

Oral cavity and Oropharynx

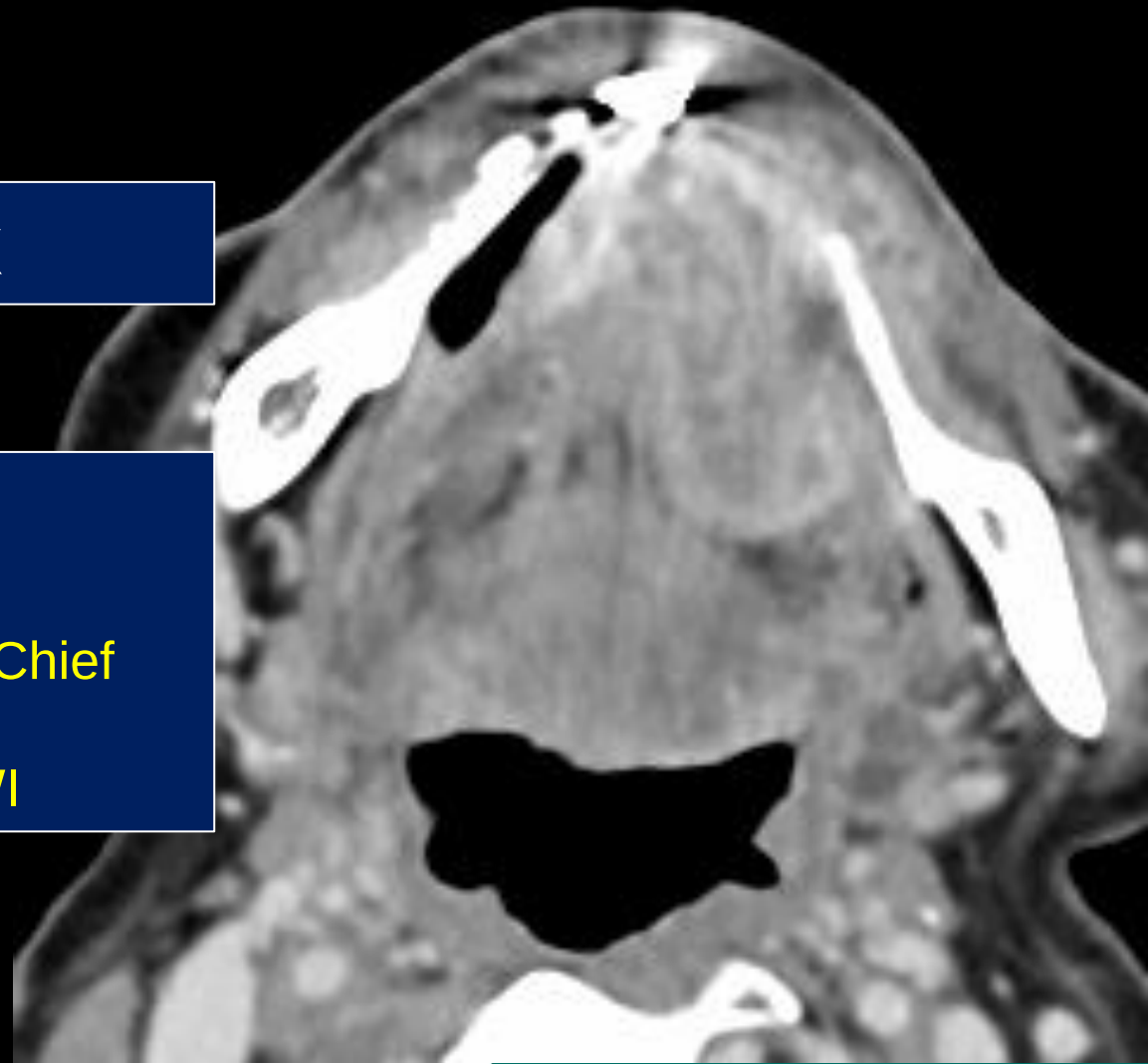
Mohit Agarwal MD

Associate Professor

Director Fellowship Program, Associate Section Chief

Founder of The Cortex Club

Medical College of Wisconsin, Milwaukee, WI



THE
CORTEx
CLUB

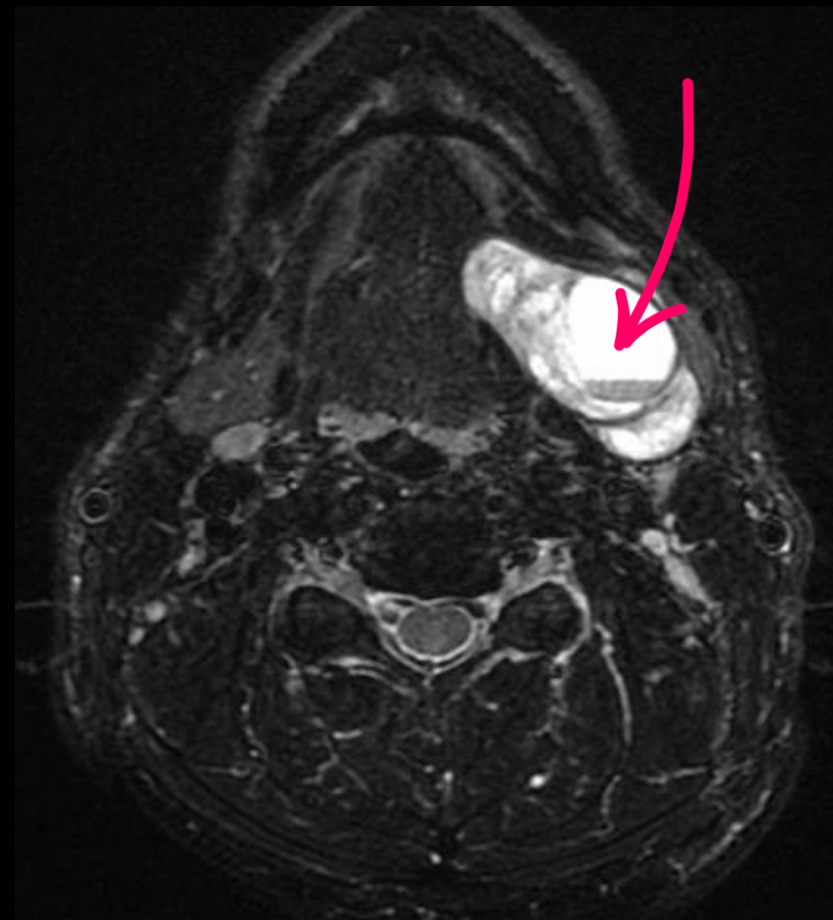
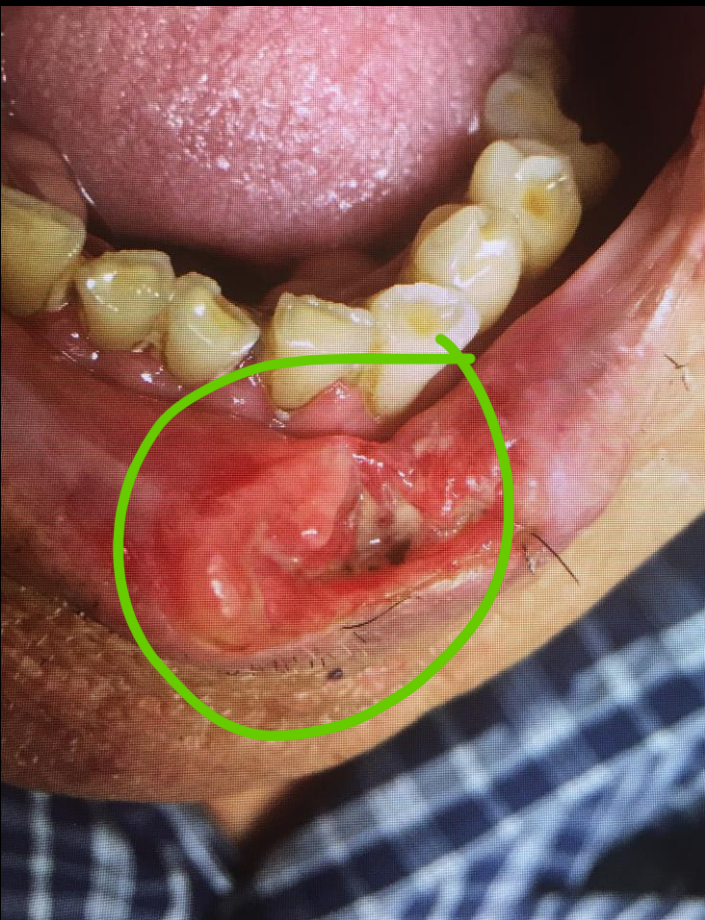


American College
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COLLEGE of
WISCONSIN



Is this an oral lesion ?

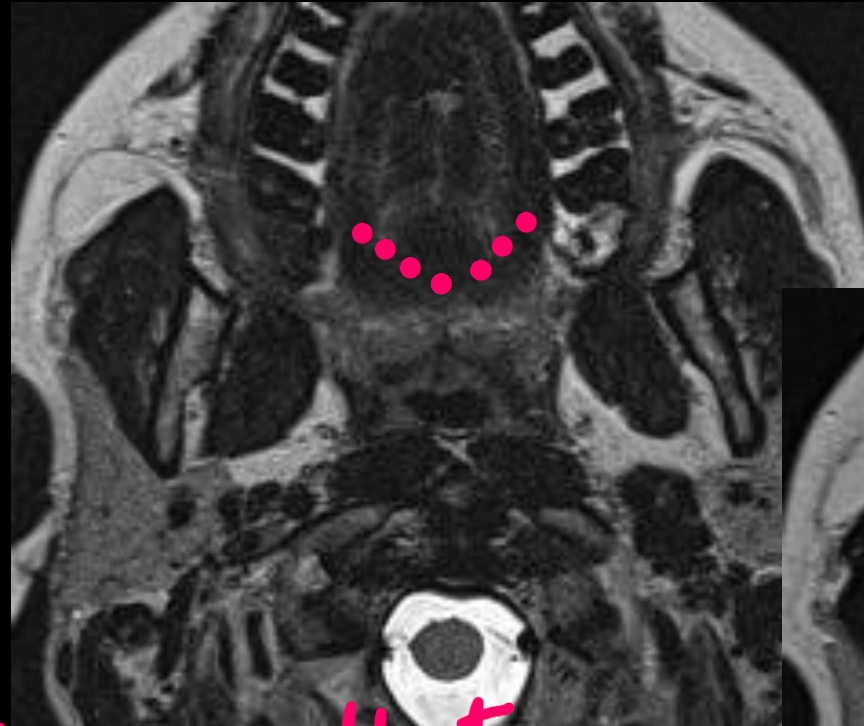
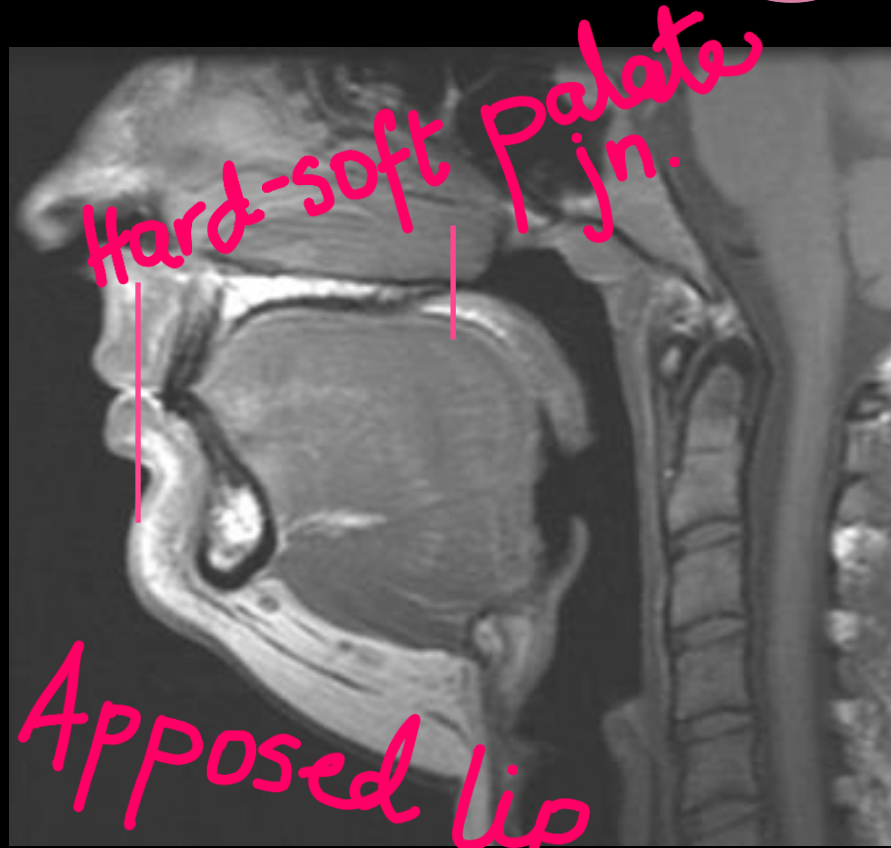
Which extrinsic tongue muscle is that?

What FOM lesion is that?

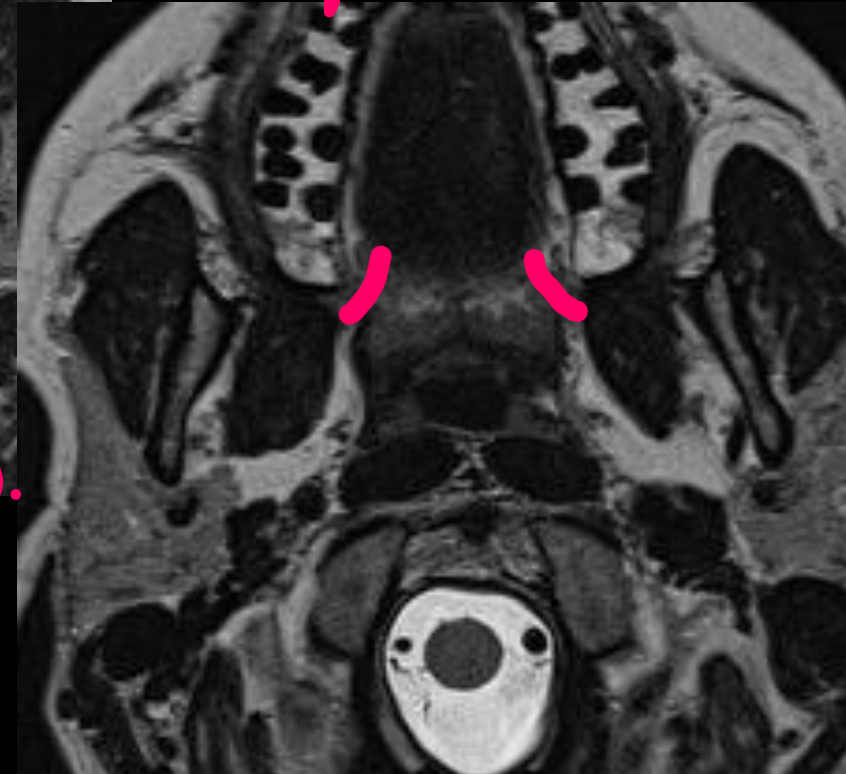
Objectives

- Review the anatomy of oral cavity and oropharynx
- Discuss pertinent anatomic considerations in oral and oropharyngeal cancers
- Review common pathologies

Oral cavity

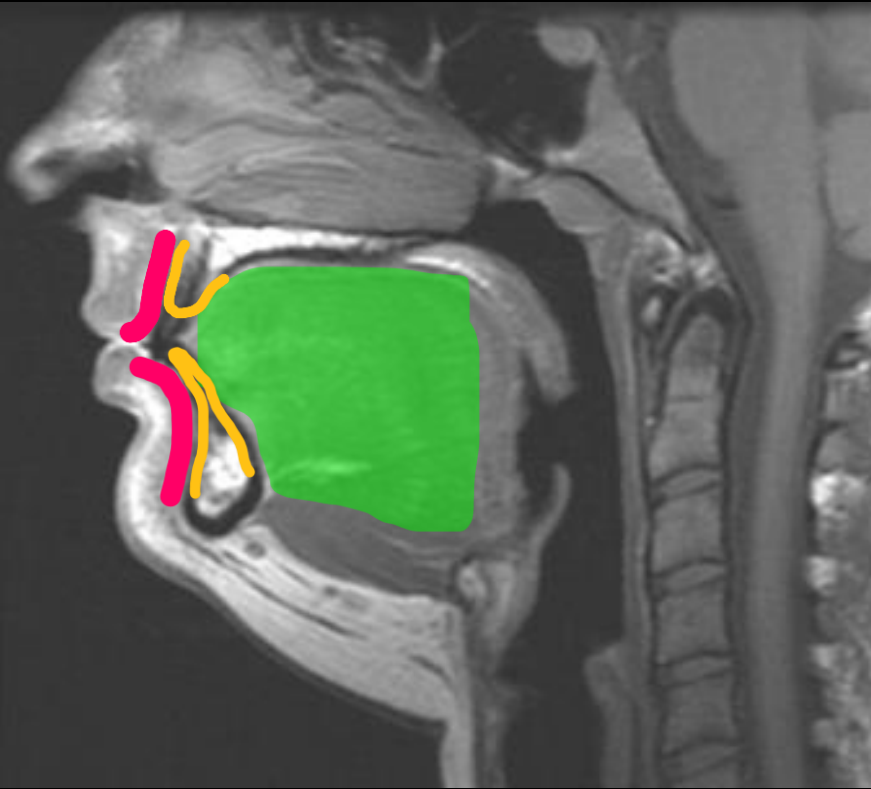


Ant. tonsillar
pillar

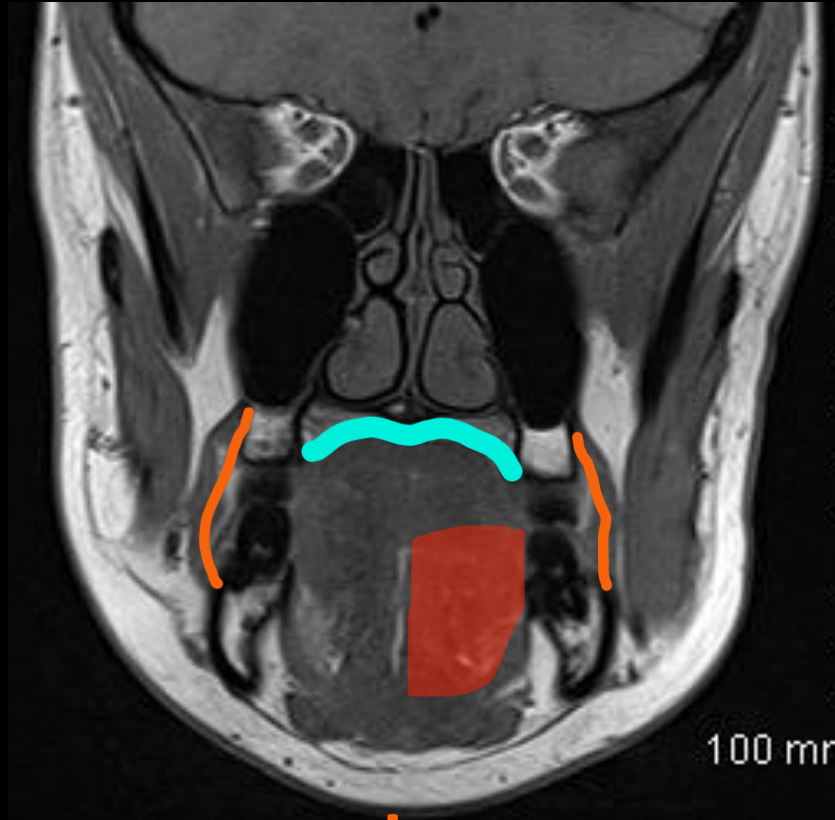


Dry vermillion lip not included

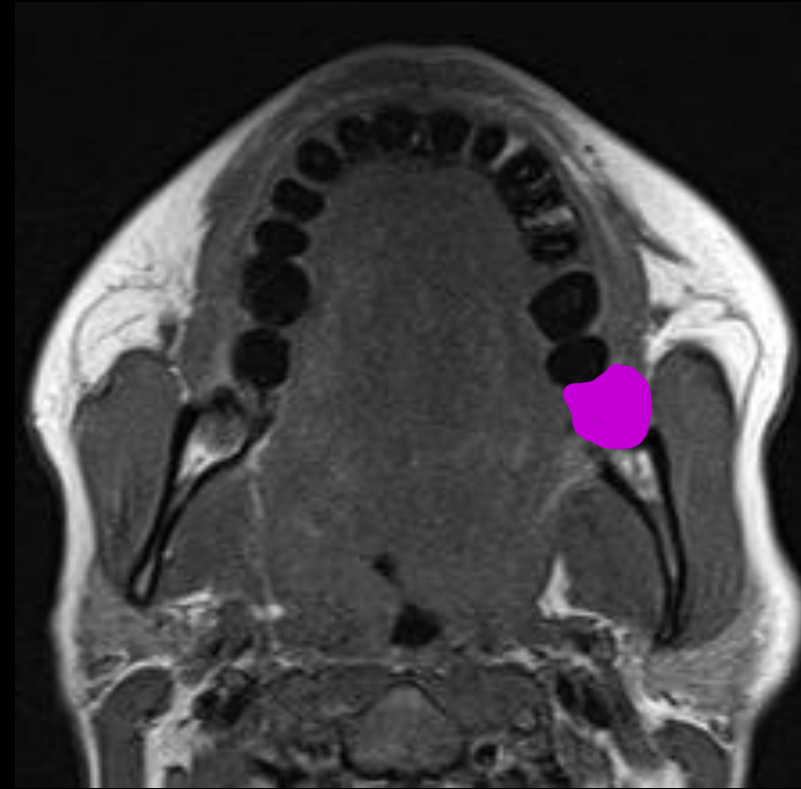
Oral cavity sites



Mucosal lip
Alveolar ridge
Oral tongue

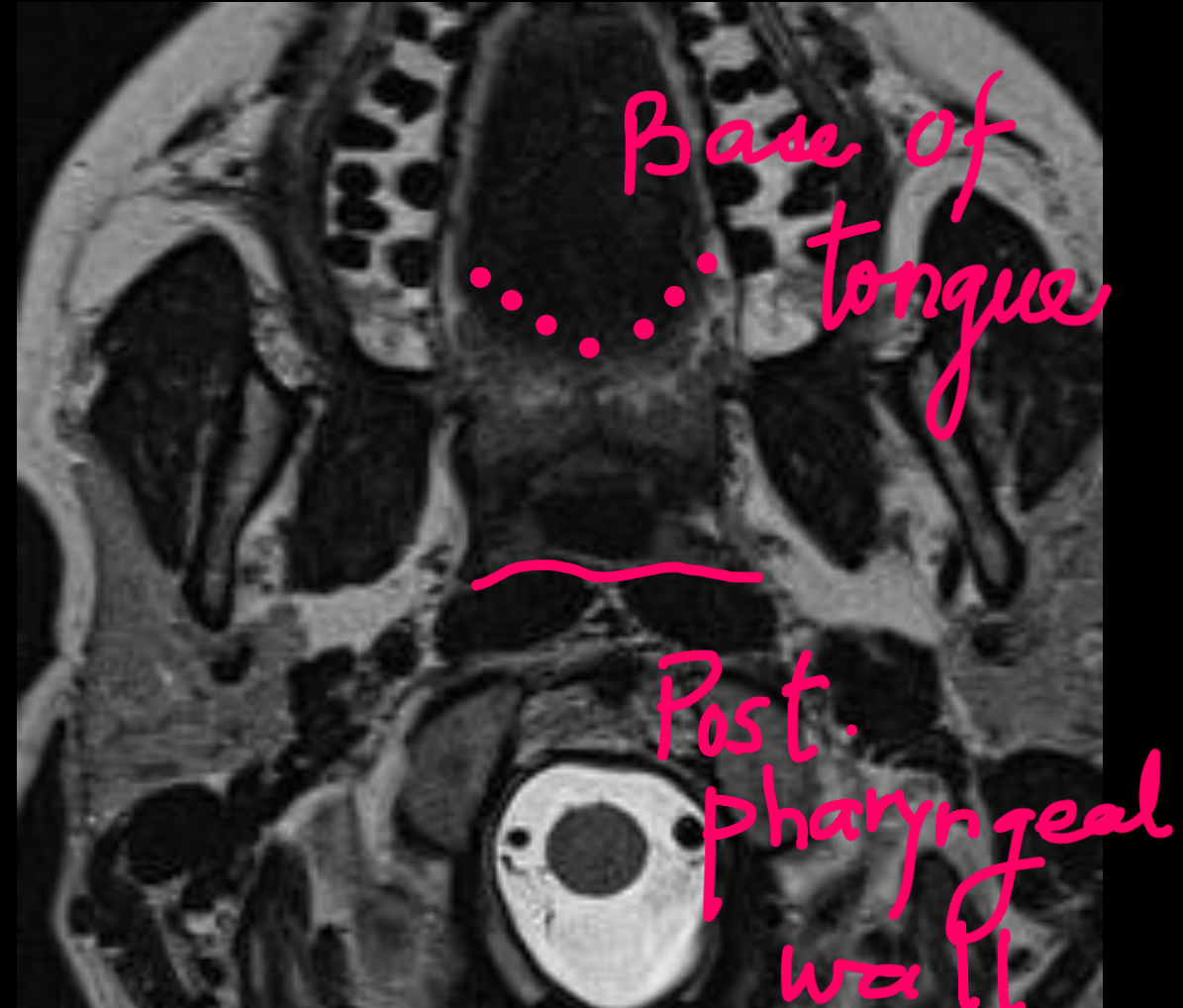
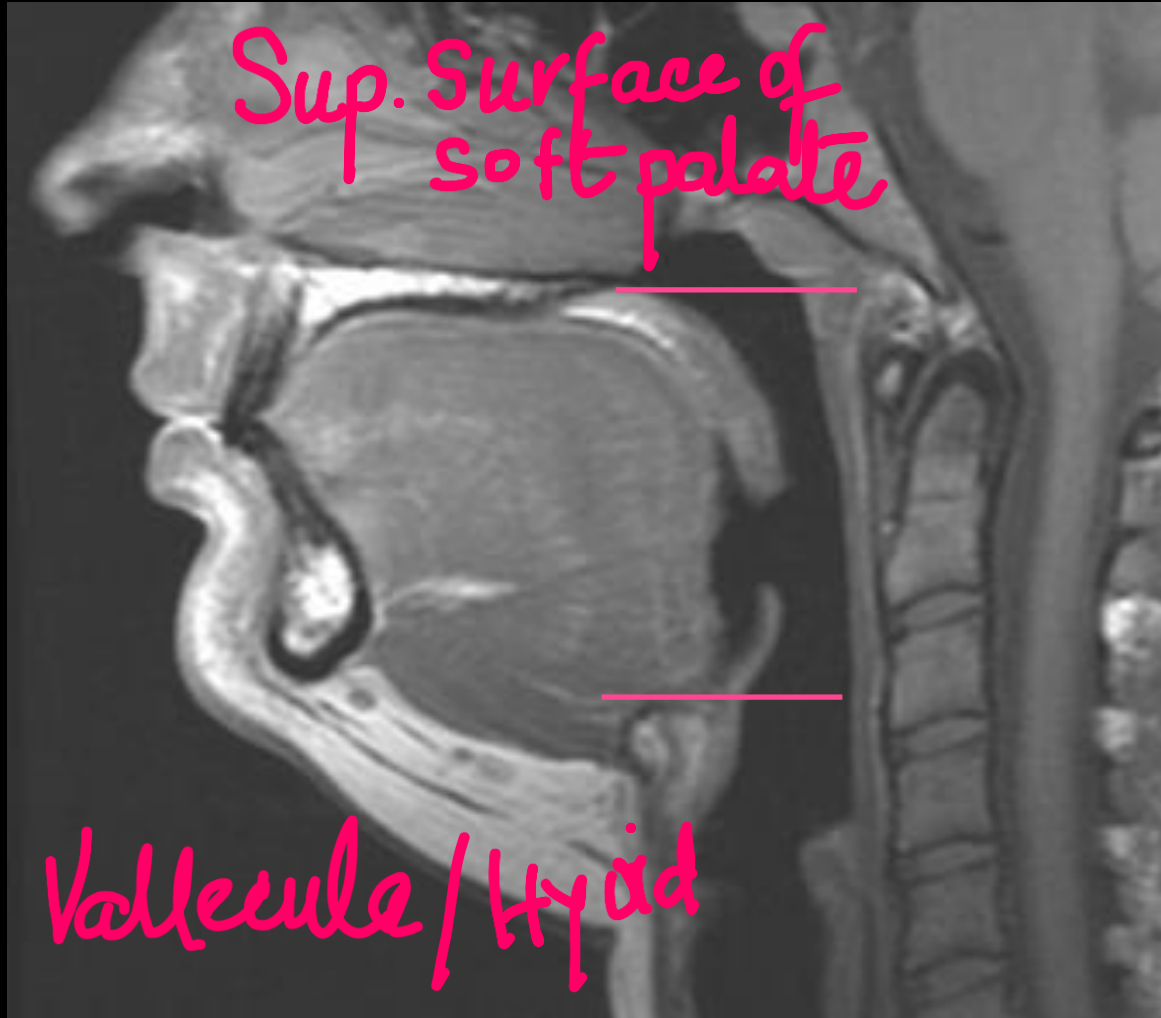


Buccal mucosa
Hard palate
Floor of mouth



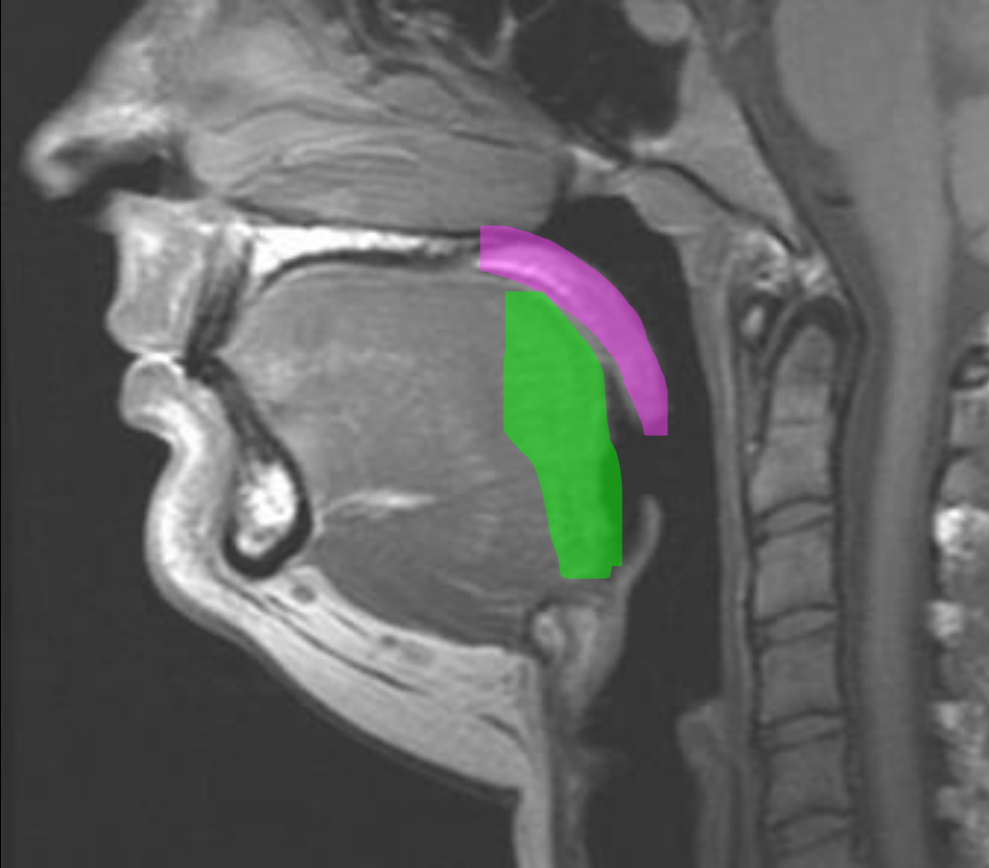
Retromolar
trigone

Oropharynx

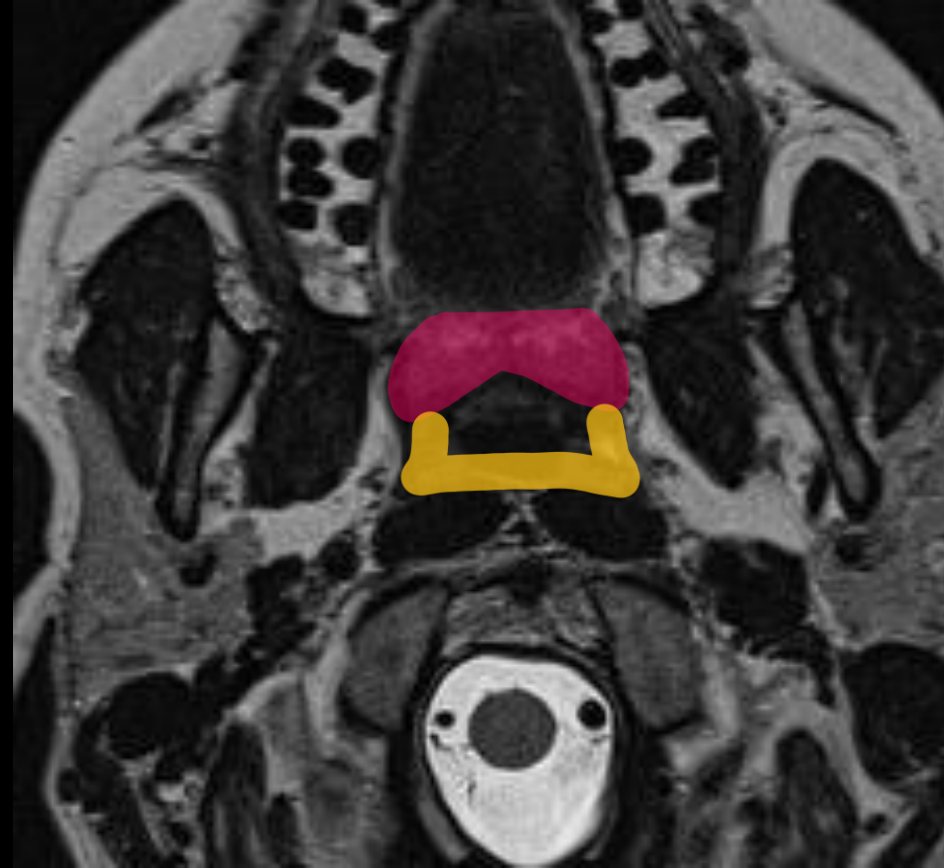


Epiglottis not included

Oropharynx

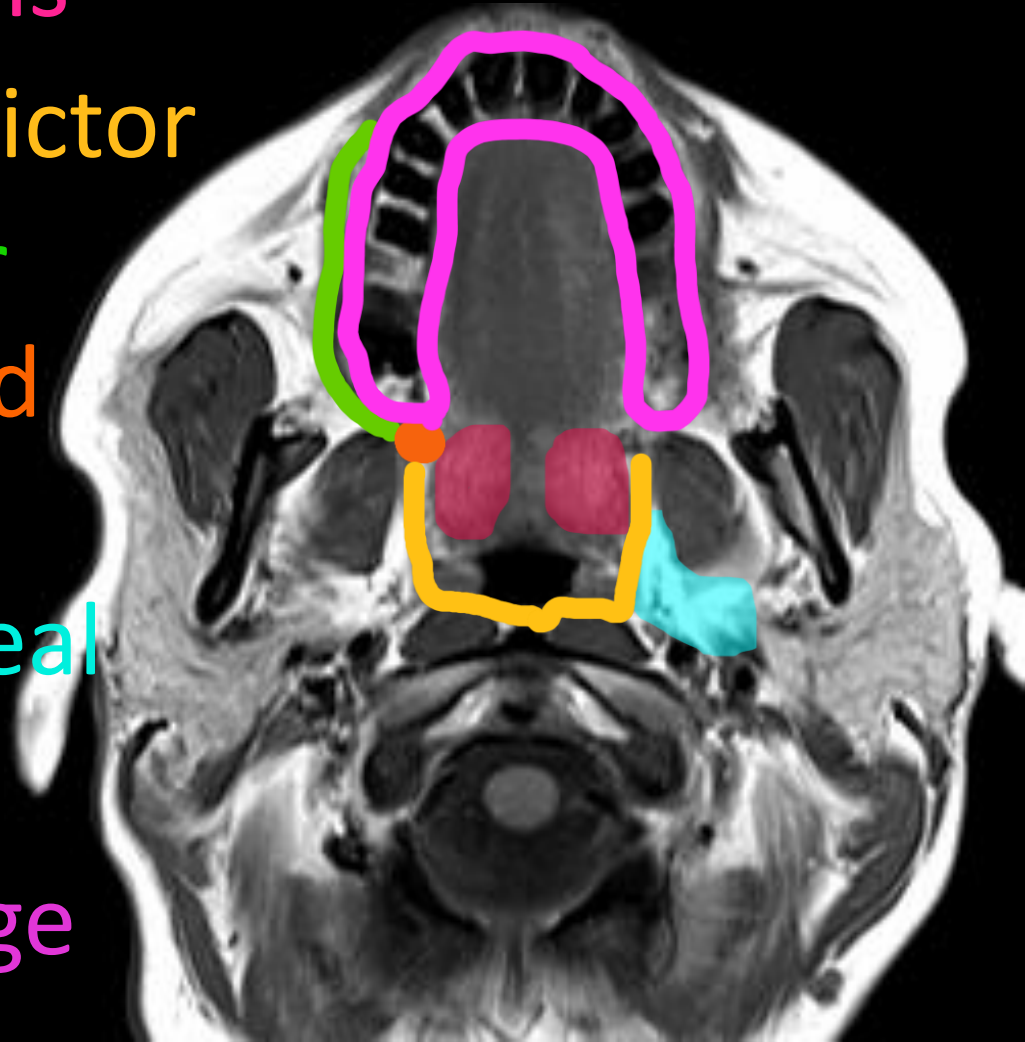
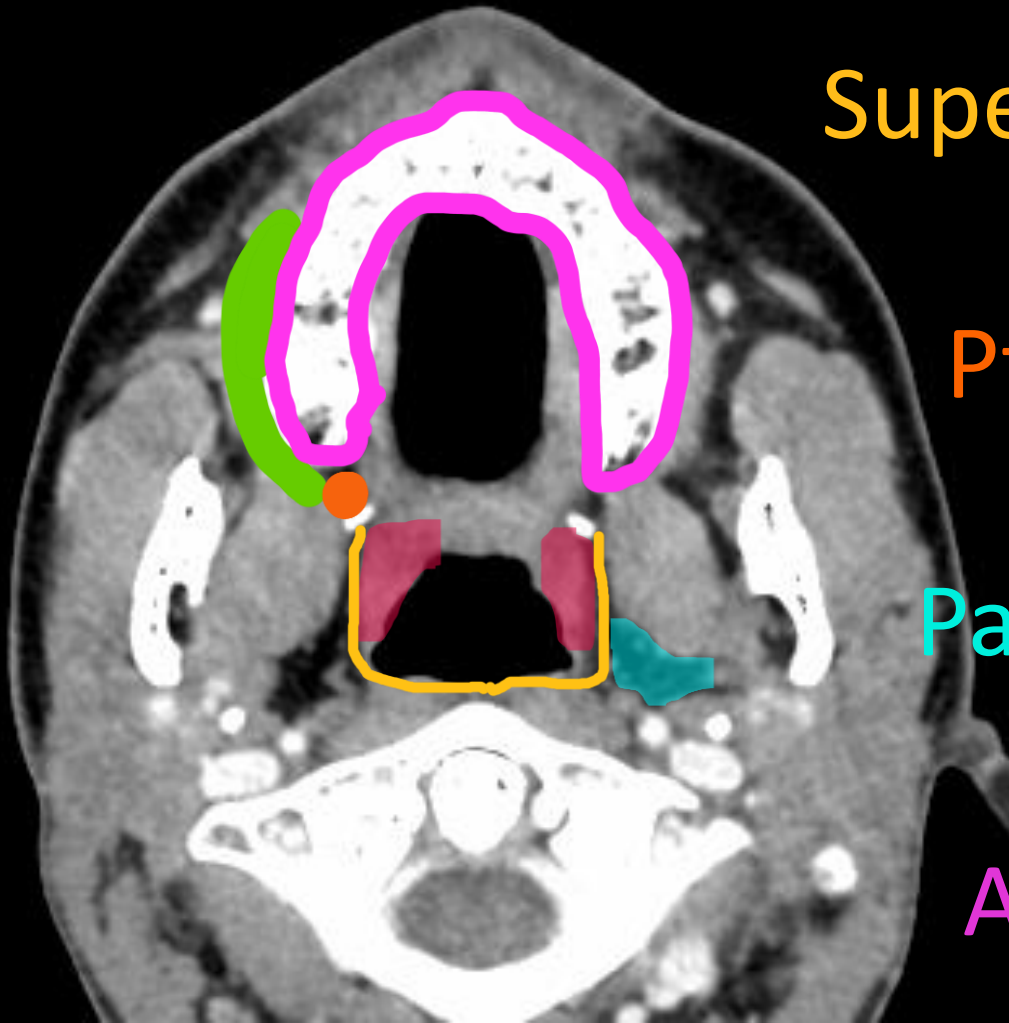


Soft palate and uvula
Tongue base + lingual tonsil



Palatine tonsils and pillars
Lat + post pharyngeal walls

Palatine tonsils
Superior constrictor
Buccinator
Pterygomand
raphe
Parapharyngeal
space
Alveolar ridge



Oral tongue w/ intrinsic tongue muscles

Tongue base

Palatine tonsils

Superior
constrictor

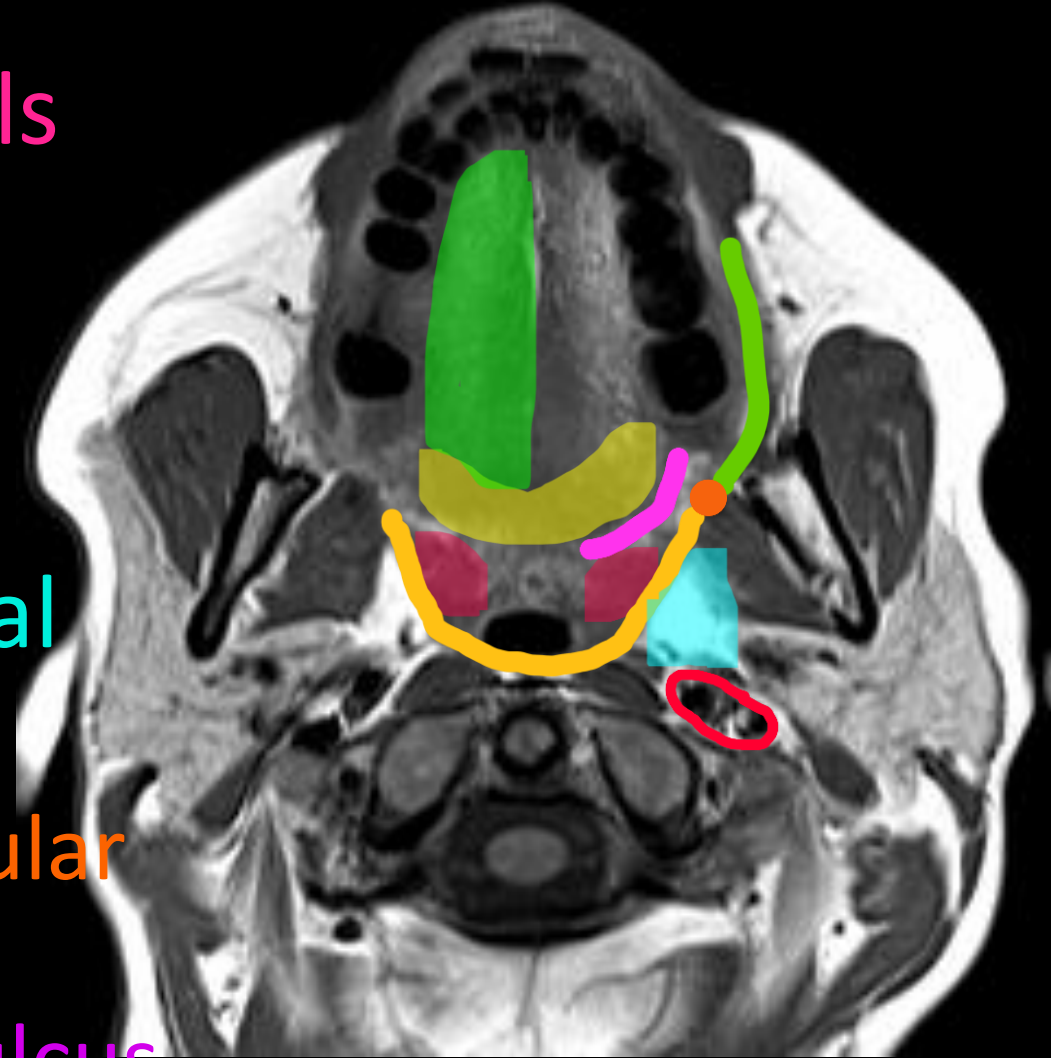
Buccinator

Parapharyngeal
space

Pterygomandibular
raphe

Glossotonsillar sulcus

Carotid space



Tongue base + lingual tonsil

Genioglossus

Hyoglossus

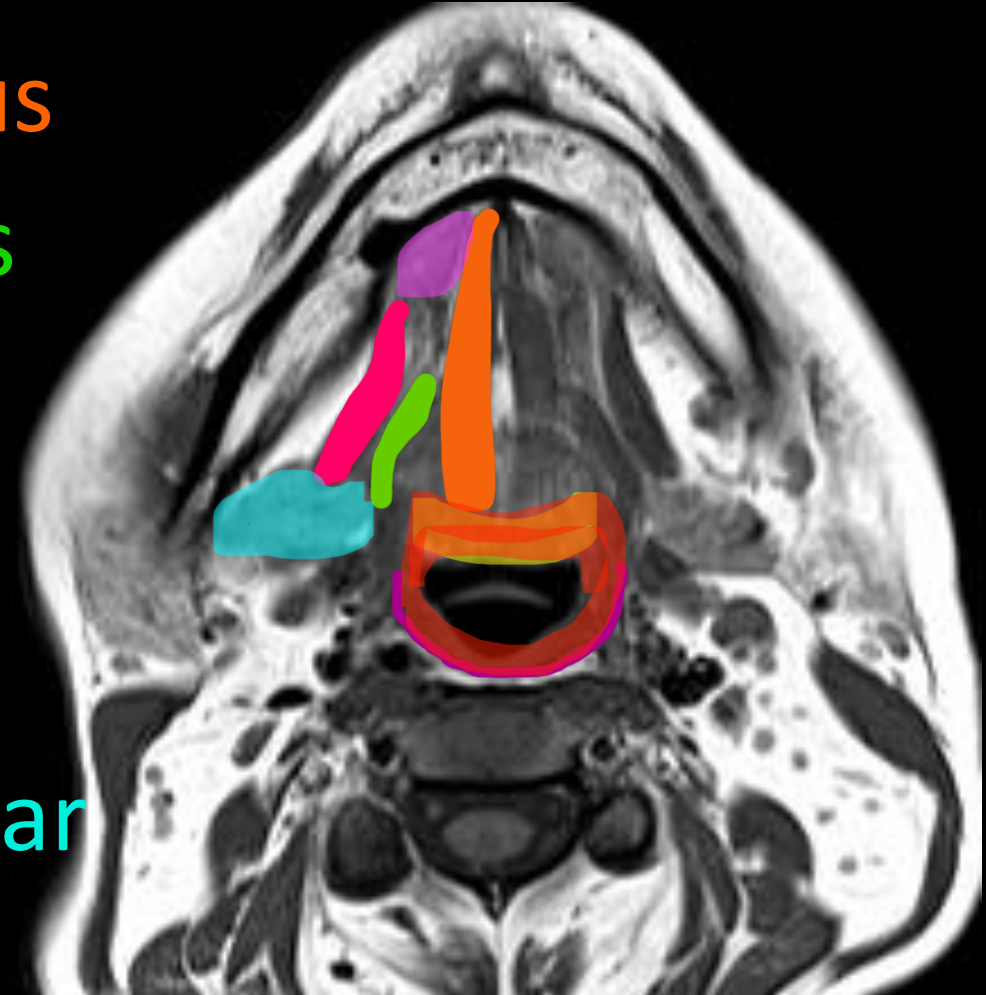
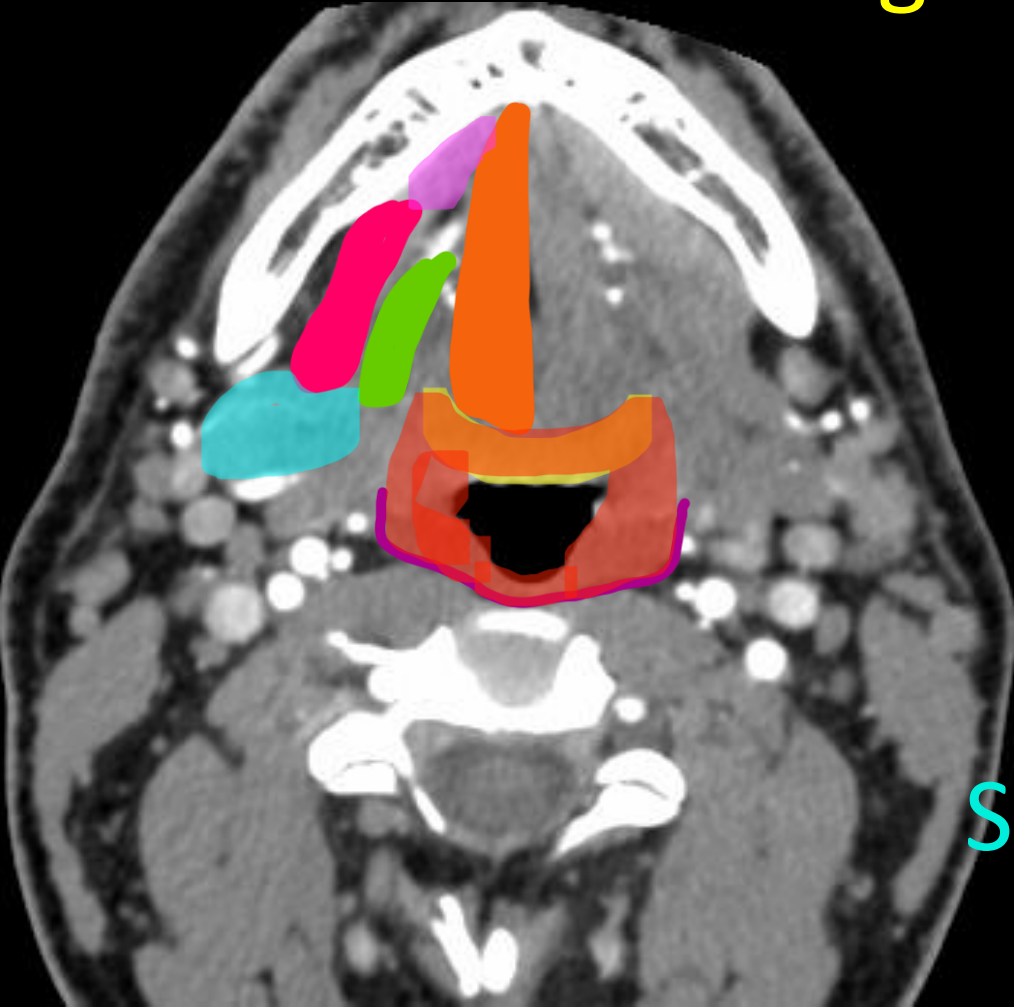
Mylohyoid

Sublingual
gland

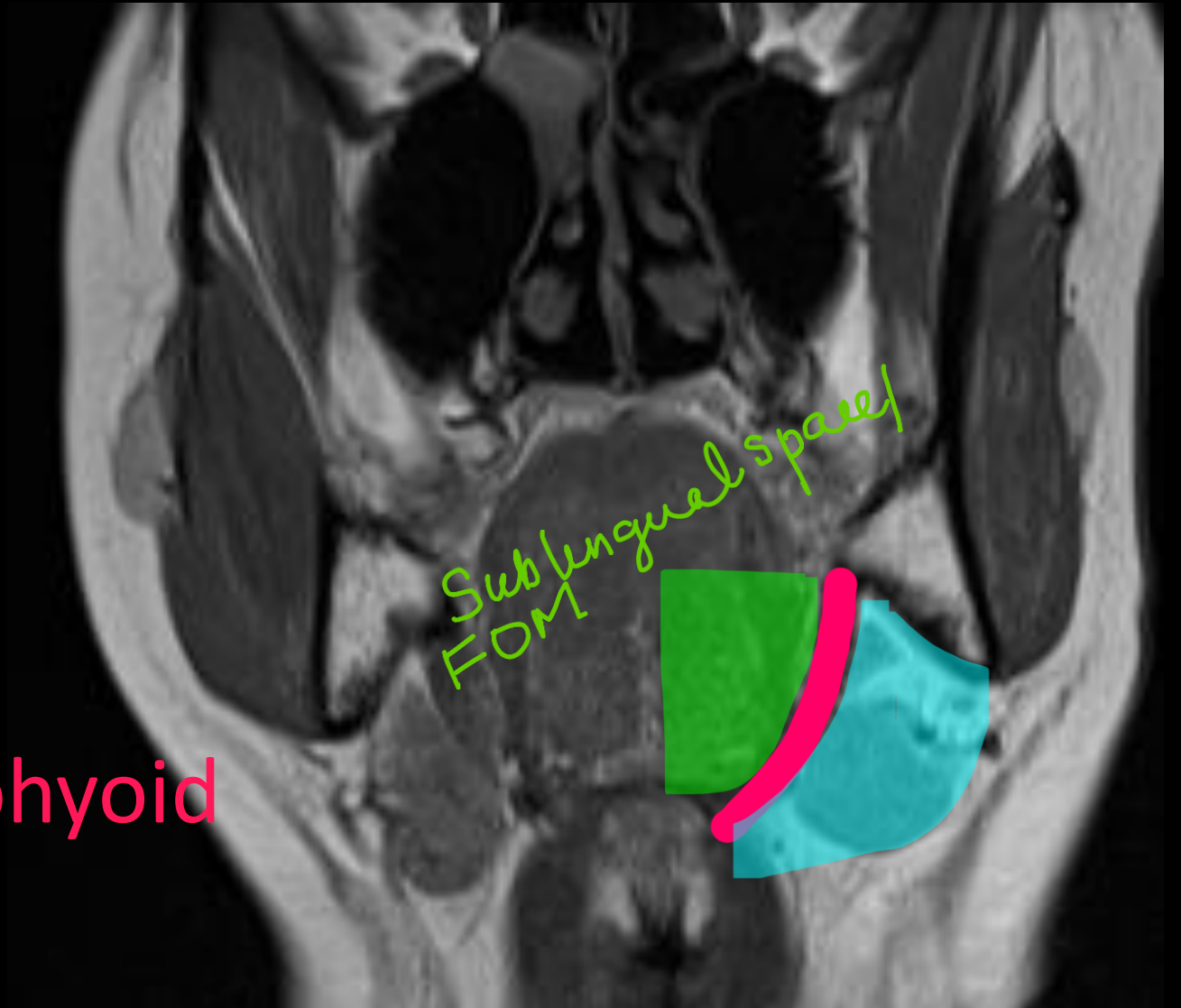
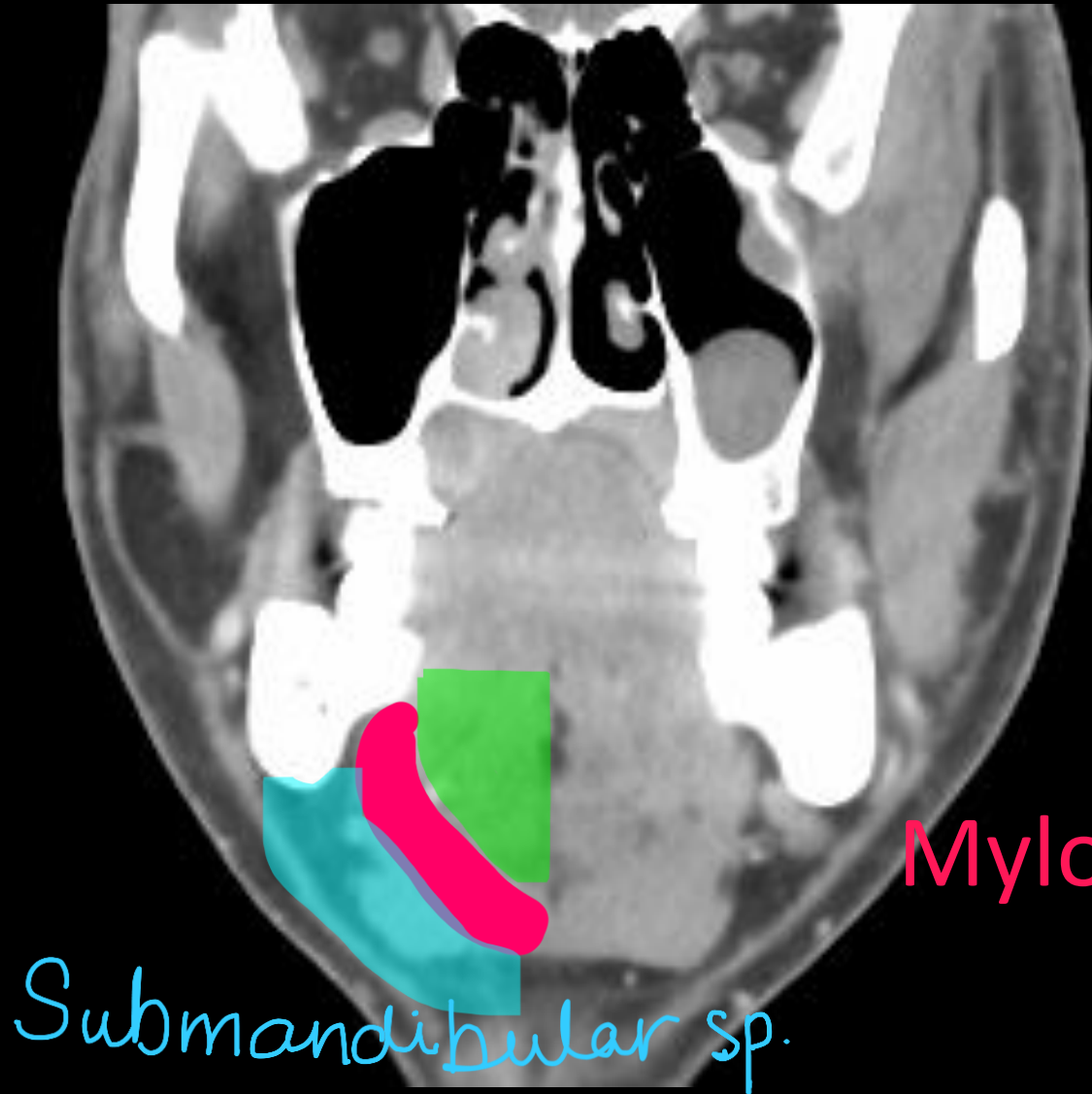
Submandibular
gland

Middle constrictor

Pharyngeal mucosal space



Sublingual vs submandibular



Mylohyoid

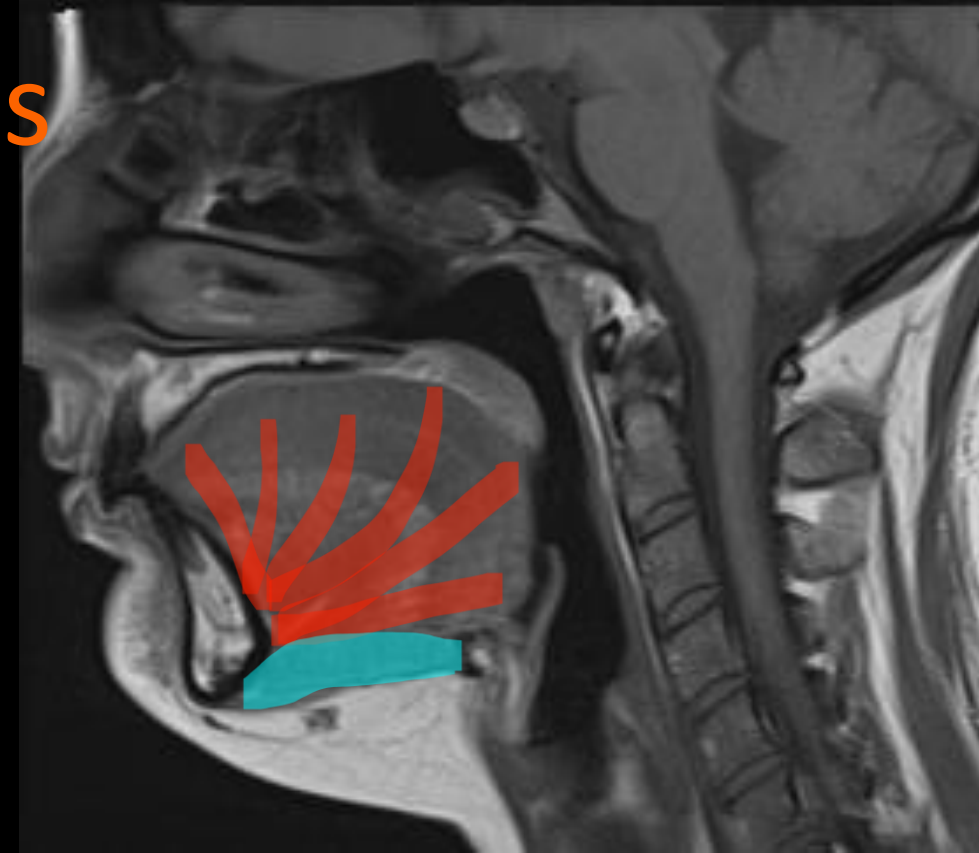
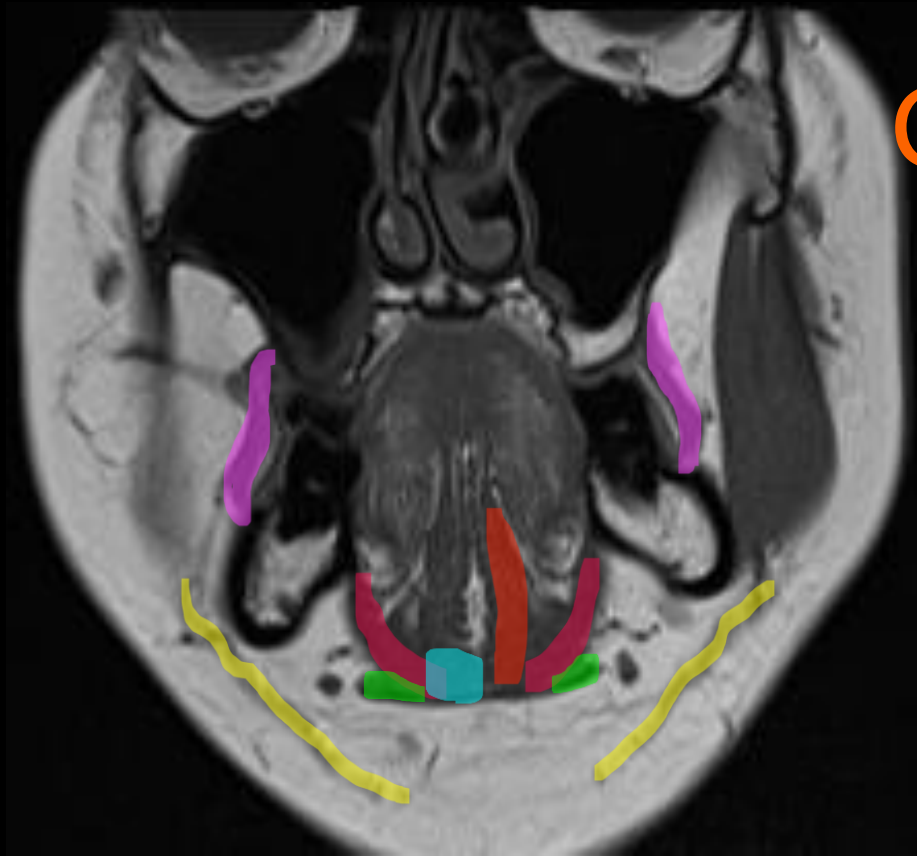
Genioglossus

Digastric
ant belly

Buccinator

Platysma

Geniohyoid



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Oral cancer

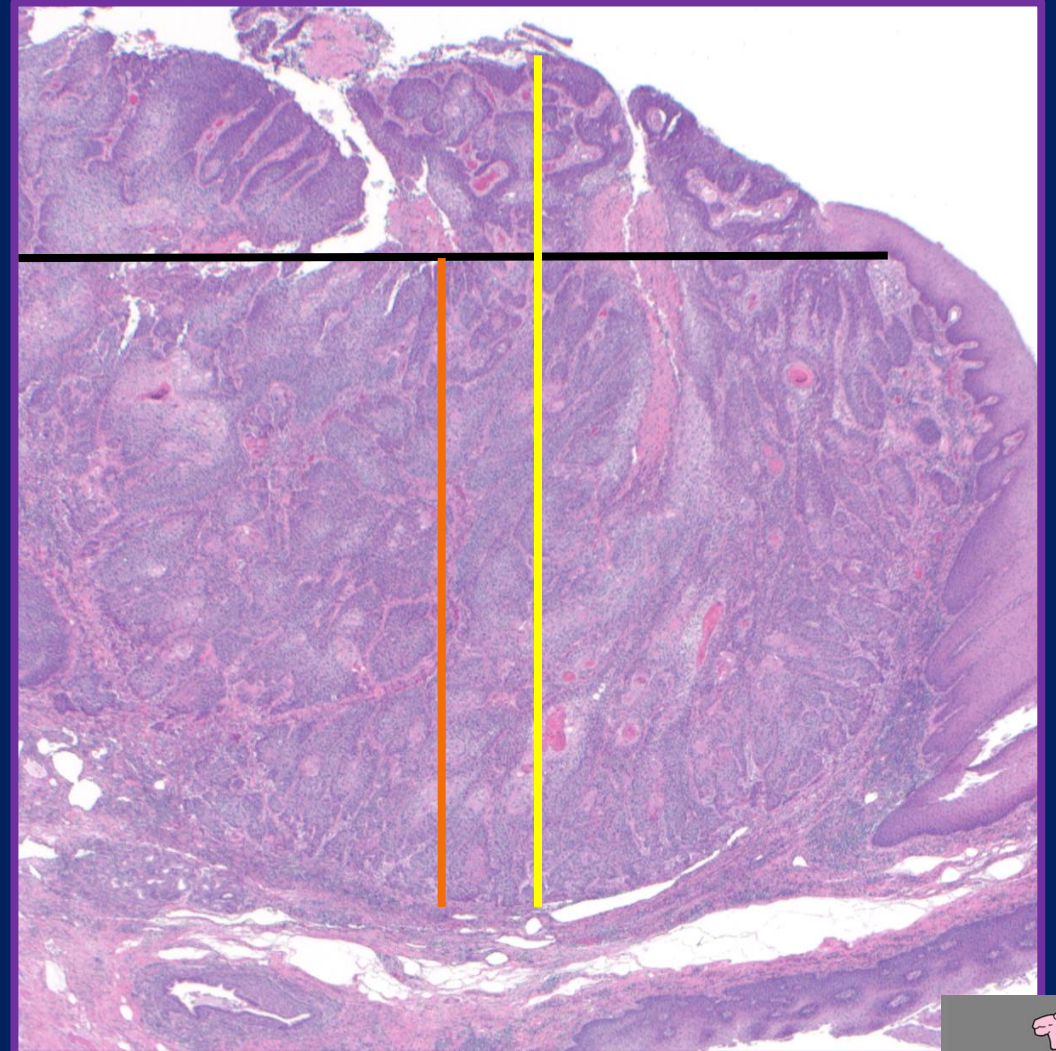
- AJCC staging for epithelial and salivary cancers
- Associated with tobacco and alcohol
- Male predominance
- Recurrence common
- Initial stage important predictor of survival

Depth of Invasion (DOI) vs Tumor Thickness (TT)

DOI - distance from the basement membrane of the adjacent normal squamous mucosa to the deepest point of invasion of the tumor

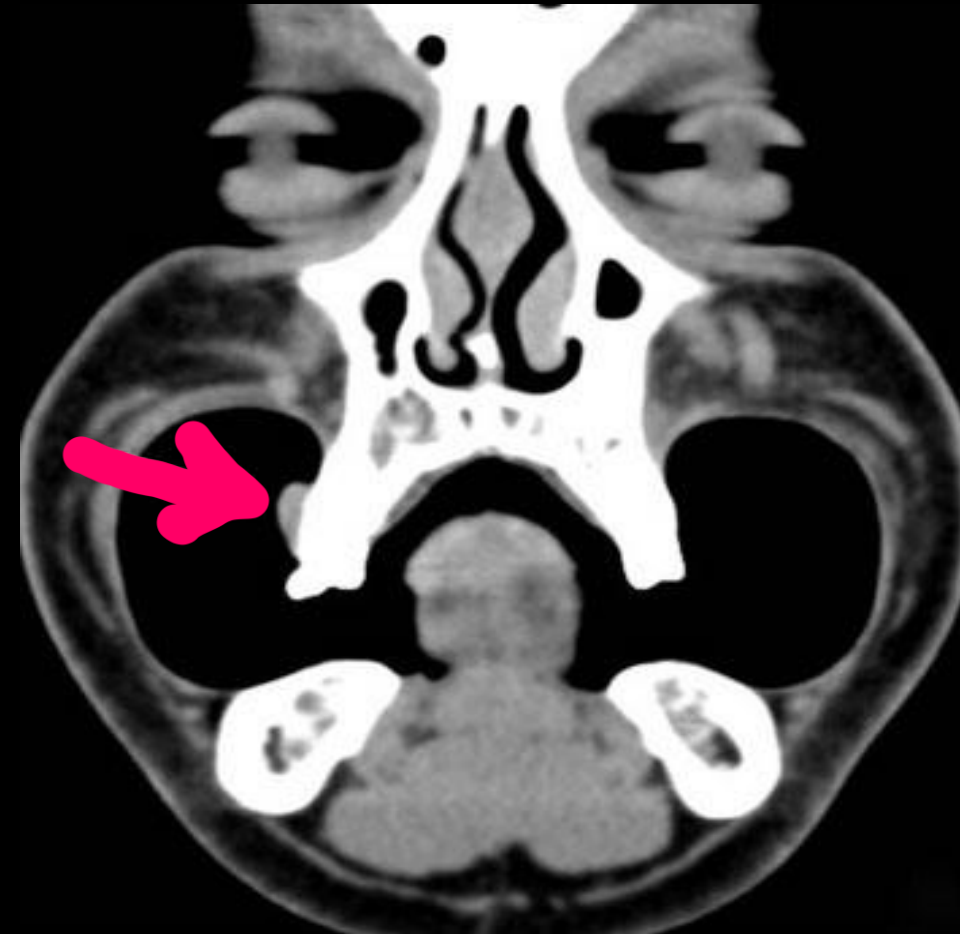
TT - distance measured from the surface of the tumor to the point of deepest invasion

DOI is not the same as TT

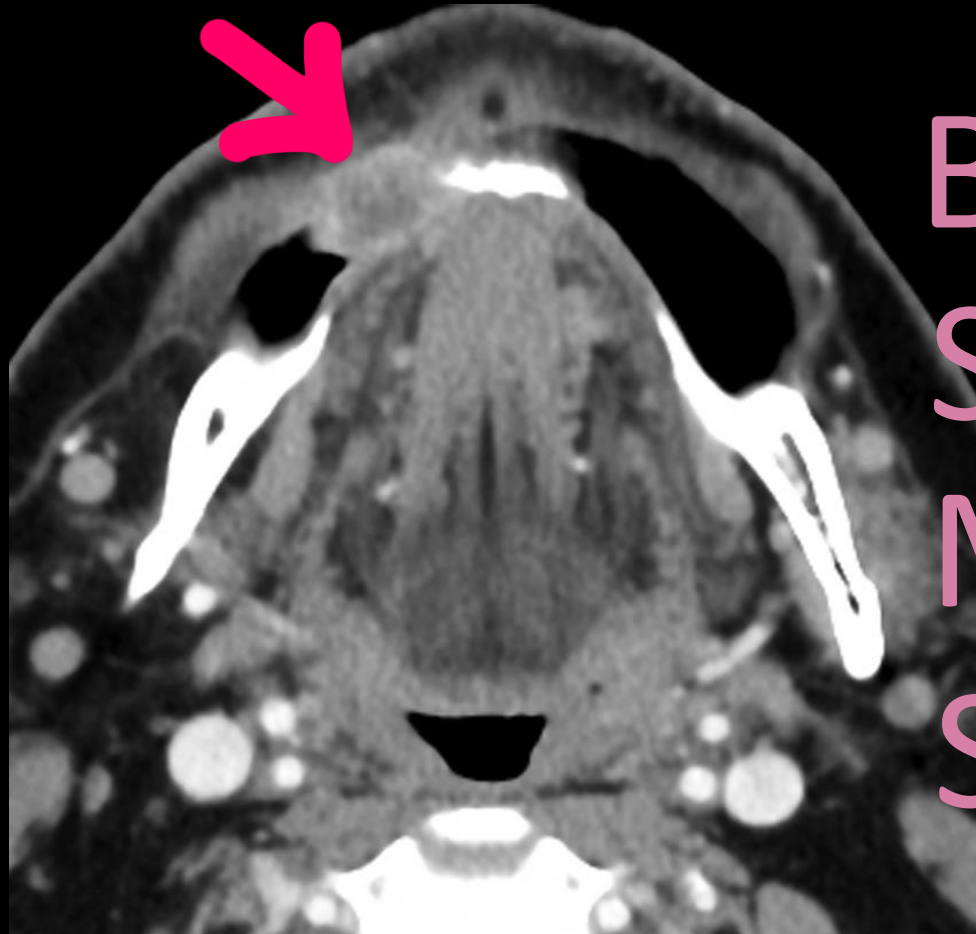


T1 Oral Ca anatomic determinants

Tumor $\leq 2\text{cm}$, DOI $\leq 5\text{mm}$



Alveolar ridge

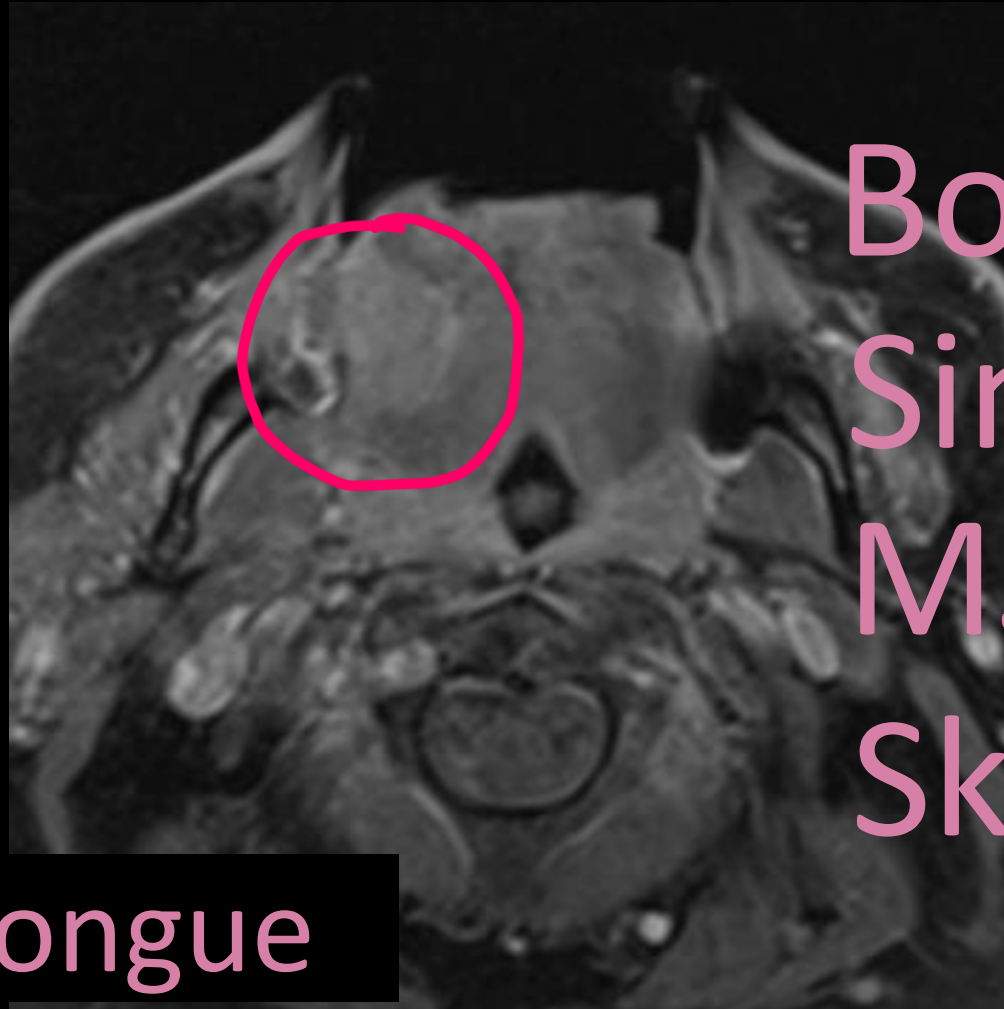
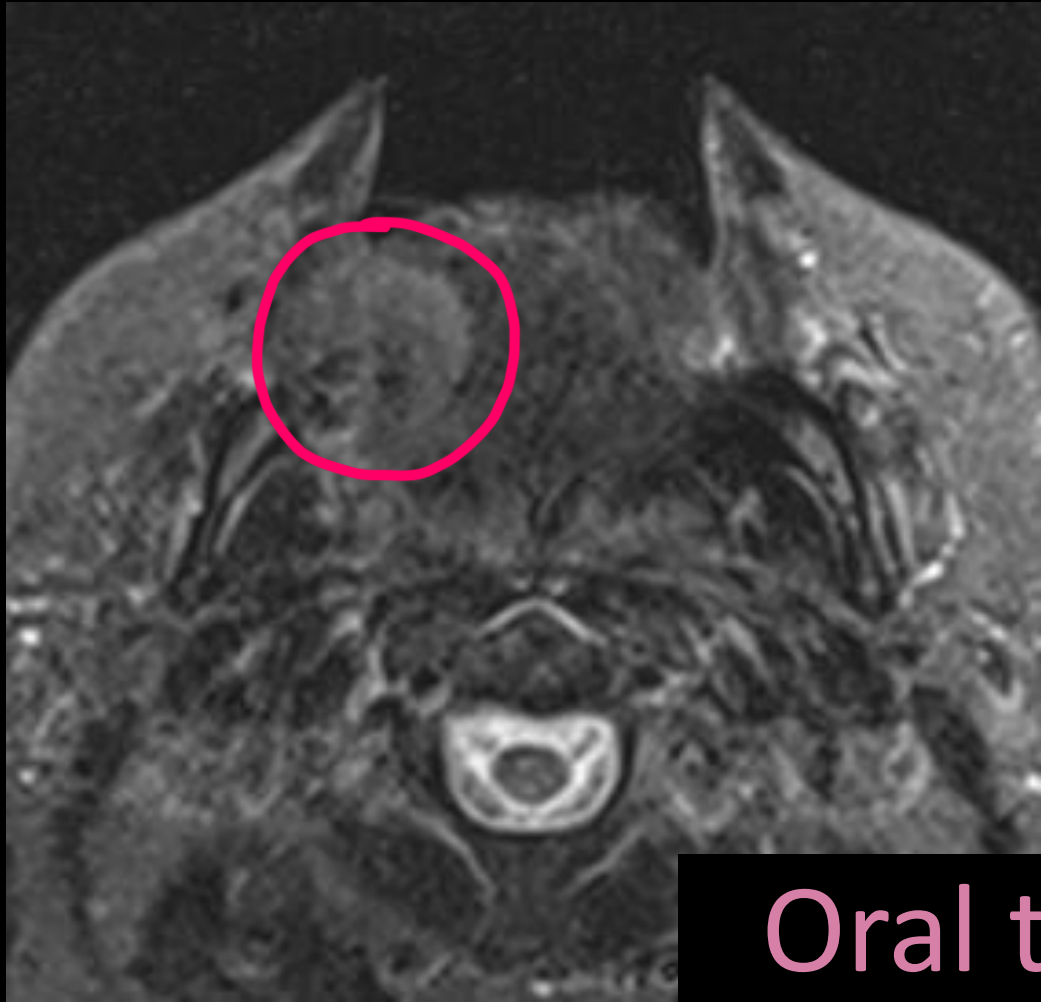


Mucosal lip

Bone ☒
Sinus ☒
MS ☒
Skin ☒

T2 Oral Ca anatomic determinants

Tumor $\leq 2\text{cm}$, DOI $> 5\text{mm}$ $\leq 10\text{mm}$, $> 2\text{cm}$ $\leq 4\text{cm}$ DOI $\leq 10\text{mm}$



Bone 
Sinus 
MS 
Skin 

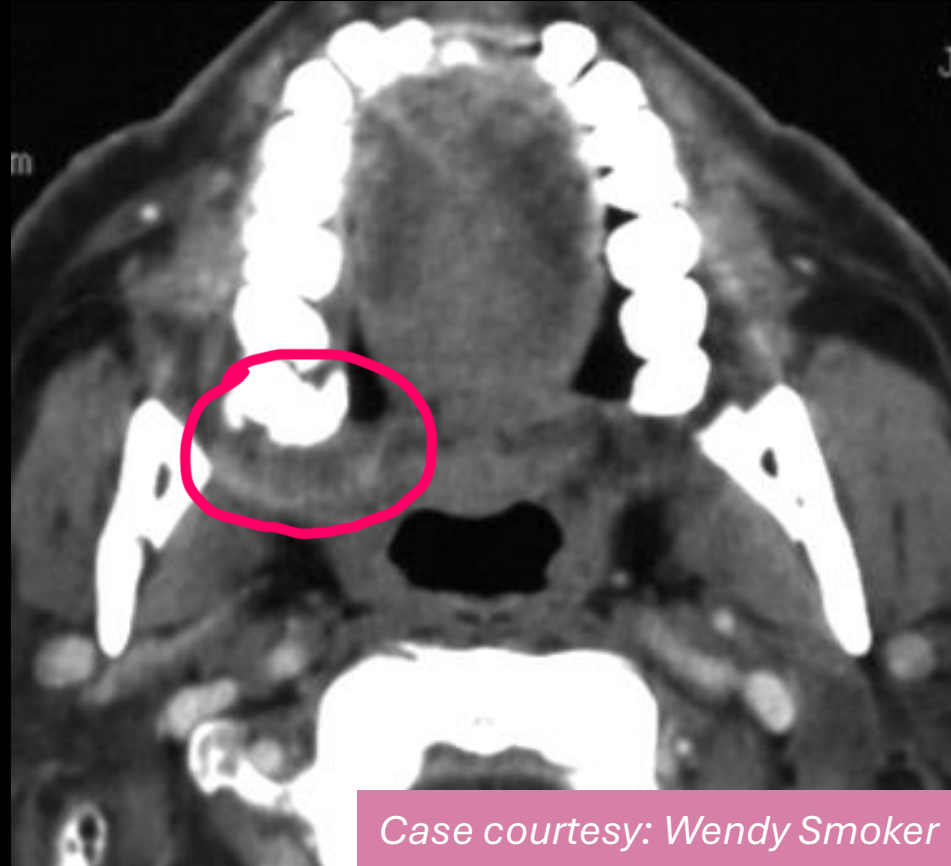
Oral tongue

T3 Oral Ca anatomic determinants

Tumor $>2\text{cm}$ $\leq 4\text{cm}$ DOI $>10\text{mm}$, $>4\text{cm}$ DOI $\leq 10\text{mm}$



Buccal mucosa



Case courtesy: Wendy Smoker

Retromolar trigone

Bone ☒

Sinus ☒

MS ☒

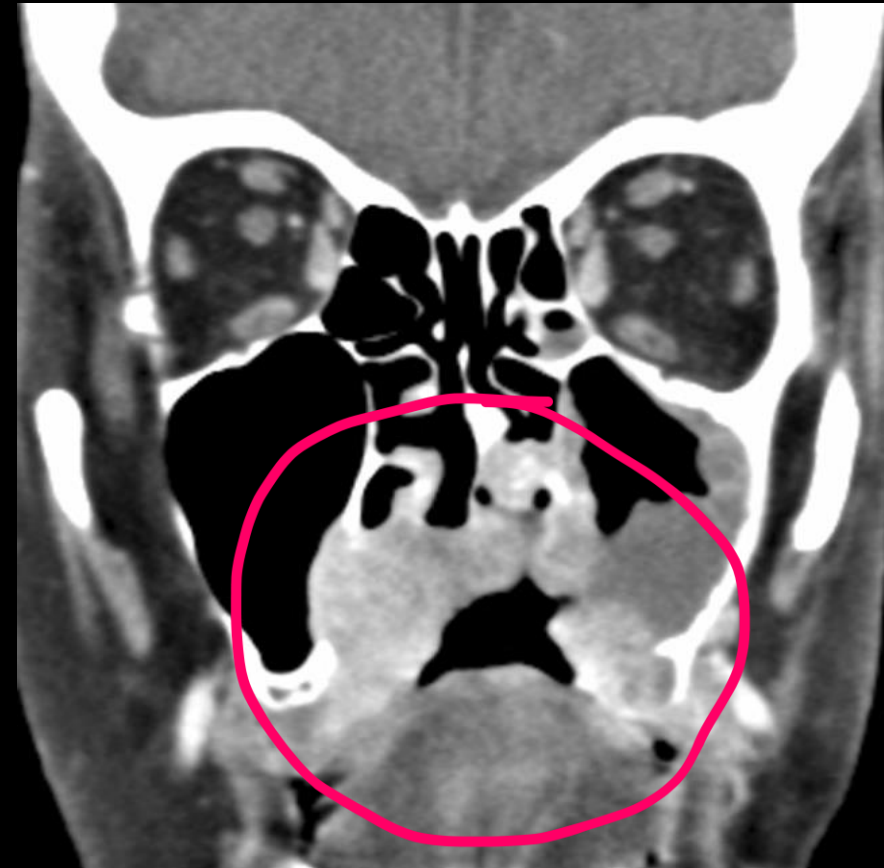
Skin ☒

T4 Oral Ca anatomic determinants

Tumor invades bone, masticator space, sinus, skin, ICA



Floor of mouth

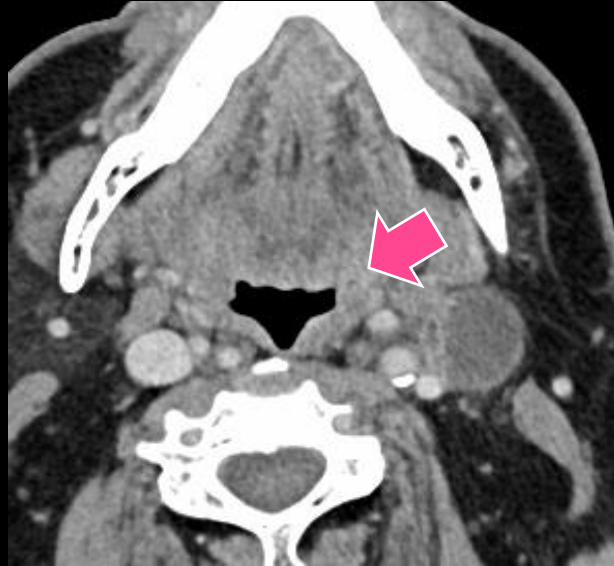


Hard palate

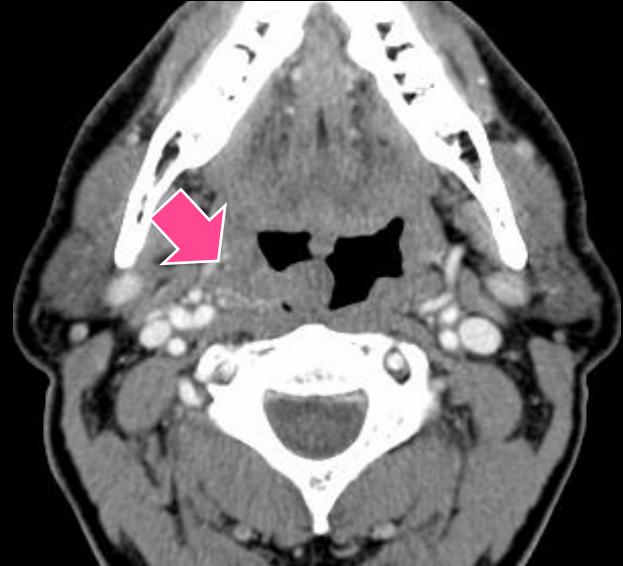
Oropharyngeal cancer

- Divided to p16(+) and p16(-) cancers
- p16(+) Ca HPV associated, affects younger, better prognosis, typically involves tongue base and palatine tonsils, bulky cystic nodes
- p16(-) Ca alcohol/tobacco associated, resistant to treatment and worse prognosis

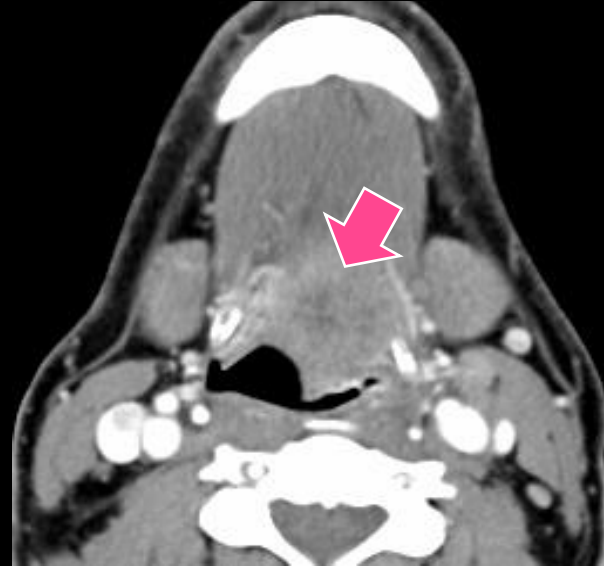
OPC anatomic determinants



<2cm



>2cm, <4cm



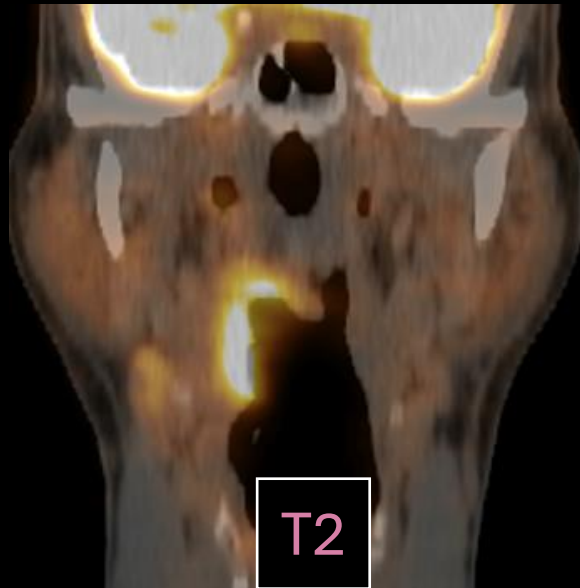
>4cm or involves
lingual epiglottis



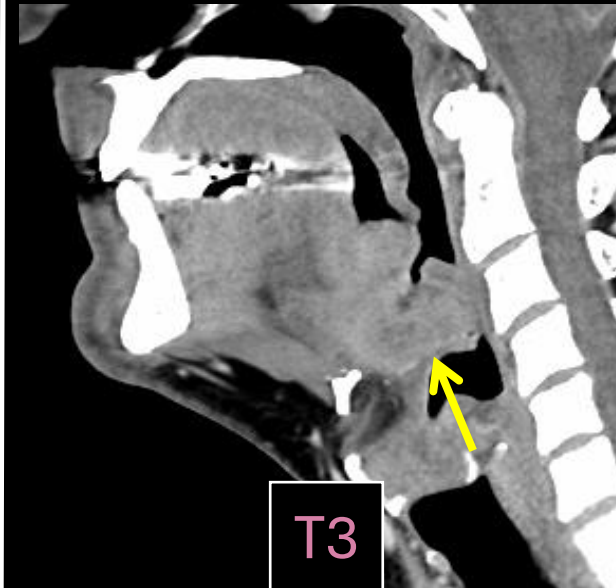
Involves larynx,
tongue muscles, bone



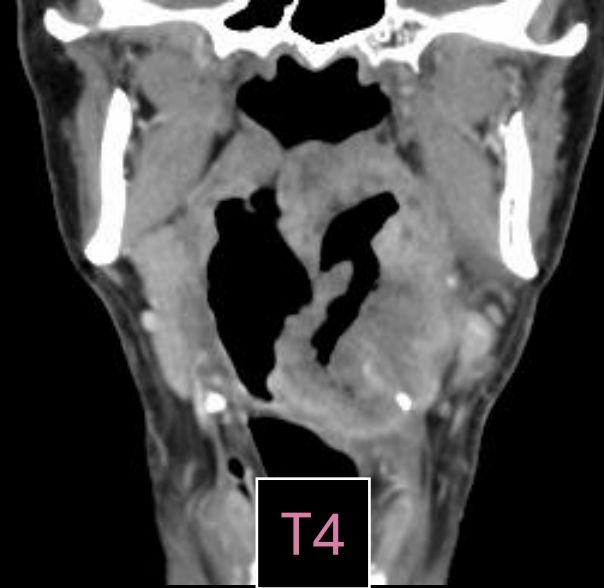
T1



T2



T3

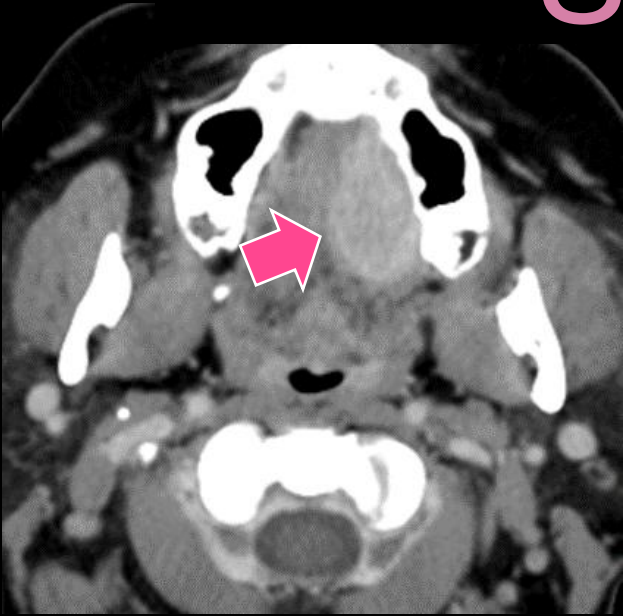


T4

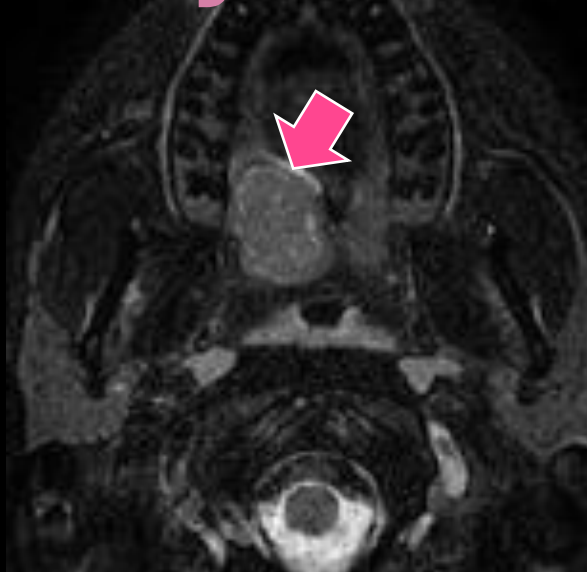
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Salivary tumors



Adenoid cystic (PNTS)

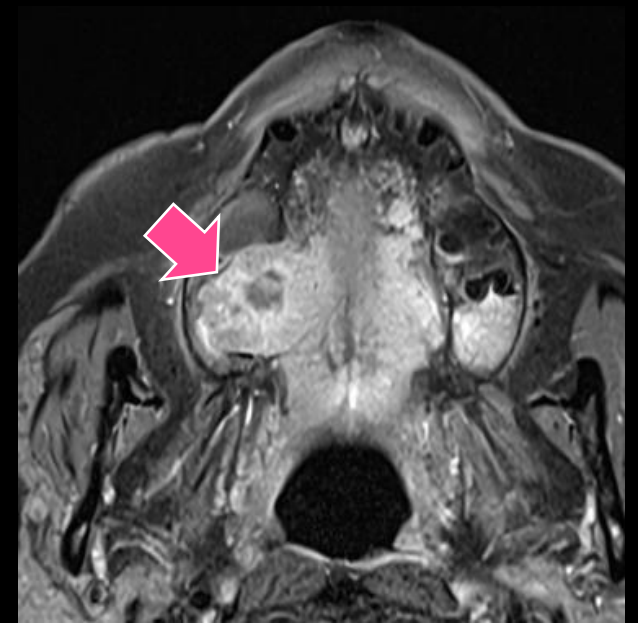


Mucoepidermoid Ca

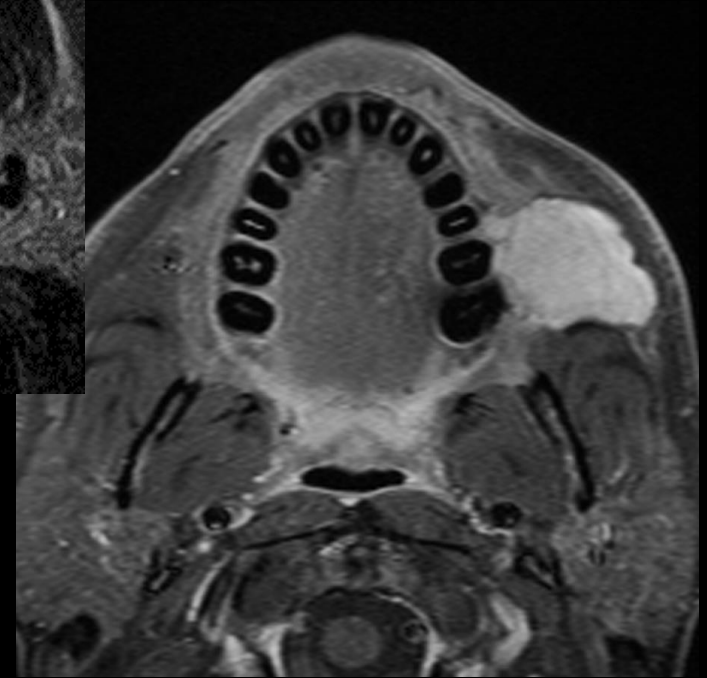
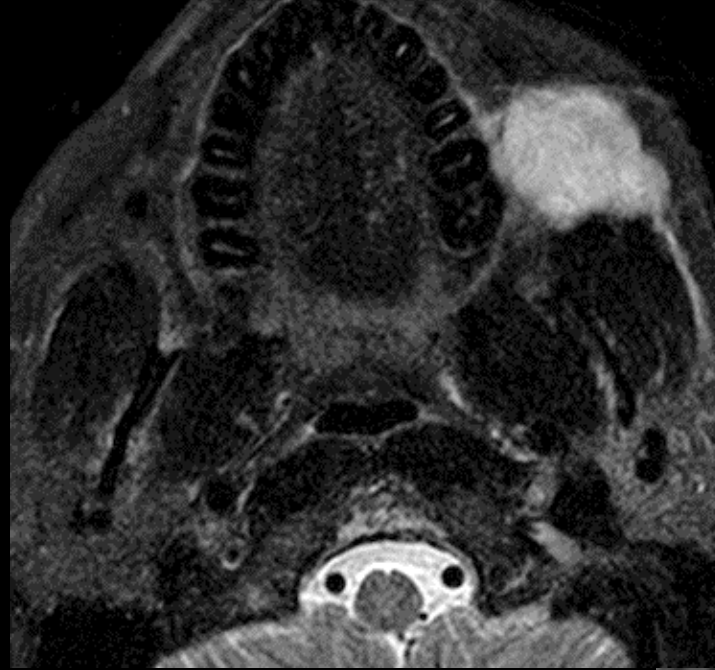
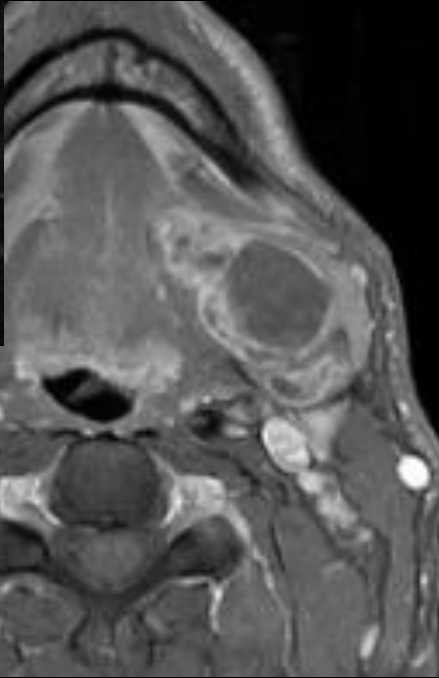
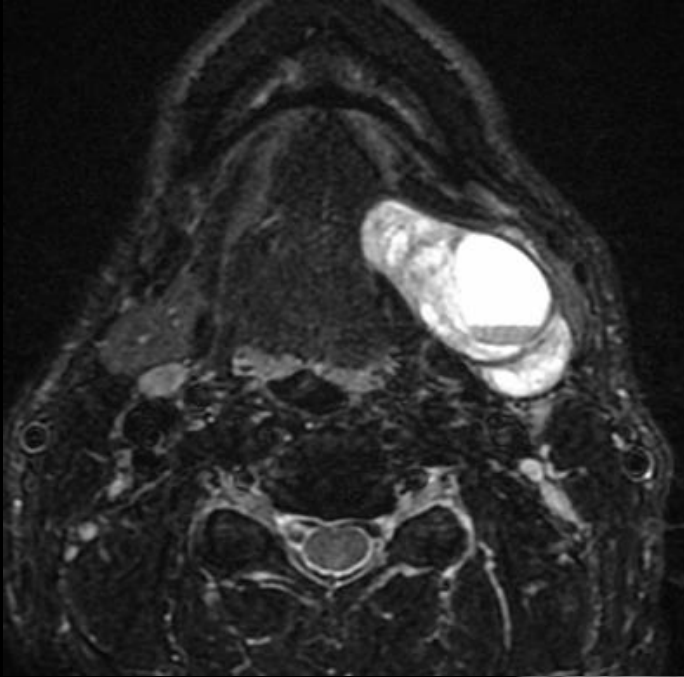


Image
courtesy:
StatDx

Benign mixed tumor (high T2 signal)



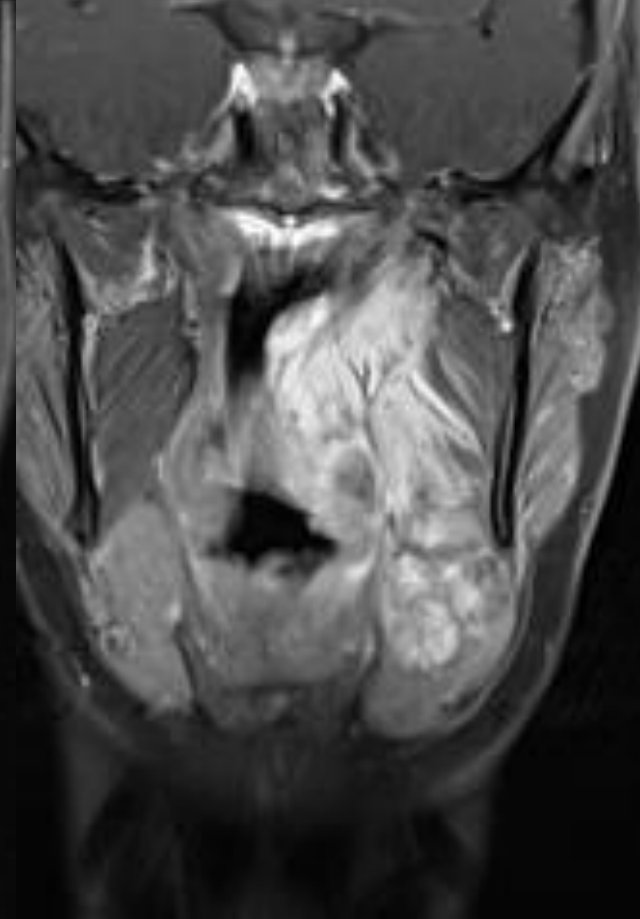
Other tumors



Lingual nerve schwannoma

Spindle cell carcinoma

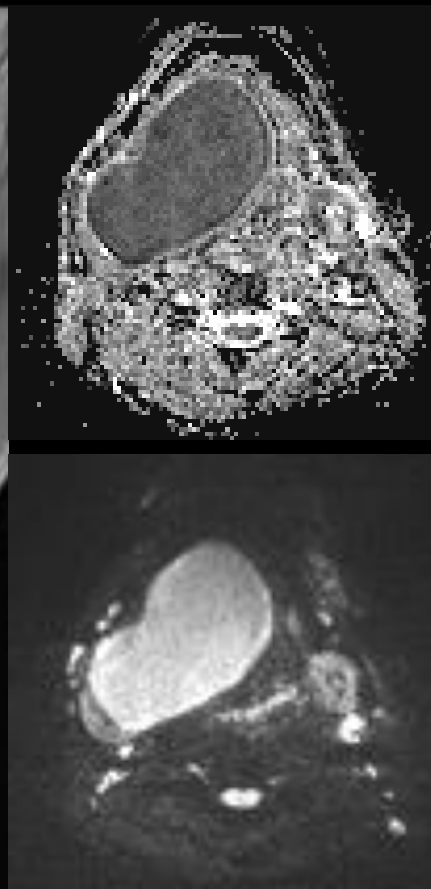
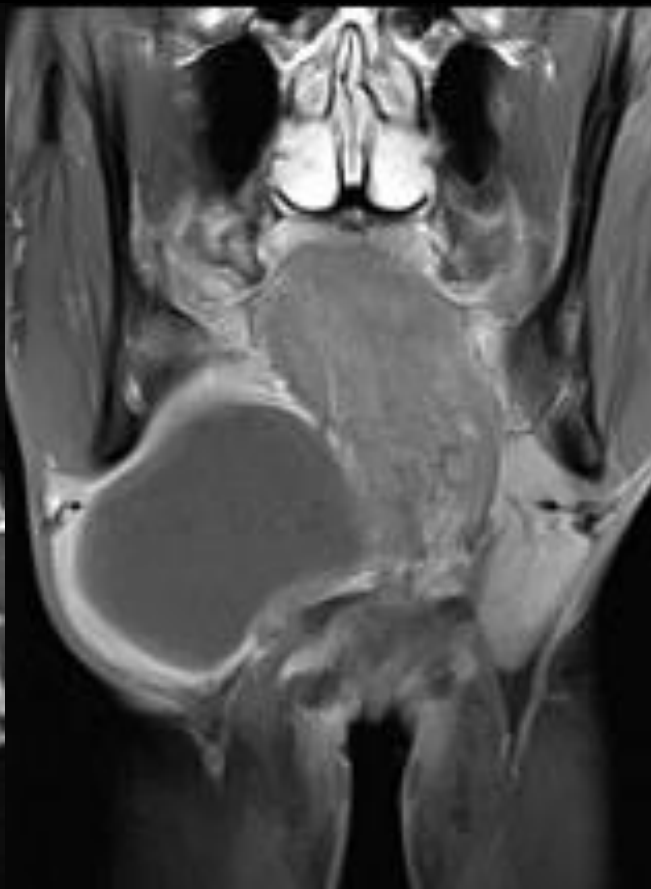
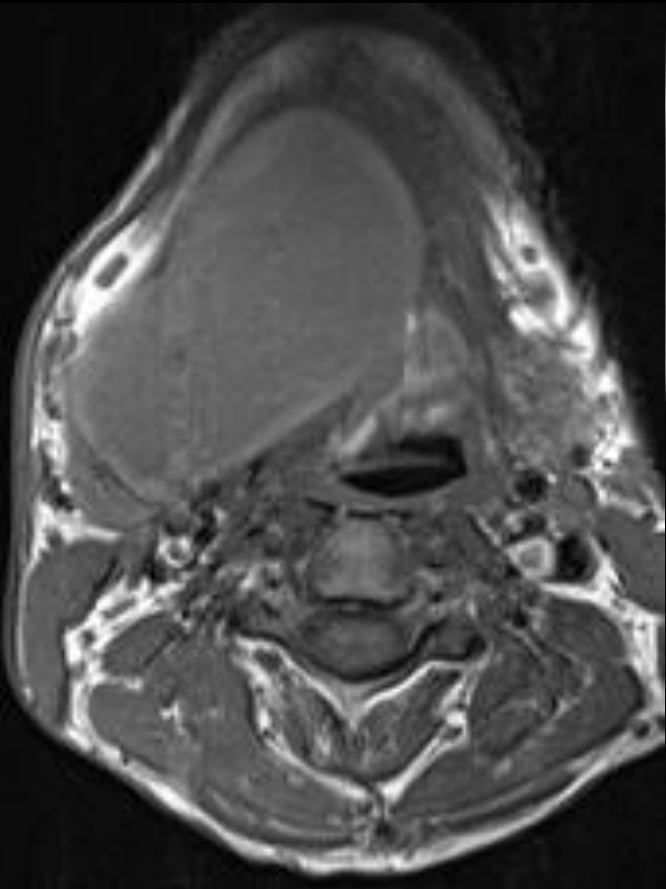
Cystic lesions



Trans-spatial
T2 bright
Gd +/-
Phleboliths

Lymphatic/Venolymphatic malformation

Cystic lesions



Congenital epithelial inclusion

Dermoid – complex, fat, calcification ‘Bag of marbles’

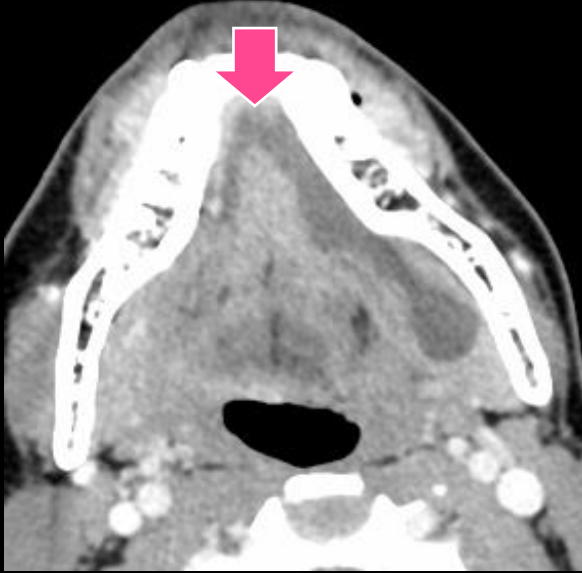
Epidermoid - fluid density/intensity

Both can restrict diffusion

Dermoid/ Epidermoid

May grow rapidly with puberty

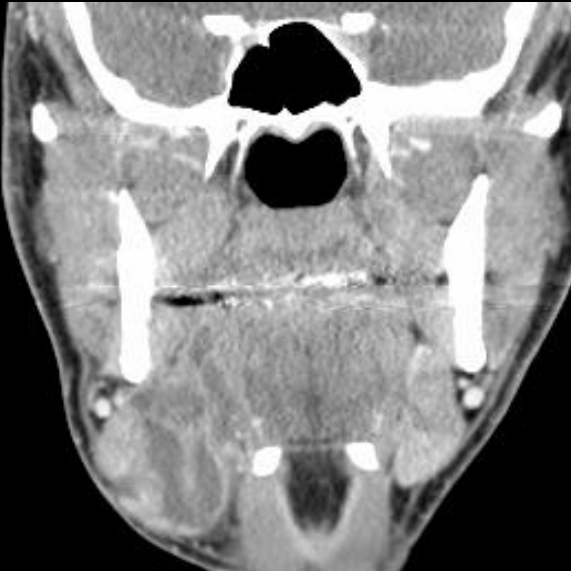
Cystic lesions



Simple Ranula



Diving Ranula



Sublingual or FOM minor gland retention cyst

Simple

- confined to SLS
- unilocular or horse-shoe

Diving

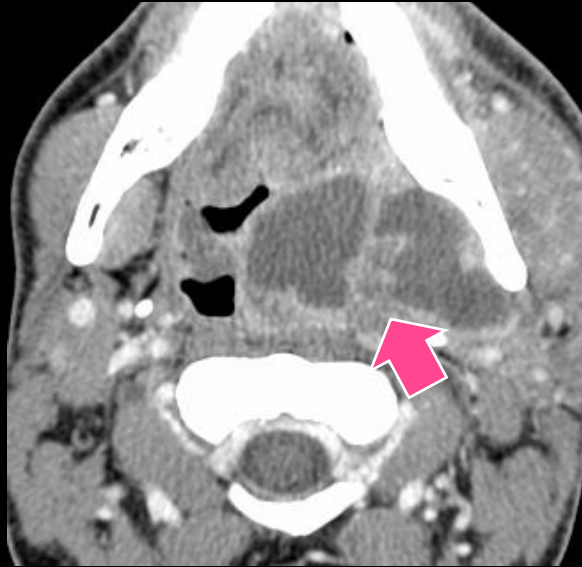
- ruptured into SMS
- 'Tail' in SLS

May be indistinguishable from LM or epidermoid

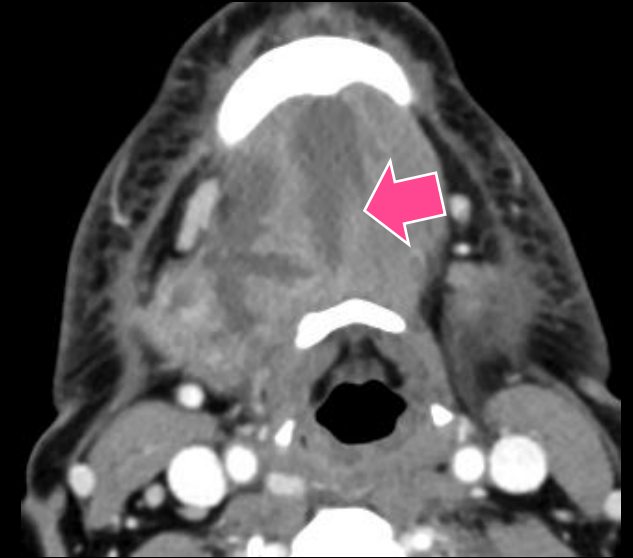
Abscesses



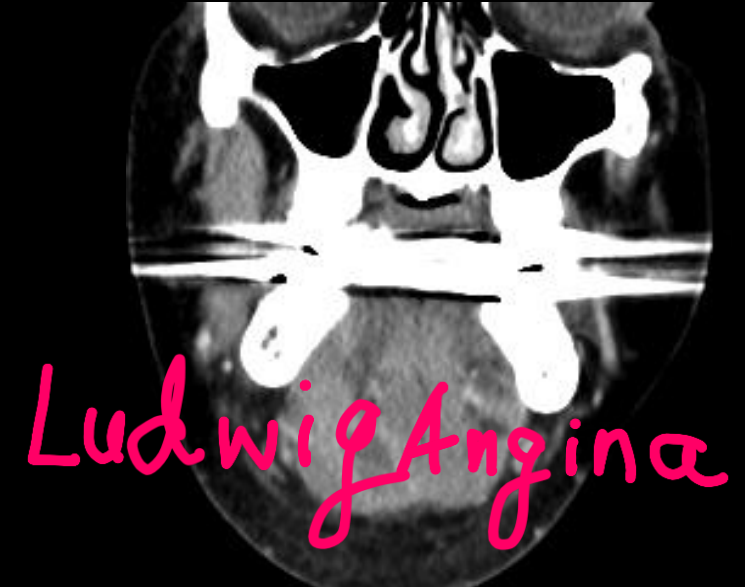
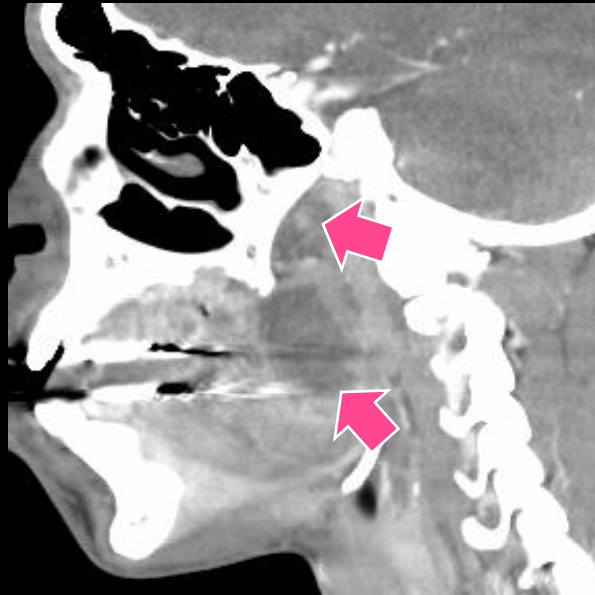
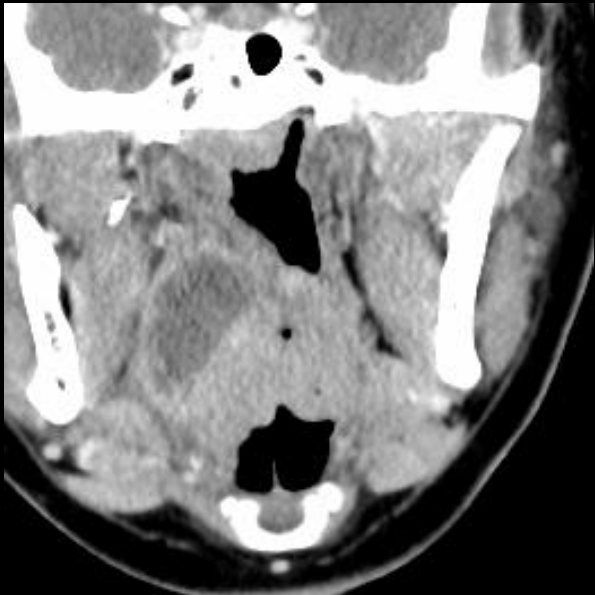
Tonsillar/ Peritonsillar
abscess

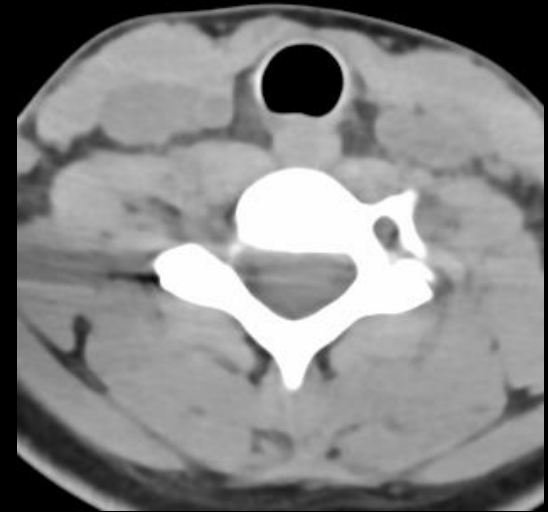
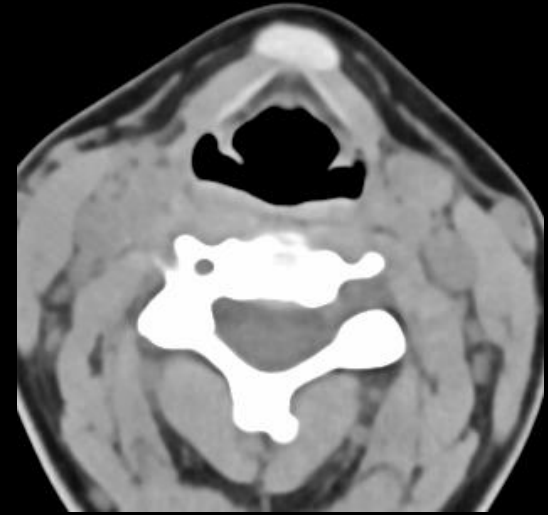
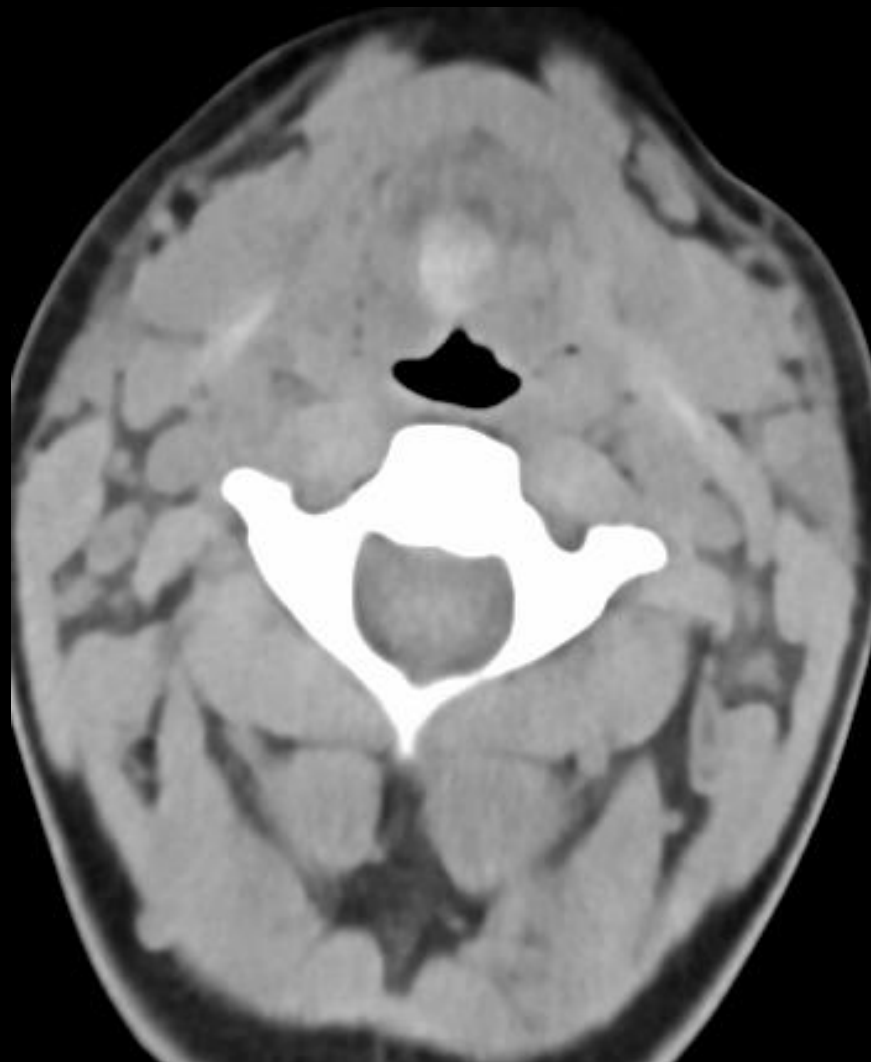
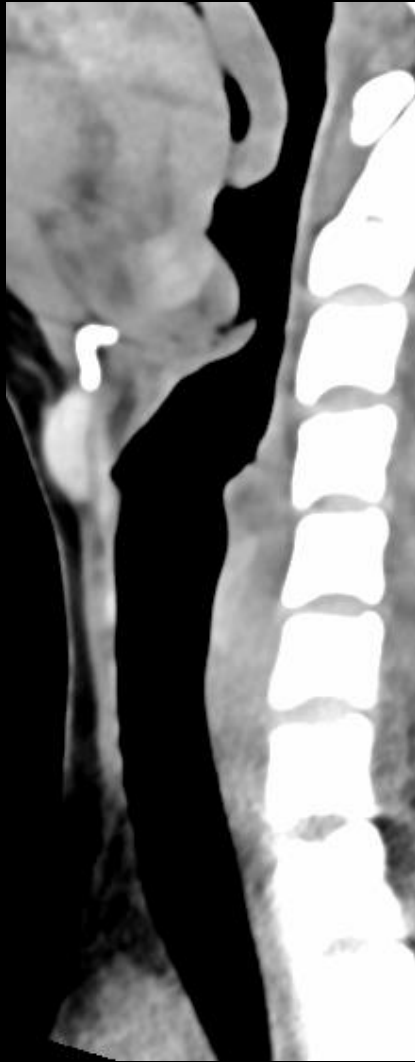


Complicated Tonsillar
abscess



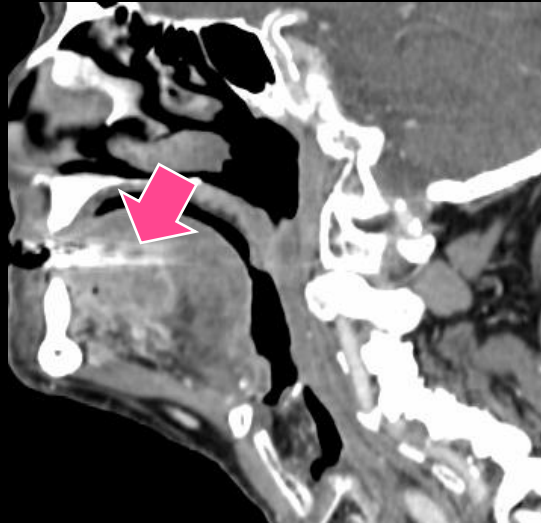
Floor of mouth abscess



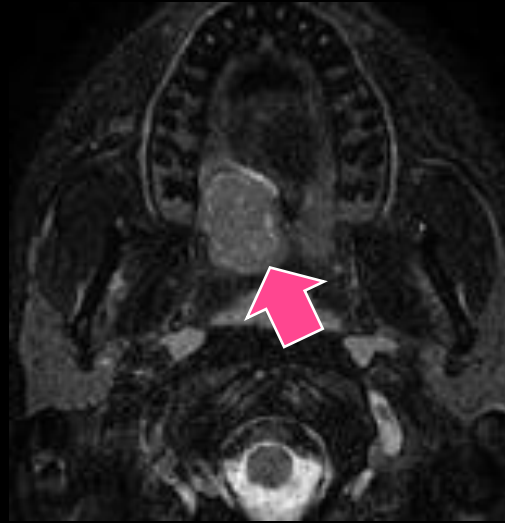


Lingual Thyroid

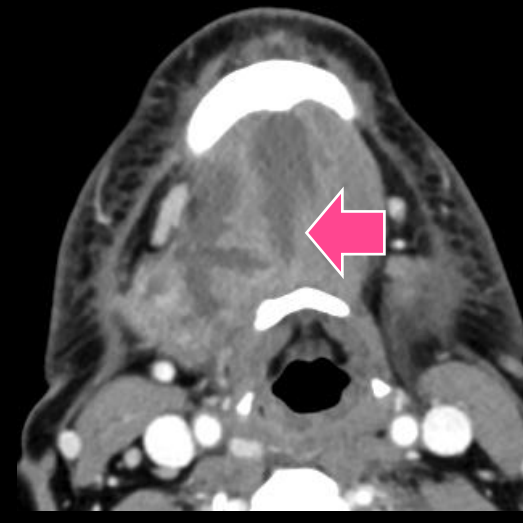
Oral and oropharyngeal lesions



SCC



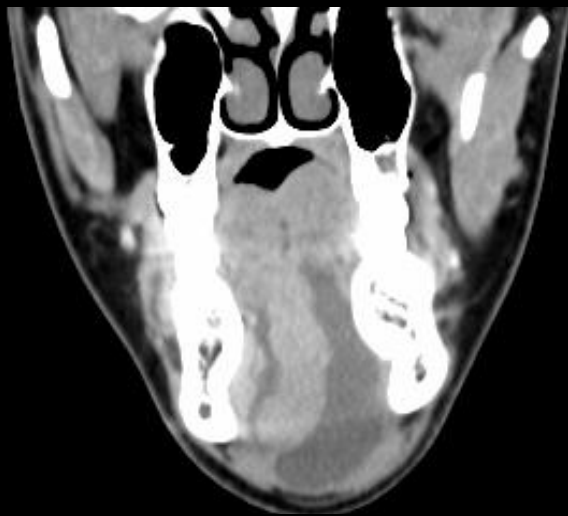
Salivary Tx



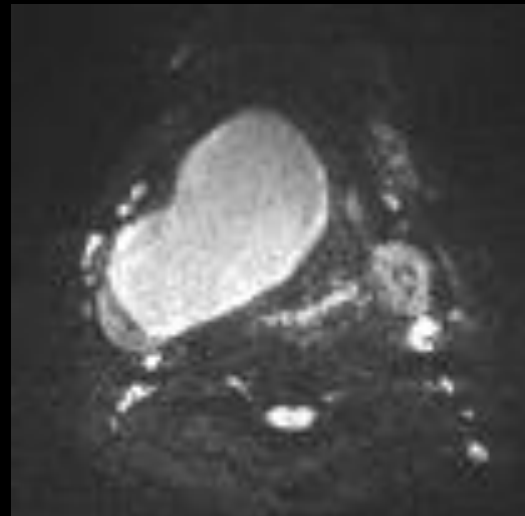
Ludwig angina



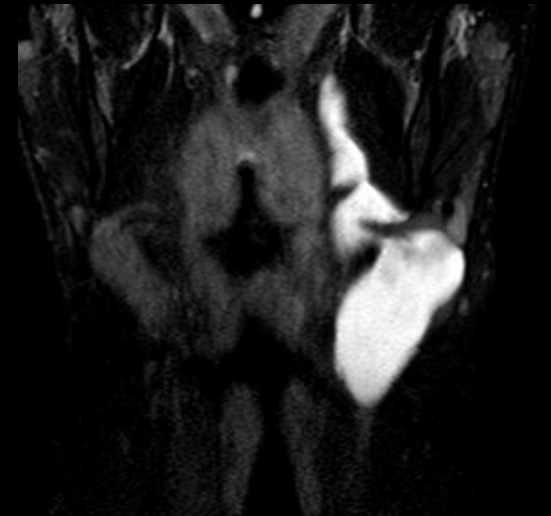
Peritonsillar abscess



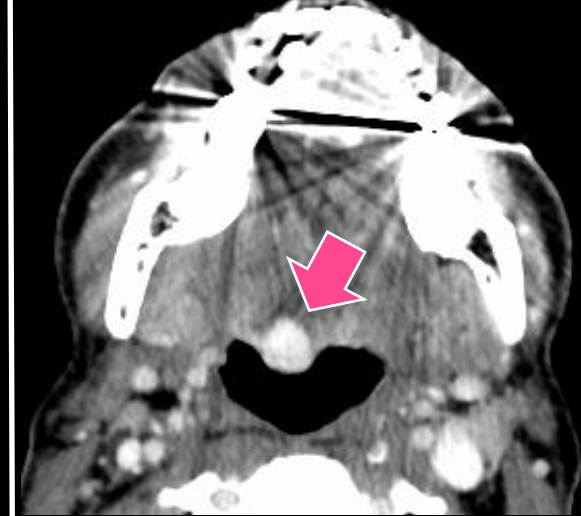
Ranula



Epidermoid



VLM



Lingual thyroid

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Thank You

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