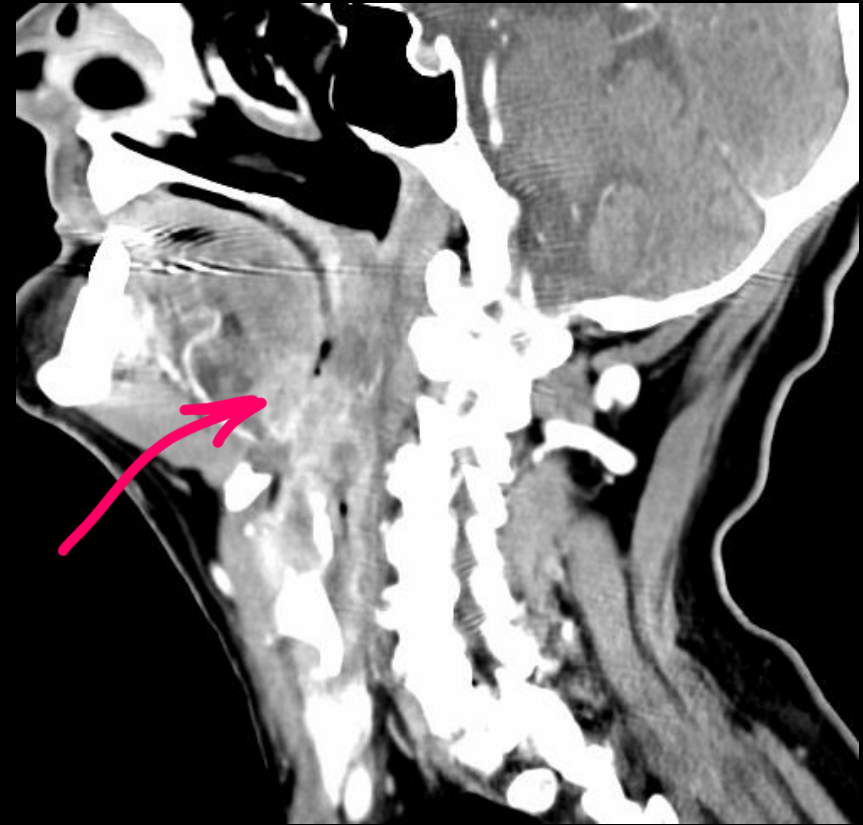
T4 Supraglottic Ca



Strap muscles



Outer cortex
thyroid cartilage



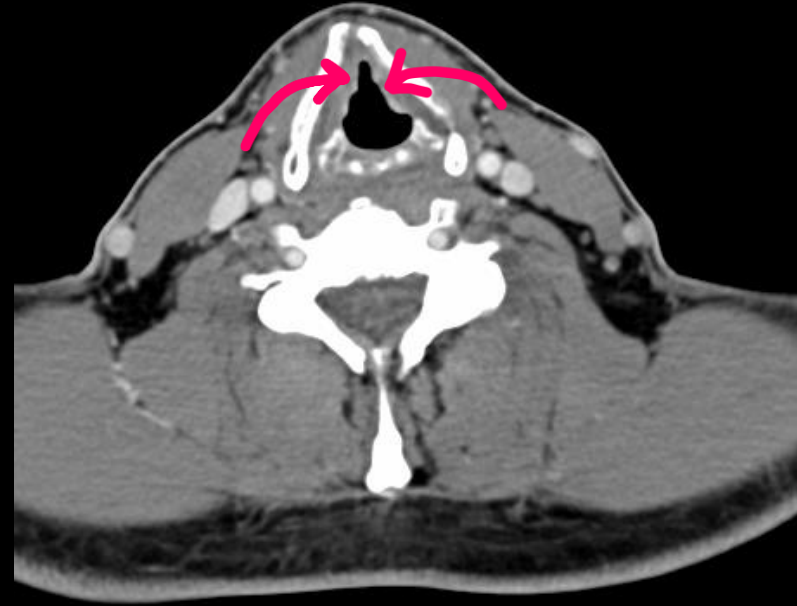
Extrinsic tongue
muscles

T1 Glottic Ca anatomic determinants

Tumor limited to vocal cords



T1a



T1b

T2 Glottic Ca anatomic determinants

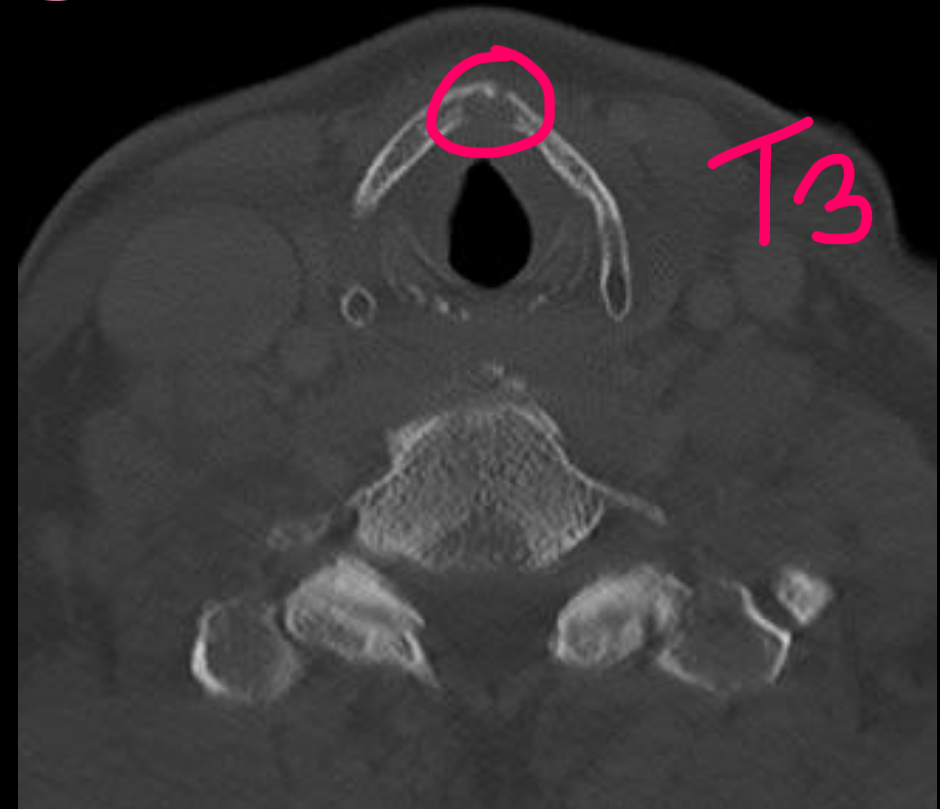
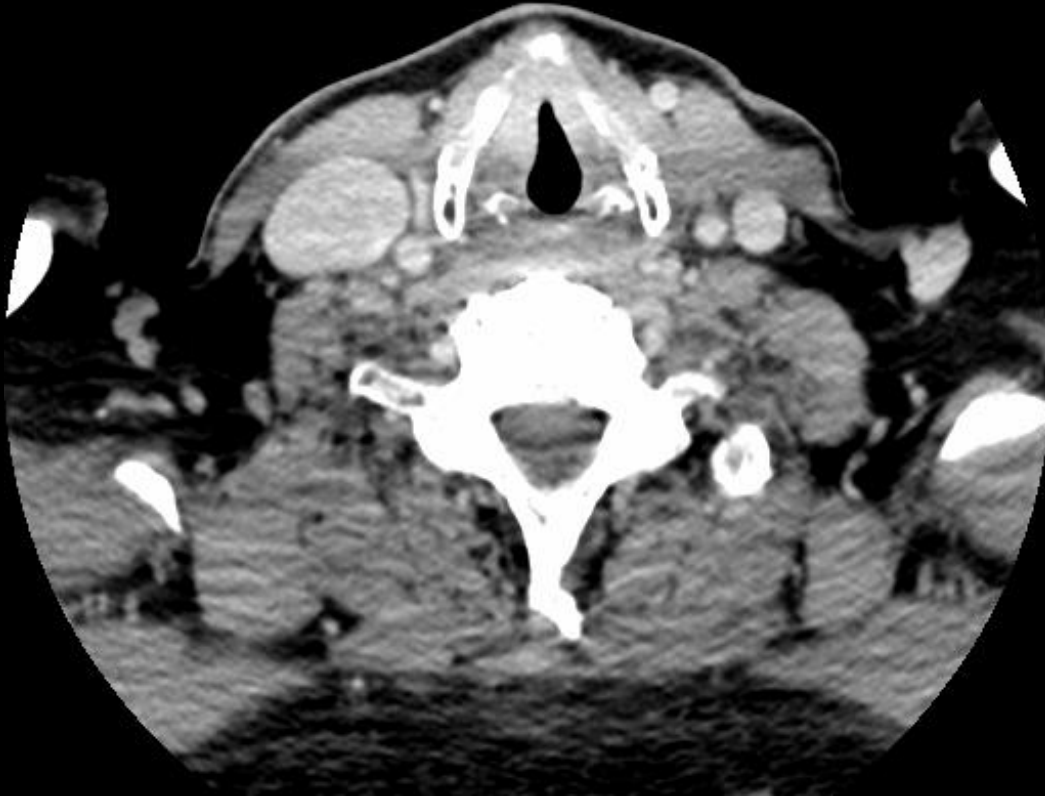
Supra- or subglottic involvement



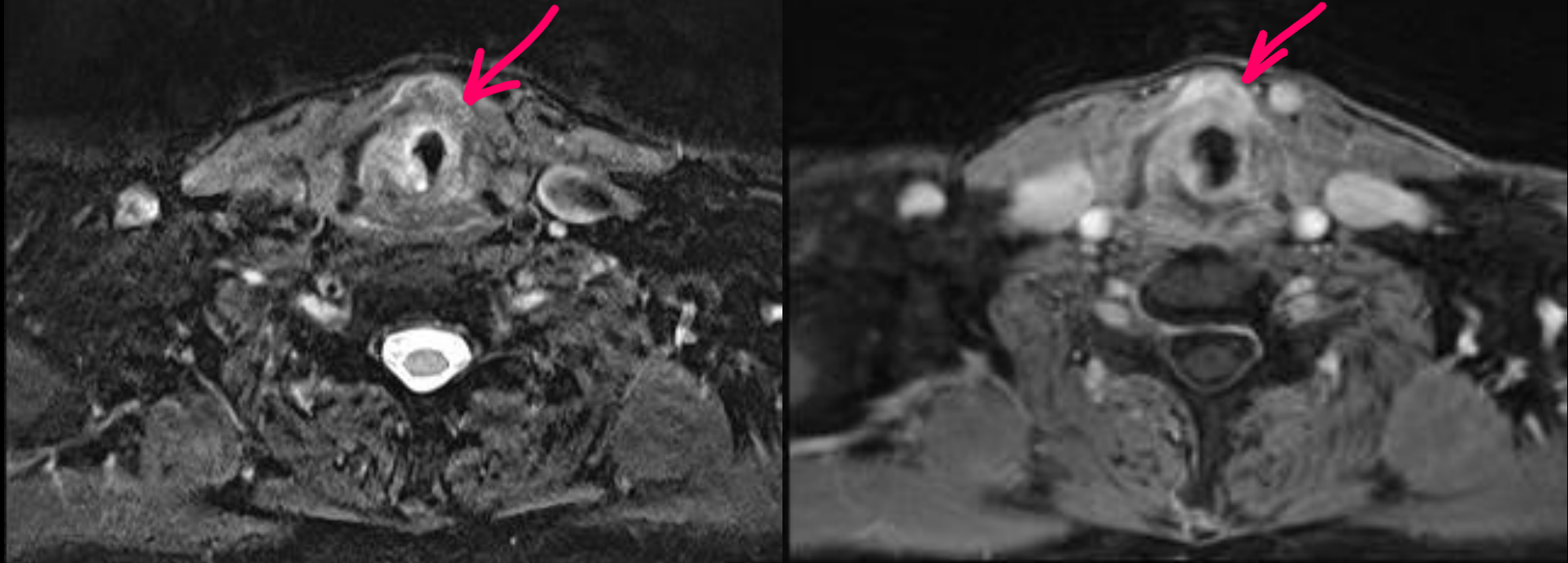
Supraglottic and/or Subglottic

T3 Glottic Ca anatomic determinants

Inner cortex thyroid cartilage
and/or paraglottic fat



Cartilage involvement on MR



Cartilage same intensity as tumor

Case courtesy: Alok Bhatt

T4 Glottic Ca anatomic determinants



Outer cortex
thyroid cartilage

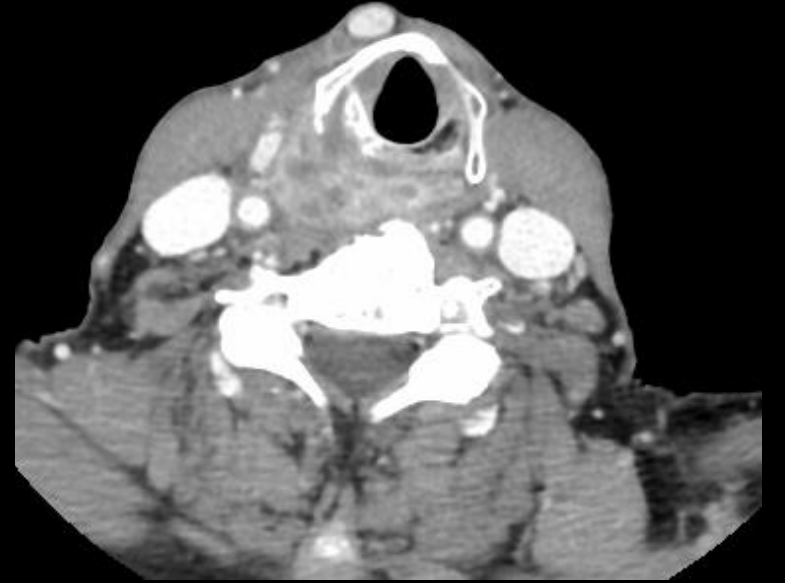
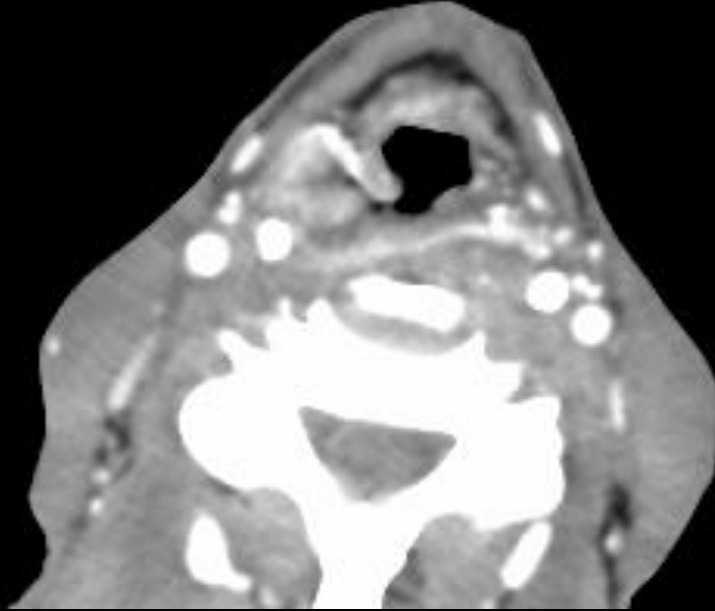
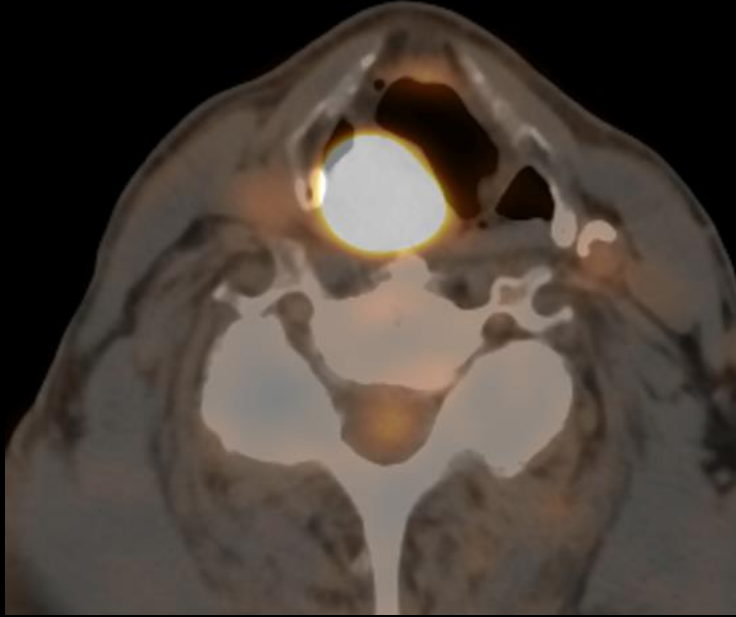


Strap muscles

Soft tissues of the neck



Look for carotid encasement
or prevertebral fascia – T4b



Size (<2cm, 2-4cm, >4cm) AND adjacent site
determines hypopharyngeal cancer stage

Anatomic subsites - Hypopharynx

Pyriform sinus

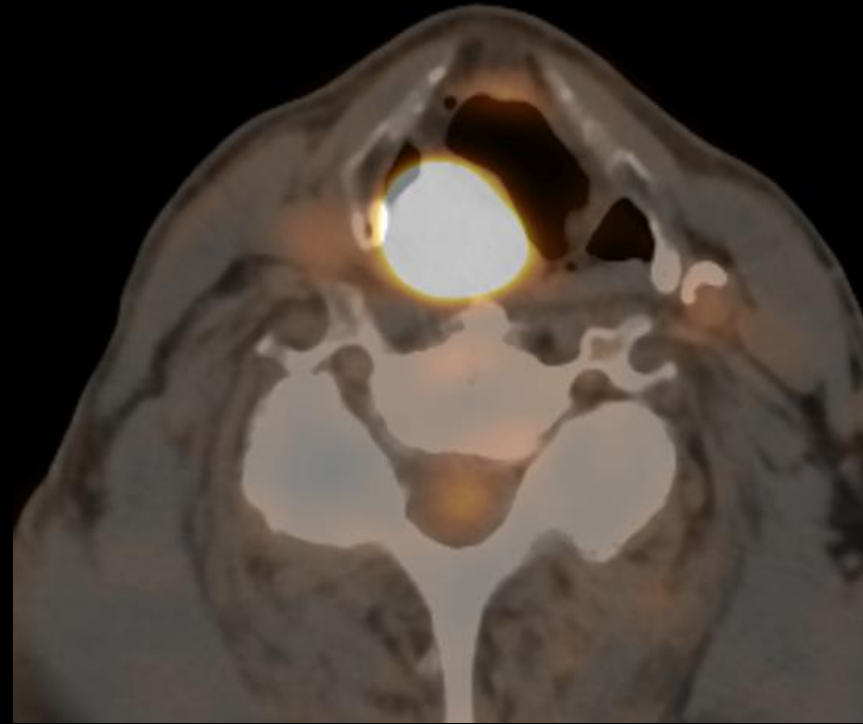
Postcricoid hypopharynx

Hypopharyngeal aspect of AE fold

Posterior hypopharyngeal wall

T1 hypopharynx Ca anatomic determinants

Single subsite, less than 2cm



T1

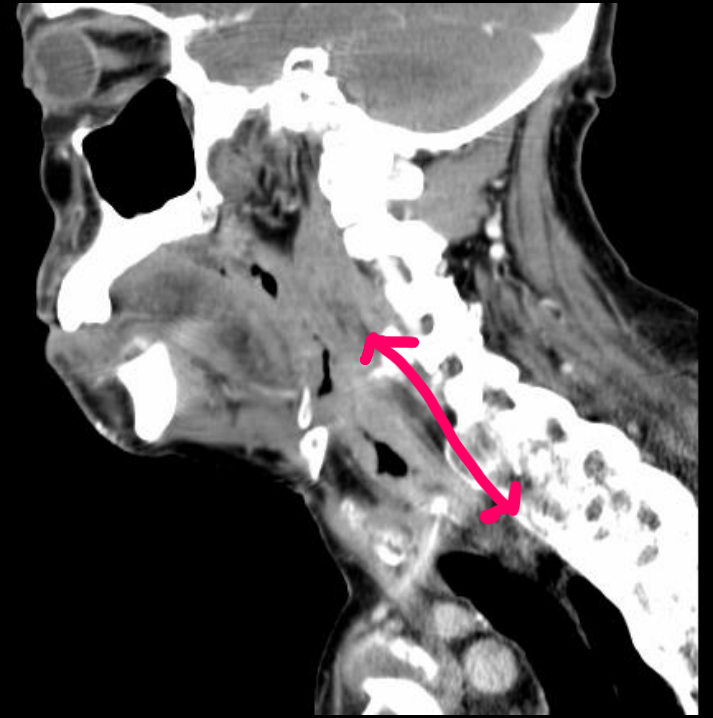
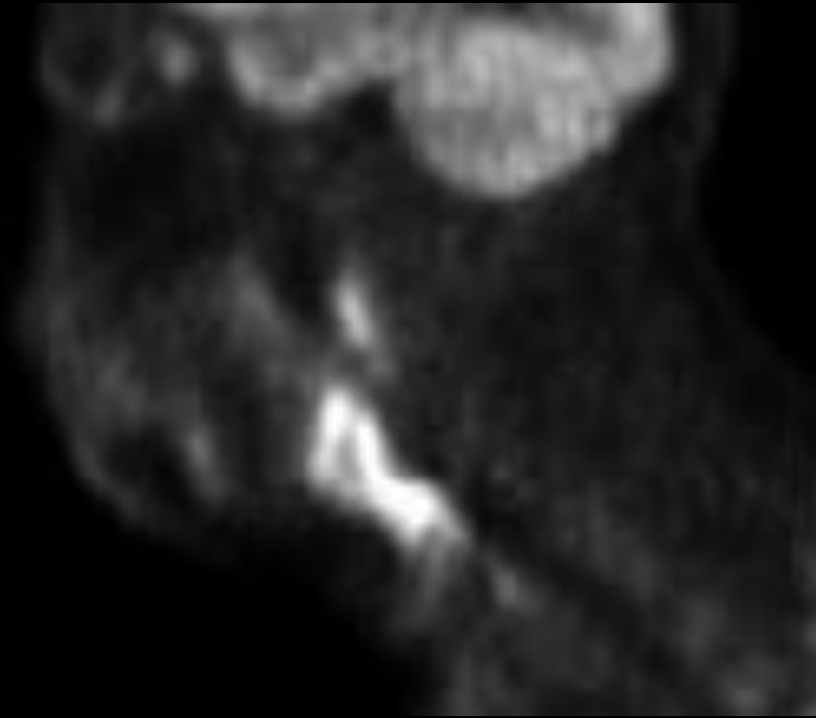
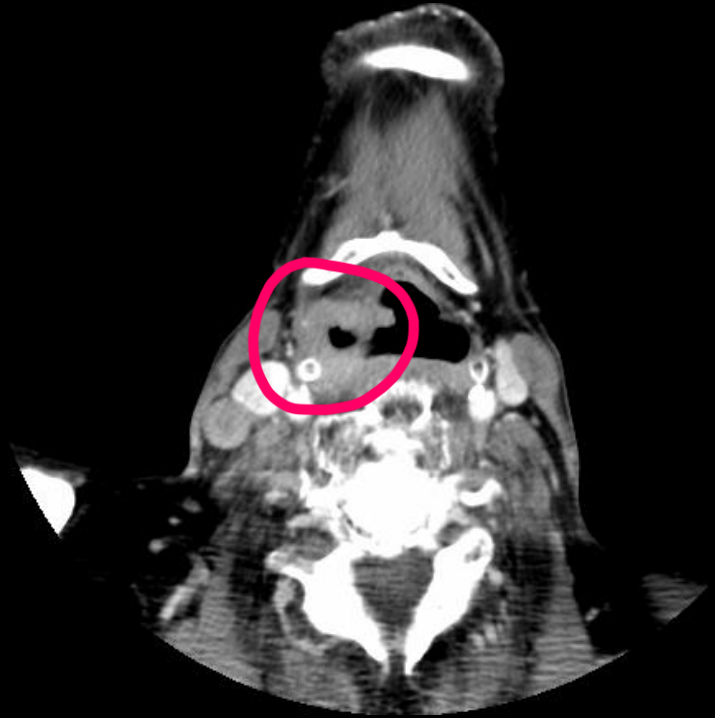
T2 hypopharynx Ca anatomic determinants

>1 subsite, >2cm <4cm



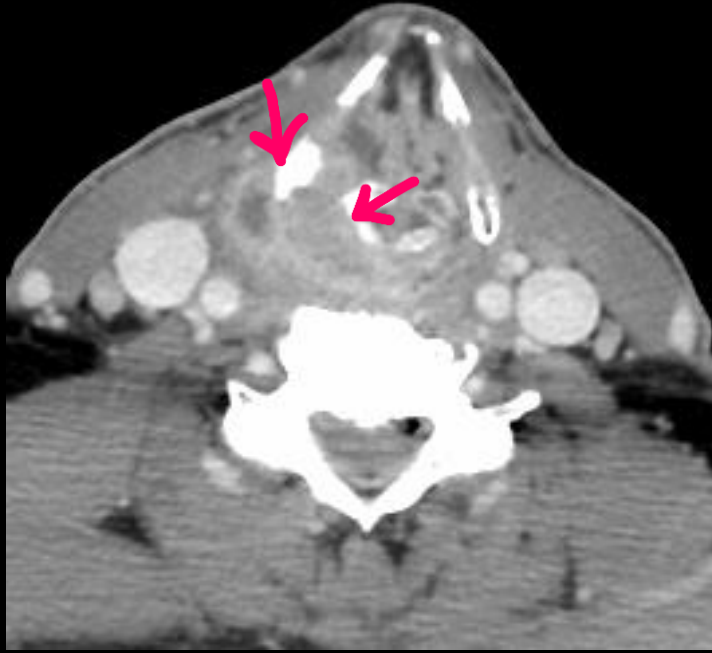
T2

T3 hypopharynx Ca anatomic determinants
>4cm, extension to esophagus mucosa



T3

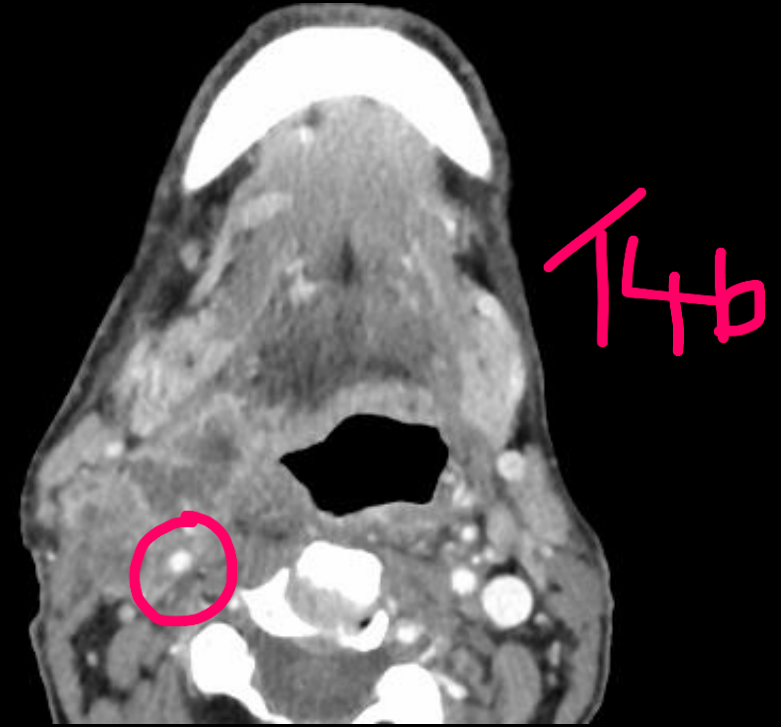
T4 hypopharynx Ca anatomic determinants



Thyroid/cricoid
cartilage



Hyoid, strap
muscles, SC fat



Carotid
encasement,
prevert. invasion

Objectives

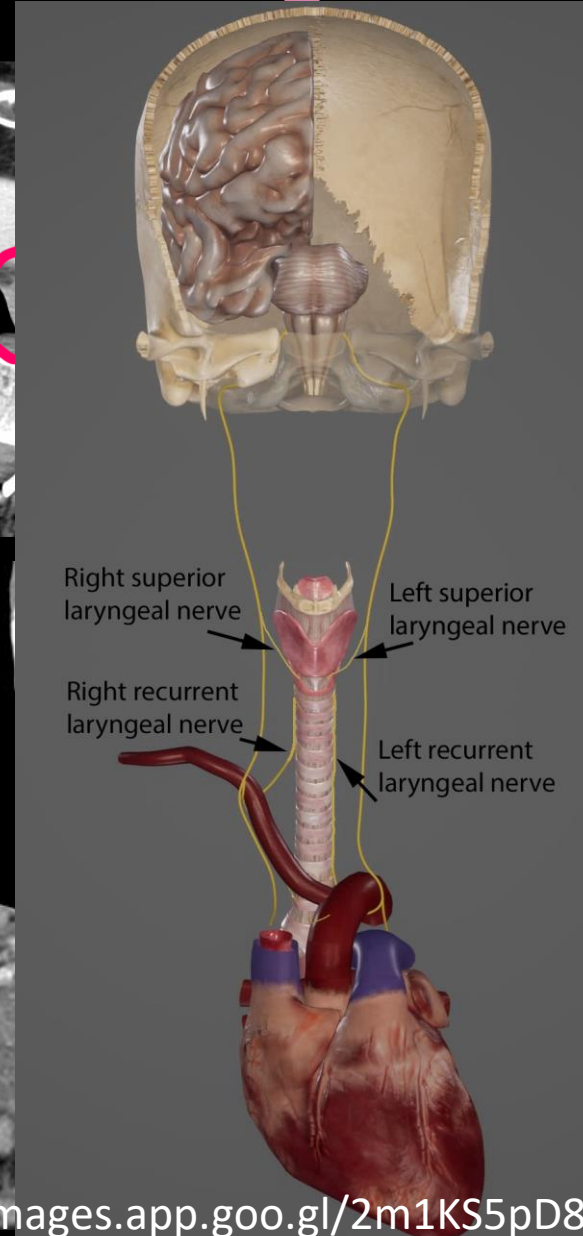
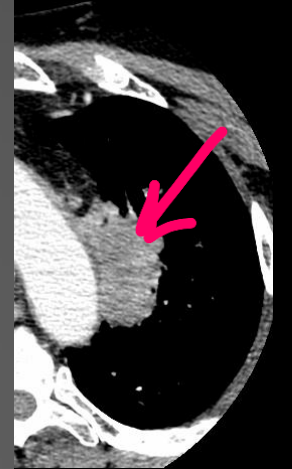
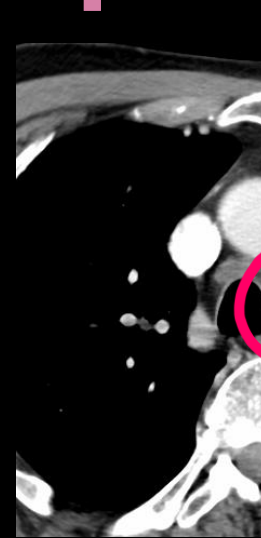
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Vocal cord paralysis

Ballooning of ventricle 'sail sign'



Medialization of arytenoid

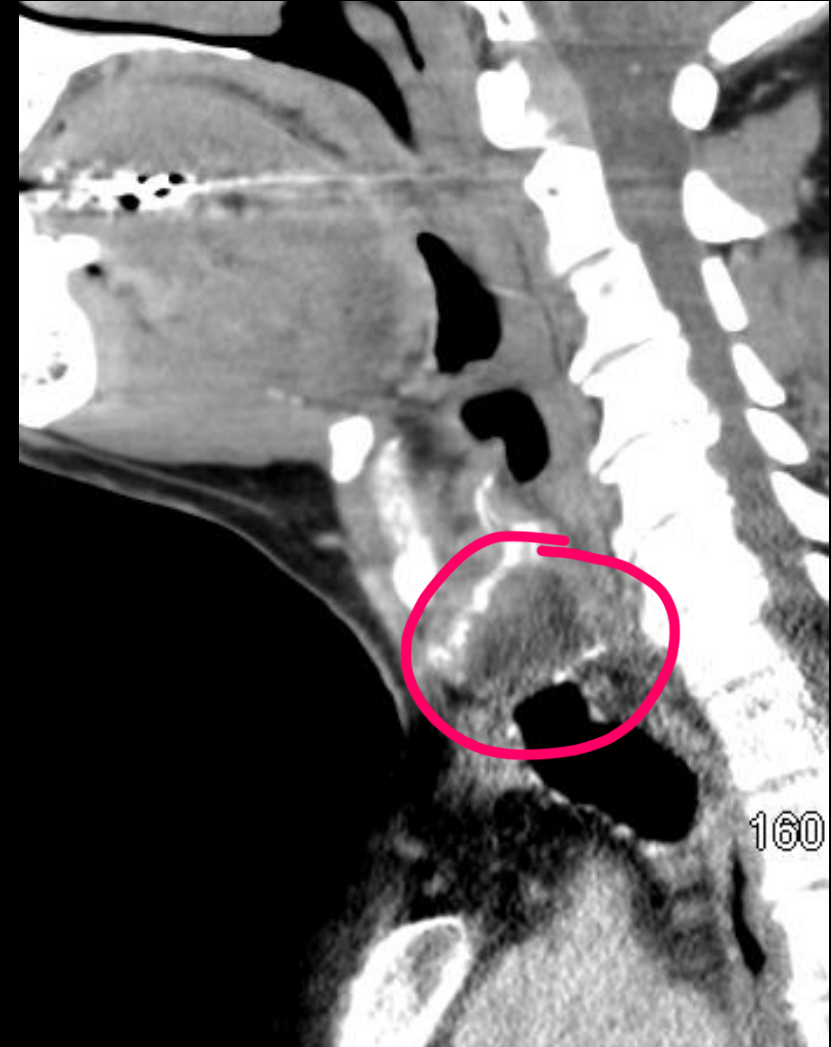
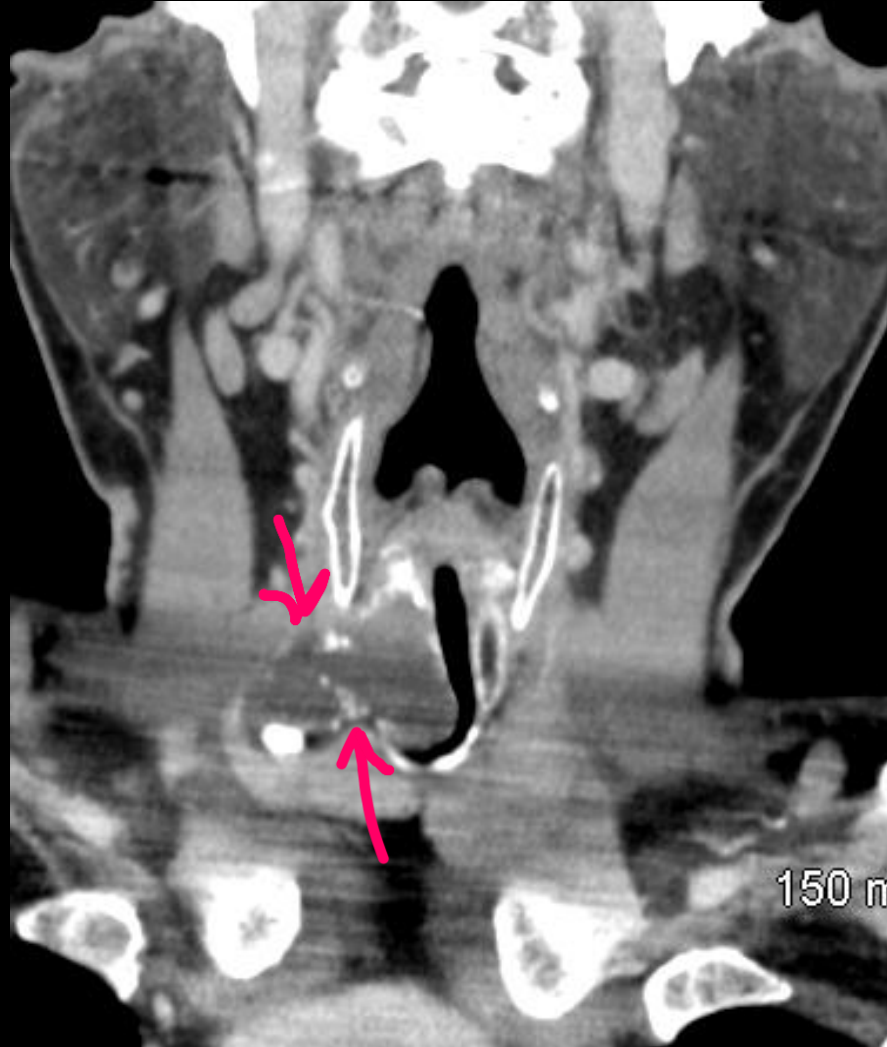
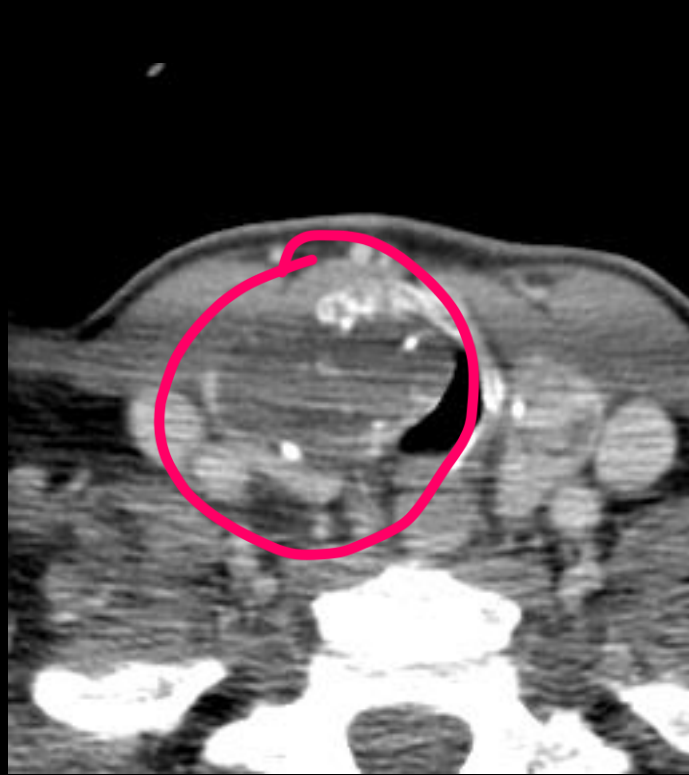




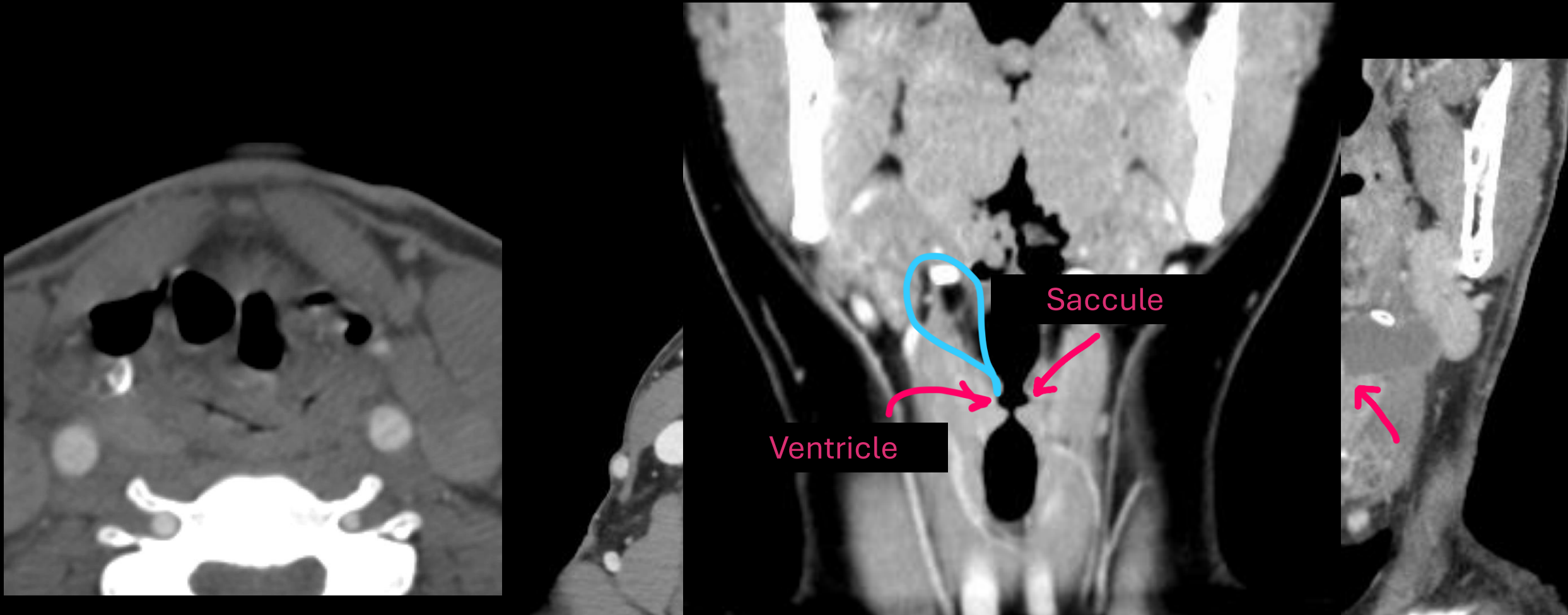
Rare but life threatening
Imaging to look for
complications

Supraglottitis

Chondrosarcoma



Laryngocele



Beware of glottic cancer in a case of laryngocele

Objectives

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Larynx hypopharynx Ca checklist

- Single/multiple site/subsite
- Paraglottic/pre-epiglottic fat
- Inner/outer thyroid cartilage erosion
- Extralaryngeal/strap muscles/SC fat
- Tongue/esophagus
- Carotid/prevertebral fascia

Thank You

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www.thecortexclub.org

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Thank you