

Dysphagia

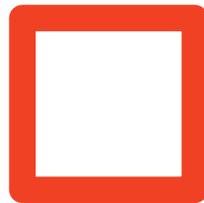
Done by:

Malak A AL-maitah

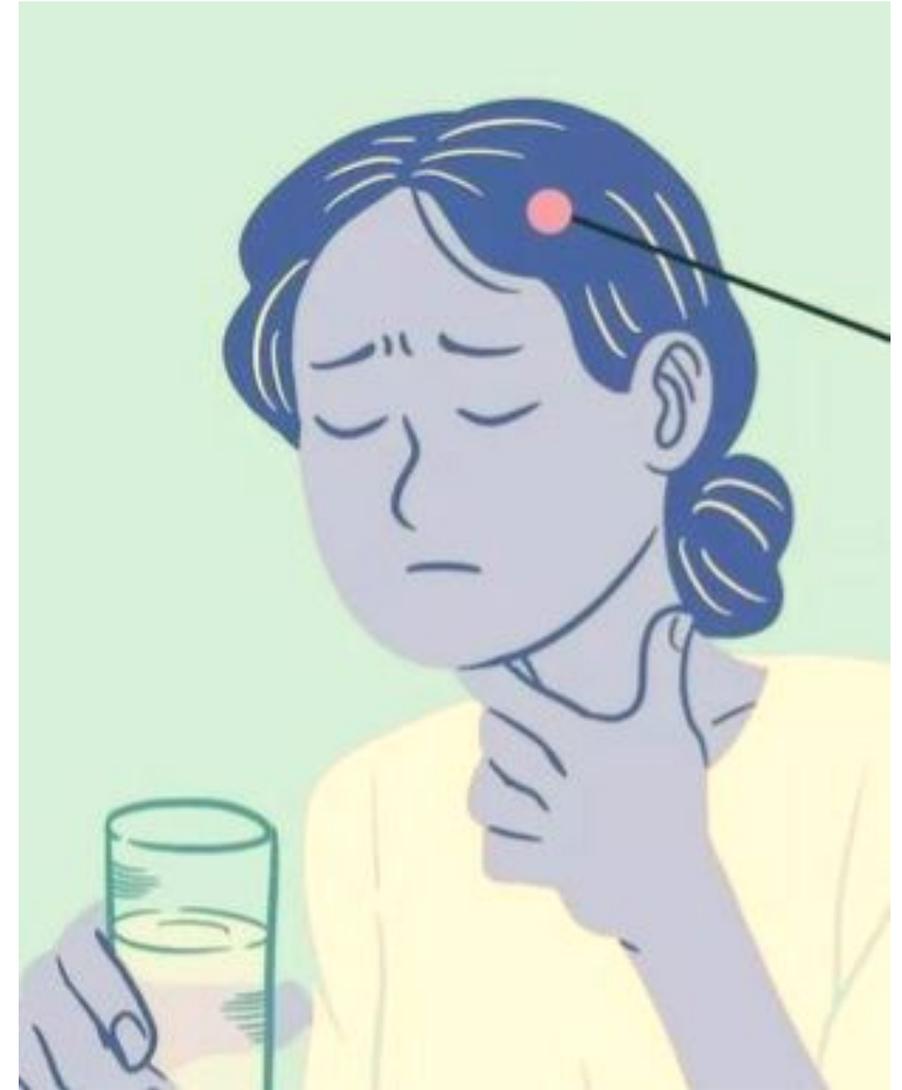
Toqa Mohammad

Mais Jameel

Tasneem Abuolaim

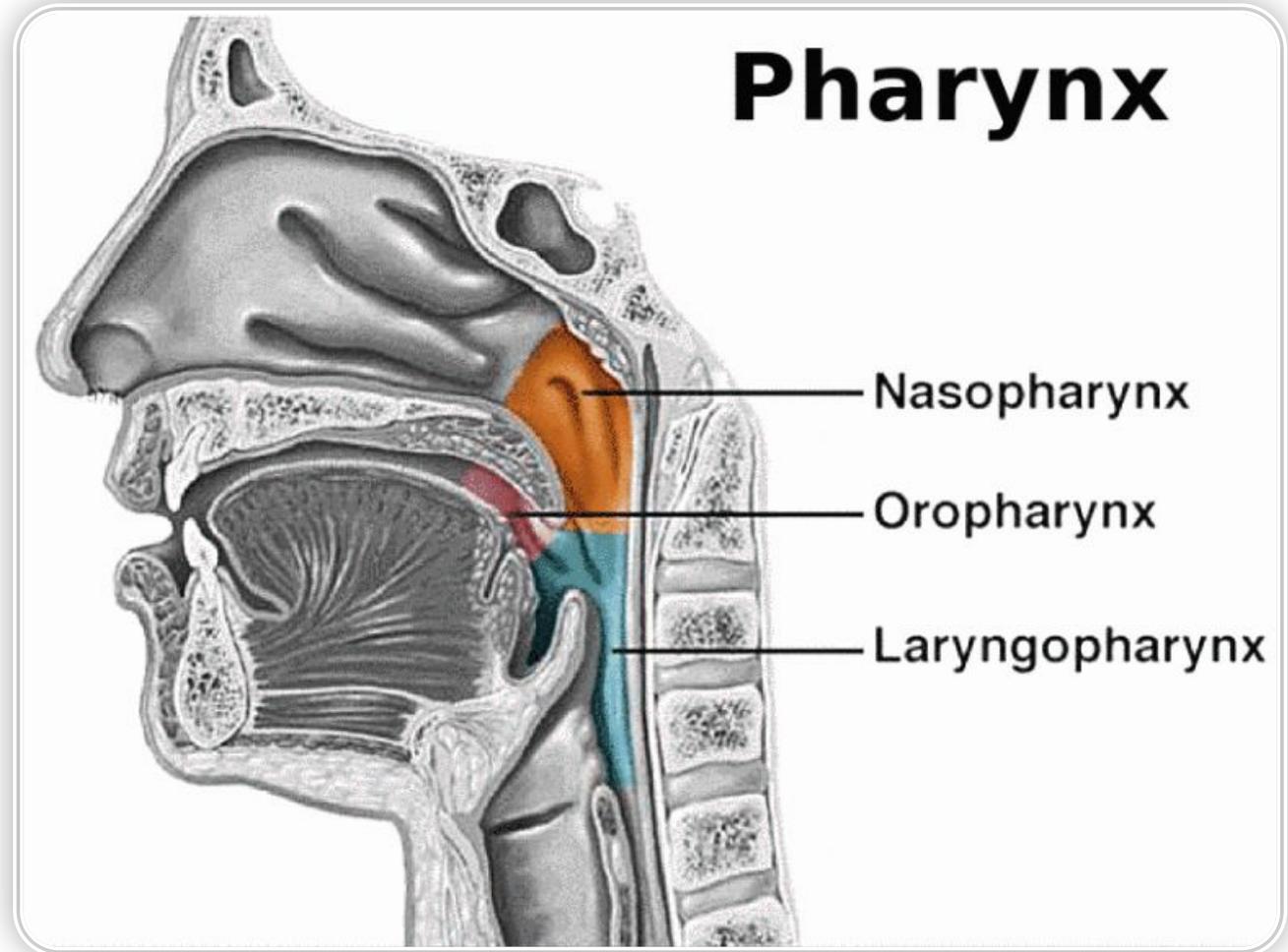


Supervised by: Dr.Mohammad Nofal

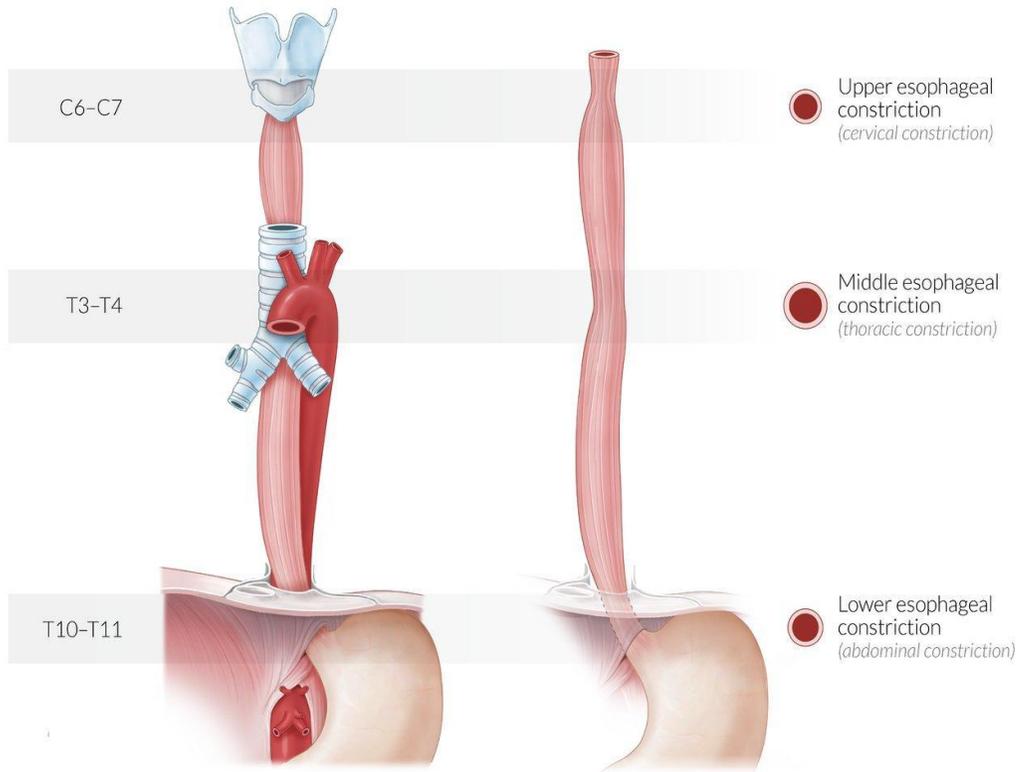


Pharynx

- The pharynx, more commonly known as the **(throat)**, is a 12-14 cm, or 5-inch, long tube



Anatomy



- The esophagus (oesophagus) is a 25 cm long fibromuscular tube extending from the pharynx (C6 level) to the stomach (T11 level)
- It actively facilitates the passage of the food bolus into the stomach

Swallowing

Swallowing, or deglutition, is a complex reflex mechanism by which food is pushed from the oral cavity into the esophagus and then pushed to the stomach.



Swallowing phases

- Oral phase: food moistens with saliva and chewed forming bolus , tongue push the food backward to the pharynx.
- Pharyngeal phase: food bolus stimulate involuntary neuromuscular swallow reflex which leads to closure of the oral cavity and the nasopharynx by the tongue and soft palate respectively , **epiglottis closes trachea preventing food from entering the lungs.**
- Esophageal phase: food bolus propelled down the esophagus by peristalsis to reach stomach.

Dysphagia

sensation of difficulty or abnormality of swallowing or transferring food from the mouth to the stomach.

Odynophagia

pain during swallowing

Types of dysphagia

- Oropharyngeal dysphagia

occurs when a person has **difficulty in INITIATING the swallowing** process or moving food or liquid from the mouth to the throat.

- Esophageal dysphagia

occurs when food or liquid **stops in the esophagus**, usually because of a blockage or irritation.

Oropharyngeal dysphagia

A . Neuromuscular disorders :

- CVA
- MI
- Myasthenia gravis
- Poliomyelitis
- Primary myositis
- Oculopharyngeal muscular dystrophy

B. Mechanical or obstructive lesions :

- Inflammatory(pharyngitis , abscess)
- Neoplastic
- Plummer-Vinson syndrome
- Extrinsic compression (goiter , cervical osteophytes)
- Disorder of upper esophageal sphincter.

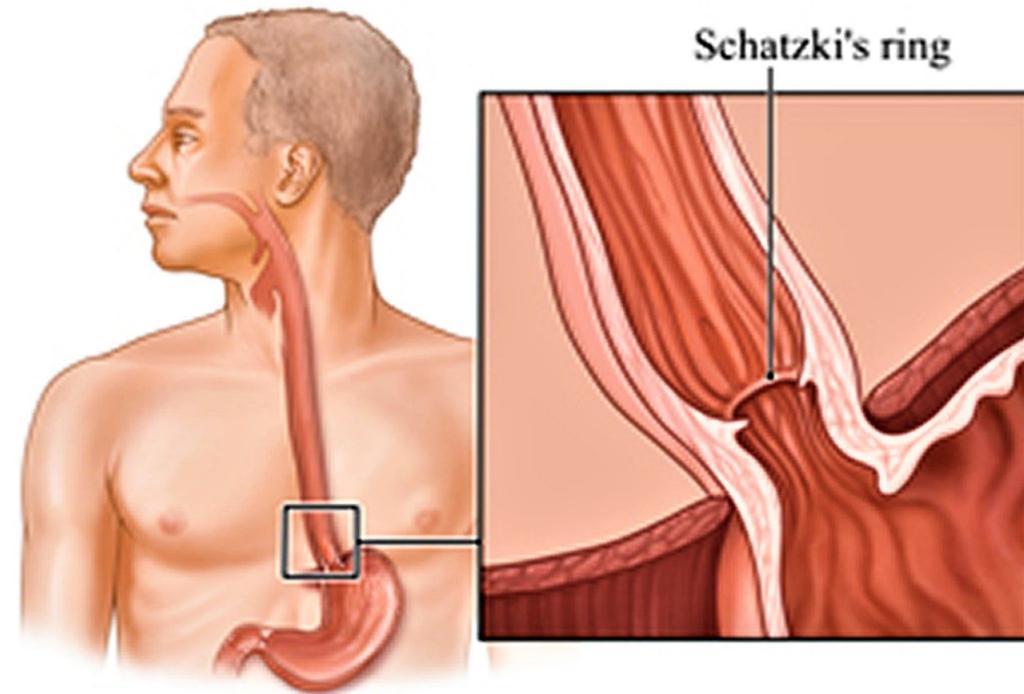
Esophageal dysphagia

A. Neuromuscular disorders :

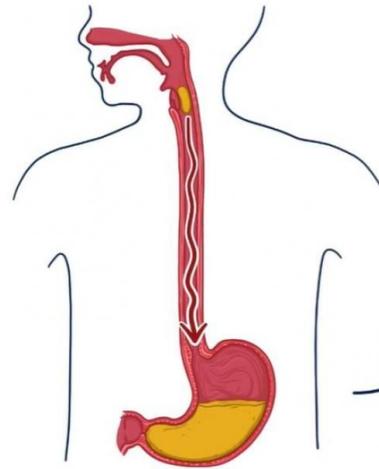
- Achalasia
- Diffuse esophageal spasm
- Nutcracker esophagus
- Hypertensive lower esophageal sphincter
- scleroderma

B. Mechanical or obstructive :

- Disorders of wall (esophageal stricture , diverticula)
- External compression(hiatus hernia , mediastinal growth)
- Luminal obstruction (foreign bodies , esophageal webs , schatzki rings)



ACHALASIA ESOPHAGEAL DISORDER



SYMPTOMS

- * **DIFFICULTY SWALLOWING** Solids and liquids
- * **REGURGITATION of UNDIGESTED FOOD**
- * **CHEST PAIN** Weight loss & Heart burn



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2022 Edition

1- Achalasia

- Is a rare swallowing disorder that affects the esophagus (the tube between the throat and the stomach).
- People with achalasia, the esophagus muscles do not contract properly and do not help propel food down toward the stomach. At the same time, the ring of muscle at the bottom end of the esophagus, called the lower esophageal sphincter (LES), is unable to relax to let the food into the stomach

1- Achalasia

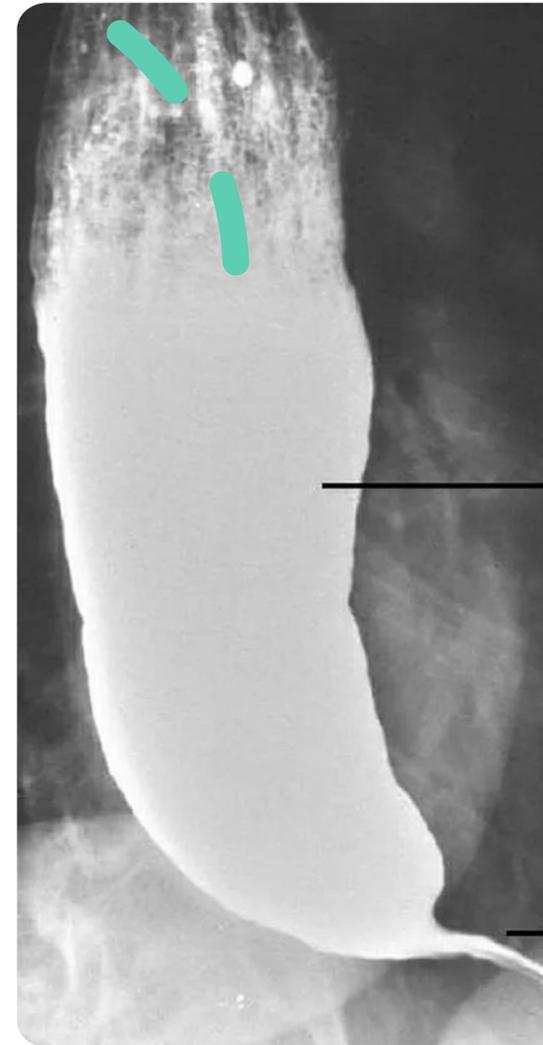
- Diagnosis – Based on Symptoms

1. Barium Swallowing Test : will show a bird's beak appearance (Dilation of the esophagus and a narrow region at the End LES)

2. **Esophageal Manometry** :

measures strength and coordination of esophageal contraction when an individual swallows

there is no peristalsis and there is a raised resting pressure in esophagus



Dilated oesophagus

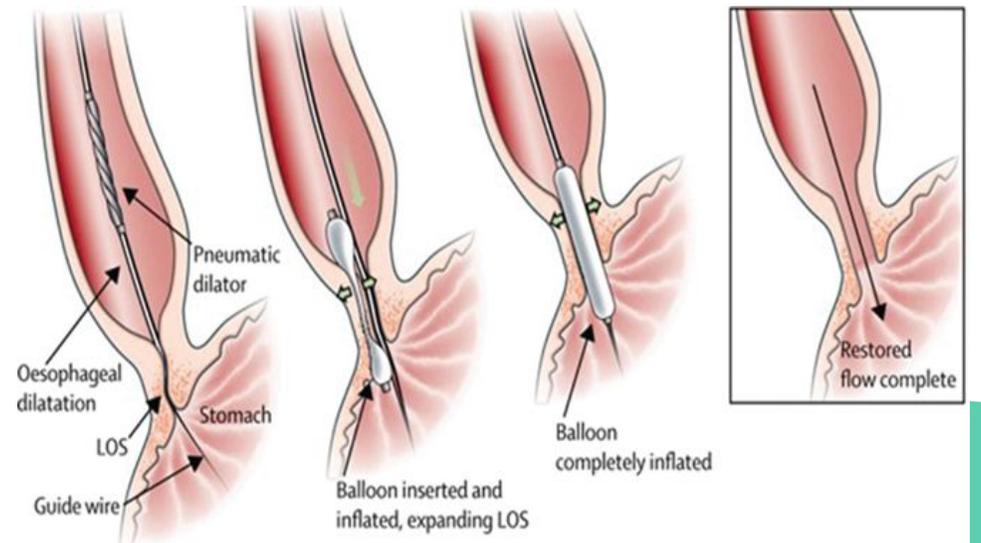
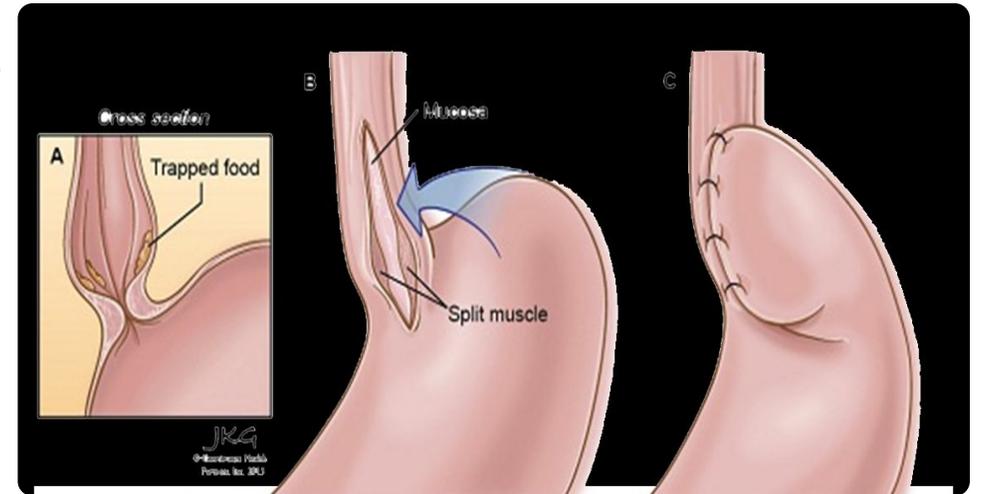
Tight 'bird's beak'
lower oesophageal
sphincter

1- Achalasia

3. Upper GI endoscopy: done to rule out esophageal cancer or secondary causes

1- Achalasia treatment

- Food eating changes increased amount of chewing)
- Medications such as calcium channel blockers
- Botox injection during endoscopy
- Esophageal dilation (pneumatic balloon)
- Surgery; heller myotomy



2- Chagas disease:-

1- Definition:- Trypanosoma cruzi protozoan parasite induced DCM, *Megaesophagus*, and Megacolon

2- Pathophysiology of Megaesophagus:-

- a. Firstly Destruction of the myenteric (Auerbach's) plexus in the esophagus
- b. ⇒ aperistalsis, esophageal dilation, impaired LES relaxation.
- c. ⇒ 2dry Achalasia

3- Diagnosis:-

- a. Barium swallow:- "bird-beak" appearance.
- b. Serology / PCR:- to Confirms *T. cruzi* infection



3- Distal esophageal spasm(DES):-

1- Definition:- Spontaneous, non peristaltic (uncoordinated) contractions of the esophagus with normal LES pressure

Formerly called diffuse esophageal spasm.

2- S&S:-

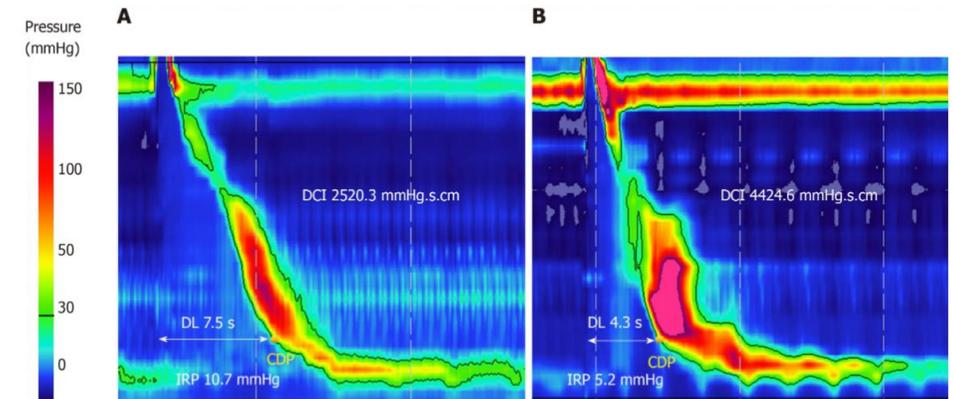
- a. Dysphagia
- b. Angina-like chest pain.

3- Diagnosis:-

- a. Barium swallow:- may reveal "corkscrew" esophagus.
- b. Manometry is diagnostic.

4- Treatment:-

- a. Nitrates and CCBs
- b. Peroral endoscopic myotomy (POEM)
- c. Heller myotomy



4- Nutcracker Esophagus:-

Also called Hypercontractile Esophagus.

1- Definition:- Spontaneous high-amplitude, peristaltic contractions of the esophagus with normal propagation and normal LES relaxation.

2- S&S:-

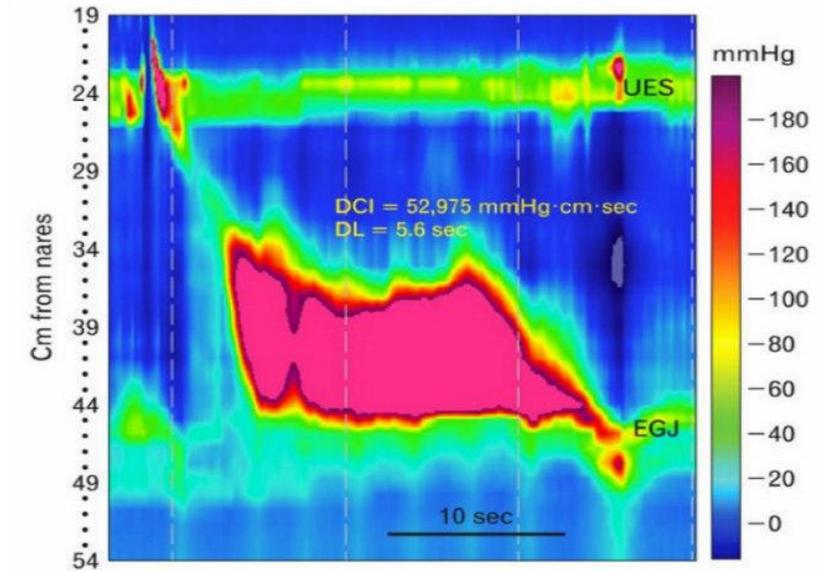
- a. Dysphagia
- b. Episodic Angina-like chest pain. (Most severe pain)

3- Diagnosis:-

- a. Barium swallow:- Normal
- b. Manometry is diagnostic:- high-amplitude, prolonged peristaltic contractions (>180 mmHg)

4- Treatment:-

- a. Nitrates and CCBs
- b. Peroral endoscopic myotomy (POEM)
- c. Botulinum toxin injection



5- Benign esophageal stricture:-

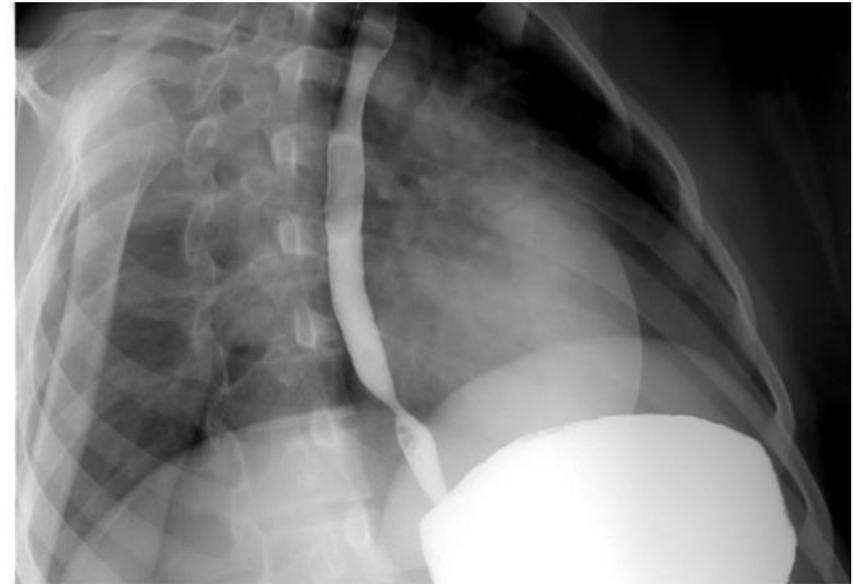
1- Definition:- narrowing of the esophageal lumen due to fibrosis and scarring

2- S&S:-

- a. Progressive dysphagia (initially to solids, later to liquids)
- a. Odynophagia (painful swallowing)
- b. Regurgitation.

3- Risk Factors:-

- a. History of GERD
- b. history of hiatal hernia
- c. CREST syndrome.
- d. History of Surgery hiatal hernia
- e. history of Corrosives ingestion



5- Benign esophageal stricture:-

4- Diagnosis:-

- Barium swallow:- smooth, tapered ("rat-tail") narrowing of the distal esophagus.
- Endoscopy (EGD): confirms diagnosis, allows biopsy to rule out malignancy, and identifies cause (e.g., peptic, corrosive, post-surgical).

5- Treatment:-

- Endoscopic dilation (stent or balloon) — mainstay of treatment.
- Proton pump inhibitors (PPIs): to prevent recurrence if due to GERD.
- Surgical resection: only if dilation fails or stricture is complex.

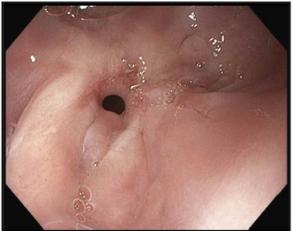


Figure 4a. High-grade refractory benign esophageal stricture.



Figure 4b. A 0.035" guidewire as advanced across the stricture

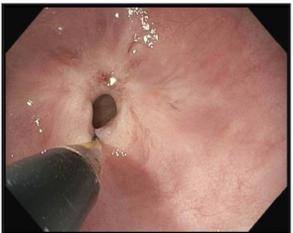


Figure 4c. A 15x10 mm Axios stent on its delivery catheter is advanced over the wire and across the stricture

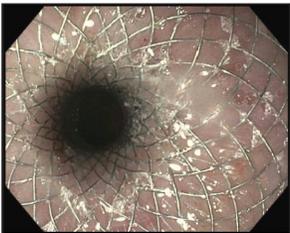
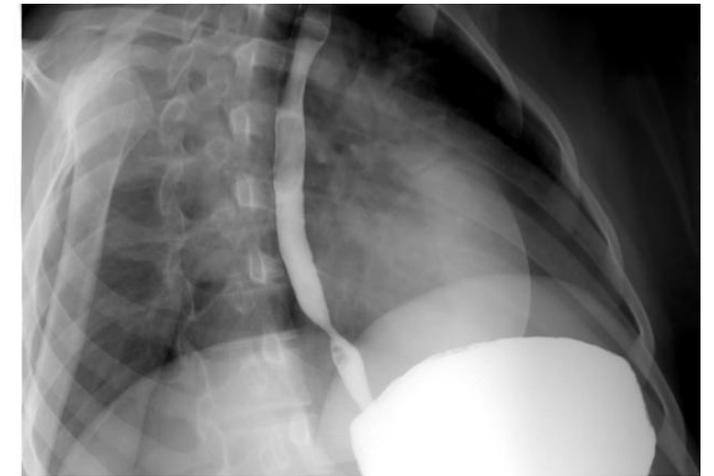
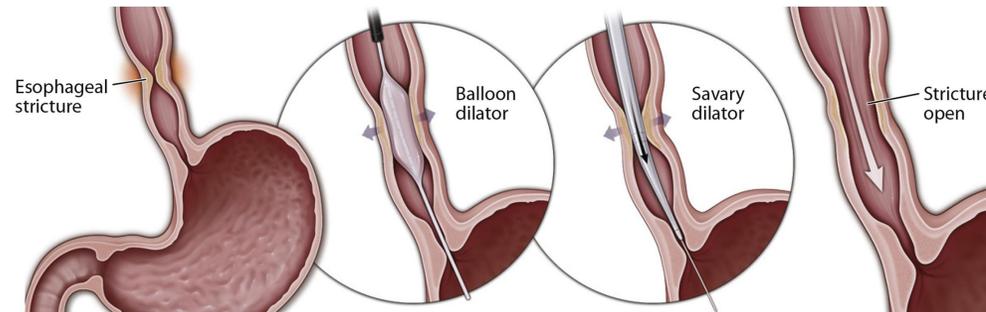


Figure 4d. Appearance of the LAMS after deployment across the stricture



6- Hiatus Hernia:-

1- Definition:- Protrusion of a portion of the stomach through the esophageal hiatus of the diaphragm into the thoracic cavity.

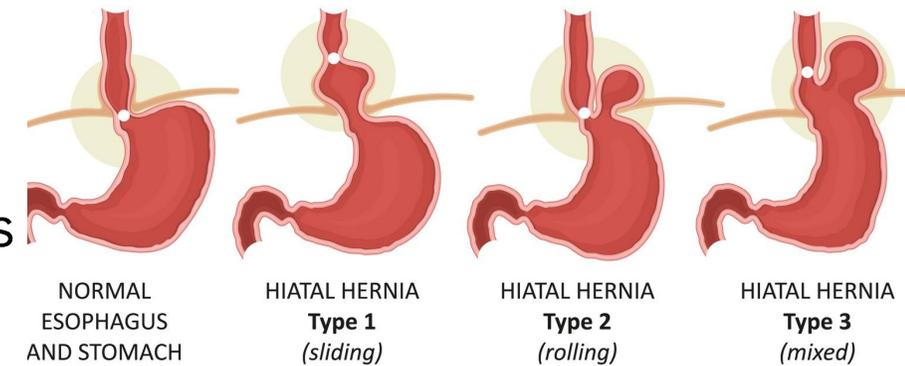
2- Types:-

- a. Sliding (Type I): Gastroesophageal junction and the stomach
- b. Paraesophageal (Rolling, Type II): Gastroesophageal junction remains in place, part of the stomach herniates beside the esophagus.
- c. Mixed (Type III): Combination of sliding and paraesophageal.

3- S&S:-

- a. Heartburn and regurgitation (especially postprandial or on lying down — in sliding type)
- b. Dysphagia
- c. Chest or epigastric pain

TYPES OF HIATAL HERNIA

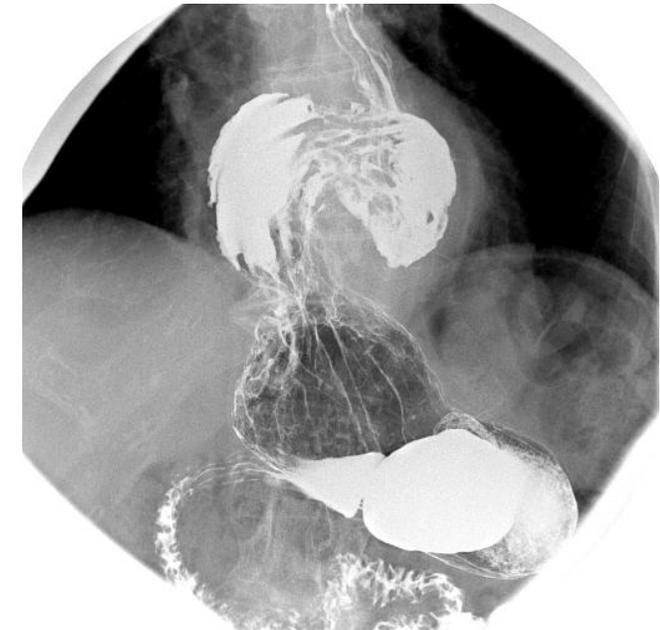
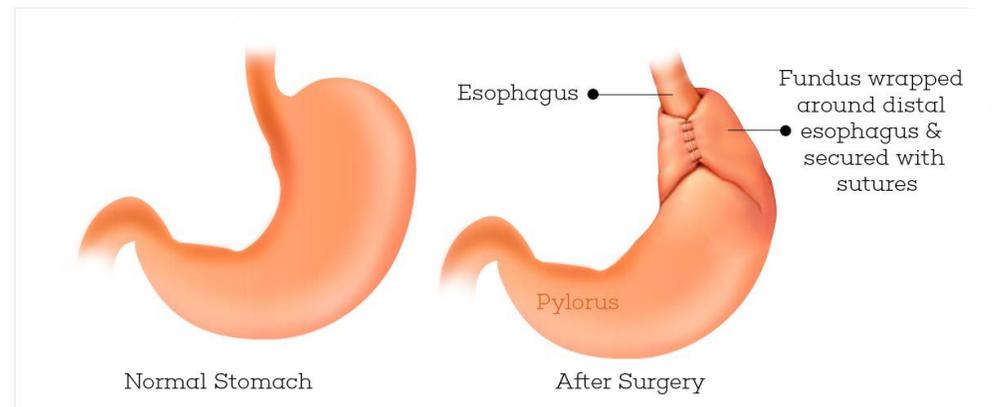


6- Hiatus Hernia:-

4- Diagnosis:-

- a. X-ray:- retrocardiac opacity with gas-fluid level
- b. Barium swallow:-
 - i. coarse thick gastric folds within the suprahiatal pouch
 - ii. tortuous esophagus with an eccentric gastro-esophageal junctions.

5- Treatment:- Nissen fundoplication



7- Plummer-Vinson syndrome:-

1- **Definition:-** dysphagia & Upper Esophagus Webs due to chronic Iron Deficiency Anemia

2- **S&S:-**

- a. Dysphagia (especially to solids, due to upper esophageal webs)
- b. Iron-deficiency anemia symptoms: POLSH
- c. Iron-deficiency symptoms:- Glossitis, Angular cheilitis/ koilonychia

*** inc. risk of esophageal squamous cell carcinoma

3- **Diagnosis:-**

- a. Barium swallow:- thin, membranous webs in the proximal esophagus, usually in the cervical region.
- b. Endoscopy (EGD): confirms proximal esophageal webs, rules out malignancy.
- c. Laboratory tests:
 - i. CBC: microcytic hypochromic anemia
 - ii. Serum ferritin & iron studies: low ferritin, low serum iron, high TIBC



4- **Treatment:-**

- a. Iron supplementation (oral or IV)
- b. Endoscopic dilation or incision of webs

8- Zenker diverticulum:-

1- Definition:- Pharyngoesophageal false diverticulum

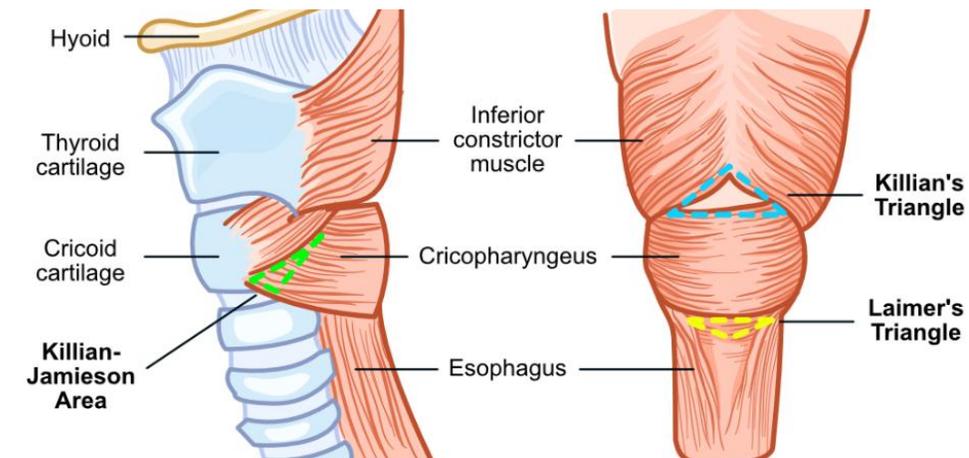
2- Pathophysiology:-

- a. Esophageal dysmotility \Rightarrow herniation of mucosal tissue through the Killian triangle
- b. The Killian triangle:- weak area in the posterior wall of the pharyngoesophageal junction (lower part of the inferior constrictor)
 - i. Superior-lateral: Inferior border of thyropharyngeus
 - ii. Inferiorly: Superior border of cricopharyngeus



3- S&S:-

- a. Dysphagia
- b. Halitosis
- c. Gurgling, aspiration, neck mass



9- Esophageal cancer

Pathology:

- Age: old age >50 years
- Sex: males > females
- Predisposing factors:
 1. Barrets esophagus (most important)
 2. achalasia
 3. long standing reflux esophagitis.
 4. Corrosive Stricture of the esophagus
 5. Plummer Vinson syndrome
 6. Spicy food, smoking, alcohol.

Esophageal Cancer

1. Squamous cell carcinoma : the most common (middle esophageal)

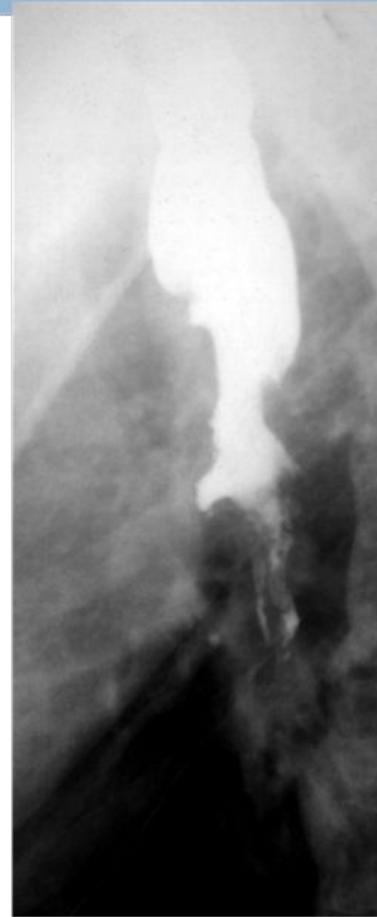
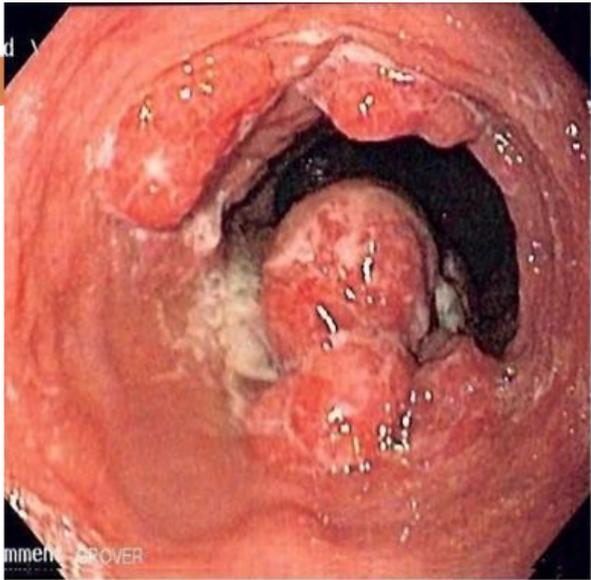
2. Adenocarcinoma: On top of baretts esophagus And upward spread from gastric carcinoma

Esophageal Cancer/ Symptoms

- Progressive dysphagia is most common
 - Initially with meat, then soft foods and liquids
- Dysphagia present late only when more than 60% of the esophageal circumference is infiltrated with cancer. With tumors of the cardia, anorexia and weight loss usually precede the dysphagia
 - - Pain develops late
 - Substernal, epigastric, or back area
 - Increases with swallowing
 - asymptomatic
 - nonspecific upper GI symptoms
 - stridor, tracheoesophageal fistula and coughing, choking, and aspiration pneumonia
 - :Extension of the primary tumor into the tracheobronchial tree
 - severe bleeding : from the primary tumor or from erosion into the aorta or pulmonary vessels occurs
 - Vocal cord paralysis

DIAGNOSTIC TESTING & findings

- we should start with barium swallow for prescence then followed by endoscope for diagnosis.
- Findings:
 - Early esophageal cancers appear endoscopically as superficial plaques, nodules, or ulcerations .
 - Advanced lesions appear as strictures , ulcerated masses , circumferential masses , or large ulcerations



Staging

- Computed tomographic (CT)
- positron emission tomography (PET)
- Endoscopic ultrasonography
- Laparoscopy and thoracoscopy

Treatment

*Therapy of esophageal cancer is dictated by the stage of the cancer at the time of diagnosis and (age, health, tumor location and extent):

- Stage I: resection of the tumor with adjacent lymph nodes.
- Stage II&III: resection with adjuvant/ neoadjuvant chemotherapy.
- Stage IV: palliative therapy, for dysphagia (endoscopic placement of an expandable stent)

*Surgery must be done with thoracoscope (VATS) or thoracotomy.

*It's preferred by surgeons to do transhiatal esophagectomy for all tumor locations



Approach:

- HISTORY
- EXAMINATION
- INVESTIGATION

History

* Age of patient:

- Children: foreign body or congenital malformations.
- Middle aged patient: reflux esophagitis , hiatus hernia , anemia or achalasia.
- Elderly patient : malignancy , strictures, motility disorders ass. With aging and neurological disorders..

History

*Difficulty in initiating swallow



Oropharyngeal dysphagia

*Food stuck after swallow in chest



Esophageal dysphagia

*Dysphagia related to solid food



Obstructive

*Solid and liquid



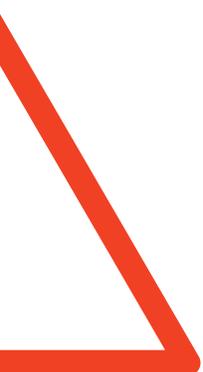
neuromuscular

Onset:

Progressive dysphagia	→	Neuromuscular , carcinoma
Sudden dysphagia	→	Foreign body
Intermittent dysphagia	→	diffuse esophageal spasm , nutcracker esophagus

Ass. Symptoms:

aspiration , choking ,drooling or nasopharyngeal regurgitation	→	Oropharyngeal dysphagia
Weight loss: In elder patient	→	Carcinoma



Pain after swallowing



Esophagitis

Regurgitation of old food
with halitosis



Zenker's
diverticulum

History of heartburn



Peptic
stricture

- Surgical hx
- medical hx
- Drug hx



Physical Examination:

- **General inspection:**
- **Cranial nerve examination**
- **Neurological examination**
- **Oral cavity examination**
- **direct observation of the act of swallowing**

Physical Examination:

Neck examination:

- I. Lymph node enlargement
- II. Neck masses
- III. Thyroid enlargement



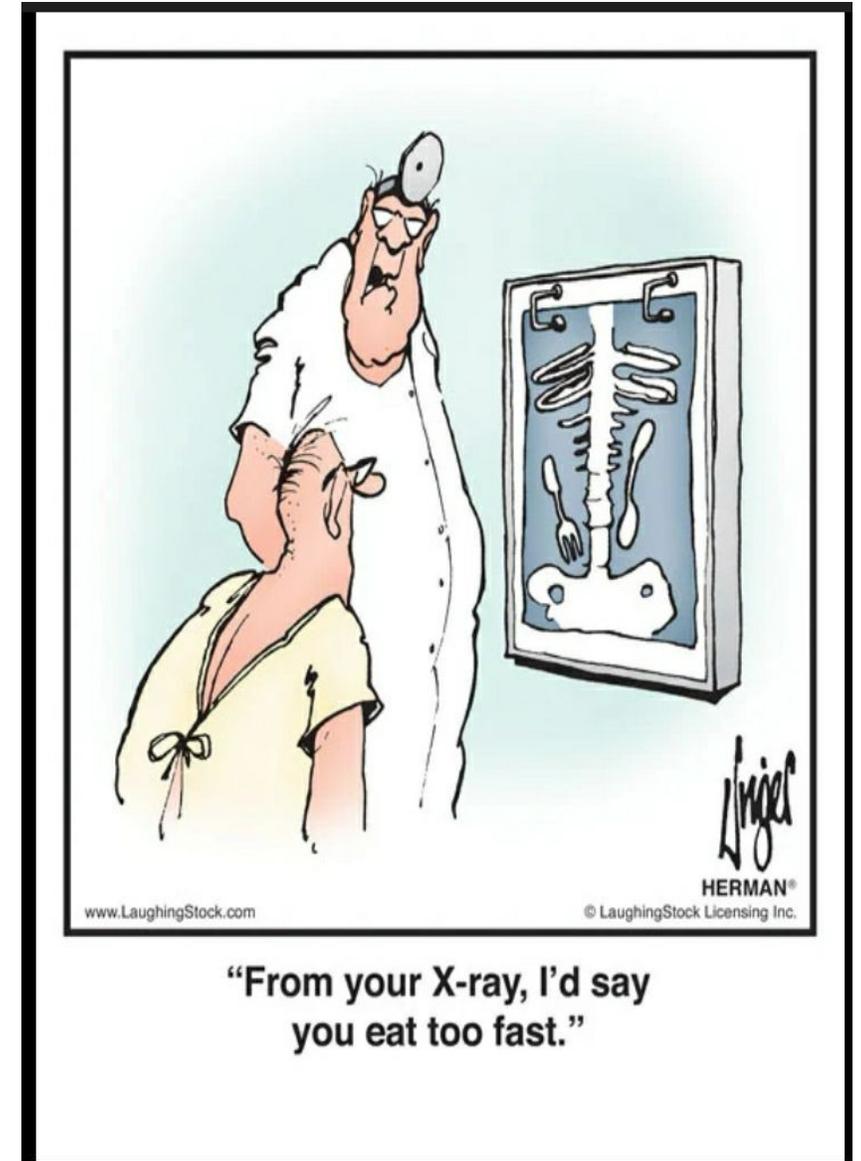
“A tickle in your throat that won’t go away? We’ll just see about that.”

❑ Radiographic studies:

- Plain X-ray
- Barium esophagus
- Modified barium swallow(gold standard)
- MRI
- CT

❑ Lab tests:

.LFT, KFT, CBC, Thyroid function.



Endoscopy:

- Rigid
- flexible

Diagnostic:

Visual

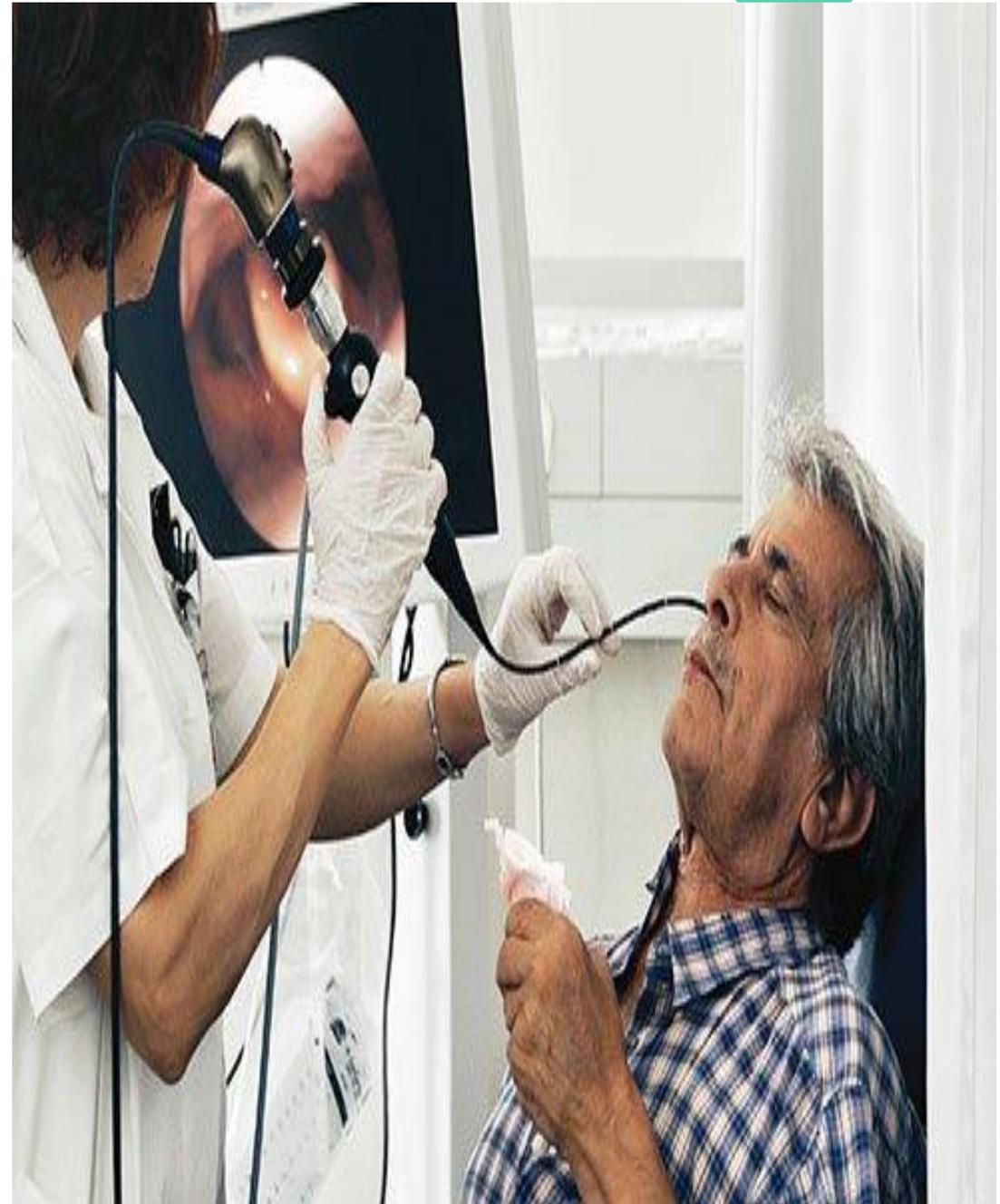
Biopsy

- Therapeutic:

Foreign body dissipation.

Stenting

dilatation





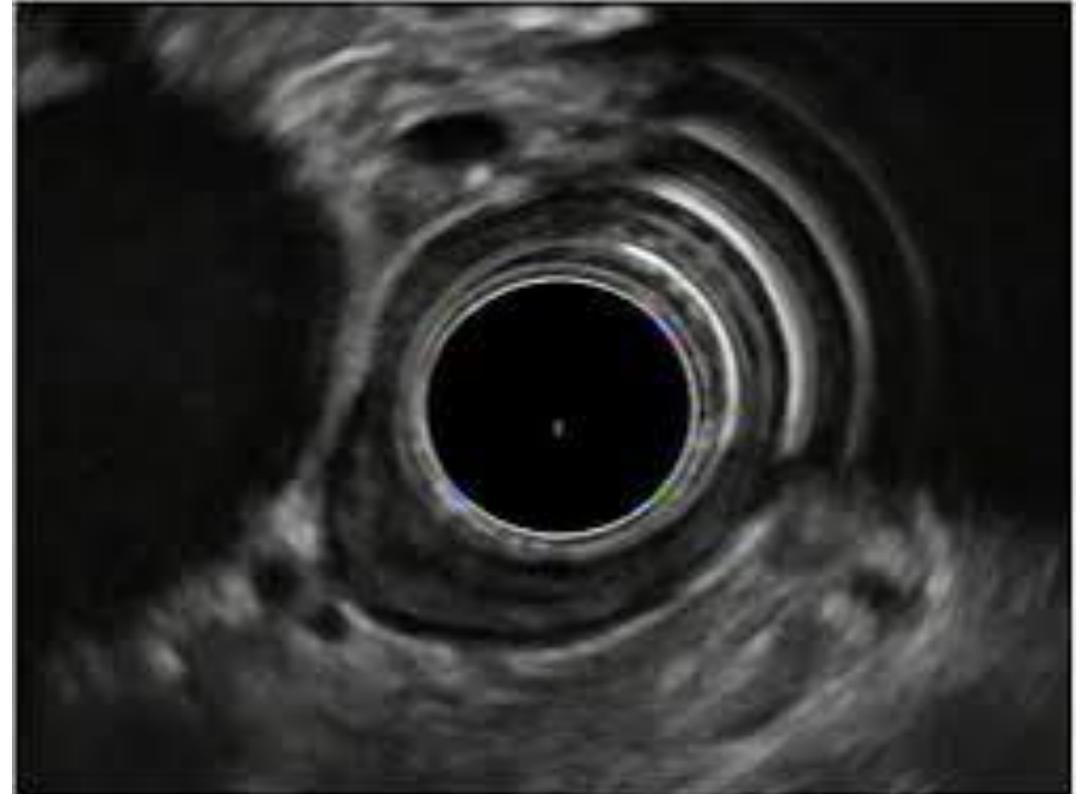
Manometry:

- Indications:
- Achalasia of the cardia
- diffuse esophageal spasm
- nutcracker esophagus
- Hypertensive esophageal sphincter

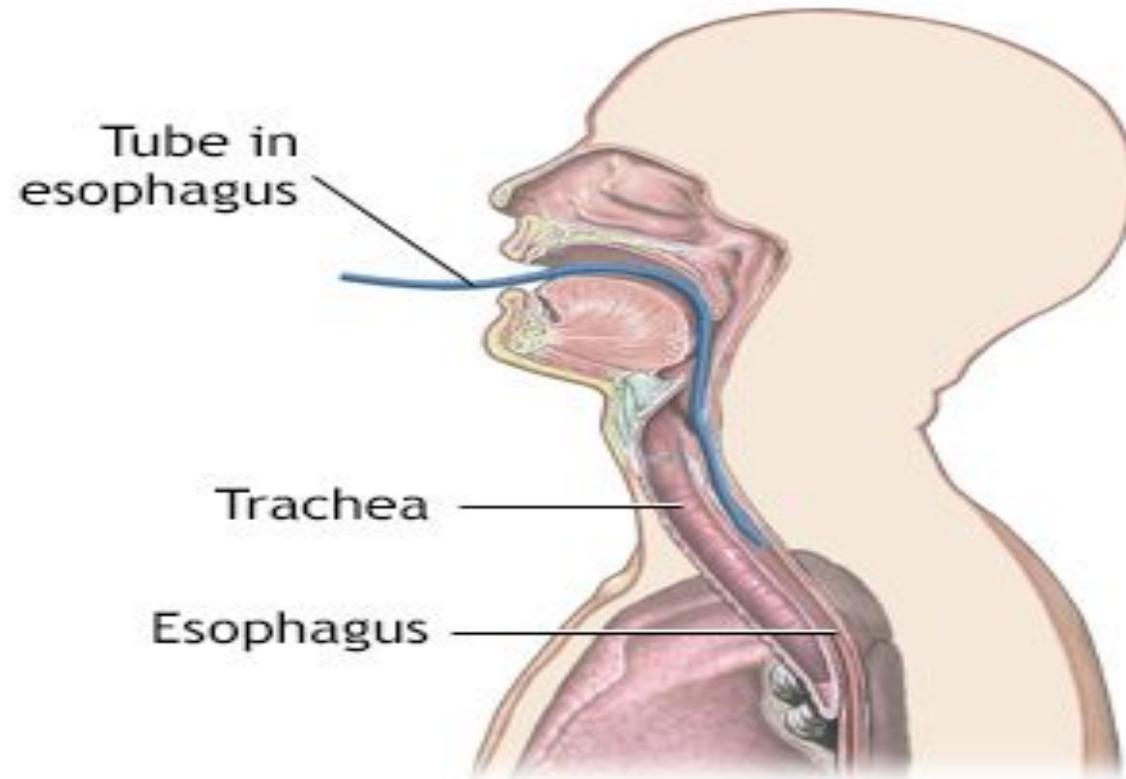
□ Endoscopic ultrasound:

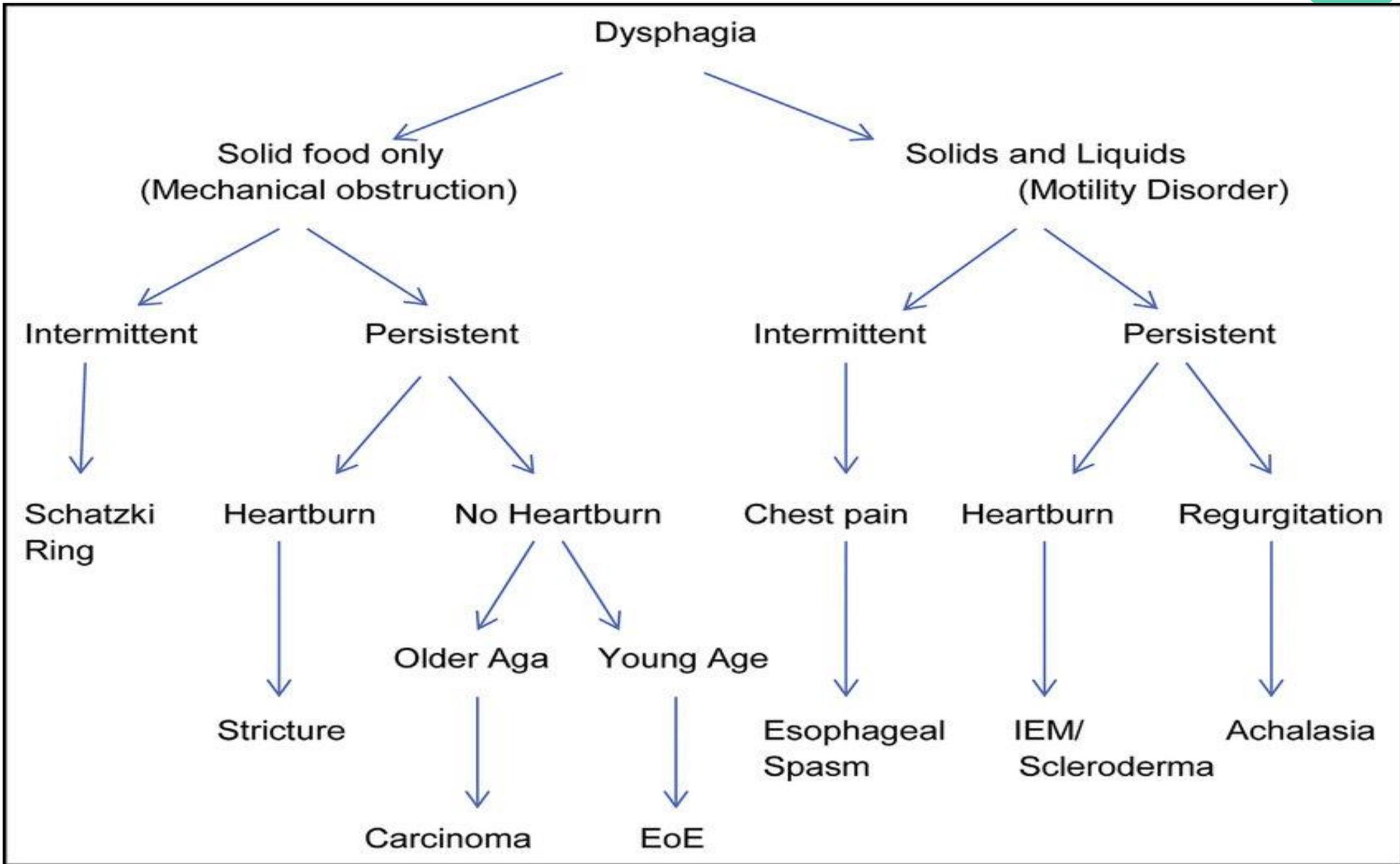
- ✓ Used for dysphagia due to carcinoma for T,N staging
- ✓ Biopsy can also be taken

□ 24 hour PH monitoring



PH MONITORING





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Thank you