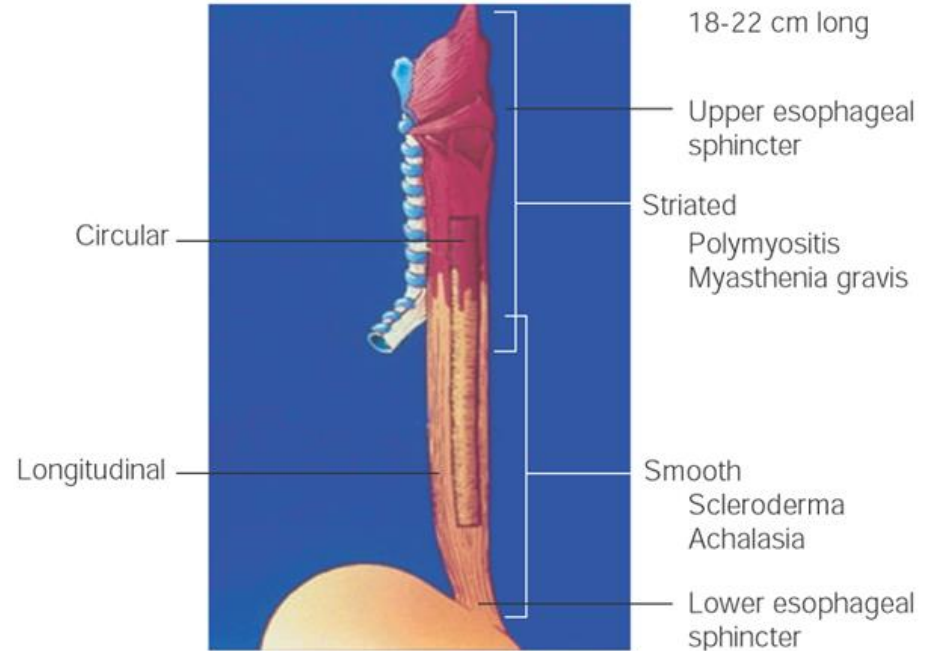
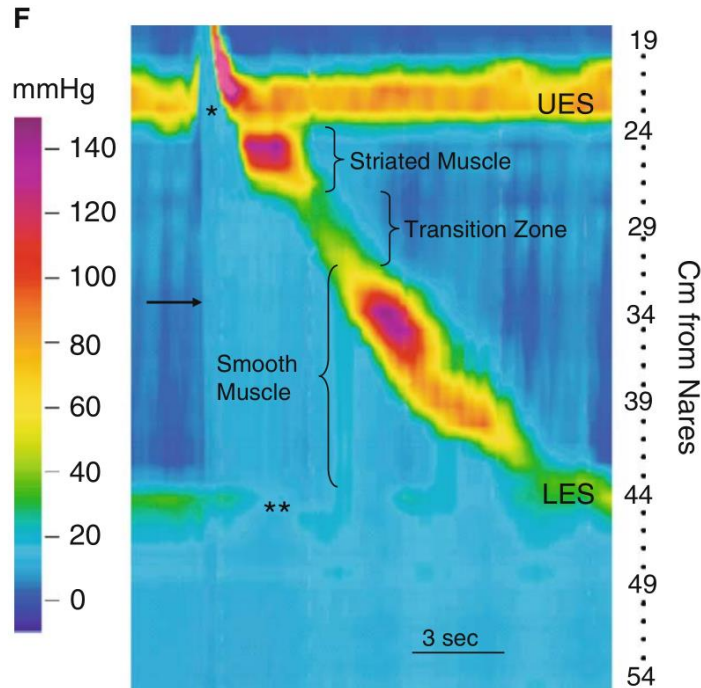


# Management of Esophageal Motility Disorders

UCI Digestive Health Summit

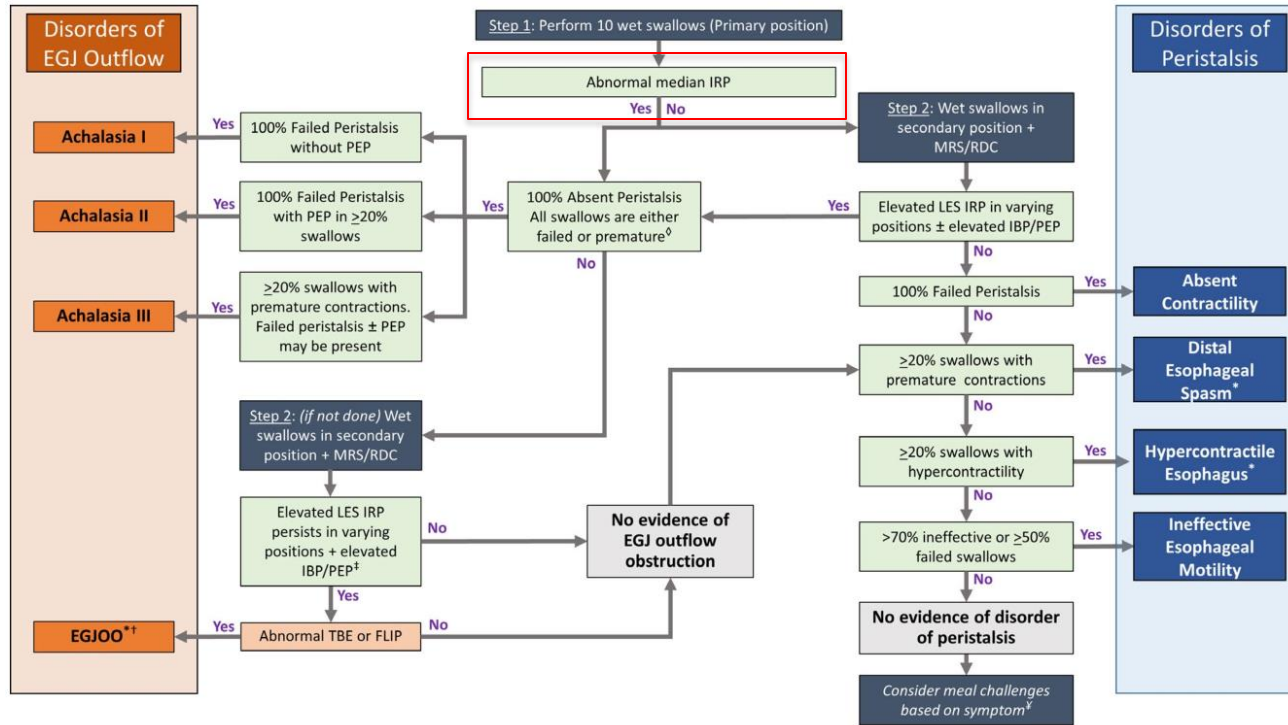
Elliot Yu MD Health Sciences Assistant Clinical Professor

# Manometry Report



Mashimo, Hiroshi, and Raj K. Goyal. "Physiology of esophageal motility." *GI Motility online* (2006).

# Chicago Classification V 4.0



# Achalasia Types

## Type I

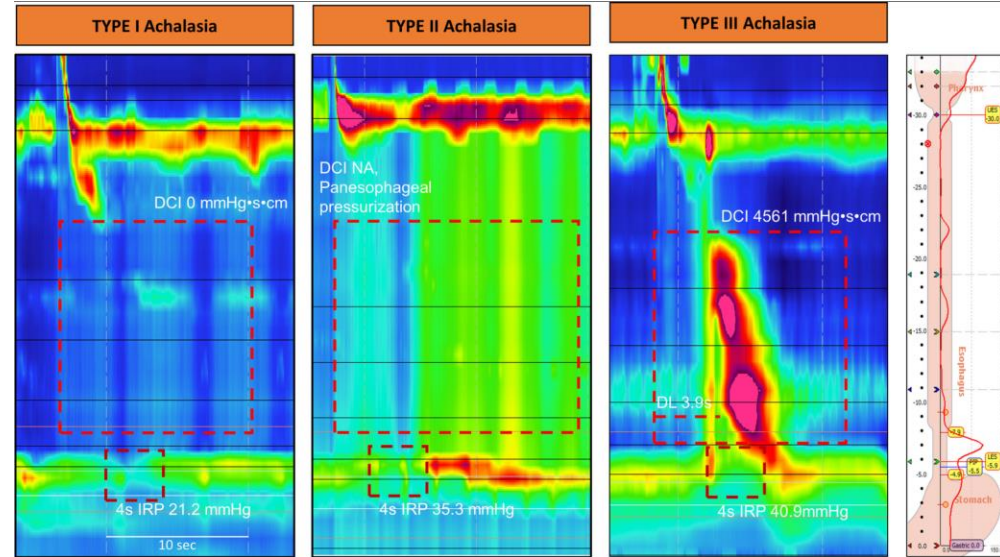
- 100% failed peristalsis

## Type II

- Pan-esophageal pressurization
  - $\geq 20\%$  Swallows
- 100% failed peristalsis
- Best outcome with invasive therapies

## Type III

- $\geq 20\%$  swallows with premature contractions
  - Distal Latency < 4.5 seconds



# Achalasia Treatment

## Type I

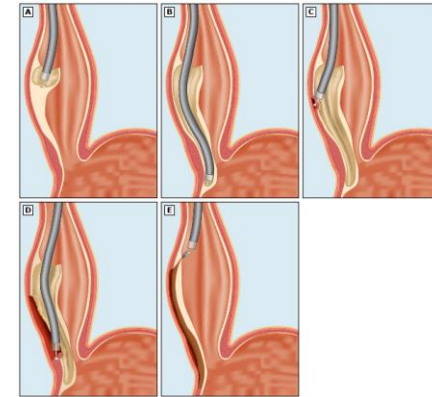
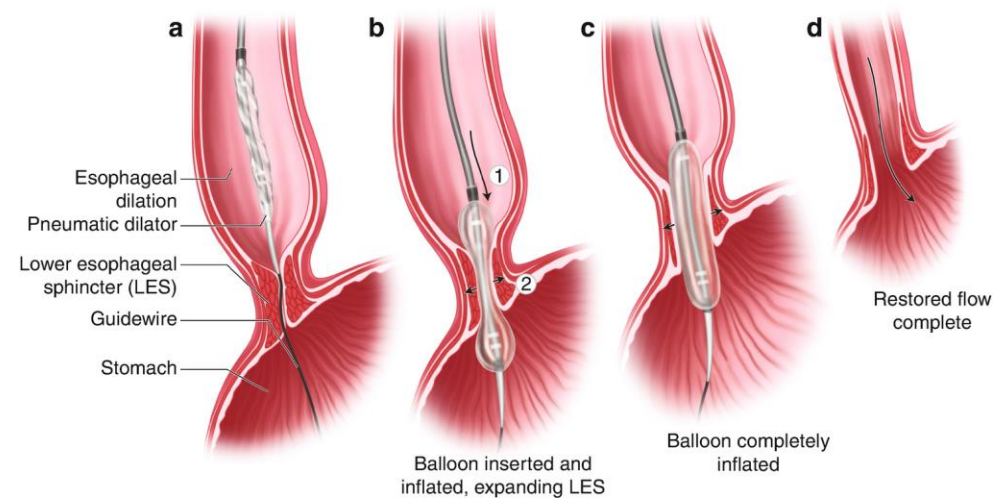
- Pneumatic Dilation
- Laparoscopic Myotomy
- POEM

## Type II

- Best outcome with invasive therapy
- Pneumatic dilation most cost effective
- Surgical Heller Myotomy
- POEM

## Type III

- Tailored POEM treatment of choice

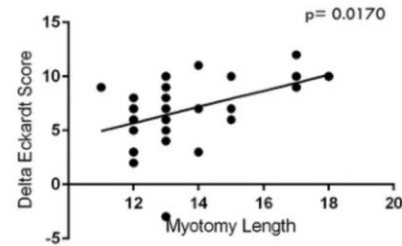


# Achalasia III POEM Staging

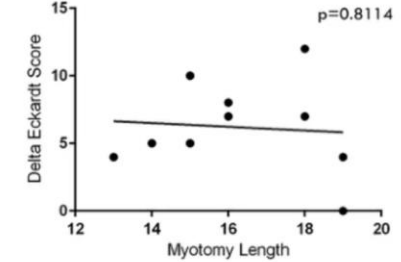
- Length of spastic region can be Useful in surgical planning of per oral endoscopic myotomy
- Lower Eckhardt scores in patients with tailored myotomies

Fig. 2

A Non-tailored

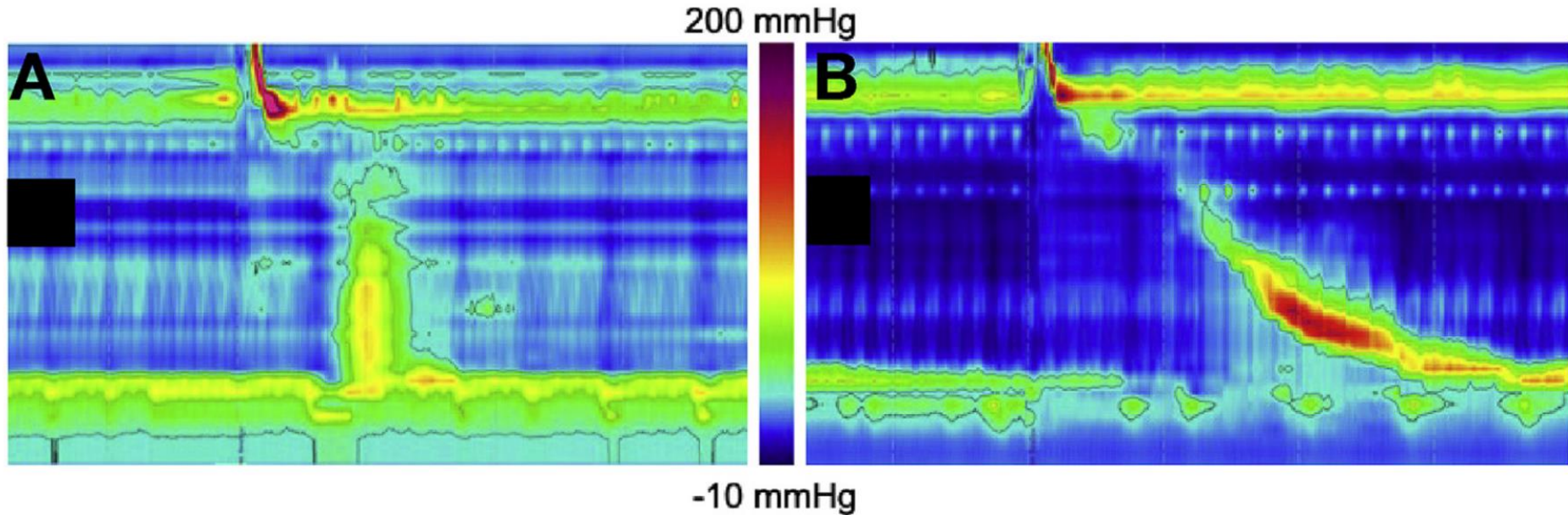


B Tailored



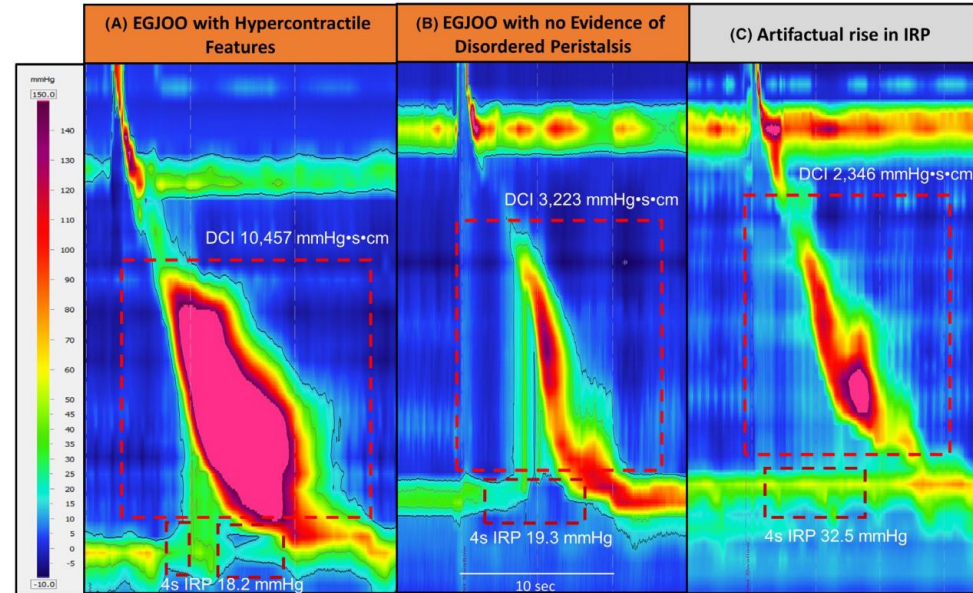
# Opioid Induced Achalasia

- Can resemble Type III achalasia, resolves with cessation



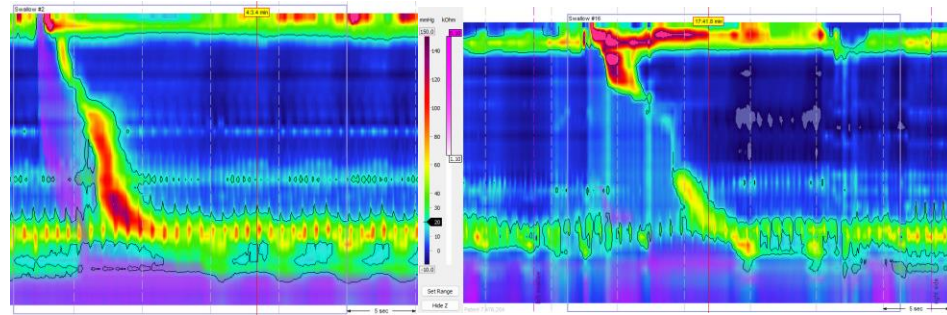
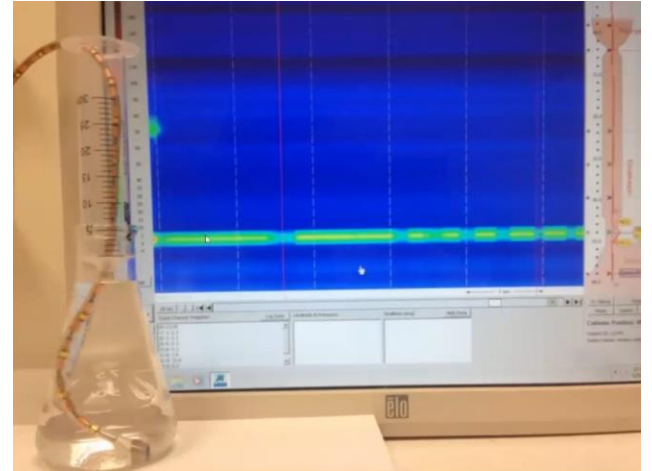
# EGJ Outflow Obstruction

- Abnormal IRP
- Intact Peristalsis
- Intrabolus pressure
- Ancillary Testing
  - EndoFLIP
  - Timed barium esophagram



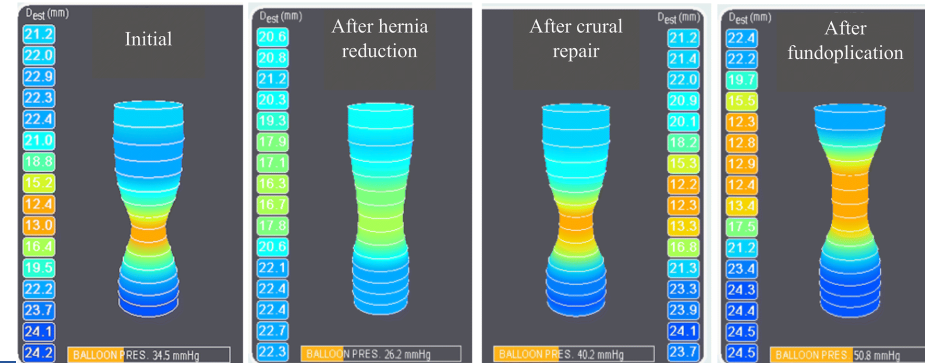
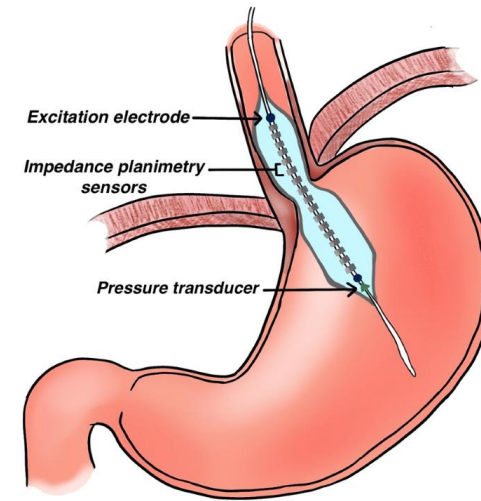
# EGJOO Real or Not?

- Chicago Classification V4
  - Inclusion of upright swallows to better differentiate
- Artifact
  - Positional
  - Hiatal hernia
  - Vascular artifact
  - Medications
  - Kinking of the catheter



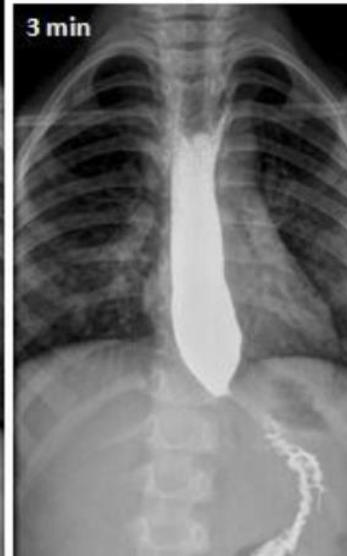
# EndoFLIP

- Impedance Planimetry
- Measures Esophagogastric Junction Diameter
- Balloon Volumes
  - 40 mL → 70 mL
- Esophageal Distensibility Index
  - Cross Sectional Area/Intraballoon Volume

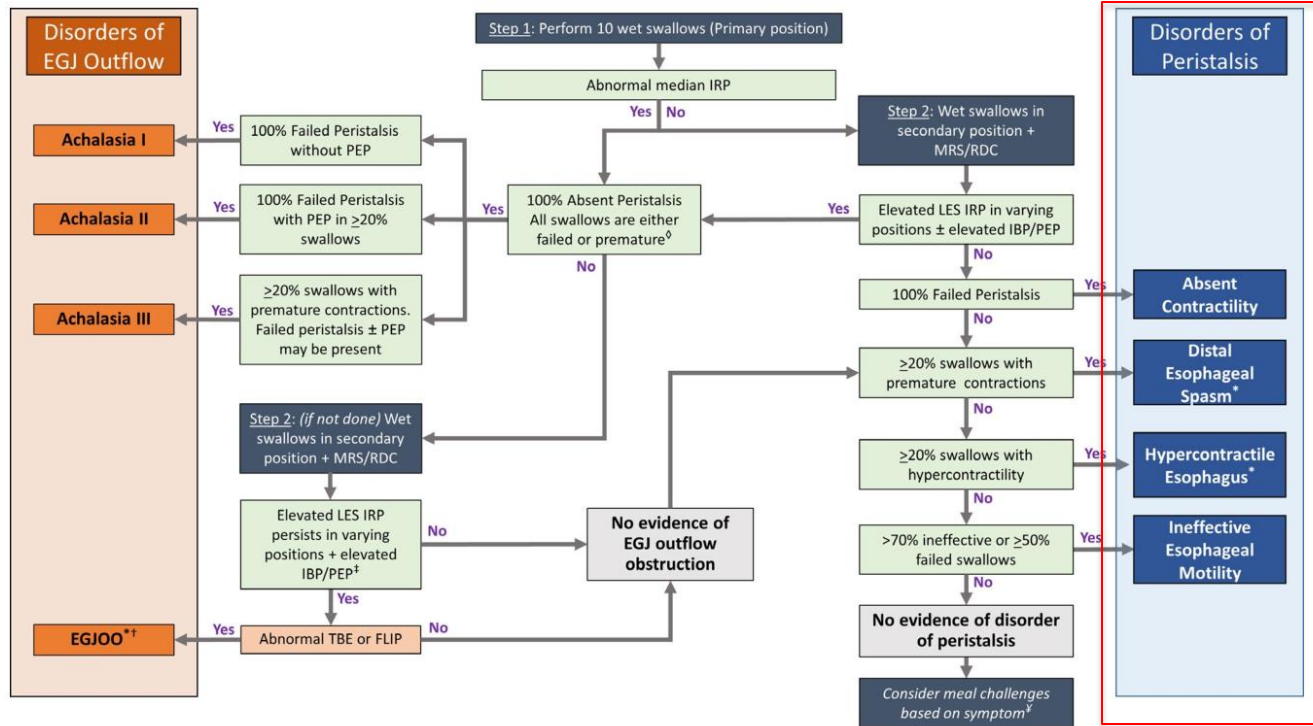


# Timed Barium Esophagram

- X rays at 1, 3 and 5 minutes
- Barium tablet
- Food challenge
  - (Roast beef challenge)



# Chicago Classification V 4.0



# Disorders of Peristalsis

Failed

- DCI < 100 mmHg-s-cm

Weak

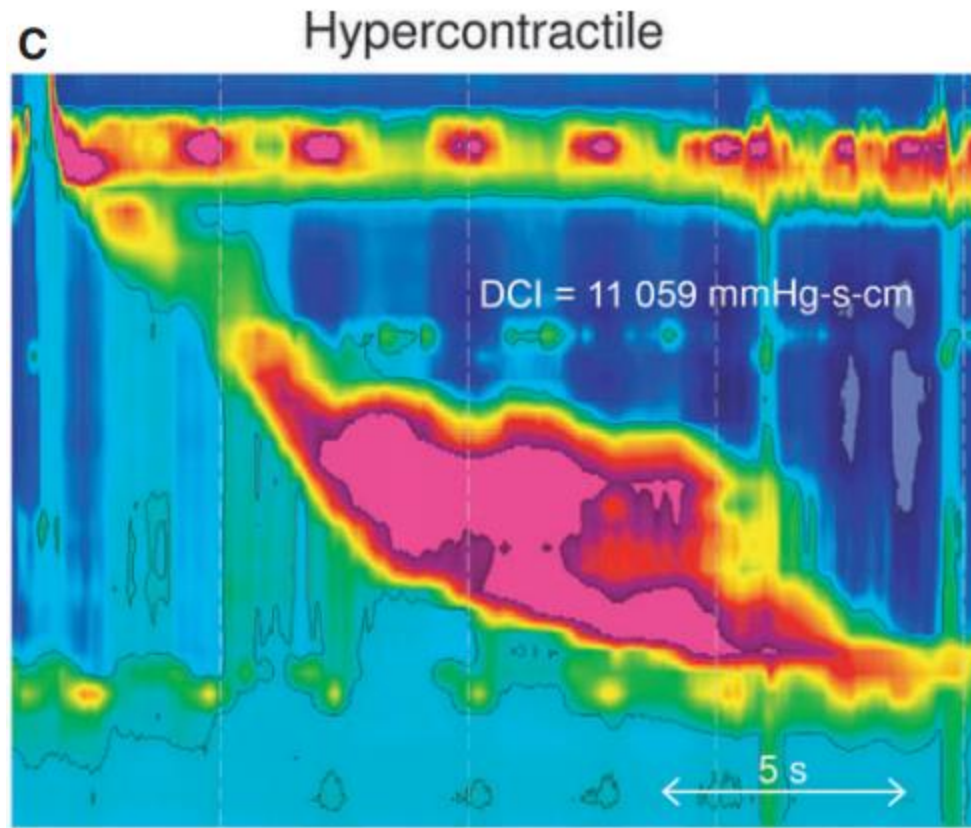
- DCI < 450 mmHg-s-cm

Normal

- DCI Between 450-8000 mmHg-s-cm

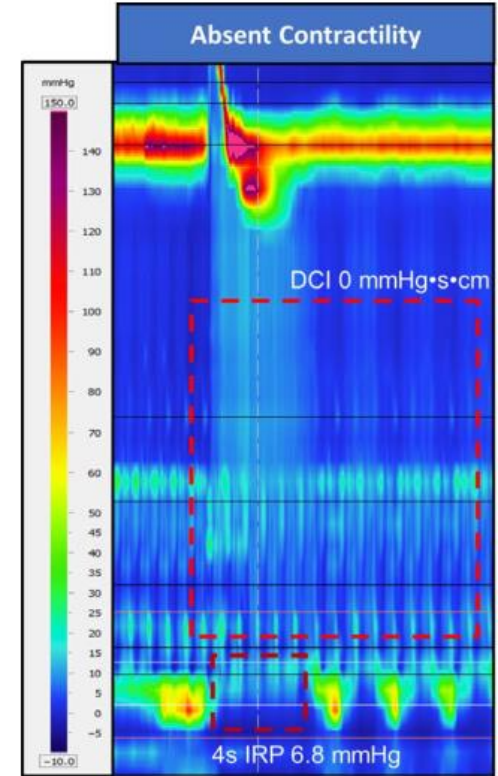
Hypercontractile

- DCI > 8000 mmHg-s-cm



# Absent Contractility

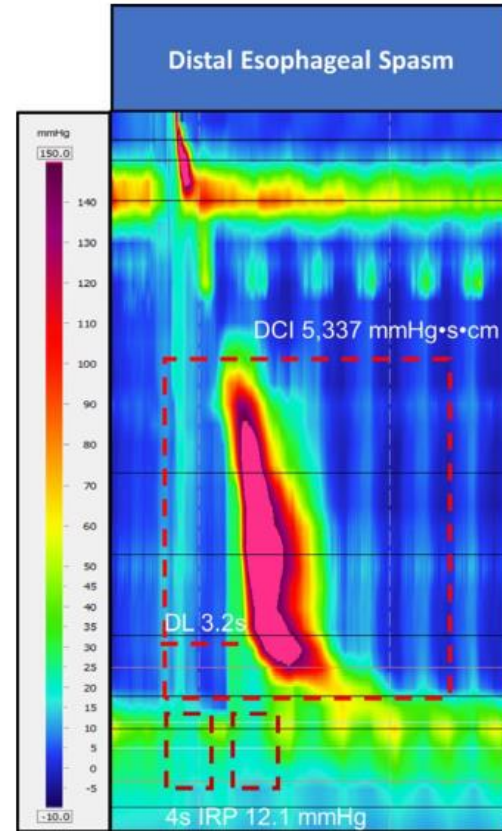
- Scleroderma Esophagus
- Lifestyle Habits
  - Dysphagia Diet
  - Smaller more frequent meals
  - Remain upright after meals
- Consider Long term PPI



# Esophageal Spasm

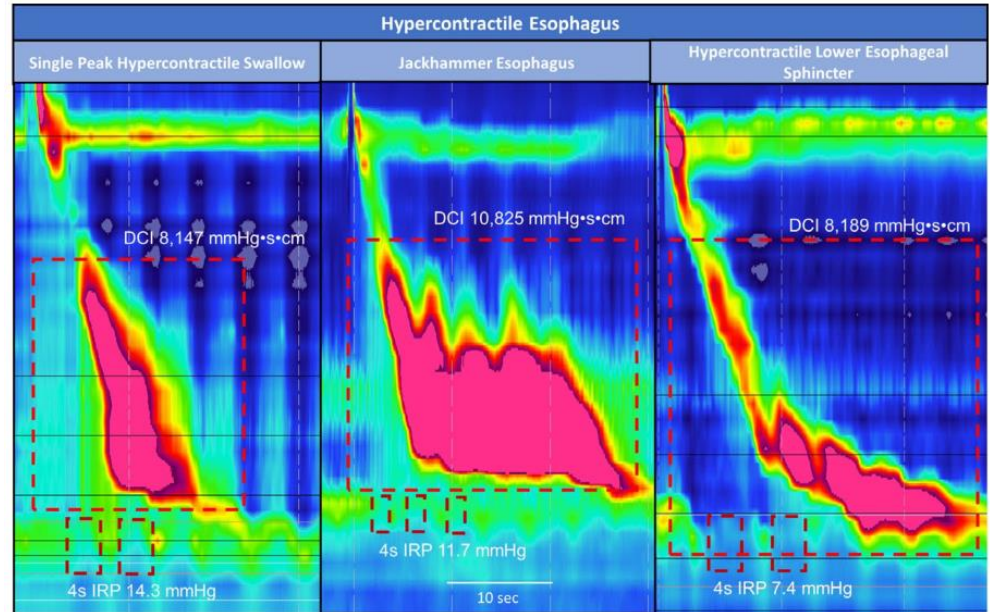
- Normal IRP
- Spastic swallows
  - Distal Latency < 4.5

Tx: Calcium Channel Blockers,  
Antispasmodics,  
Phosphodiesterase Inhibitors



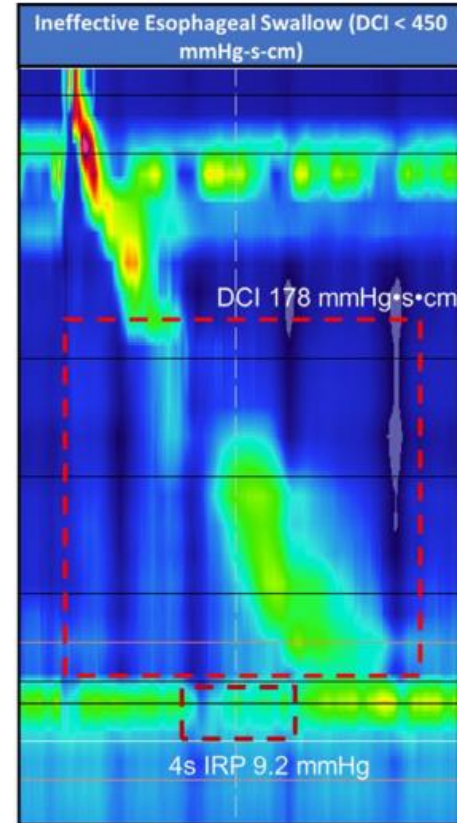
# Hypercontractile Esophagus

- Normal IRP
- DCI > 8000
- Tx: Calcium Channel Blockers, Antispasmodics, Phosphodiesterase Inhibitors

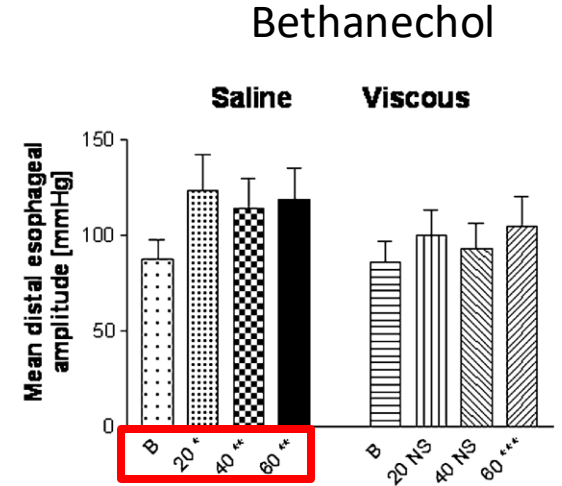
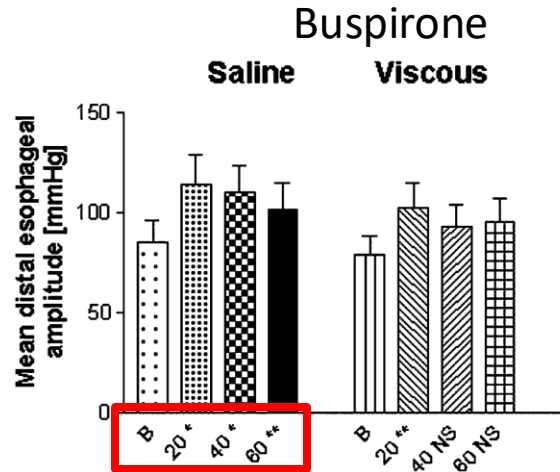
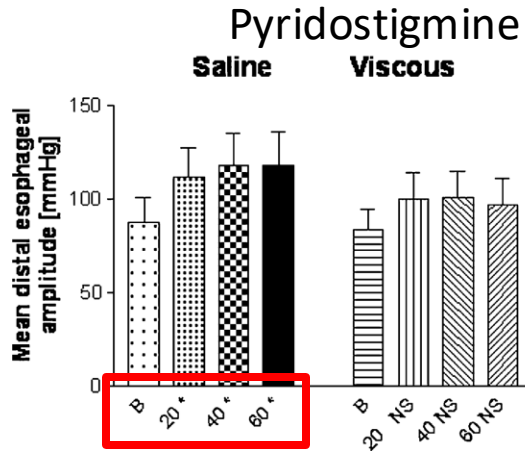


# Ineffective Esophageal Motility

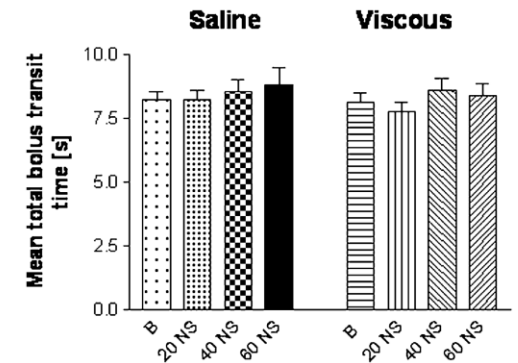
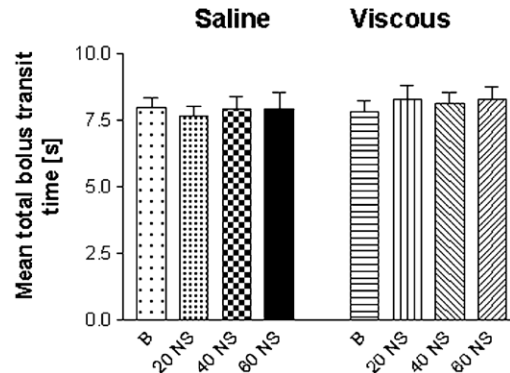
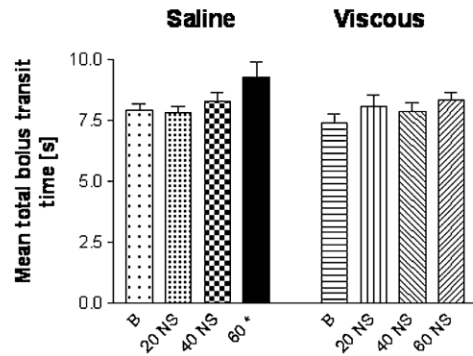
- Up to 30% of findings on HRM
- Relation to GERD (49% prevalence)
- Nonactionable motility disorder (Heterogeneous Disorder)
- Found in healthy controls
- Pattern resolves over time
- Lifestyle modifications

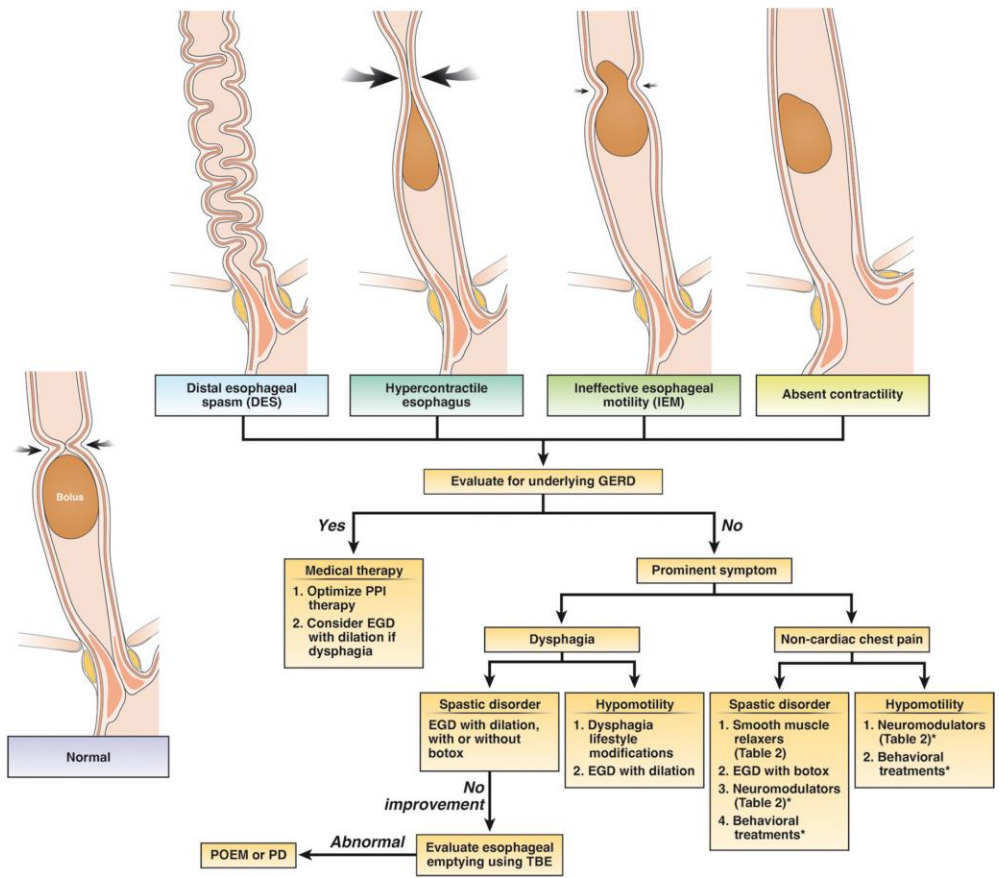


# Prokinetics



## Total Bolus Transit Time





Patel, Dhyanes A., Rena Yadlapati, and Michael F. Vaezi. "Esophageal motility disorders: current approach to diagnostics and therapeutics." *Gastroenterology* 162.6 (2022): 1617-1634.

	Dosage	Side Effects	Indication
Peppermint Oil	5 drops in 10 mL water or sublingual altoids prior to meals	GERD	Elderly ↓ Contractions ↓ Amplitude
Calcium Channel Blockers	Diltiazem 60-90 QID Nifedipine 10 MG 30 min prior to meals	Peripheral edema, Headaches, Dizziness, Tachyphylaxis	↓ Amplitude ↓ Chest pain
Phosphodiesterase Inhibitors	Sildenafil 25-50 MG BID	Hypotension, Headache, Dizziness	
TCA	Imipramine 50 MG Amitriptyline 10-25 MG	QT prolongation Constipation Fatigue Dry mouth Dizziness	↓ Pain
SNRI	Venlafaxine 75 MG Daily	Sleep disturbances, nausea, hypertension	↓ Pain
SSRI	Sertraline 50-200 Paroxetine 10-50MG	Nausea, restlessness, dry mouth, diarrhea	Anxiety Hypervigilance Avoid Paroxetine if patients miss doses
SARI	Trazodone 100-150 MG	Nausea, dizziness, Drowsiness	↓ Pain

Patel, Dhyanesh A., Rena Yadlapati, and Michael F. Vaezi. "Esophageal motility disorders: current approach to diagnostics and therapeutics." *Gastroenterology* 162.6 (2022): 1617-1634.

# Summary

- Remember to assess for oropharyngeal dysphagia
- Endoscopy to rule out malignancy
- Consider physiologic testing in the absence of obstructive endoscopic evidence
- Distinguish between an obstructive vs. peristaltic disorder
- EGJ outflow obstruction may be artifactual. Assess with EndoFLIP or esophagram
- Trial patient with a meal challenge on esophagram
- Med reconciliation (Opioids, anticholinergics)