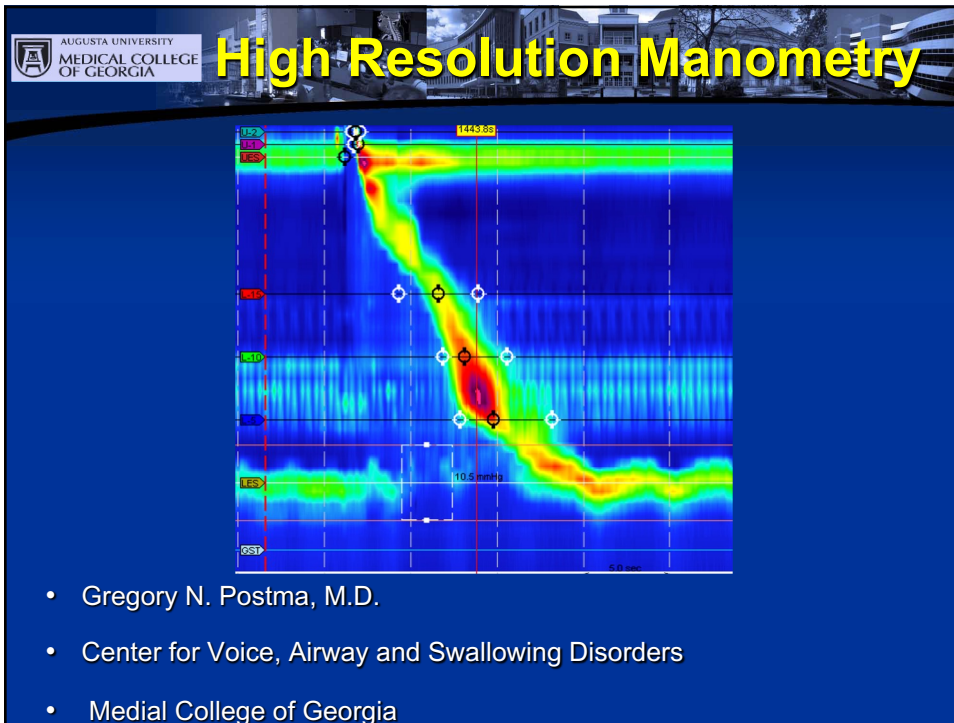




Disclosures

- Cook Medical
- Reflux Gourmet





Introduction

- Dysphagia is both common and costly
 - 20% of the general population
 - responsible for a total cost of greater than \$500 billion in the United States
- Increasing prevalence?
 - 50% in the inpatient setting



Dysphagia


 AUGUSTA UNIVERSITY
MEDICAL COLLEGE
OF GEORGIA

Introduction

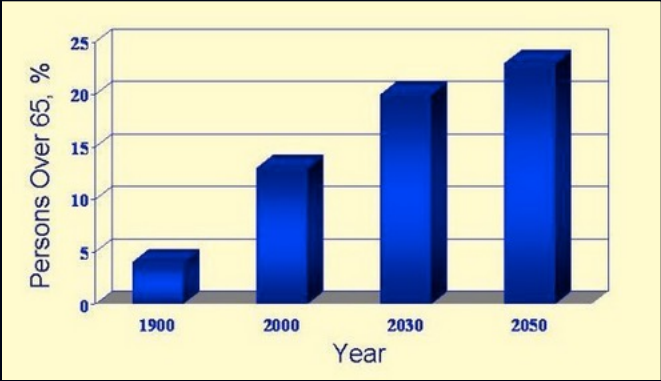
- The impact of dysphagia can range from decreased QOL and social isolation to life-threatening aspiration
 - Profound dysphagia has high degree of morbidity and mortality
 - Dehydration, malnutrition, aspiration pneumonia, and death
- Dysphagia is only a symptom and evaluation is always necessary to determine Dx (s)



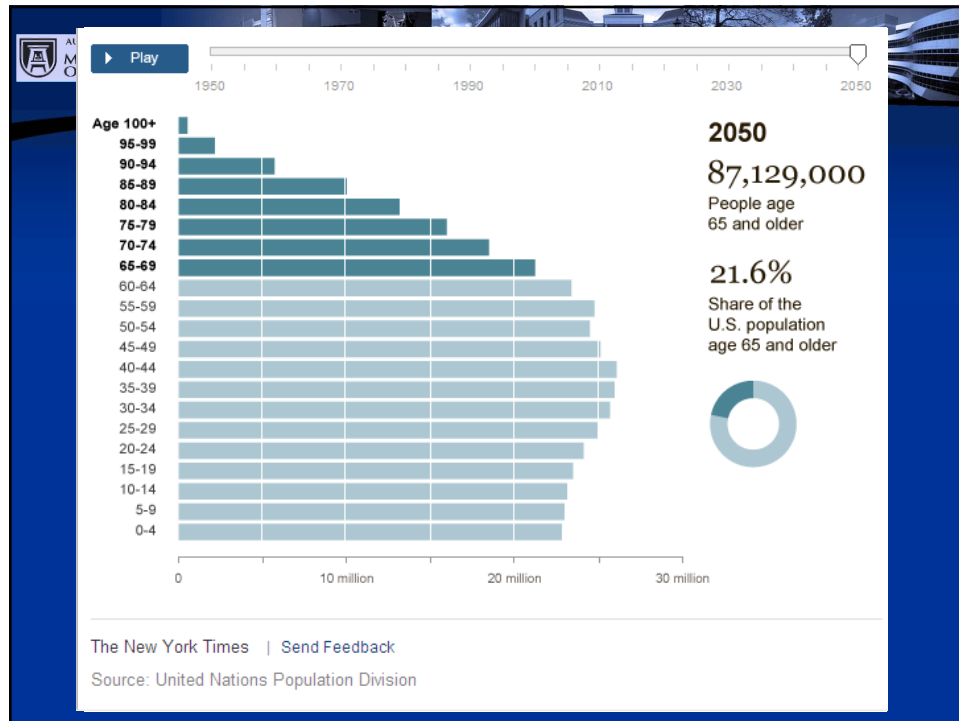

 AUGUSTA UNIVERSITY
MEDICAL COLLEGE
OF GEORGIA

Dysphagia Prevalence

- 20%
- 60%
- 70%
- 80%
- “100%” H and N cancer



Year	Persons Over 65, %
1900	~5
2000	~14
2030	~21
2050	~24



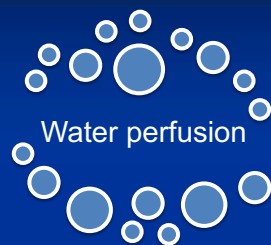
Aims of Manometry

- Understand the mechanical basis of
 - Cervical symptoms
 - Esophageal symptoms
 - Abnormal transit
- Make inferences as to the pathological mechanisms
- Guide rational treatment
- Improve patient outcomes ?

Manometry History

- Water perfusion
- Solid state 3-4 sensors, 5 cm interval
- “Pull - through”
- HRM 36 sensors, 0.7 -1 cm interval
- Smaller and smaller catheters
- Esophageal Pressure Topography

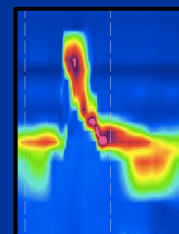
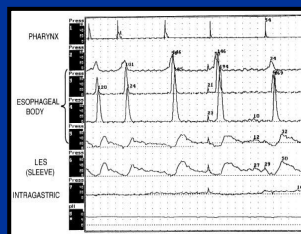
The Evolution of Manometry



Water perfusion

Solid State
Manometry

High
Resolution





What Do We Measure?

- UES
- Body
- LES
- *Pharynx*
- Pressure & Timing



HRM

- 1st Pub in 1989, now > 1,200 in Pubmed
- Changed understanding of esophageal physiology and clinical outcomes
- Has the *potential* to do the same in pharyngo-esophageal segment



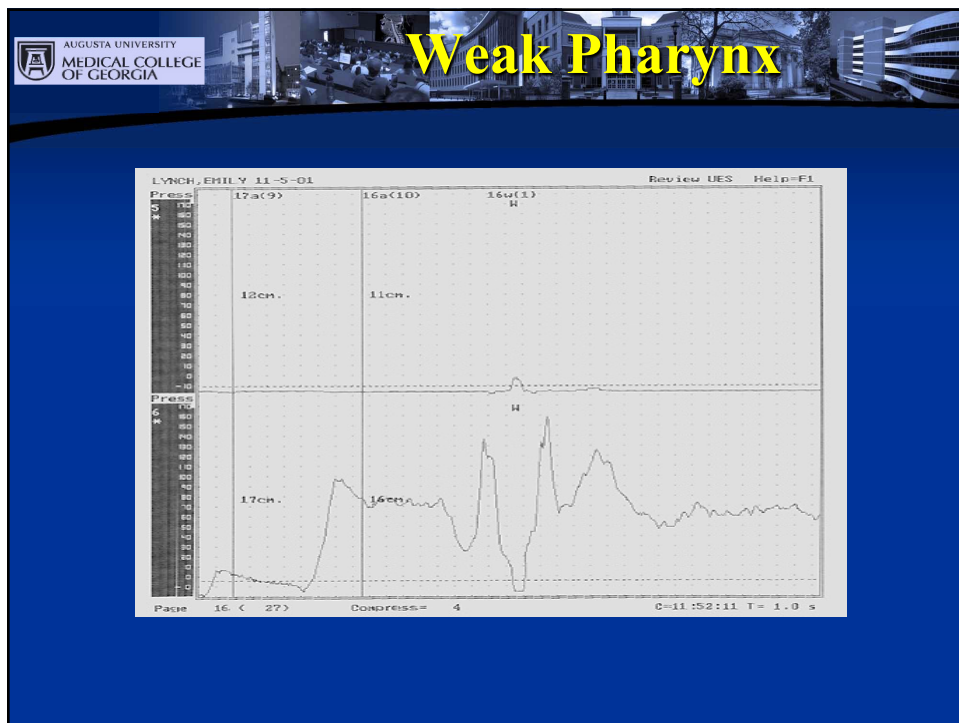
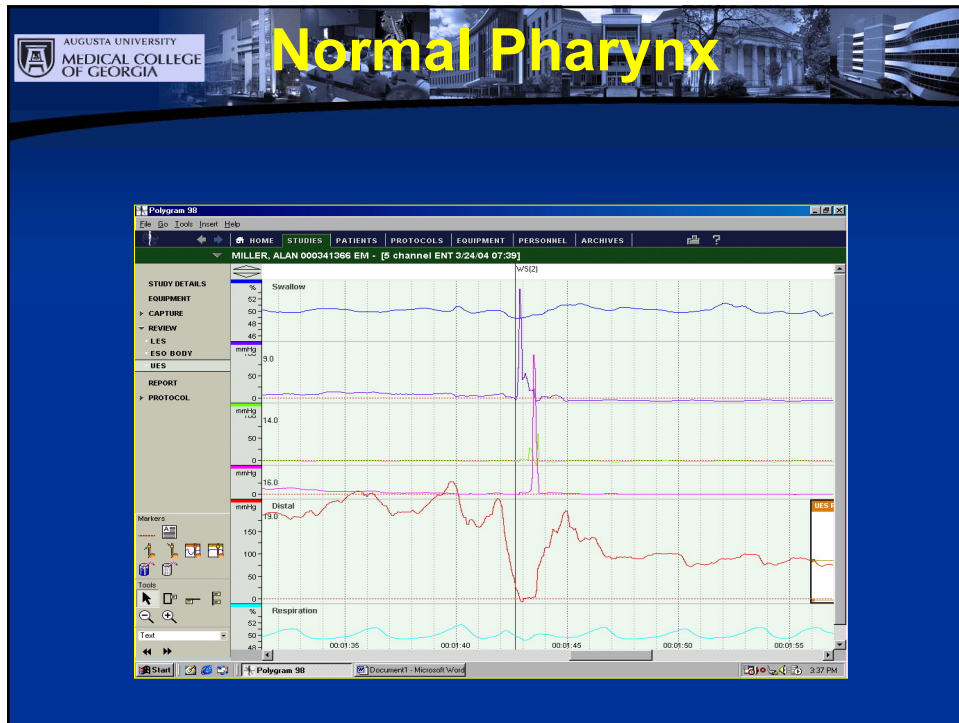
Important Concepts

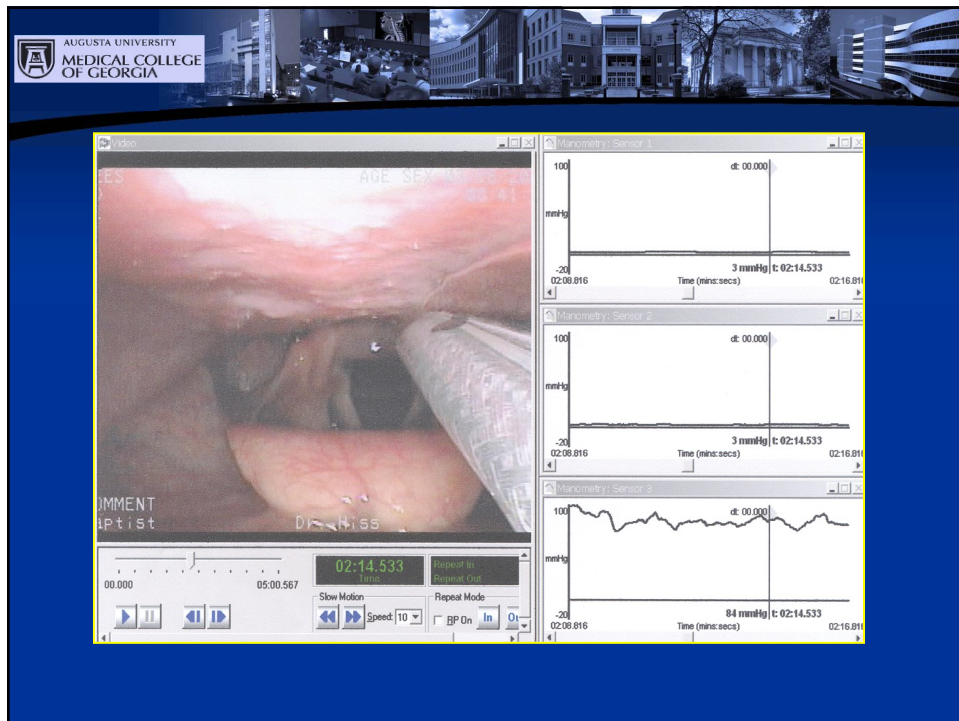
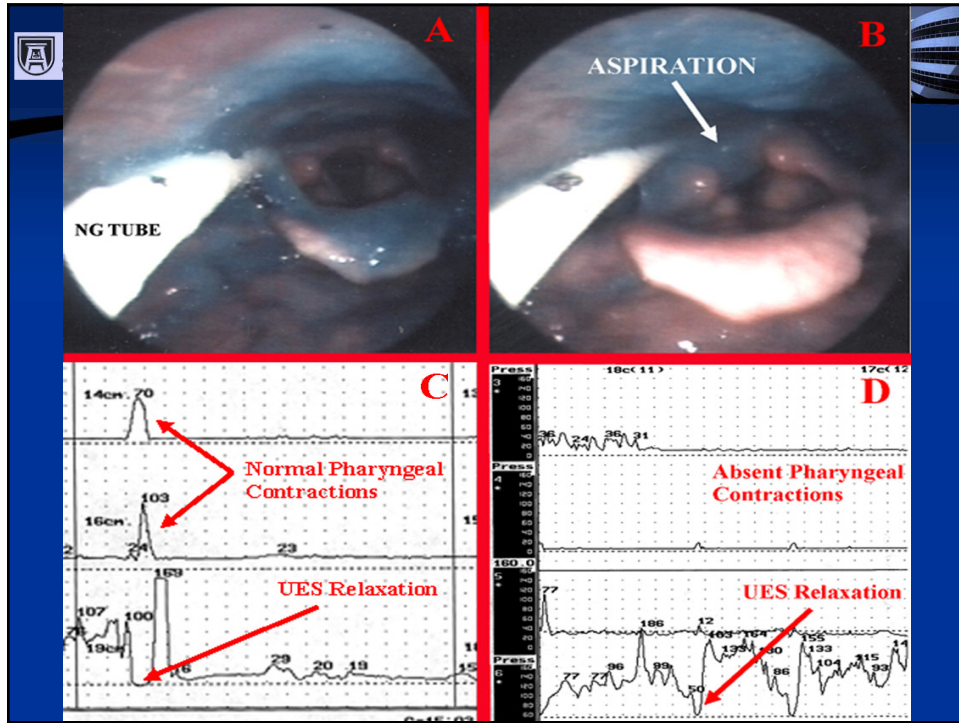
- Peristalsis does NOT equal bolus transit
- Coordination is as important as pressures
- Most of our “norms” are in left decubitis

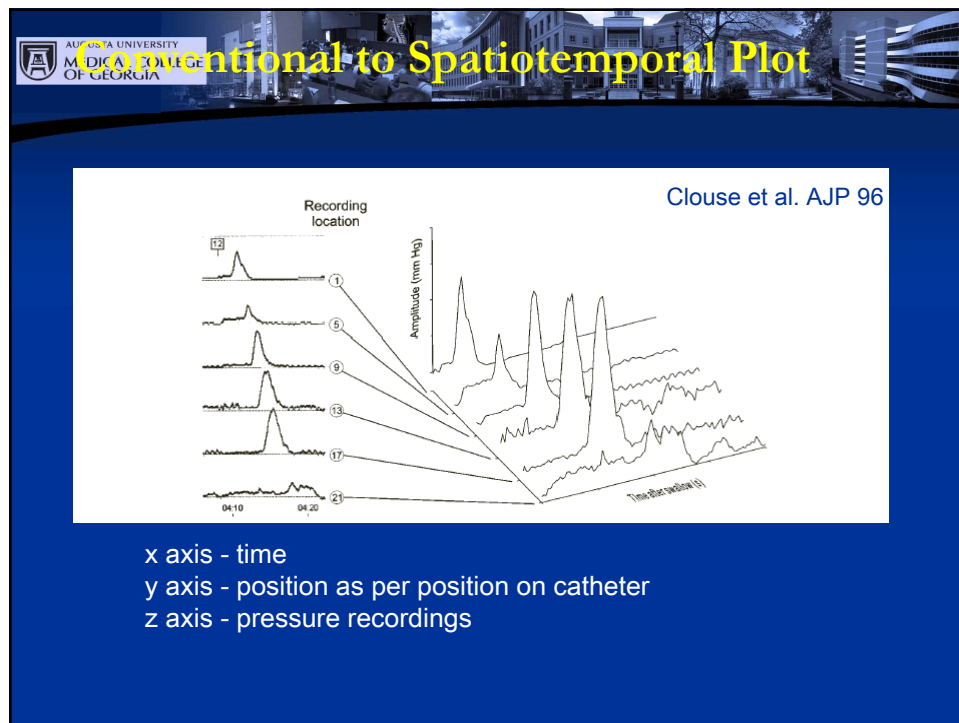
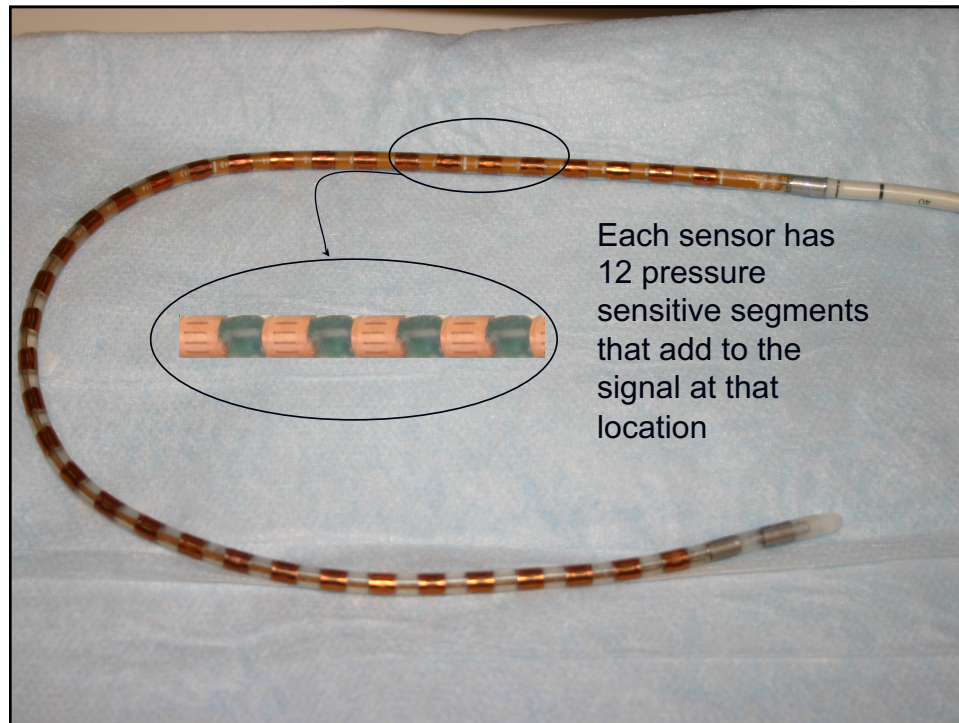


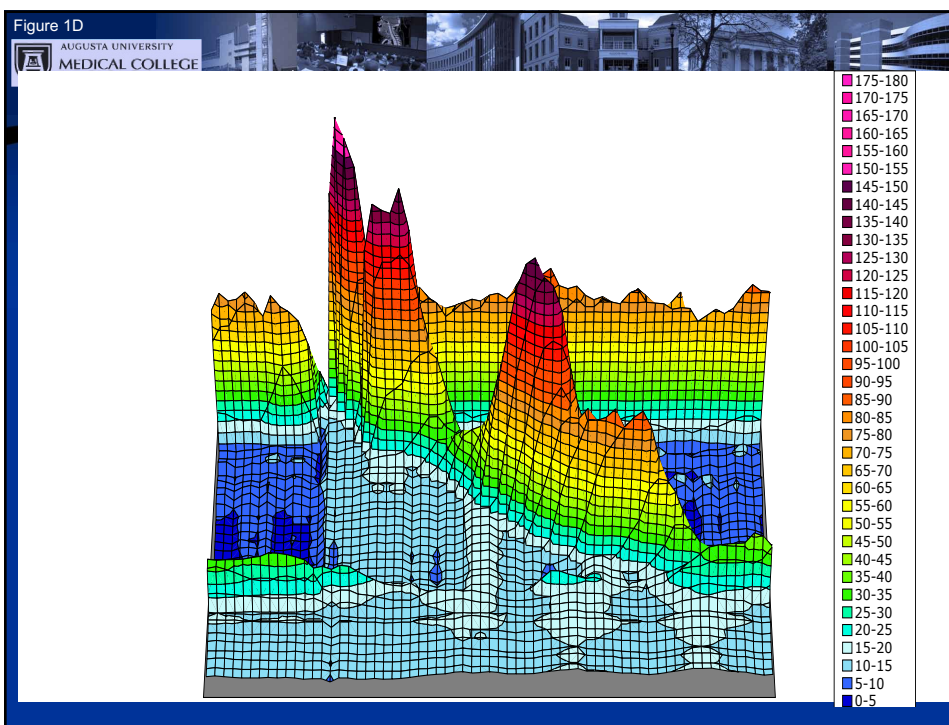
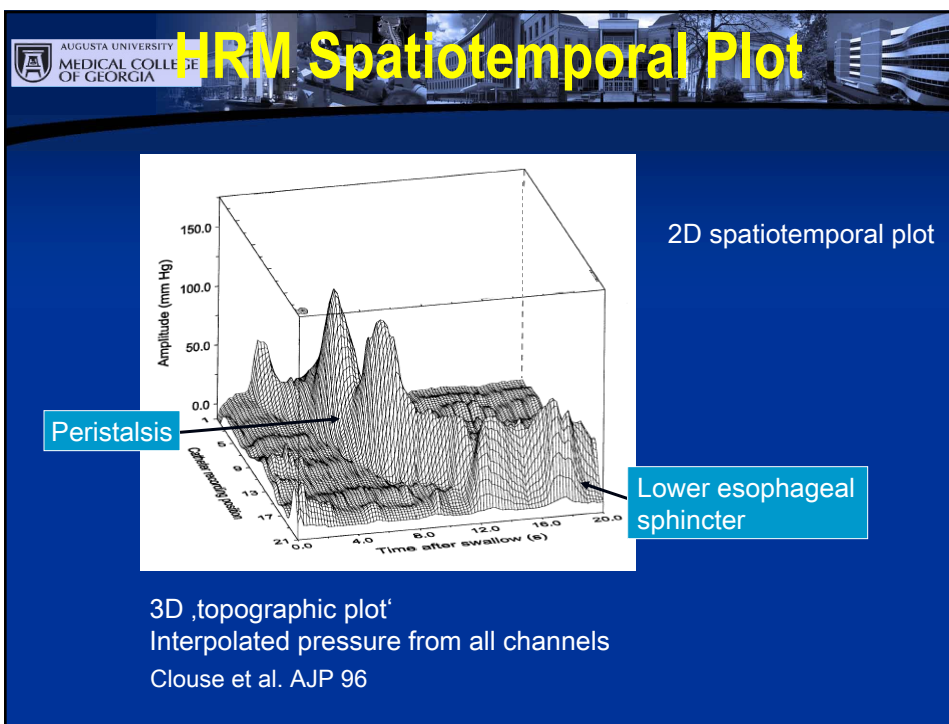
Manometry Sensors





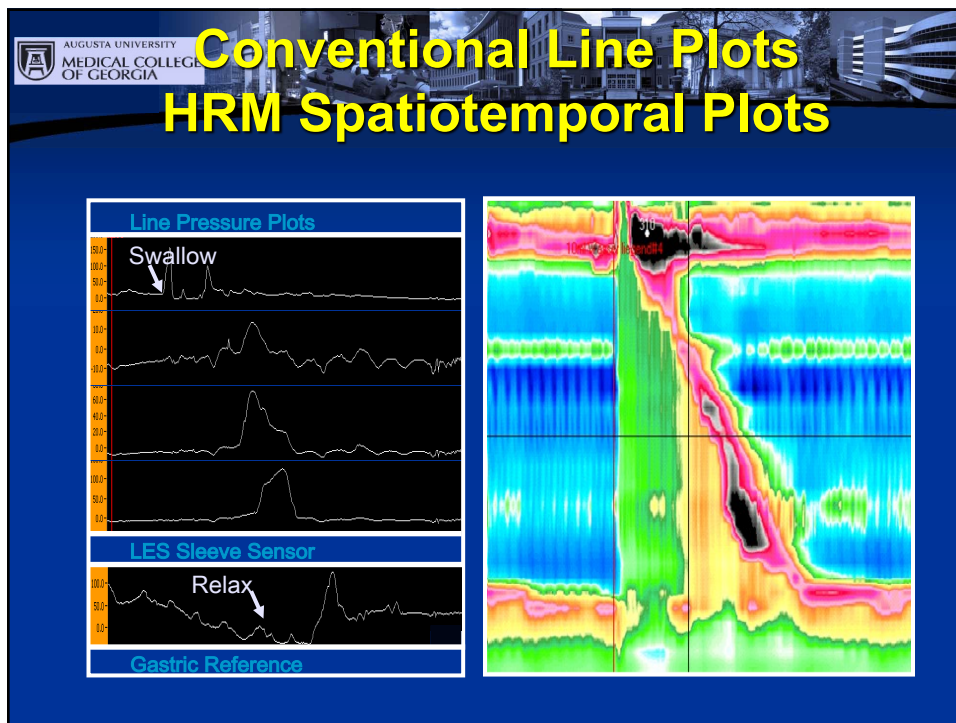


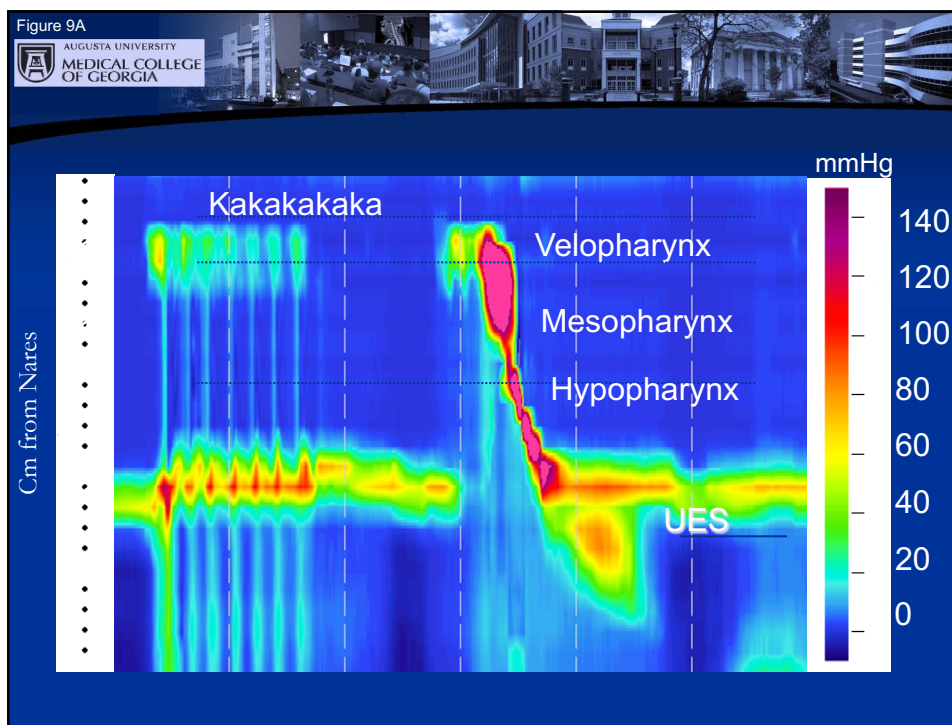
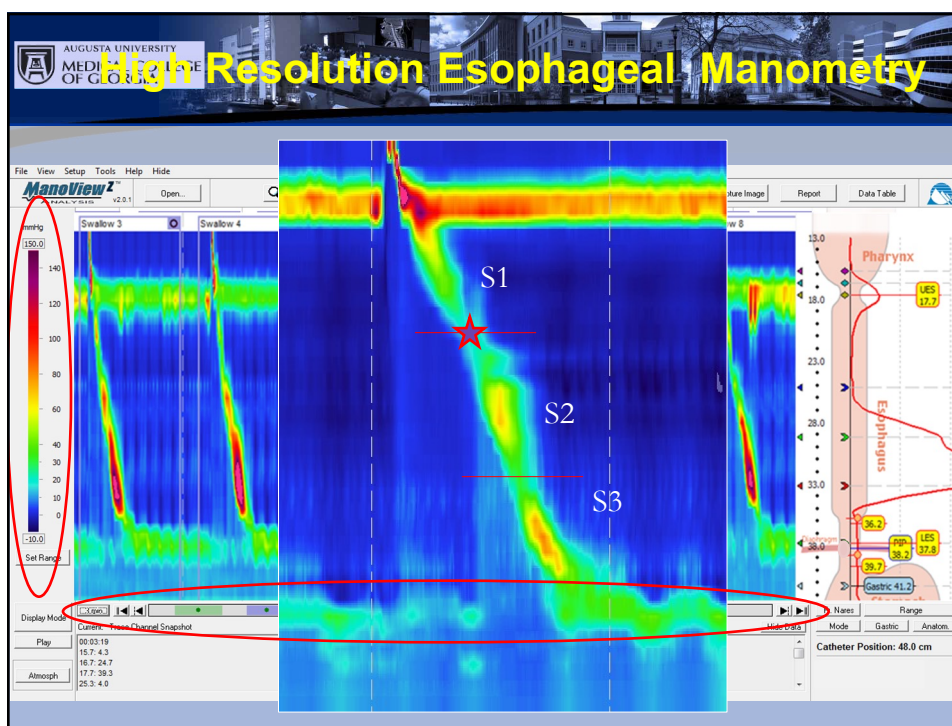




HRM with EPT

- Two high pressure zones
- Four contractile zones
- Transition zone
- 36 sensors allow “variable positioning”

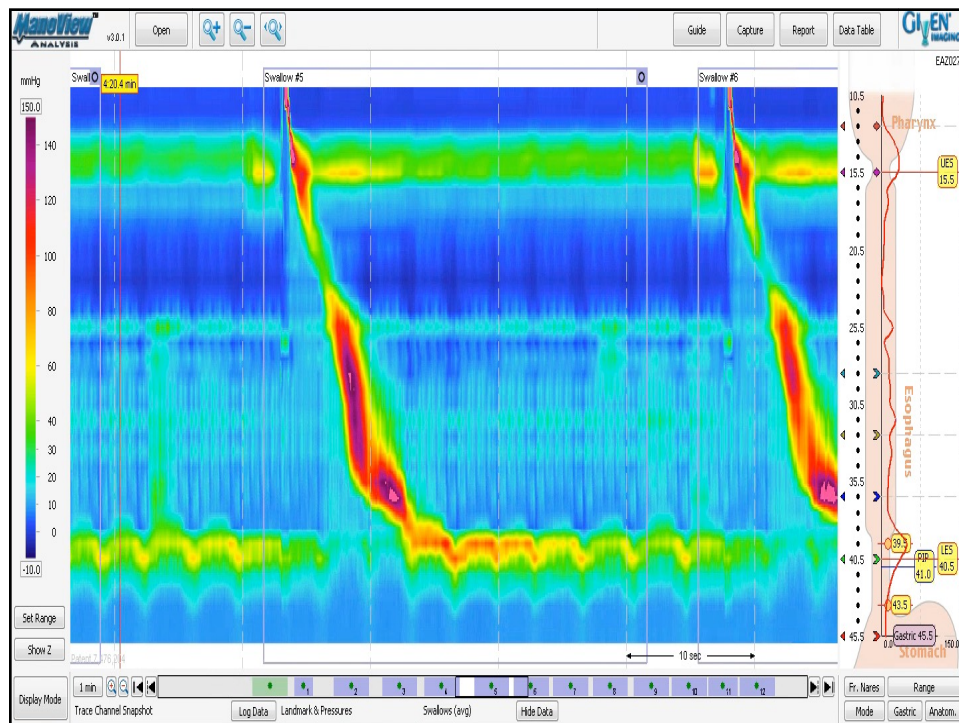


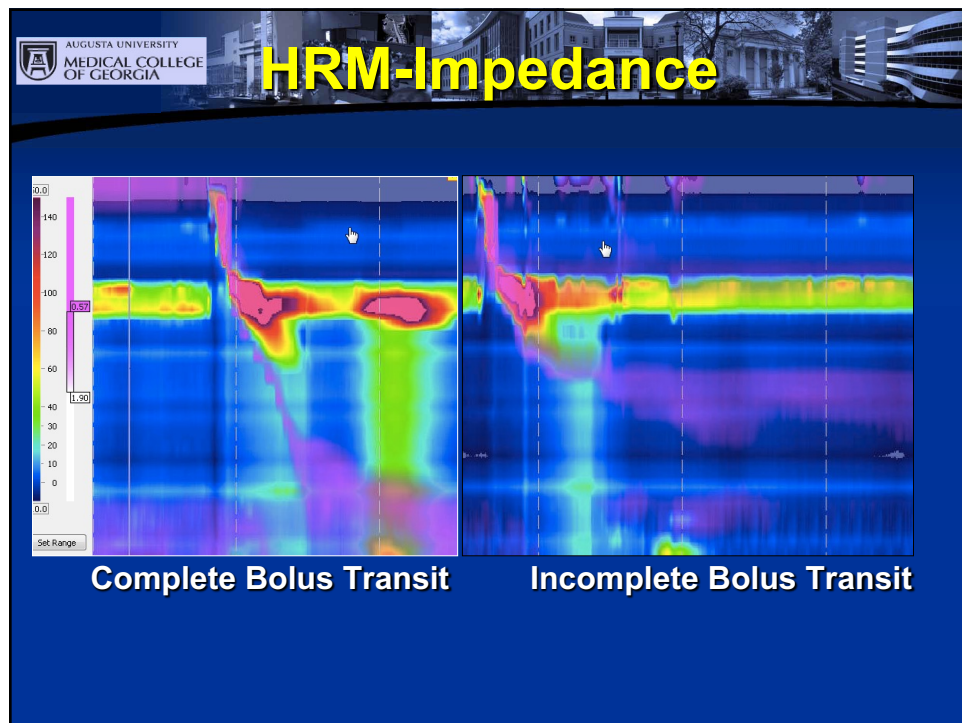
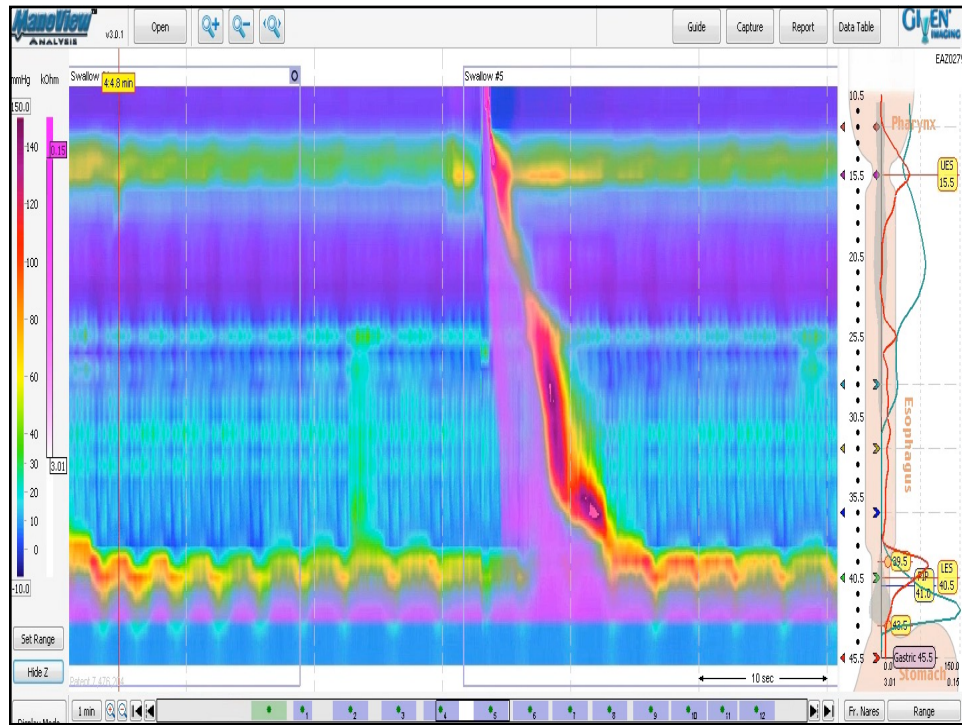


HRM with Impedance

- Measure of resistance to current flow
- Allows assessment of bolus stasis and clearance

Wise et al 2007 Dis Esoph. 20(2), 83-88







Indications

- Esophageal symptoms with neg endoscopy
- Eval for achalasia & non-obstructive dysphagia
- Eval of non-cardiac chest pain
- Esophageal motility due to systemic disease
- Preop anti reflux surgery



Indications

- pH probe placement
- Post op dysphagia: ARS, ACDF, bariatric
- Eval significance of CP bar
- Moderate – severe globus sensation
- Bio feedback

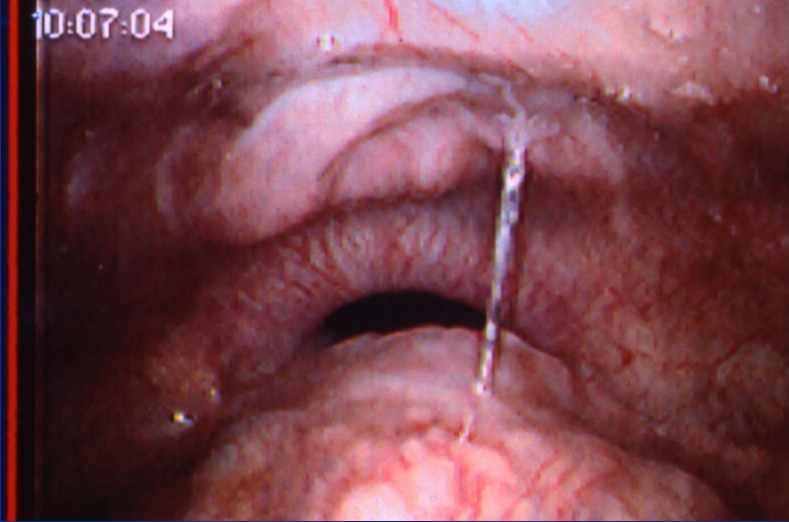


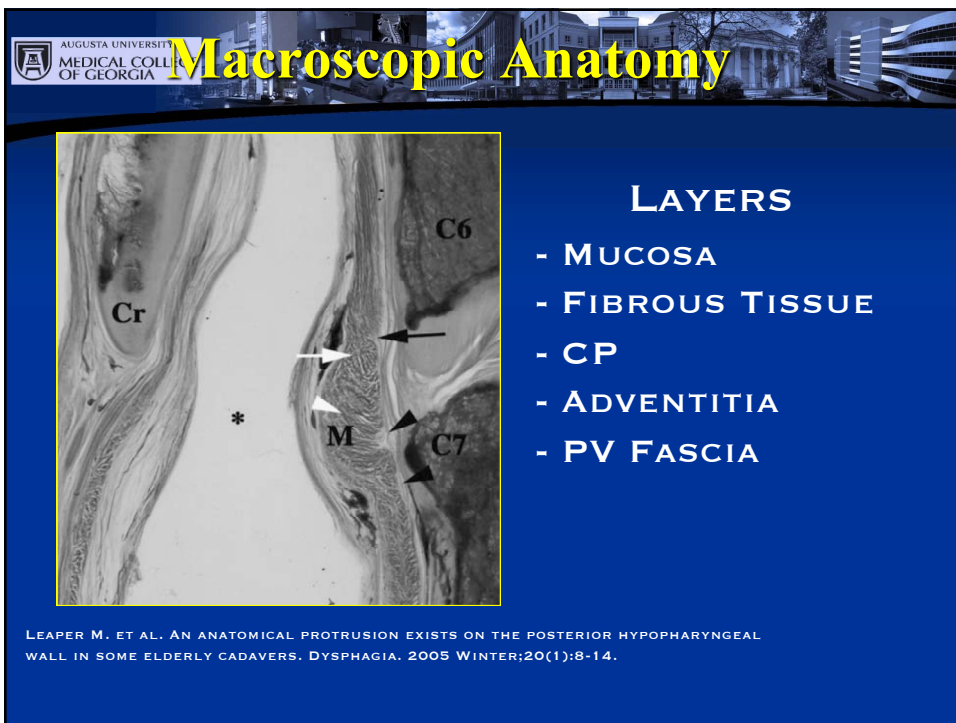
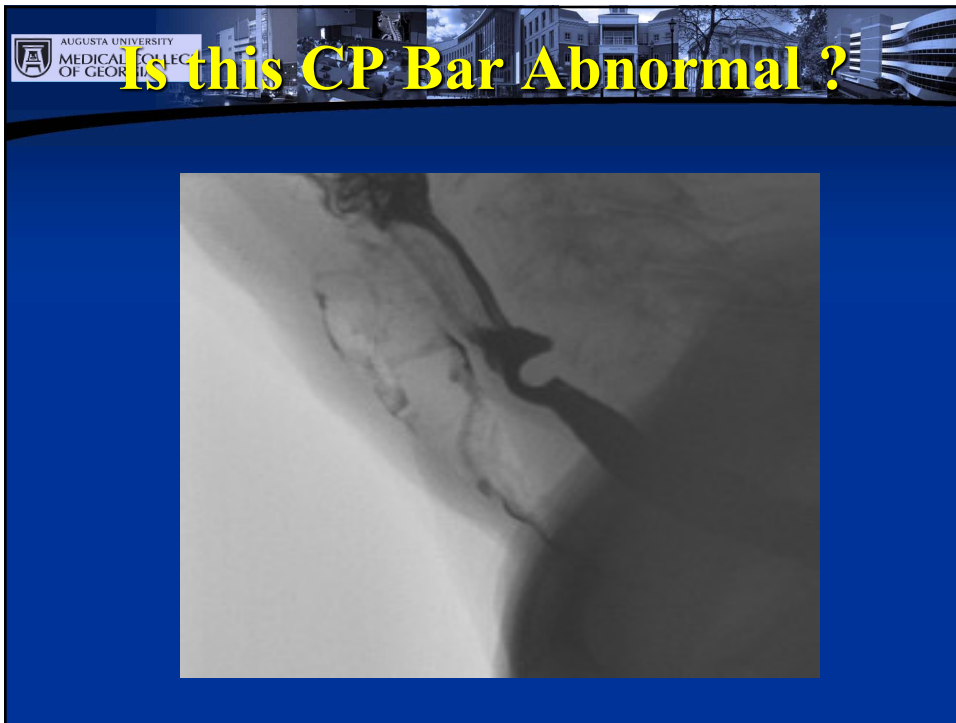
Manometry

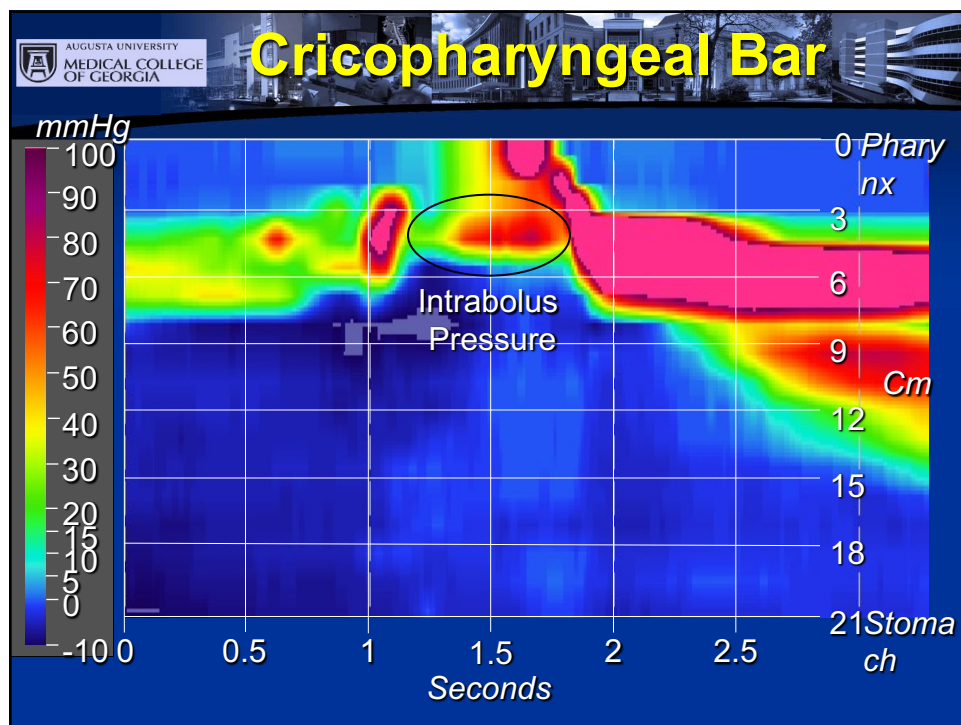
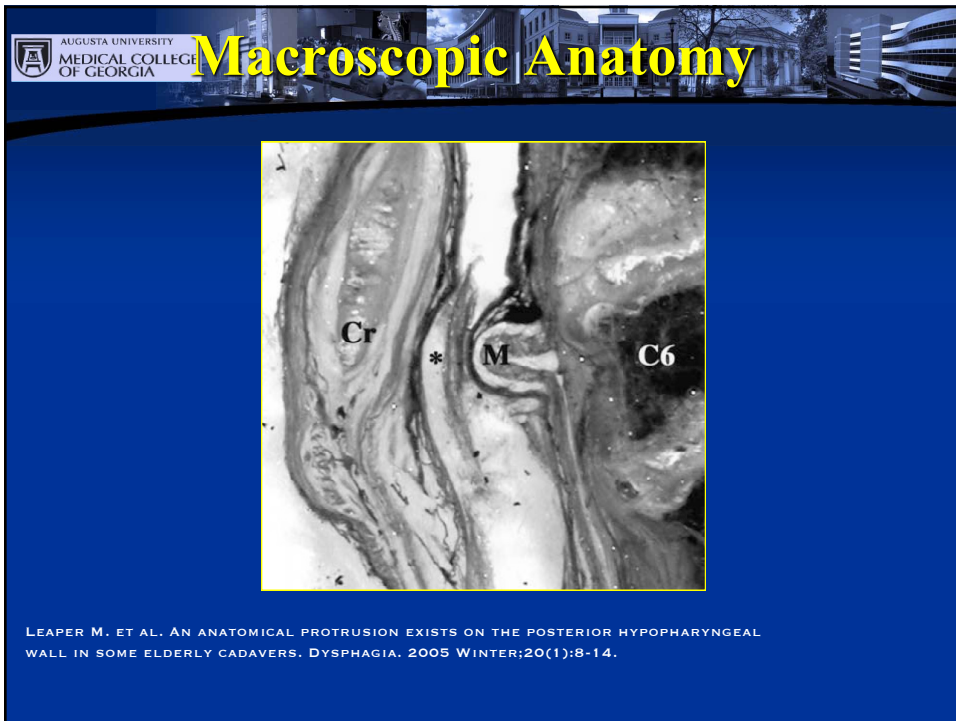
- Useful when findings of weak pharyngeal squeeze, pooling or residue
- Strength of pharynx contraction
- CP muscle coordination / is bar significant?
- Esophageal motility: Rule of 1/3
- Improved patient outcomes ?
- Less surgery

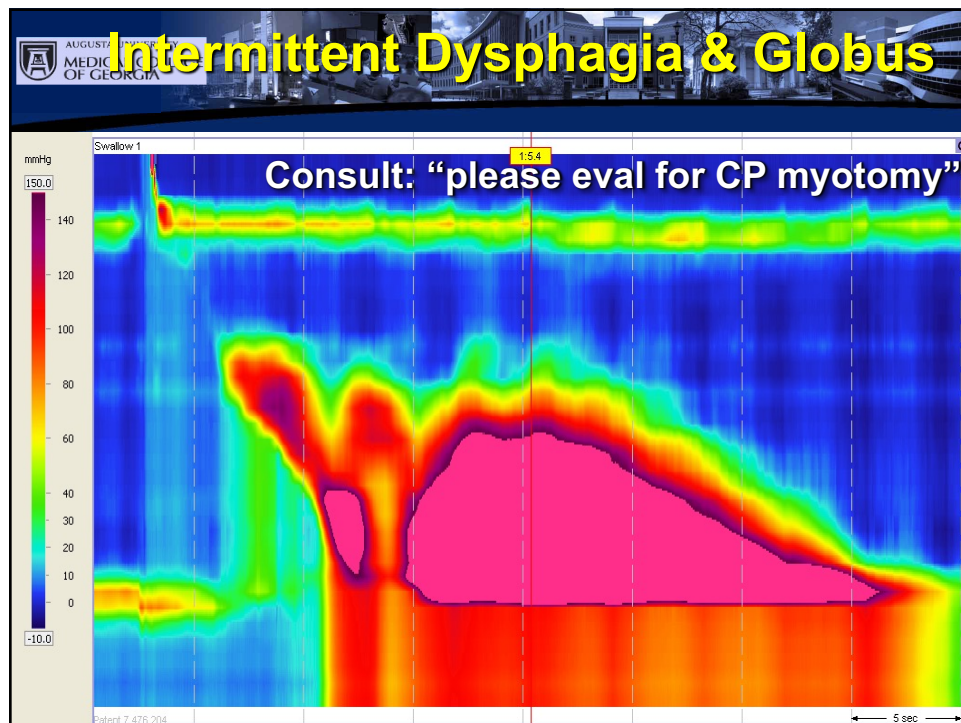
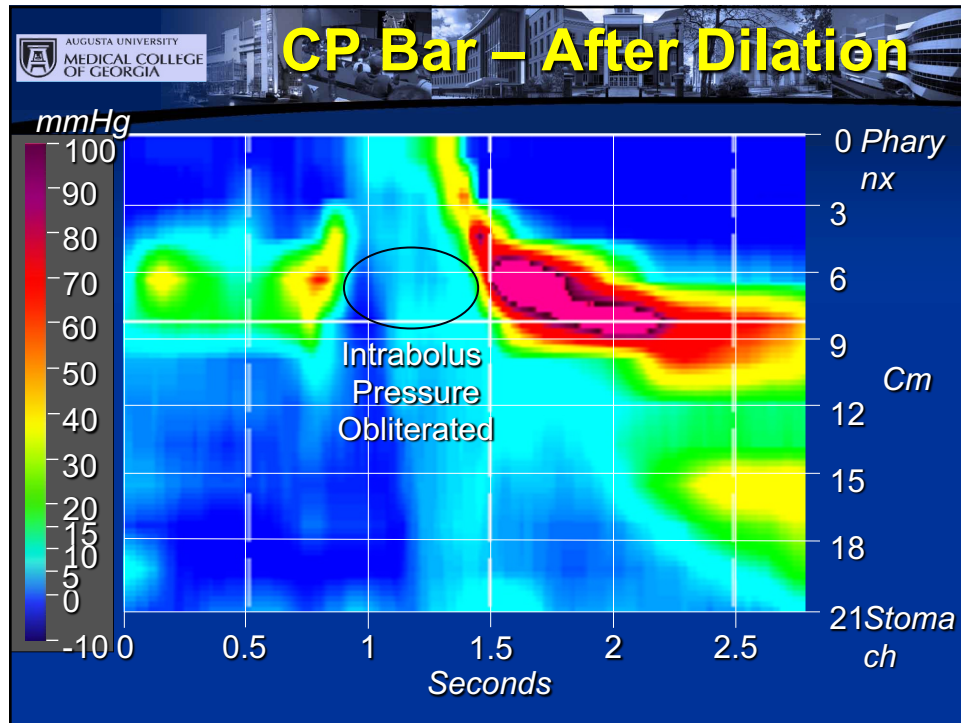


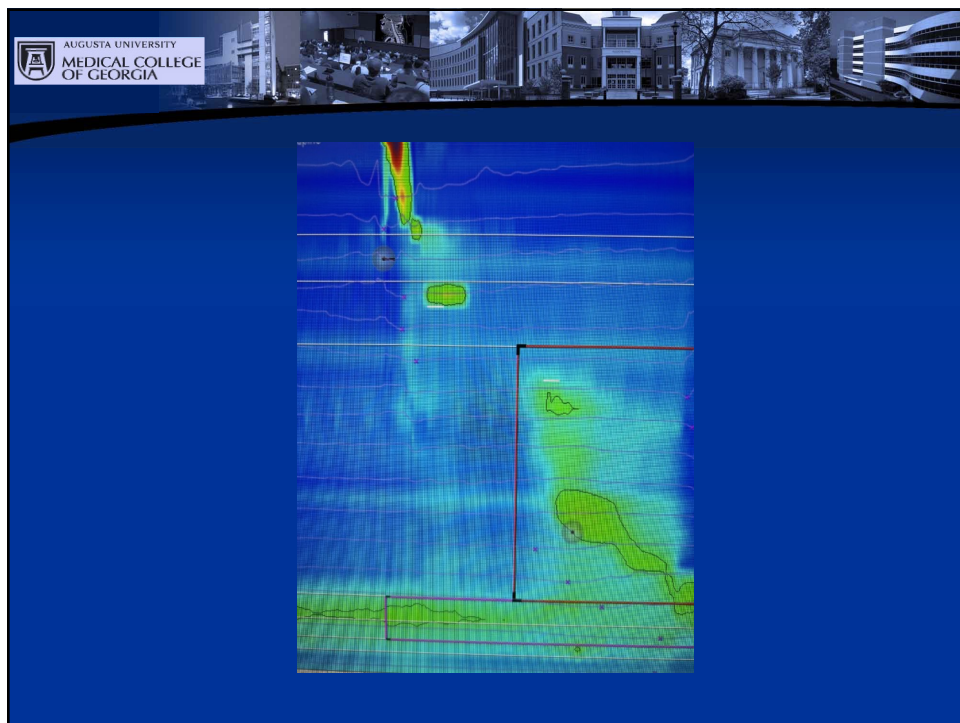
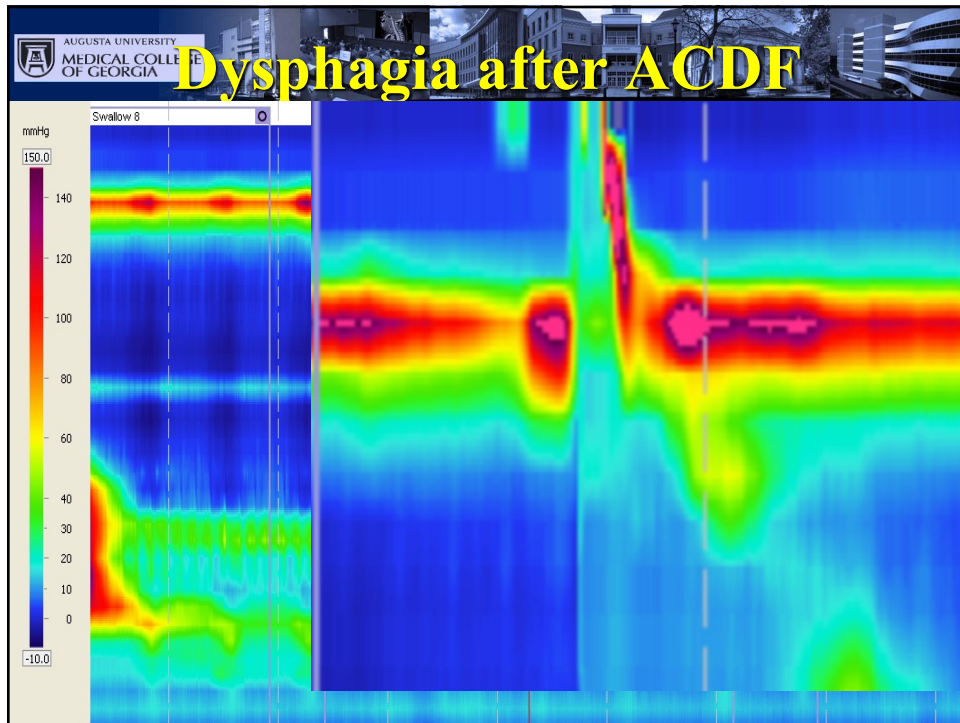
Focus on the CP

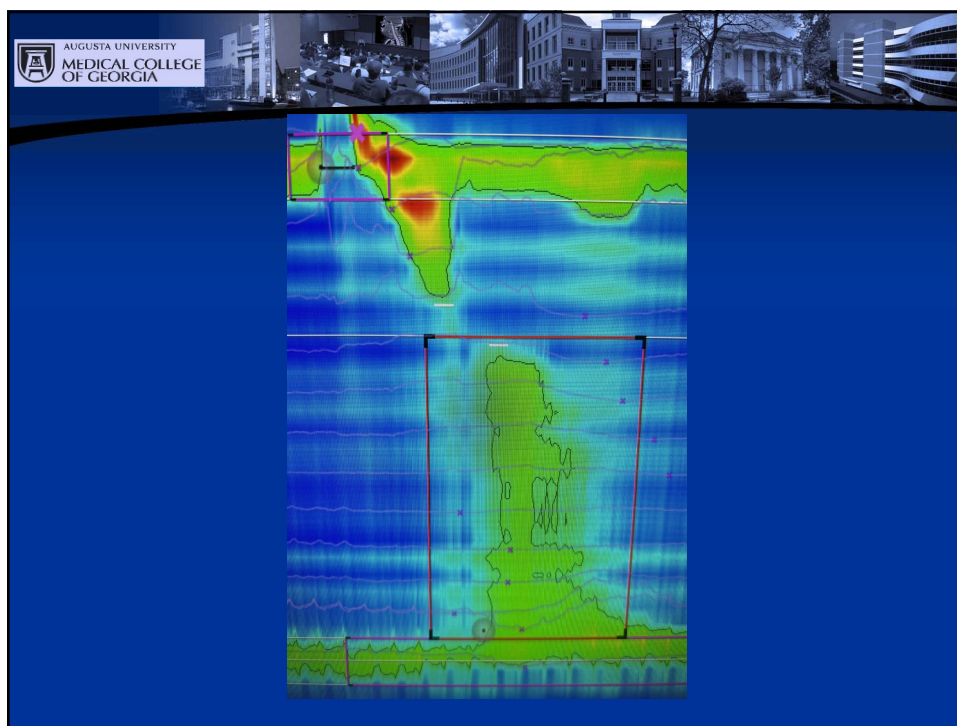












Summary

- HRM has practical advantages
- HRM easy and quick to implement
- HRM improves diagnostic accuracy
- Wide variety of Laryngologic applications

