

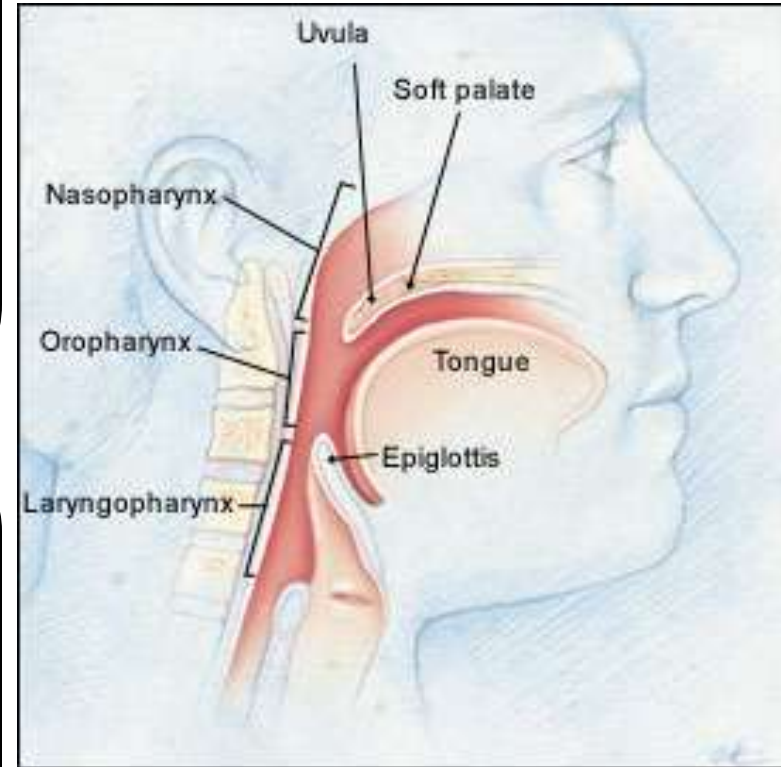


Carcinoma Hypopharynx

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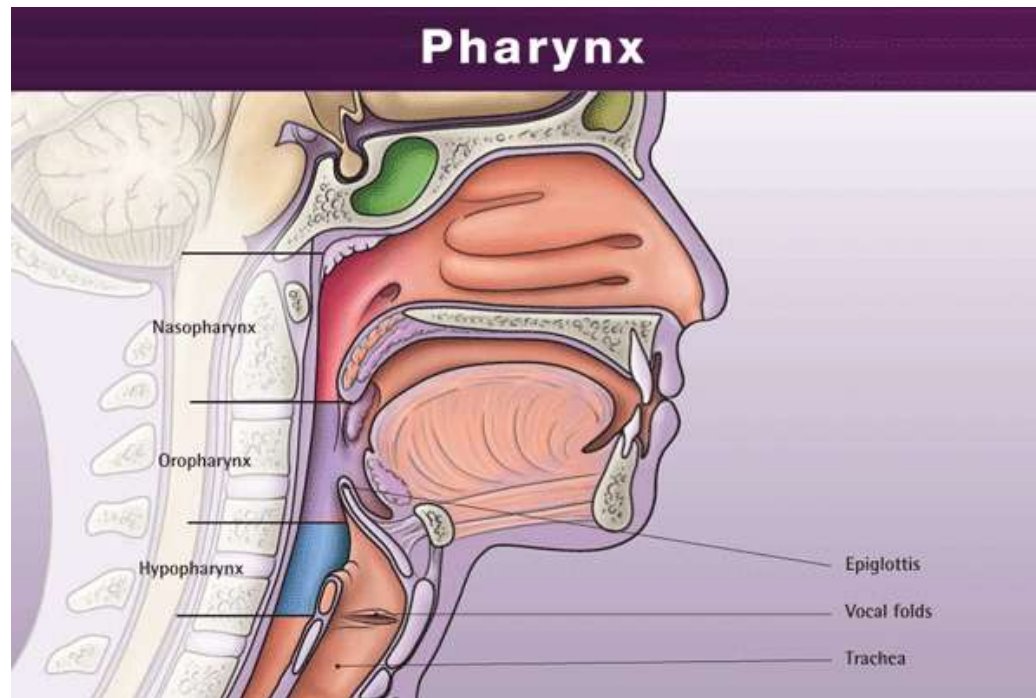
Hypopharynx is a highly important anatomical site since physiologically it is a component of the upper aerodigestive tract.

In its upper part, it represents a common conduit for both respiration and deglutition.



Anatomical considerations

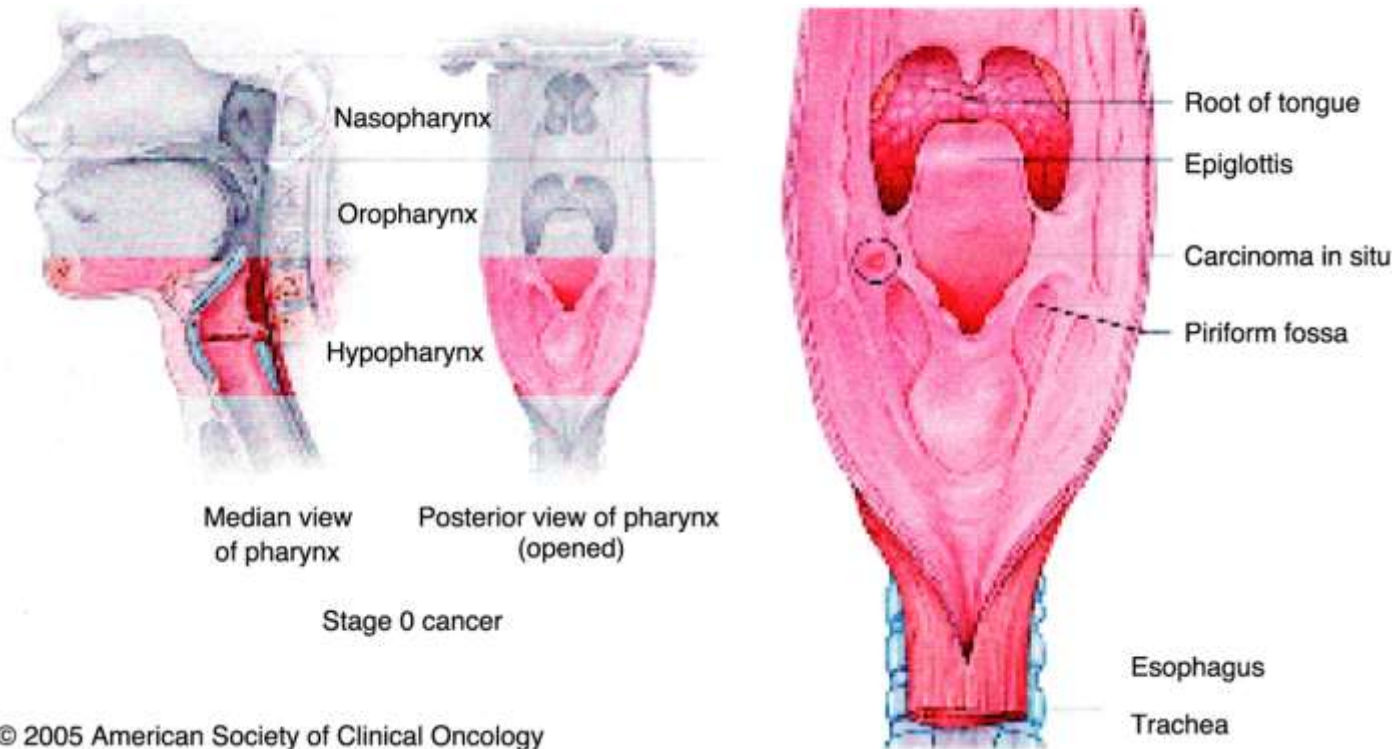
- It is the lower most part of pharynx.
- It begins at the level of tip of epiglottis and ends at lower border of cricoid cartilage



Tumours arising in this region often present in an advanced state

Key to cure lies in an early & accurate diagnosis, subsequent staging & in majority cases treatment by curative intent using surgery and post-operative radiotherapy.



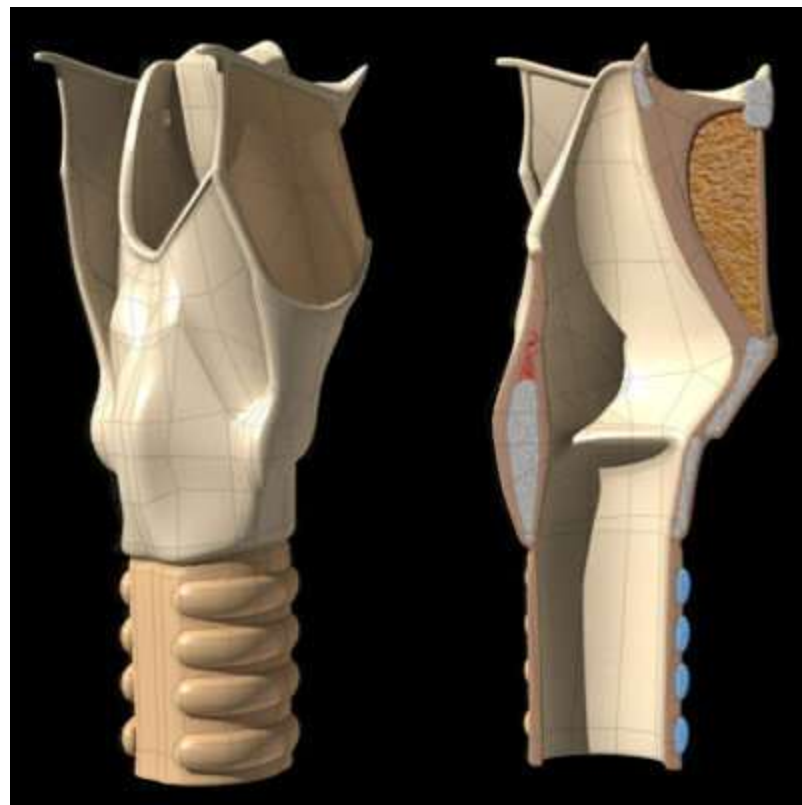


Two piriform sinuses-one on each side

Posterior pharyngeal wall

Post-cricoid region where aerodigestive tract continues with cervical oesophagus

Pharyngo-oesophageal junction (post-cricoid area) extends from level of arytenoid cartilages and the connecting folds to the inferior border of cricoid cartilage, thus forming the anterior wall of the hypopharynx.




Piriform sinuses extend from pharyngo-epiglottic fold to the upper end of the oesophagus.

It is bounded laterally by thyroid cartilage and medially by hypopharyngeal surface of aryepiglottic fold and cricoid cartilages



Posterior Pharyngeal wall extends from superior level of the hyoid bone to the level of border of cricoid cartilage and from apex of one piriform sinus to the other.

Hypopharynx is lined throughout by squamous cell epithelium.



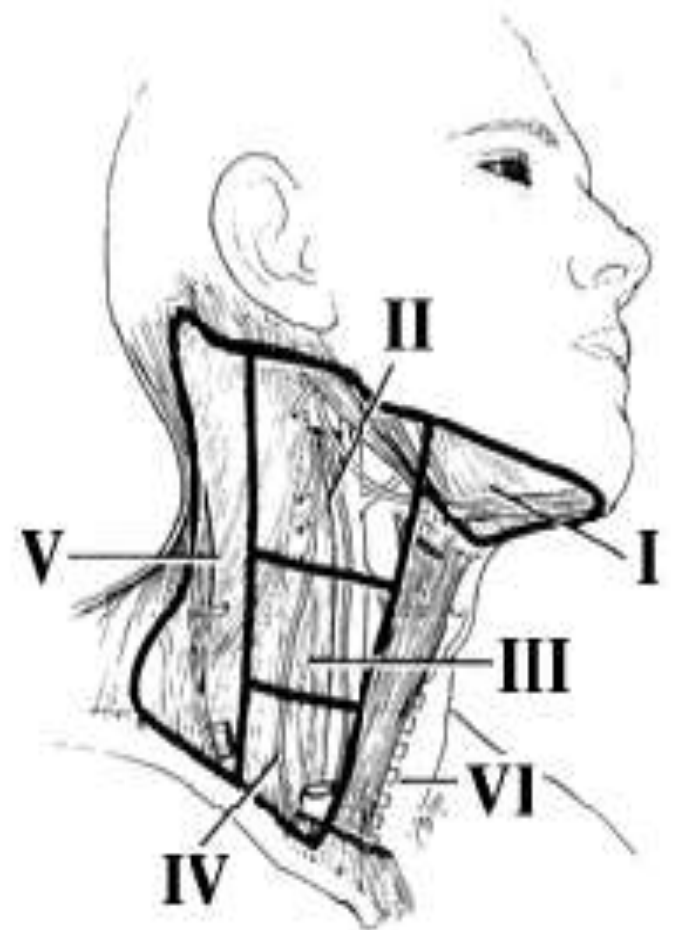
Physiologically the hypopharynx acts as a conduit for oral intake, participating in second stage of deglutition and a tumor in this region can impair this activity either by mass effect or by interference with muscular coordination or nervous innervation.

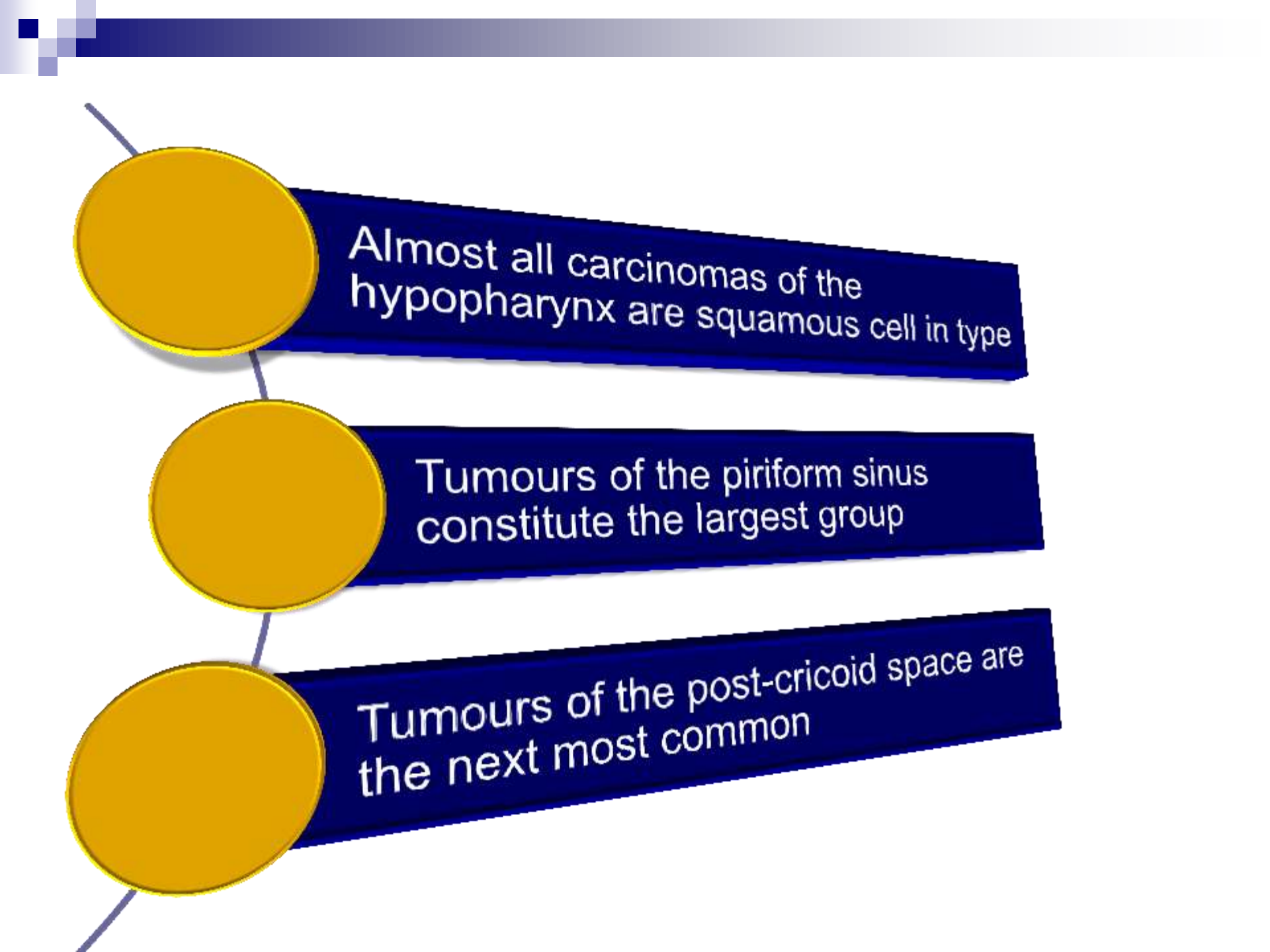
Piriform sinus has rich underlying network of lymphatics but this is less extensive in other subsites

In general, the lymphatics in this area drain to deep cervical chain in level IV, but the inferior part of piriform sinus and post-cricoid area also drain to the

The posterior pharyngeal wall also drains to the retropharyngeal lymph nodes

Lymphatics

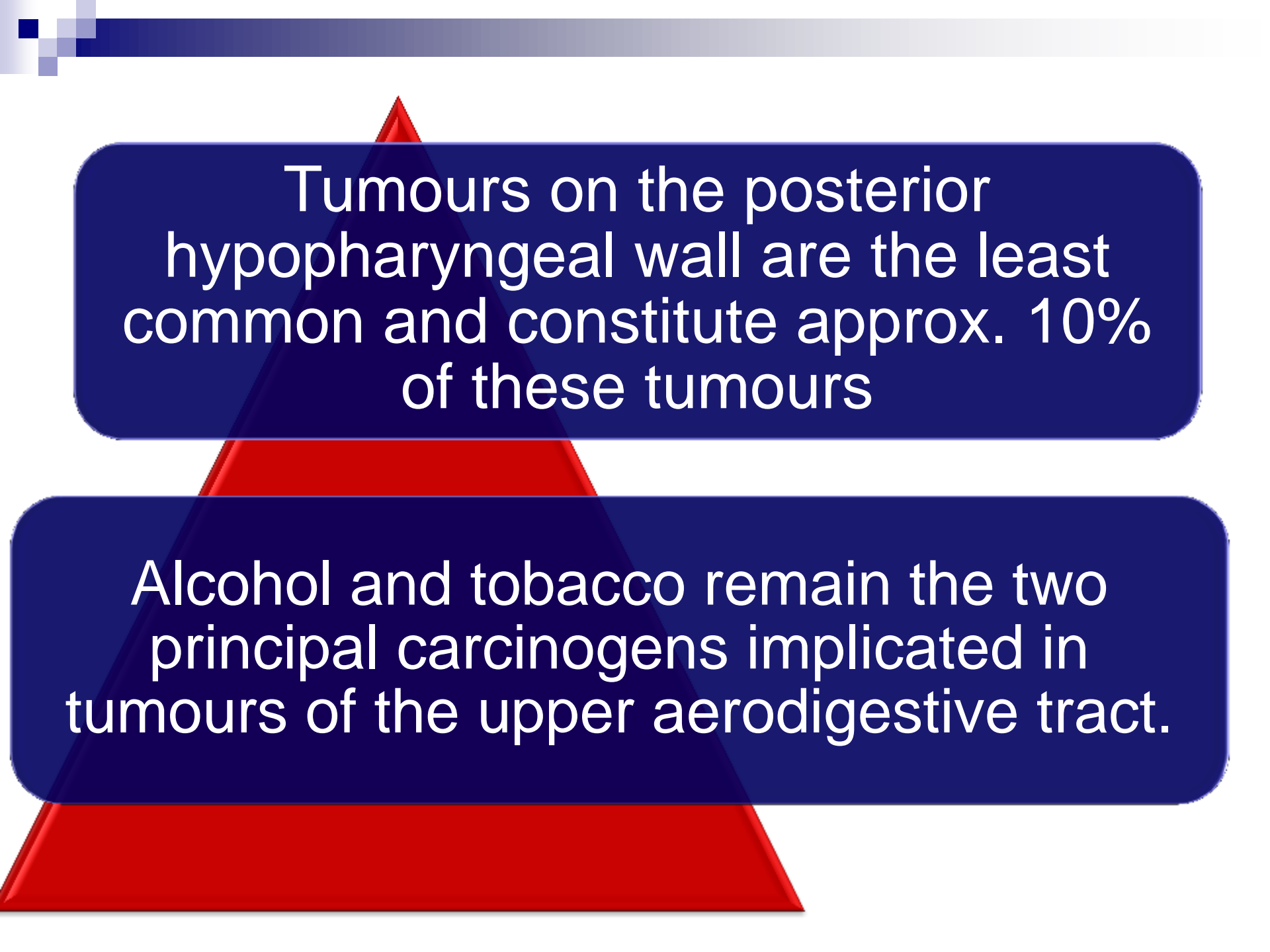




Almost all carcinomas of the hypopharynx are squamous cell in type

Tumours of the piriform sinus constitute the largest group

Tumours of the post-cricoid space are the next most common



Tumours on the posterior hypopharyngeal wall are the least common and constitute approx. 10% of these tumours

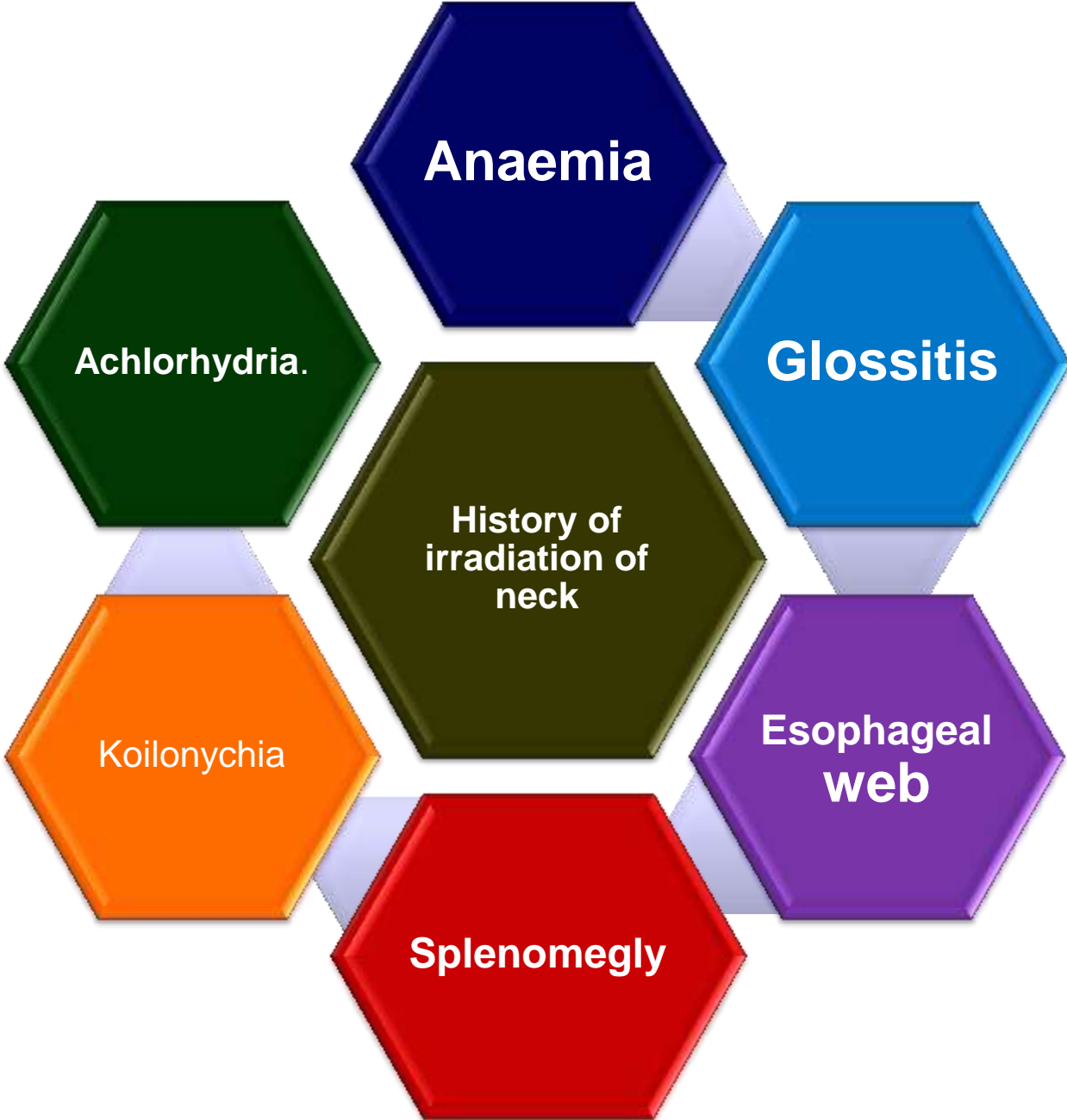
Alcohol and tobacco remain the two principal carcinogens implicated in tumours of the upper aerodigestive tract.

Post cricoid carcinoma

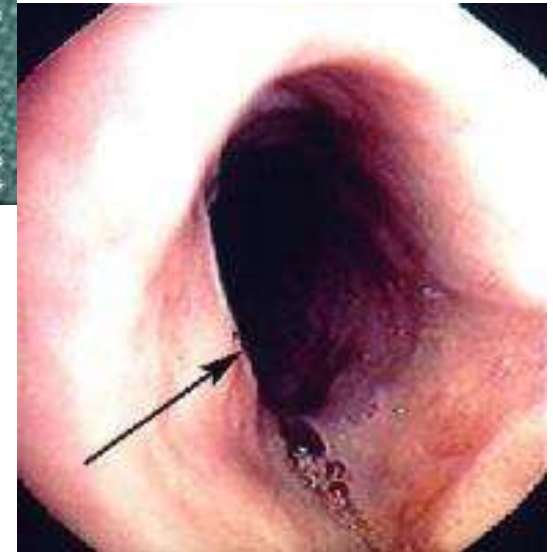
It remains the only squamous cell carcinoma common in women than men.

In relation to post cricoid carcinoma a major dietary (iron deficiency) has particularly been described particularly with Plummer Vinson Syndrome.

This syndrome is also called Paterson Brown Kelly Syndrome



Paterson Brown Kelly Syndrome



Dysphagia
and/or
Odynophagia

Hoarseness
of Voice

Symptoms

Neck
mass

Haemoptysis

Symptoms suggesting a hypopharyngeal tumour

Dysphagia: Often persistent and progressive. Patients who complain of food sticking in throat need to be investigated

Pain: Usually lateralized and prominent on swallowing, may radiate to ipsilateral ear

Hoarseness: When it occurs in association with dysphagia or referred otalgia usually means extension of tumour into larynx

Symptoms suggesting a possible pharyngeal tumour

- **Neck Mass:** Likely to be due to nodal metastasis, but may be due to direct extension through thyrohyoid membrane.
- **Haemoptysis:** An unusual symptom, but can occur with tumours of Piriform Sinus or Post Pharyngeal wall.
- **Weight loss:** Often occurs in presence of significant disease.

Examination

- Full head and neck and GPE
- Indirect Laryngoscopy (IDL)
- Direct Laryngoscopy (DL)
- Particular attention shall be paid to obvious swelling or ulceration and also presence of **pooling of secretions in the piriform fossa (Chevalier Jackson's sign)** and oedema of arytenoids.

Pooling in the piriform fossa indicates failure of passage of secretions down the oesophagus, whereas oedema of arytenoids may be the only obvious evidence on IDL of a tumour either of the medial wall of piriform fossa or post cricoid space.





Laboratory investigations

Following investigations are considered essential:

- Full Blood count
- Iron Stores
- Urea and electrolytes
- LFT
- Serum Calcium
- Thyroid Function

Radiological Assessment

- **Barium Swallow:** Extremely useful investigation in these tumours. Objectives include:
 - To assess tumour length
 - To rule out synchronous primary tumour of oesophagus
 - To ascertain presence or absence of aspiration
 - To assess tumour mobility on vertebral column



Radiological Assessment

■ CT and MRI

- To assess the extent of the primary tumour and extensions.
- To rule out second primary and distant metastasis
- To assess neck
- To look for cartilage invasion

Transverse CT image through the lower postcricoid region in a 62-year-old man with a fungating mass in the right piriform sinus demonstrates definite involvement of the lower postcricoid region by a tumor (T) on the right, which is seen as a thickening of the pharyngeal wall and obliteration of the intramural fat planes.



Schmalfluss I M et al. Radiology 2000;214:237-246

Endoscopy

- Examination of larynx, pharynx, trachea and esophagus
- Examination of oral cavity
- Biopsy



Staging

- T1: Tumour limited to one subsite of hypopharynx and 2 cm or less in greatest dimension.
- T2; Tumour invades more than one subsite or measures $>2\text{cm}$ but $< 4\text{ cm}$ without fixation of hemilarynx.
- T3: Tumours $> 4\text{ cm}$ or with fixation of hemilarynx
- T4: Tumour invades adjacent structures

Treatment policy

Approximately 25% of patients with hypopharyngeal carcinoma are not treatable at presentation due to advanced age, poor general health, inoperability of the tumor and extensive neck disease. Such patients may be considered for radiotherapy with a palliative intent. Chemotherapy has no established role.



Treatment policy

Long term results may be obtained with surgery or radiotherapy but are not encouraging. 5 year survival rate with surgery and with or w/o post operative radiotherapy are 35%.

Treatment policy

- Some rare Stage I and II tumours of PF sinus and posterior pharyngeal wall can be successfully treated with irradiation with 50-90% 5 year survival rate. The inclusion criteria for such patients includes, vertical length of tumour shall not exceed 5cm, mobile vocal cords and N0 neck.
- If the patient does not fulfill above criteria he should be submitted for surgery. In case of recurrence in a previously irradiated patient , surgery is considered

The various surgical options include

- Endoscopic excision using LASER or diathermy
- Partial pharyngectomy
- Partial pharyngectomy with supraglottic laryngectomy
- Total laryngectomy with Partial pharyngectomy
- Total pharyngectomy
- Total laryngopharyngoesophagectomy

