

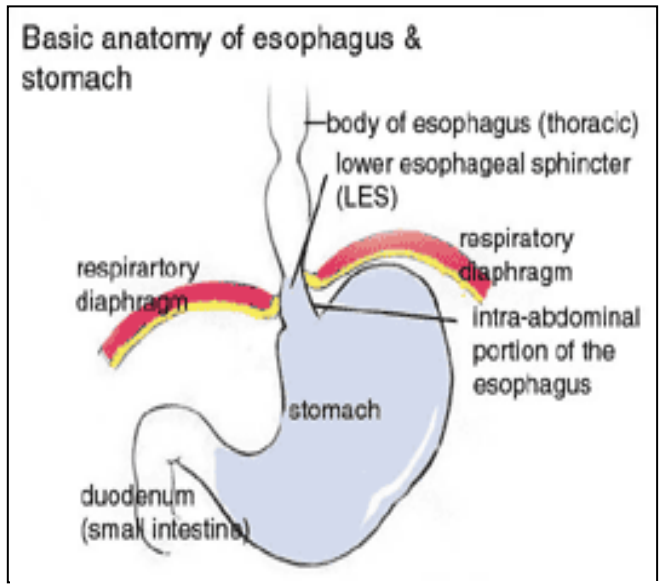
# Team Medicine

## Approach to Dysphagia

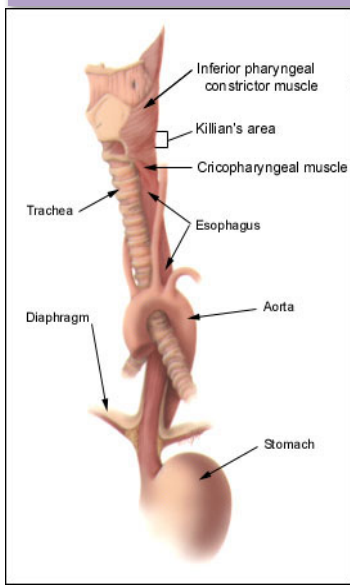
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■ Important notes ■ doctor notes





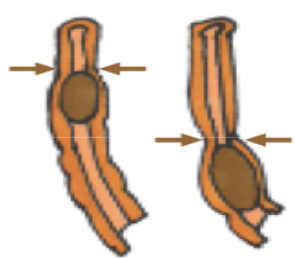
Not important; only to help you understand



**Anatomy:** Tubular structure 25 cm, which contains smooth and skeletal muscle with 2 sphincters (upper and lower). The muscles in the upper 1/3 of the esophagus are **striated, skeletal**. The middle is **mixed skeletal and smooth muscle**. The distal portion is **smooth muscle**. A peristaltic swallowing wave propels the food bolus into the stomach

**Motility of the Esophagus**

- **Muscle layer**  
Inner Circular Layer  
Outer Longitudinal Layer
- **Peristalsis**  
Primary – Swallowing  
Secondary – Sequential Waves



**Physiology:** (Davidson,p838)  
Swallowing → food bolus if forcibly propelled by tongue to in to pharynx --> upper esophageal sphincter (UES) relaxes → peristaltic activity (a food bolus becomes lodged in the esophagus, stretch receptors stimulate secondary peristalsis causing an increase of impulses) → lower esophageal sphincter relaxes → food enters stomach.

**Phases of swallowing (3 phases):**

- Oral phase (starts from the mouth with production of saliva and teeth cutting the food to smaller pieces.)
- Pharyngeal phase (contracts to push the food bolus down.)
- Esophageal phase (transport the food bolus to stomach.)

**Two functions of esophagus:**

- Prevention of gastric regurgitation by LES/UES. (Lower Esophageal Sphincter/Upper Esophageal Sphincter)
- Transport of food by peristalsis.

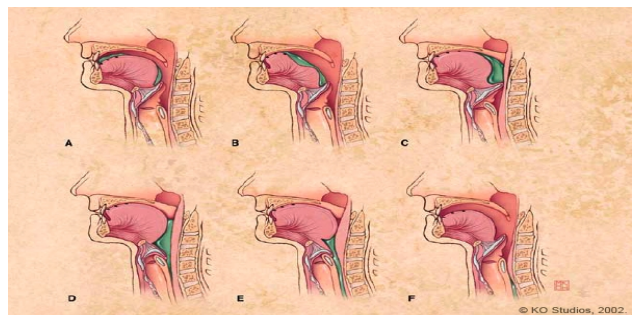
**Dysphagia:**

- \* Sensation of obstruction of food passage.
- \* Difficulty in swallowing

**Classified as**

- Oropharyngeal
- Esophageal

**Dysphagia is considered an alarming symptom, requiring immediate evaluation (common case in OSCE)**



## Oropharyngeal Dysphagia also called transfer Dysphagia

arises from disease of:

- Upper esophagus
- Pharynx
- Upper esophageal sphincter

### Oropharyngeal Dysphagia (Diseases of striated muscle);

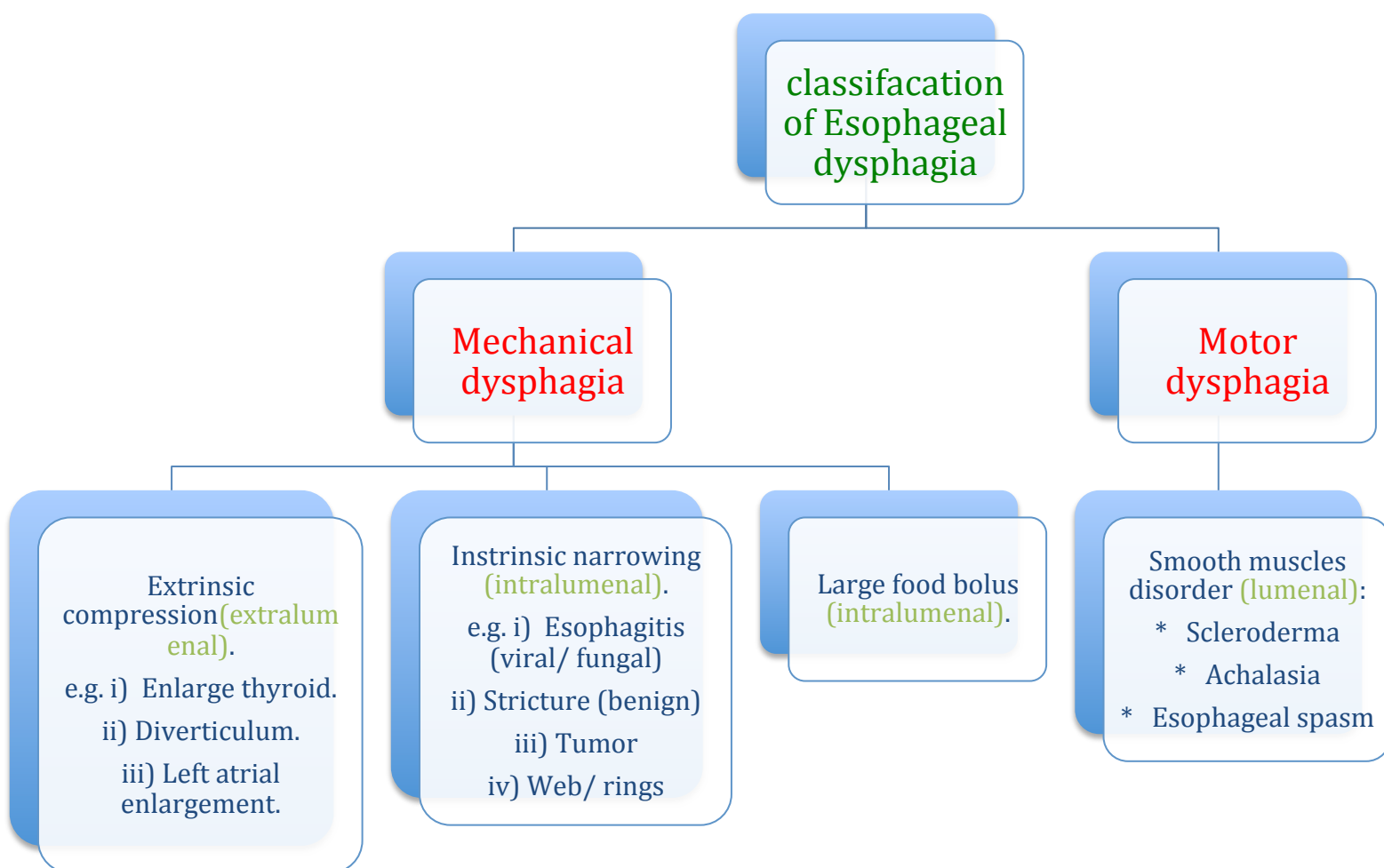
Striated muscle disease → mainly neurological → lower cranial nerve, which is responsible for pharyngeal muscle

- \* Motor neuron disease
- \* Cerebral vascular accident (CVA)
- \* Myasthenia gravis
- \* Polymyositis

Patient can usually point at the site of dysphagia + associated symptoms: cough, choking and nasal regurgitation and a symptom or a sign of neurological disorders

## Esophageal dysphagia arises from:

- Esophageal body
- Lower esophageal sphincter
- Cardia



## Important questions for OSCE

### Questions to ask patients with dysphagia:

1. Do you have problems initiating a swallow or do you feel food getting stuck a few seconds after swallowing?
2. Do you cough or is food coming back through your nose after swallowing?
3. Do you have problem swallowing solids, liquids, or both?
4. How long have you had problems swallowing and have your symptoms progressed, remained stable, or are they intermittent?
5. Could you point to where you feel food is getting stuck?
6. Do you have other symptoms such as loss of appetite, weight loss, nausea, vomiting, regurgitation of food particles, heartburn, vomiting fresh or old blood, pain during swallowing, or chest pain?
7. Do you have medical problems such as diabetes mellitus, scleroderma, Sjogren syndrome, overlap syndrome, AIDS, neuromuscular disorders (stroke, Parkinson's, myasthenia gravis, muscular dystrophy, multiple sclerosis), cancer, Chagas' disease or others?
8. Have you had surgery on your larynx, esophagus, stomach, or spine?
9. Have you received radiation therapy in the past?
10. What medications are you using now (ask specifically about potassium chloride, alendronate, ferrous sulfate, quinidine, ascorbic acid, tetracycline, aspirin and NSAIDs)? (Pill esophagitis can cause dysphagia.)

### 4 cardinal Questions:

- Oropharyngeal or esophageal
- Solid or solid and liquid
- Intermittent or progressive
- Associated symptoms

**Some patients → no cause can be identified → functional Dysphagia** (very difficult to treat and diagnose)

### Physical examination:

- Sign of bulbar paralysis
- Dysarthria
- Ptosis
- CVA
- Goiter
- Changes in skin – CTD



## Common diseases

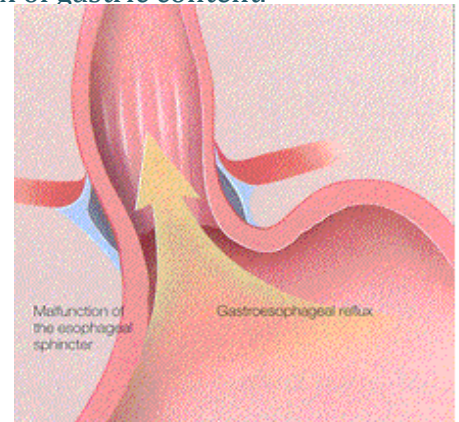
### GERD (Gastro-oesophageal reflux disease)

Reflux esophagitis: Damaged esophageal mucosa by reflux of gastric content.

Pathophysiology

Antireflux mechanism includes:

- LES
- Esophageal peristalsis
- Resistant of esophageal mucosa.
- Saliva
- Gastric peristalsis



GERD occurs with stomach content reflux up the esophagus

### Major factor involved in GERD

- Loss of LES pressure: (contributing factors)

TLESR (transient lower esophageal sphincter relaxation)

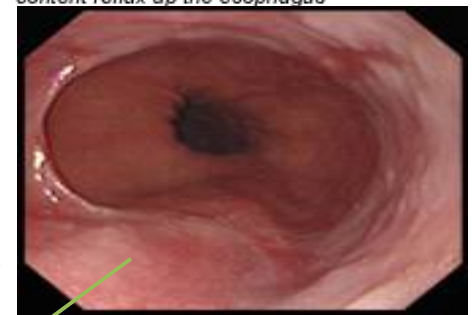
Usually Sustained

Increased Intra-gastric pressure

Scleroderma

Surgical resection

- Hiatus hernia
- Aperistalsis
- Reduce saliva
- Delayed gastric emptying: Mechanical-obstruction- Motor



### Damage depends on:

- Refluxed material
- Duration of reflux / frequency.

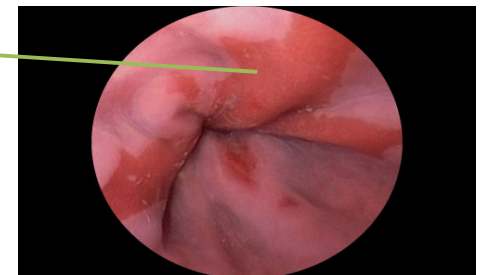
Hiatus hernia

Hiatus hernia + Pale squamous cell mucosa. Which indicates hiatus hernia with gastric reflux disease grade 1.

### Manifestation:

- Heart Burn
- Chest pain (esophageal spasm)
- Dysphagia - complication
- Regurgitation

Erythema



### Diagnosis:

-Usually it's clinical (fatty food, absence of alarming symptoms, absence of chronic diseases.)

-Endoscopy

-Barium swallow

-24 Hours pH

- motility

### Complication:

- Bleeding
- Stricture formation
- Barrett's esophagus

### Treatment:

- Antireflux measure. (Reduce fatty food, lose weight...)
- Acid suppressing agent. (Proton pump inhibitor)
- Surgery

**Achalasia:** A motor disorder of esophageal smooth muscle characterized by:

- High LES pressure that does not relax properly.
- Absent distal peristalsis.

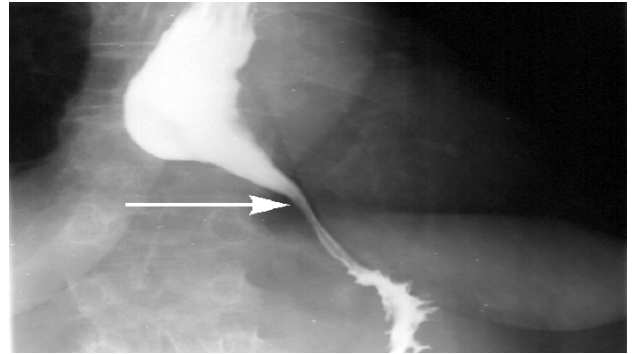
Achalasia is very important,  
common in written exams.

**Pathophysiology:**

Loss of intramural neurons of esophageal body & LES

**Manifestation (clinically):**

- Dysphagia – both liquid and solid
- Regurgitation and pulmonary aspiration.
- Chest pain.

**Diagnosis:**

Chest X-ray -

- Absent of gastric bubble.
- Wide mediastinum.
- Fluid level.

(Terminal part of the esophagus is beak like)

**Barium Swallow** → Esophageal dilatation

**Manometry** (to confirm diagnosis) → Elevated LES P with no or partial relaxation amplitude contraction, no propagating (simultaneous).

**Treatment:**

- Medication: Nitroglycerin – Ca channel blocker. (Smooth muscle relaxer)
- Pneumatic dilatation (balloon to dilate esophagus)
- Surgical

**Infectious Esophagitis:**

- Viral esophagitis
  - Herpes simplex.
  - Varicella Zoster.
  - CMV.
- Bacterial
- Fungal

**Manifestation (clinically):**

- Dysphagia
- **Odynophagia**
- Bleeding

**Diagnosis:**

Barium swallow  
Endoscopy  
Biopsy

**Diverticula: Outpouchings of the wall of the esophagus**

-Zenker's diverticulum in upper part. (Is the most common type found in upper 1/3 esophagus treated by surgery (cricopharyngeal myotomy) diverticulectomy is of secondary importance.)

-Traction diverticulum is located mid point of esophagus. It's asymptomatic and doesn't require treatment.

-Epiphrenic diverticulum in lower part (is found in the lower third of esophagus it's usually associated with spastic dysmotility or achalasia. Treated by surgery (esophagomyotomy) diverticulectomy is of secondary importance)

**Manifestation (clinically):-**

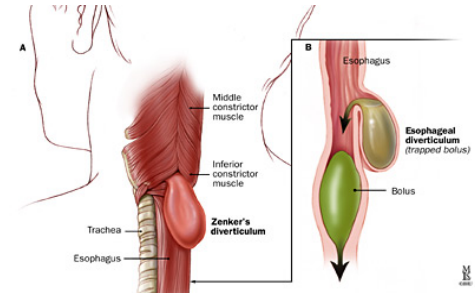
- Usually Asymptomatic

Typical :

-Regurgitation of food consumed several days ago

-Dysphagia.

-Bed breath

**Esophageal Cancer:**

Disease more in Males > 50 Y.

**Causation factors:**

- Excess alcohol.
- Cigarette smoking.
- Fungal toxin.

**Mucosal damage:**

- Hot tea.
- Radiation induced stricture.
- Barrett's esophagus.
- Esophageal web.

**Clinically:**

15% in upper 1/3

45% in middle 1/3

40% in lower 1/3

**Pathology:**

Squamous cell carcinoma > 75%  
adenocarcinoma

- Progressive dysphagia
- Weight loss
- Odynophagia
- Regurgitation
- T-E Fistula

**Once symptom appear it is incurable. Patient may have Hypercalcaemia.**

**Diagnosis:**

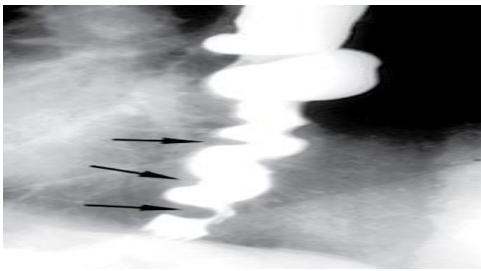
- Barium swallow
- Endoscopy & Biopsy.

**Treatment:**

- Surgical, if localized
- Palliative care

**Prognosis is poor. 5 Y survival ≈ 5%**

## Summary



Esophageal spasm and diffused esophageal motility disorder = intermittent type of dysphasia

From Kaplan

Diagnosis:

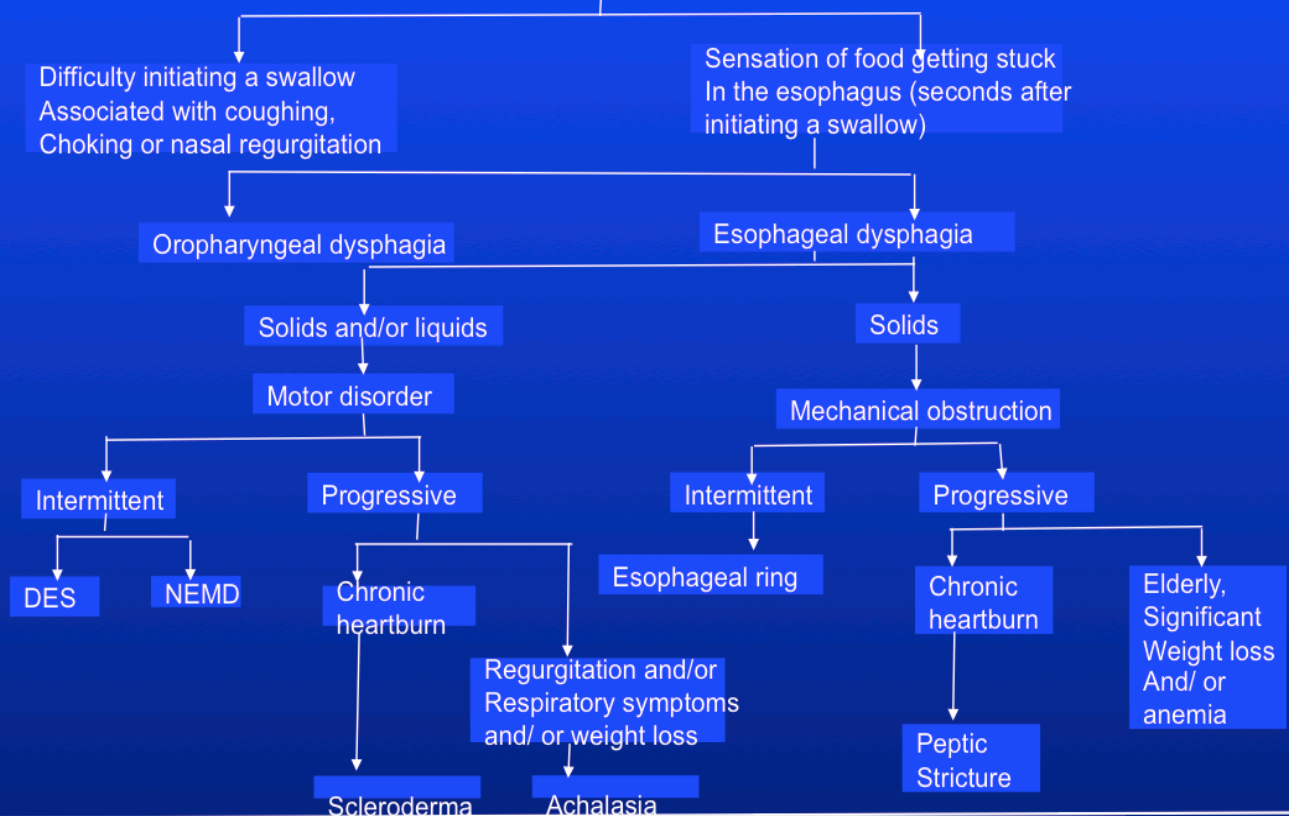
Initial test = barium swallow

Most accurate test =

Endoscopy/manometry (depending on the disease.)

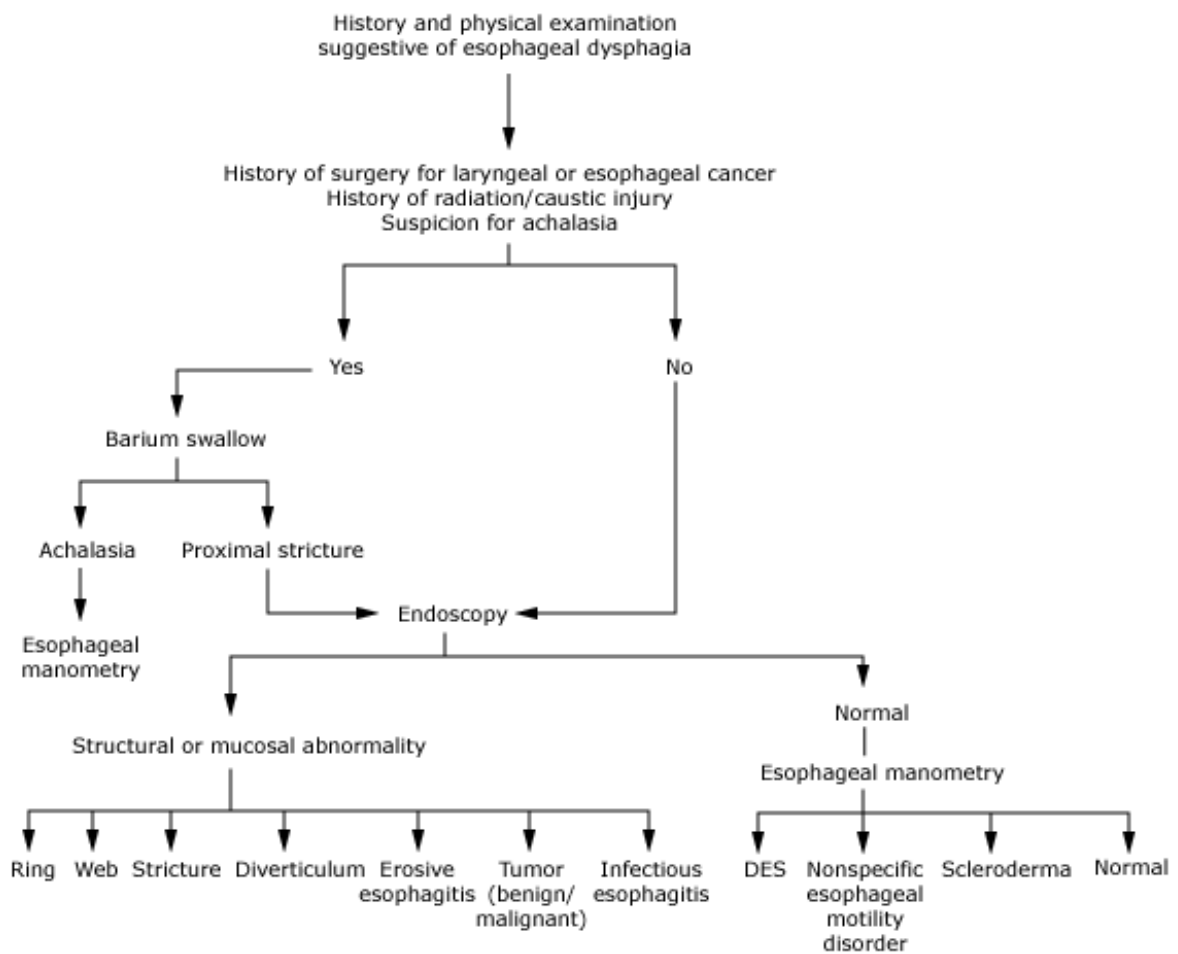
## Diagnosis of dysphagia

### Approach to the patient with dysphagia



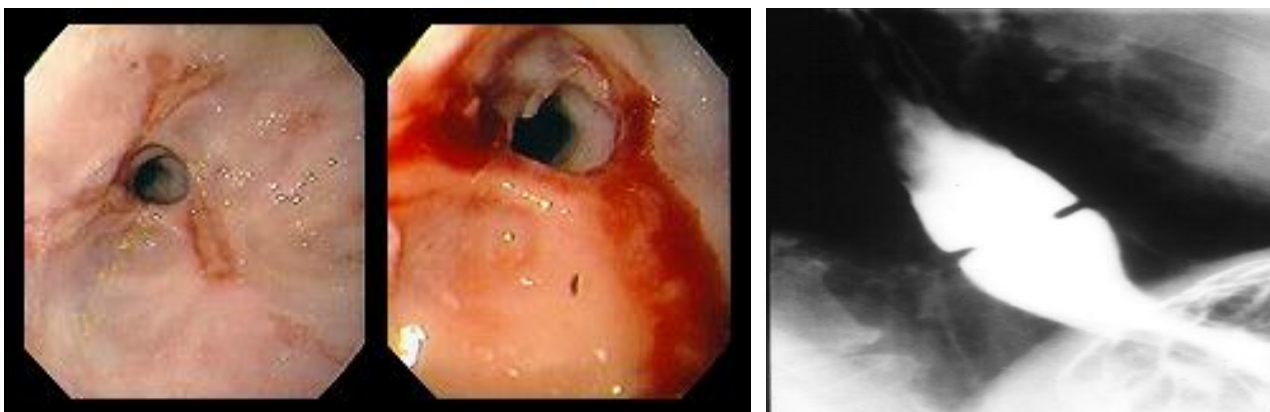
DES: diffuse esophageal spasm; NEMD: nonspecific esophageal motility disorder.





## Questions

Q1) Young lady presents with intermittent solid Dysphagia, what's the most likely diagnosis?



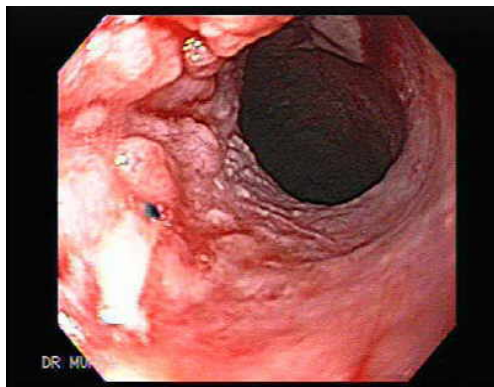
A1) .alEsophageal ring which could be due to reflux disease or congenit

Q2) Young lady presents with progressive dysphagia to solid and liquid, weight loss. What is the most likely diagnosis?



A2) Achalasia

Q3) Old man presents with progressive dysphagia to solid only with weight loss. What is the most likely diagnosis?



A3) Malignancy; a tumor in the lower esophagus