

Surgery

# *Surgical aspects of dysphagia*

Adrian P. Ireland

aireland@eircom.net

Academic RCSI Department of Surgery, Beaumont Hospital

# Dysphagia

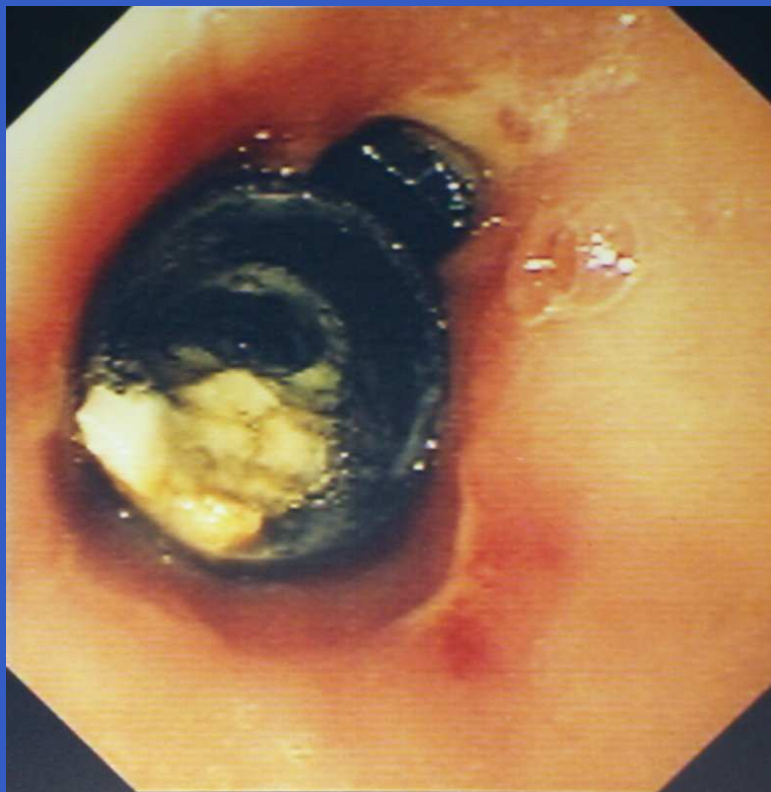
- Why important
- Definitions
- Swallowing
- Disorders of first phase
- Disorders of second phase
- History
- Examination
- Investigations
- Particular problems

## Why is dysphagia important?

*Unlike many symptoms that the patient complains of, Dysphagia belongs to a small subgroup where there is most often a significant underlying problem.*

*We take simple pleasures like swallowing for granted . . . until we have problems.*

What is this?



# Definitions

- Swallowing
- Dysphagia
- Odynophagia
- Vomiting
- Regurgitation

# Swallowing

*Physiological process whereby material placed in the mouth is moved from the mouth to the stomach.*

# Dysphagia

*Difficulty swallowing - the sensation that there is a hold up or delay in the normal physiological process*

# Odynophagia

*Painful swallowing - an uncomfortable or painful sensation that accompanies swallowing*



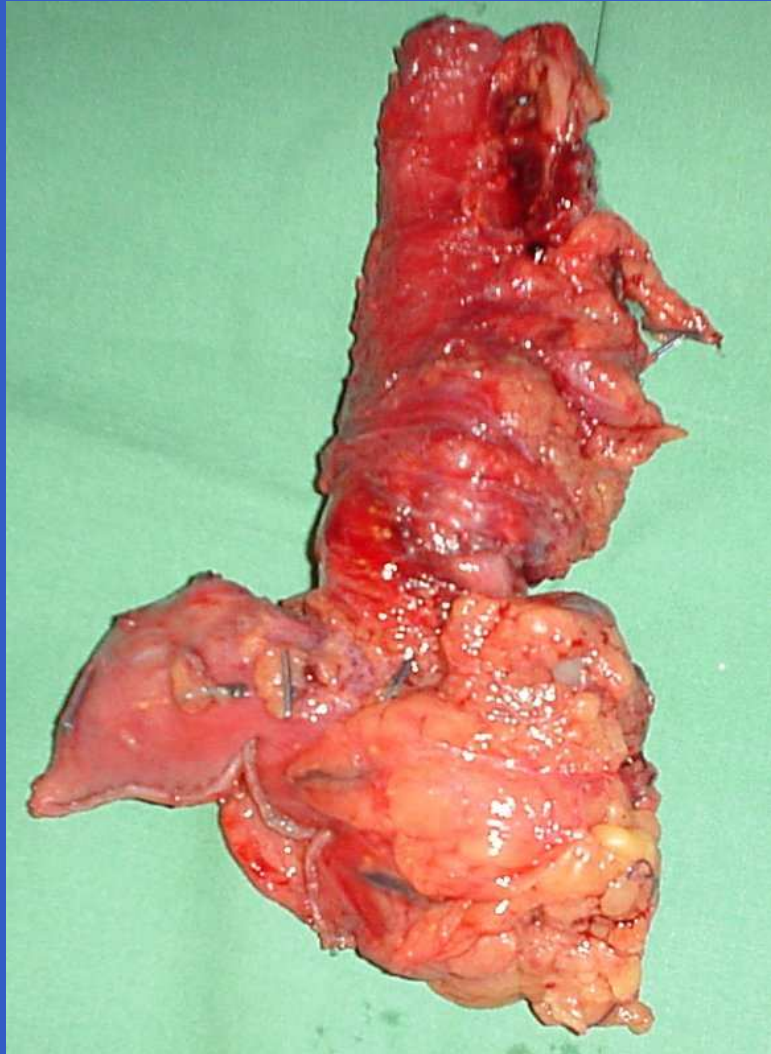
## Vomiting

*Reflex action where material in the stomach is moved backwards through the esophagus and mouth, it is accompanied by muscular contractions of the stomach and relaxation of the lower and upper esophageal sphincters*

## Regurgitation

*Effortless (although it may be uncomfortable) movement of material from one place to another in the direction opposite to which it normally moves, e.g. from the stomach to the esophagus or mouth*

What is this?



## Review of swallowing

- Concept of pump, sphincter and reservoir
- Functional and mechanical causes of dysphagia

# Pump, sphincter and resevoir



## Concept of pump, sphincter and resevoir

There are two main functional units that are responsible for swallowing. Each consists of a pump, a sphincter and a resevoir.

	<b>Upper</b>	<b>Lower</b>
Pump	Muscles of mouth and pharynx	Muscles of esophagus
Sphincter	U.E.S.	L.E.S.
Resevoir	Esophagus	Stomach

## First functional unit

- Movement of bolus from mouth to esophagus
- Swallowing center
- Movement of bolus into pharynx
- Elevation of larynx (c.f. tracheostomy)
- Opening of UES
- Reception of bolus into esophagus

## Second functional unit

- Movement of bolus from esophagus to stomach
- Swallowing center
- Esophageal peristalsis
- Relaxation of LES
- Reception of bolus into stomach



# Functional and Mechanical causes of dysphagia

## Functional

- disorder of function without mass lesion

- Weak esophageal peristalsis
- Motility disorder

## Mechanical

- disorder due to mechanical obstruction

- Bolus obstruction
- Stricture
- Hiatal hernia

## Disorders of the first phase

- Problem with nerve supply
- Weak muscles
- Tethering of larynx
- Discoordination
- Pulsion diverticulum

### Brain and brainstem

- Infiltration of swallowing center
- Stroke ischaemic, haemorrhagic
- Multiple sclerosis
- Motor neurone disease
- Cranial nerve palsy

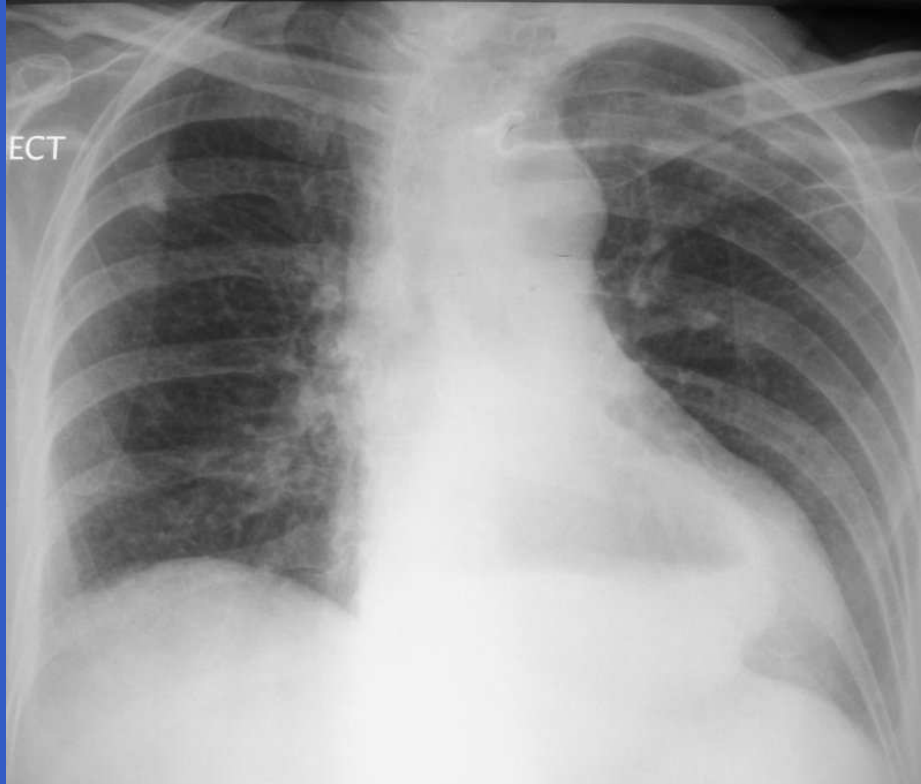
## Disorders of the second phase

- Motility disorder
- Mechanical obstruction

### Mechanical obstruction

- Web
- Chatzki ring
- Extrinsic compression (atrium, vessels)
- Fibrous stricture due to reflux disease
- Malignant stricture

# What is this?



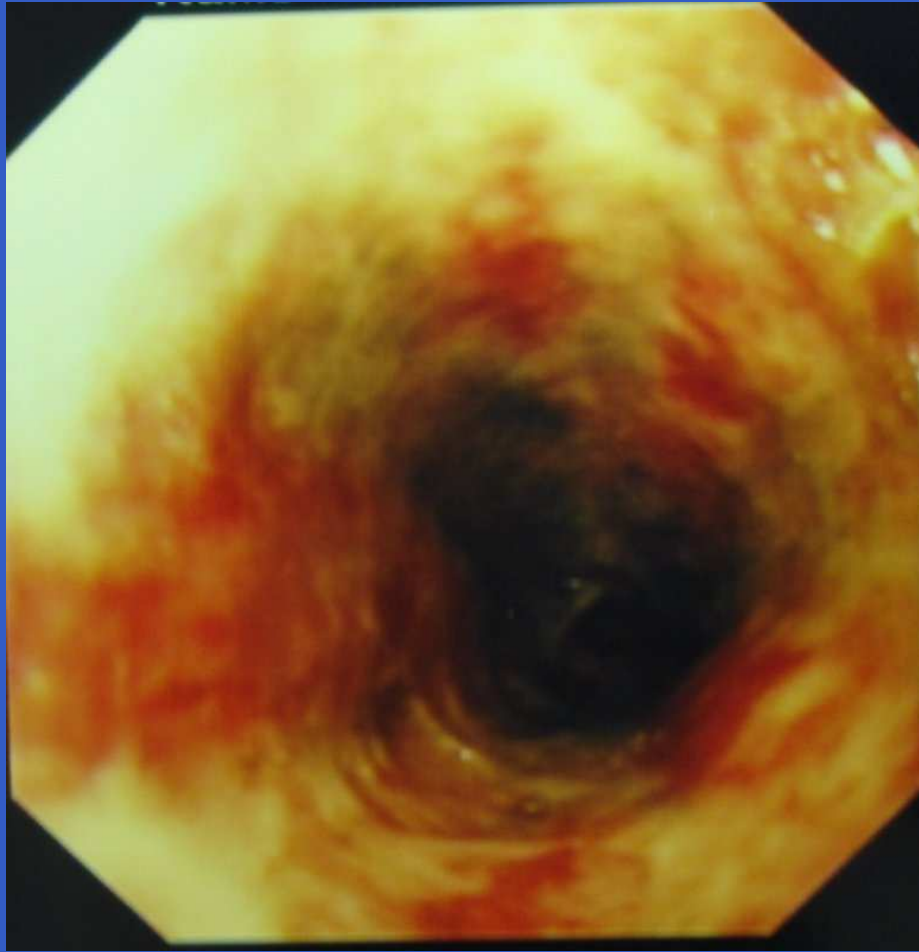
## History

- Solids and liquids?
- Rapidly progressive
- Weight loss
- Past history (caustic ingestion)
- Location of hold up
- Associated symptoms (heartburn regurgitation)
- Repeated chest infections

## Examination

- General appearance
- Hands, koilonychia, clubbing
- Glossitis, angular stomatitis
- Hoarsness
- Virchow's node, other nodes
- Fullness in side of neck
- Signs of consolidation
- Evidence of metastatic disease

## What is this?



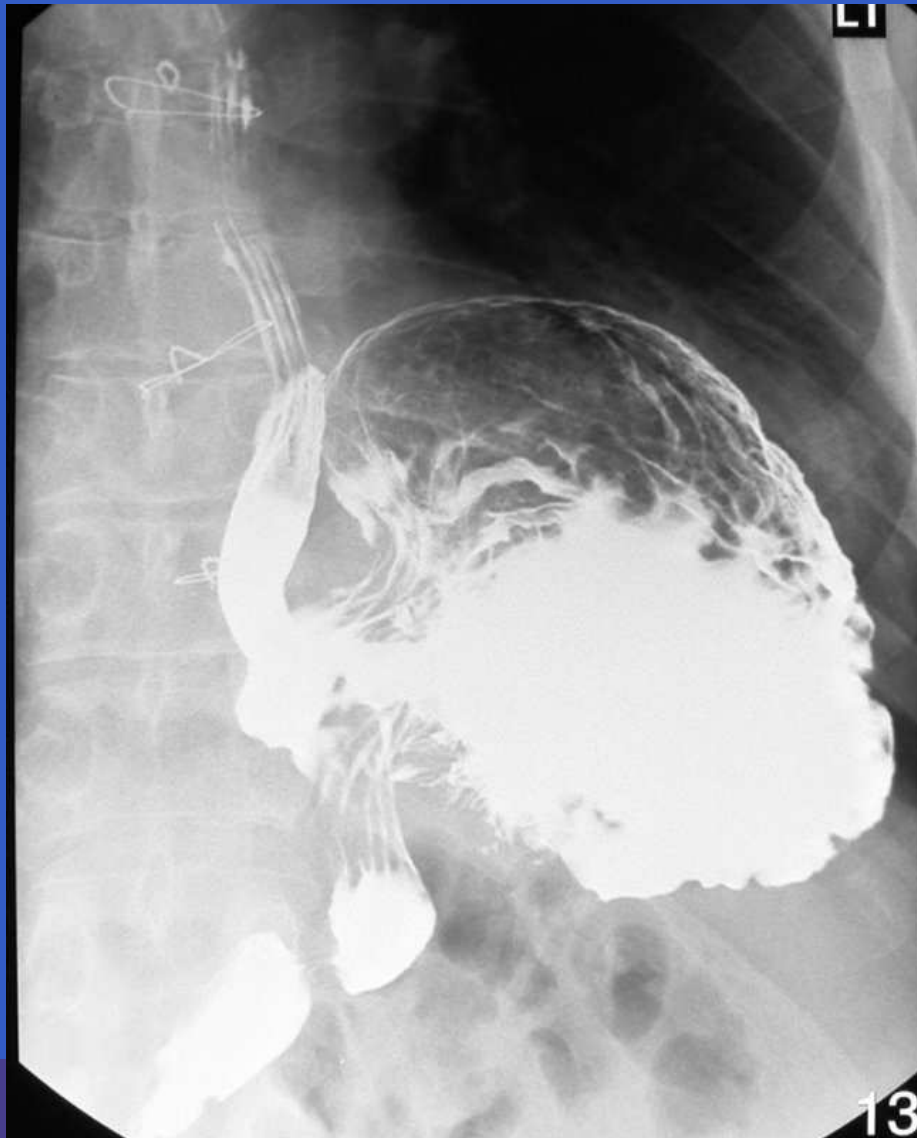
- Savary grading I, II, III, IV
- Cause
- Treatment

## Investigations

- Blood tests
- Contrast swallow
- Upper gastrointestinal endoscopy and biopsy
- Esophageal manometry
- 24 hour pH metry
- Radiological staging



## Contrast swallow - what is this?



- Name of investigation
- Abnormality shown
- Type of abnormality

# Contrast swallow - Other images



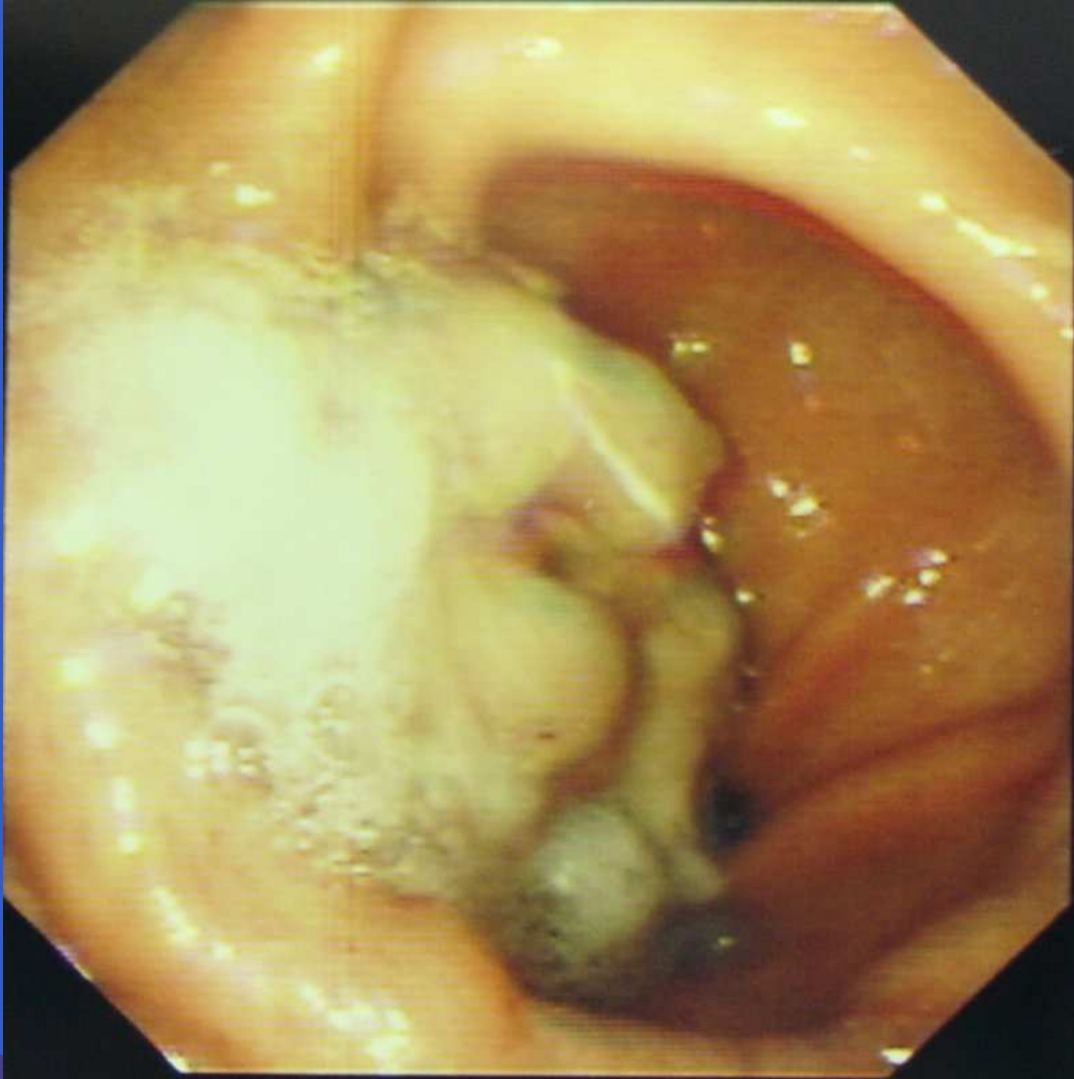
## Upper gastrointestinal endoscopy

- Views pathology
- Permits biopsy to confirm diagnosis
- Permits therapeutic manoeuvres

# Therapeutic endoscopy - What is the problem?



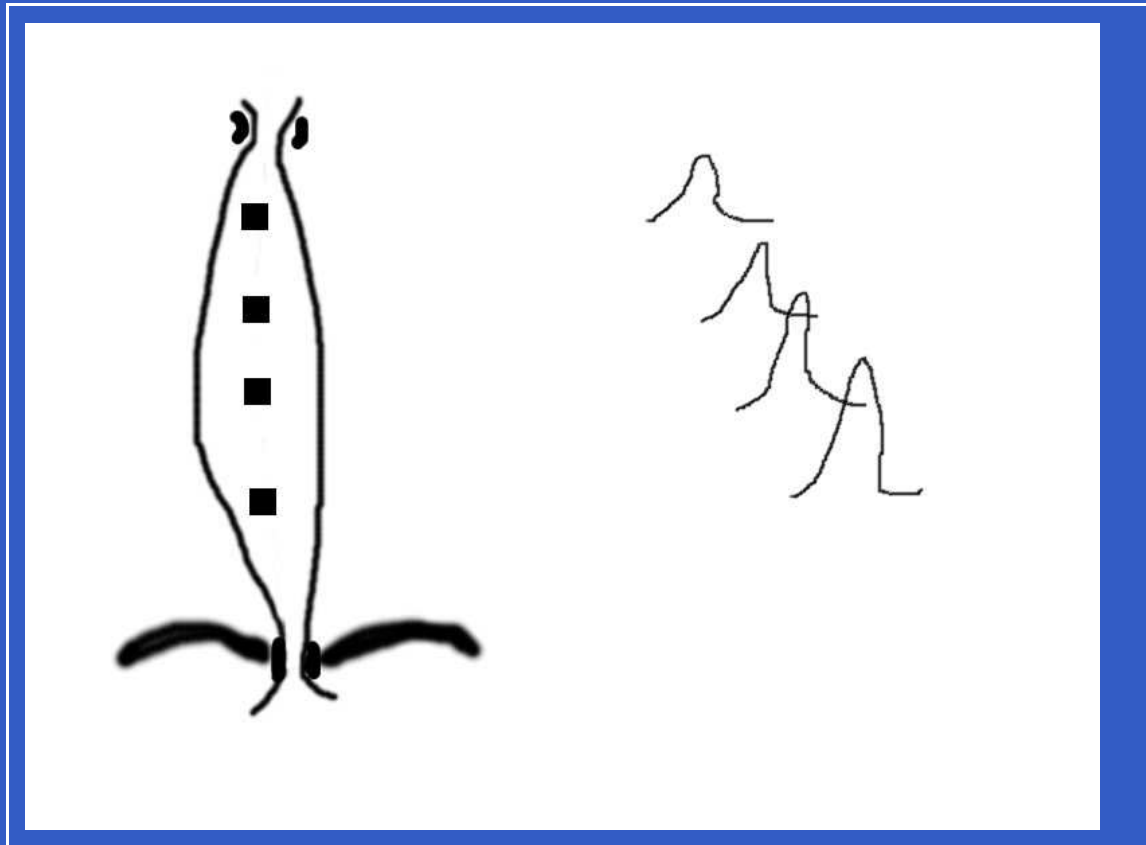
# Therapeutic endoscopy - The solution



## Esophageal manometry

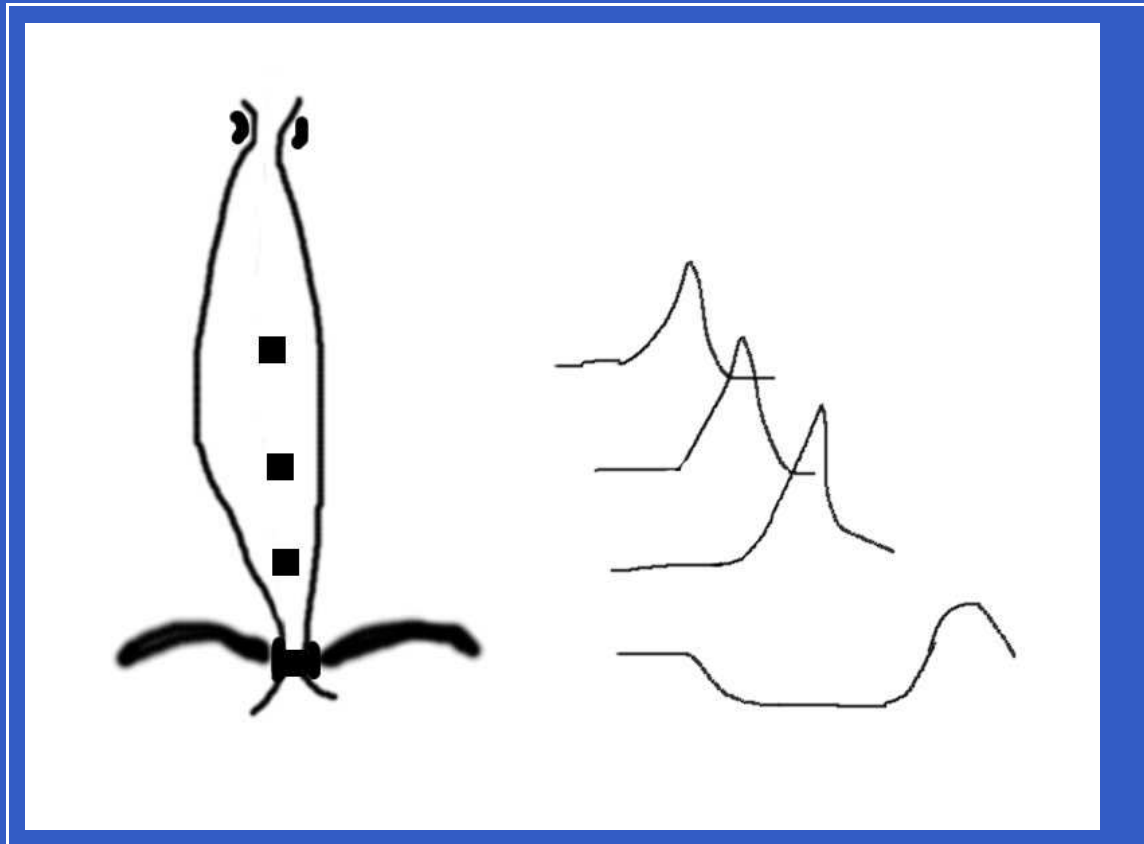
- Locates LES and UES (useful in pH metry)
- Measures characterists of LES (mechanically defective, relaxation)
- Measures esophageal body function

## Normal manometry - esophageal body



- Peristaltic
- Amplitude

## Normal manometry - lower esophageal sphincter



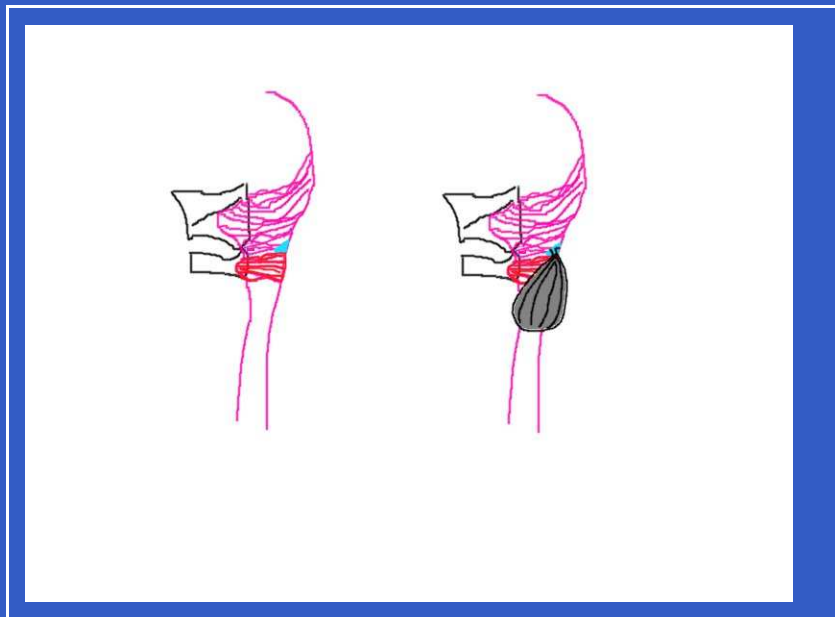
- Relaxation
- Post relaxation contraction



## Particular Problems

- Pharyngeal pouch
- Achalasia

## Pharyngeal pouch - Aetiology



- Potential weakness between crico and thyro-pharyngeal components of inferior pharyngeal constrictor (Killean)
- Discoordination, high pressure, poor relaxation
- Pulsion diverticulum
- More likely to have reflux disease

## Pharyngeal pouch - Clinical features

- Regurgitation and aspiration
- Sometimes gurgling in neck prior to regurgitation
- Endoscopy may perforate
- Contrast swallow with delayed film

## Pharyngeal pouch - Treatment

- Endoscopic treatment - Dohlman
- Small diverticulum 5cm or less; crico-pharyngeal myotomy
- Larger diverticulum; inversion of diverticulum with crico-pharyngeal myotomy

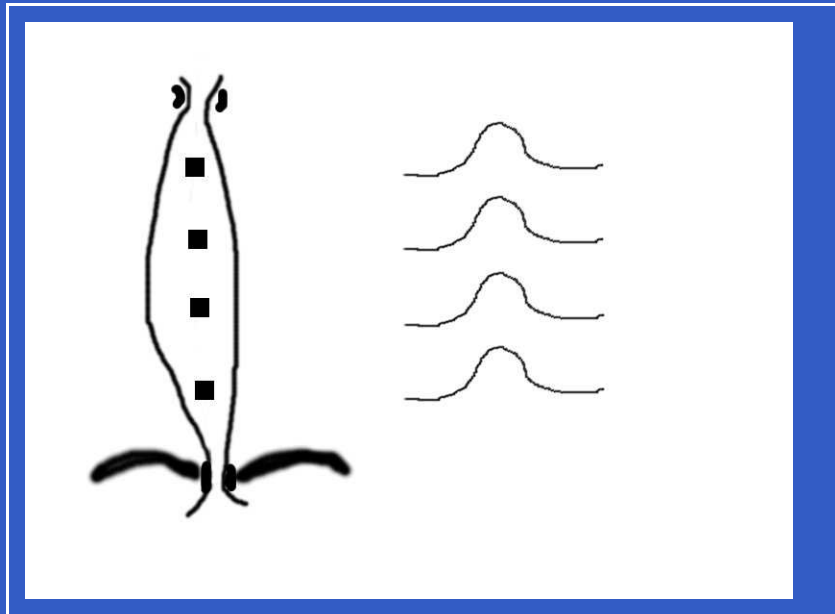
# Achalasia

- 'Without relaxation'
- Cause unknown
- Similar to esophageal manifestations of Chaga's disease
- Experimental model shows body abnormality may be caused by iatrogenic poor relaxation
- Weight loss, social isolation
- Many present with pain suggestive of reflux disease

## Achalasia - Diagnosis

- Beware of malignant infiltration of the gastro-esophageal junction causing pseudo-achalasia
- Endoscopy - stagnation and saliva, mega-oesophagus, stasis esophagitis, scope slips through into stomach
- Contrast swallow - Birds beak appearance, height of column of contrast indicates severity of hold up
- Manometry is gold standard

## Achalasia - Manometry



- Failure of relaxation of lower esophageal sphincter
- Isobaric simultaneous pressure waves in esophageal body

## Achalasia - Treatment

- Confirm diagnosis
- Botox injection into LES
- Pneumatic dilatation
- Heller's myotomy



Thanks

Look for the pdf download (2.2 M), and online expanded lecture at <http://eilise.homelinux.org>



Questions please