Dr Alasdair Patrick
Gastroenterologist

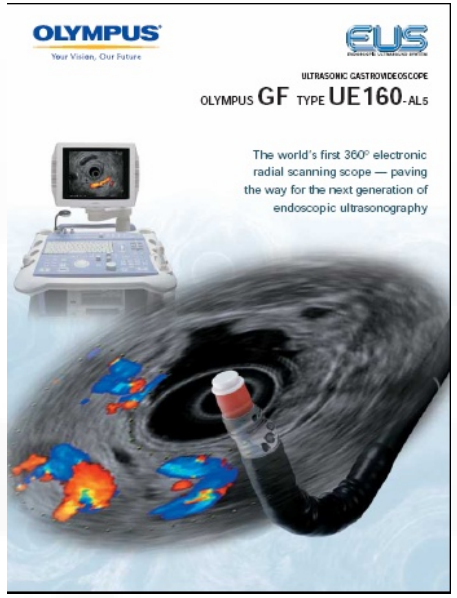
THE UNIVERSITY OF AUCKLAND
NEW ZEALAND
Te Whare Wānanga o Tāmaki Makaurau

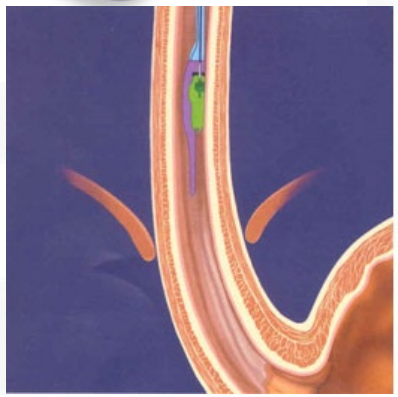
Royal Free Hampstead NHS
NHS Trust

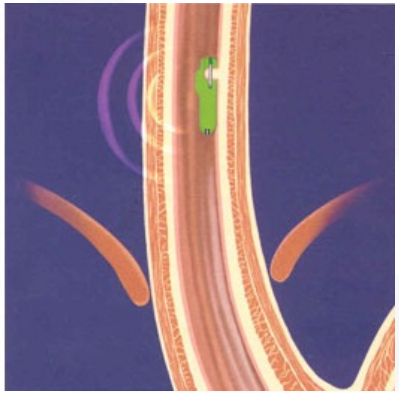
Singapore General Hospital
SingHealth

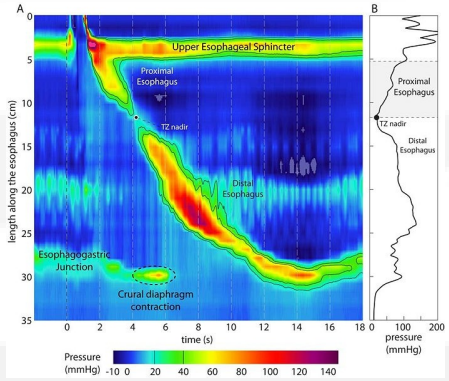
COUNTIES MANUKAU DISTRICT HEALTH BOARD
A Community Partnership

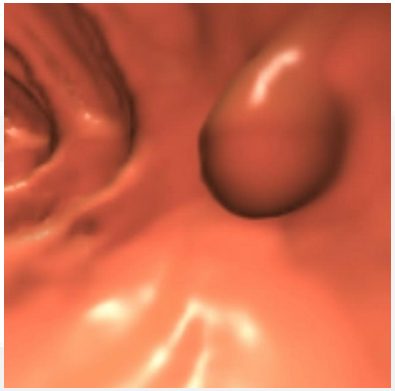
MACMURRAY
GASTROENTEROLOGY
DIGESTIVE DISEASES & ENDOSCOPY











MACMURRAY
GASTROENTEROLOGY
DIGESTIVE DISEASES & ENDOSCOPY

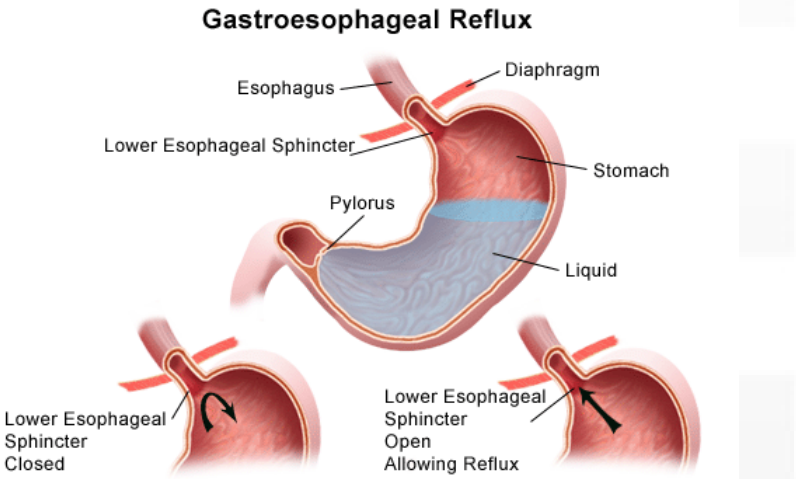
The upper GI tract: UPDATE

Dr Alasdair Patrick

MacMurray Gastroenterology

Overview

- H pylori
- Fibroscan
- GORD
  - Risk factors
    - Hiatus hernia
  - Available therapy
  - Who needs investigations
- Dysphagia
- Non cardiac chest pain



H pylori practical advice

- Don’t check.....
- Stool antigen to detect active infection
  - Serology any previous infection
- Re-infection rates are low 1-3% per year
- If eradication fails
  - Stop smoking
  - Try second line
  - Add probiotics
  - Longer duration

Fibroscan

- Non invasive test to diagnose liver fibrosis
  - Normal vs stuffed
- Well validated for viral hepatitis
- Special probe for the obese

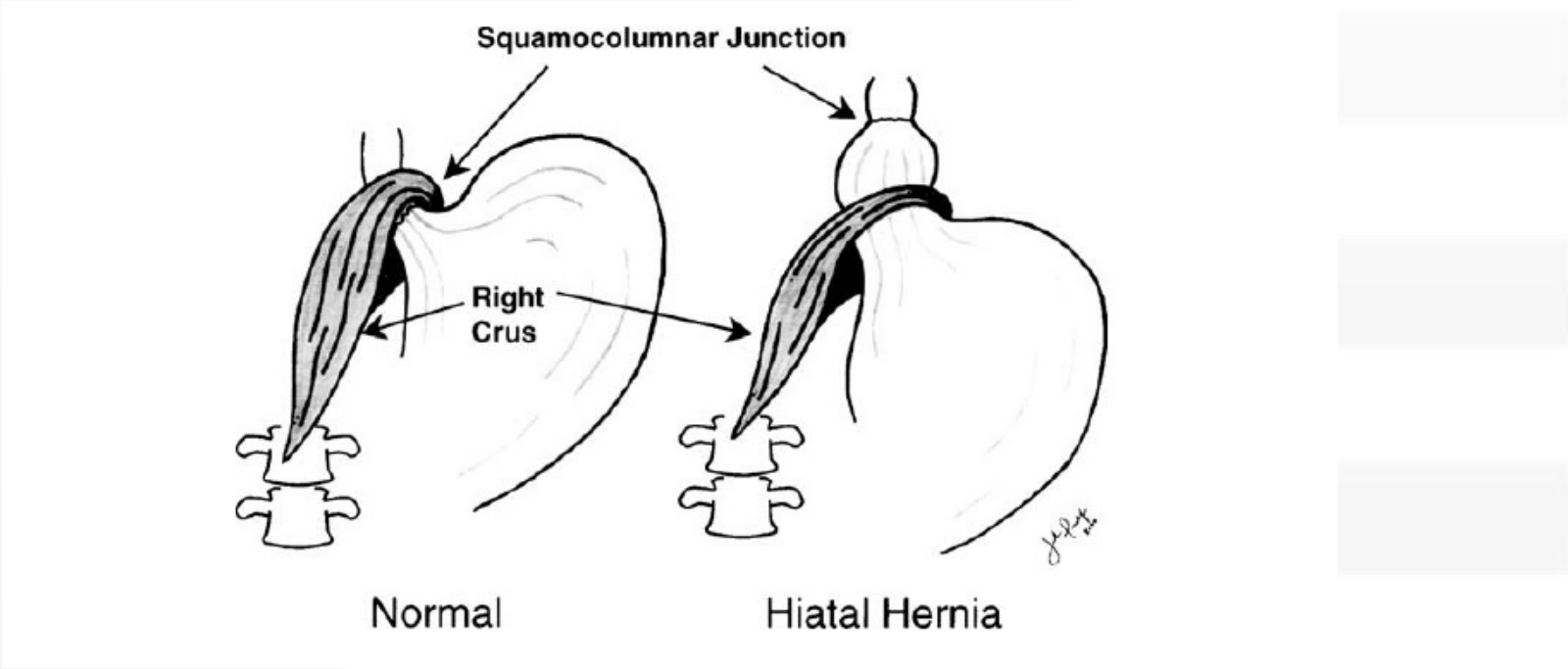
- Not diagnostic

What is GORD?

- Definition: Weekly heartburn and/or acid reflux sufficient to cause a reduced QOL
  - 20% of people report dyspepsia

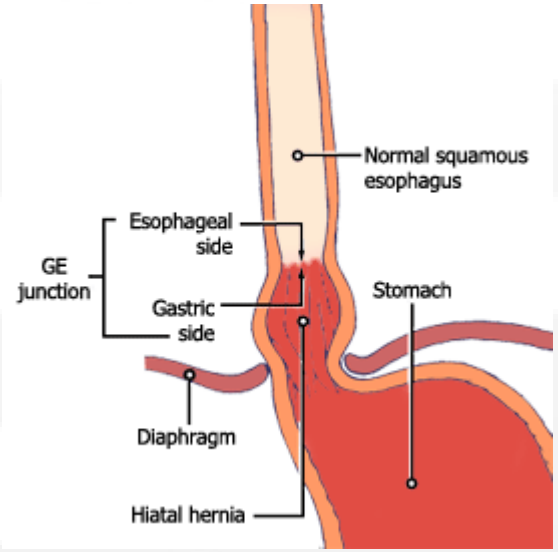
- Atypical symptoms
  - Cough, chest pain, asthma, sore throat, hoarse voice, laryngitis, sinusitis, dysphagia

Does a hiatus hernia matter?



Hiatus hernias

- Well shown that they reduce LOS pressure and impair motility
  - » Kahrilas Gut 1999



Hiatus hernia

- 9% are symptomatic
- 95% are sliding
  - Depends on LOS

- RR GORD
  - 5.0 (1.2-20)
    - APT 2009

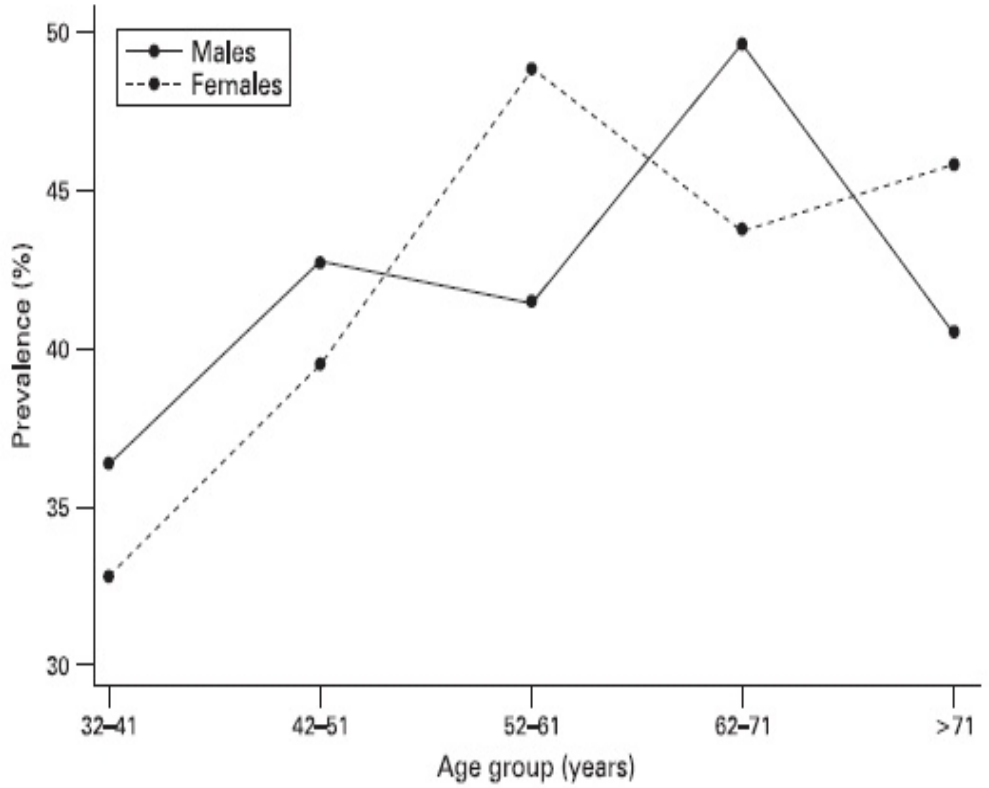


Figure 1 Age-specific prevalence of hiatus hernia in males and females.

Gut July 1999

Causes of GORD: Genetic effect

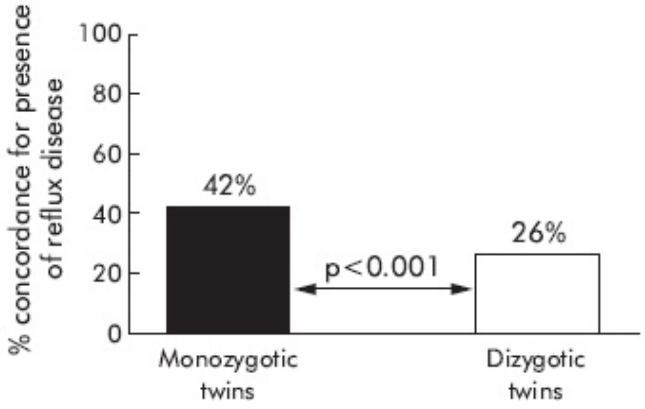
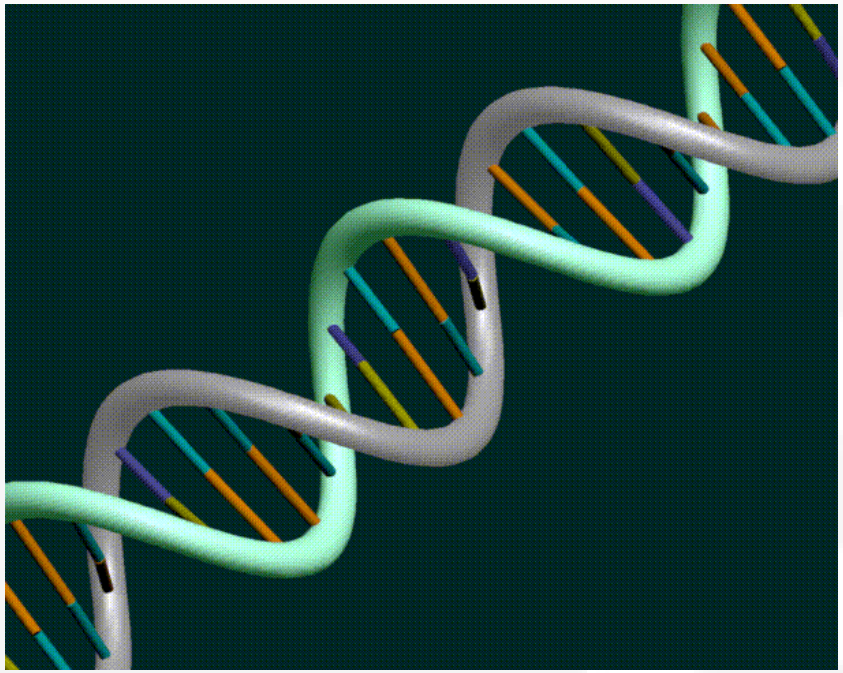


Figure 5 Data from a twin study[8] which show evidence of a substantial contribution of genetic factors to occurrence of reflux disease, based on a high concordance for the presence of this problem in monozygotic compared with dizygotic twins.

Reasons we see so much GORD



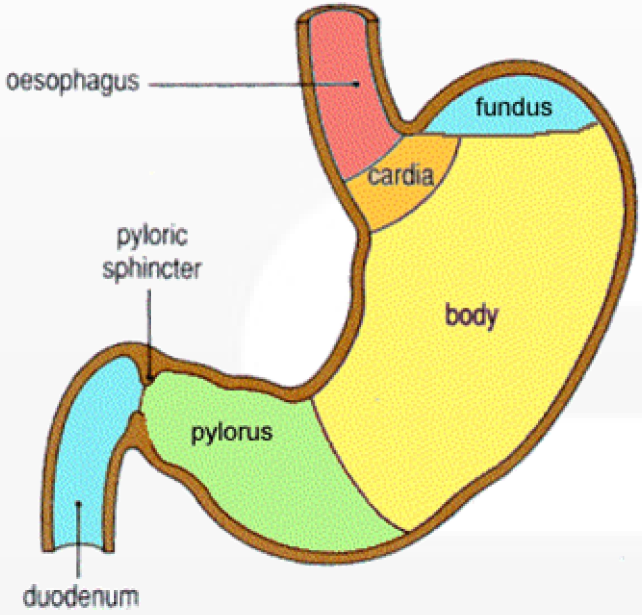
Medical treatment of GORD

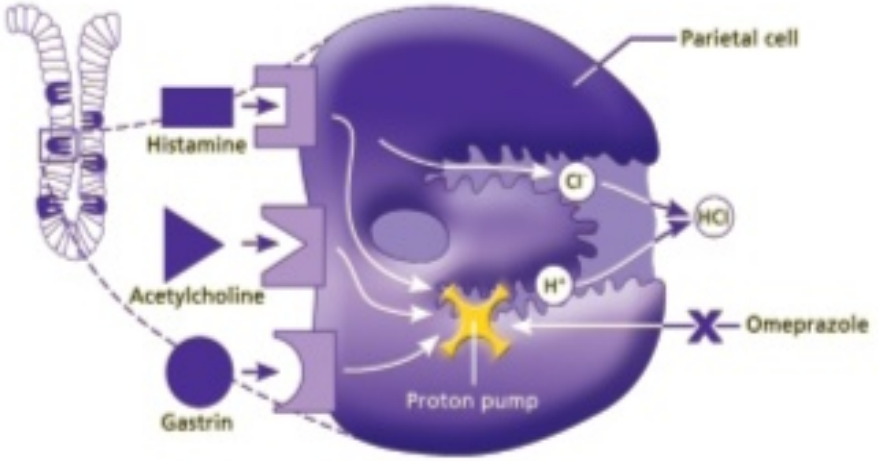
- Lifestyle modification
  - Avoid fatty foods, chocolate, peppermint, alcohol, caffeine and acidic drinks
  - Small meals
  - Weight loss
  - Head of bed elevation
  - Not supine post meals
  - Promote salivation
    - No smoking

Medical treatment of GORD

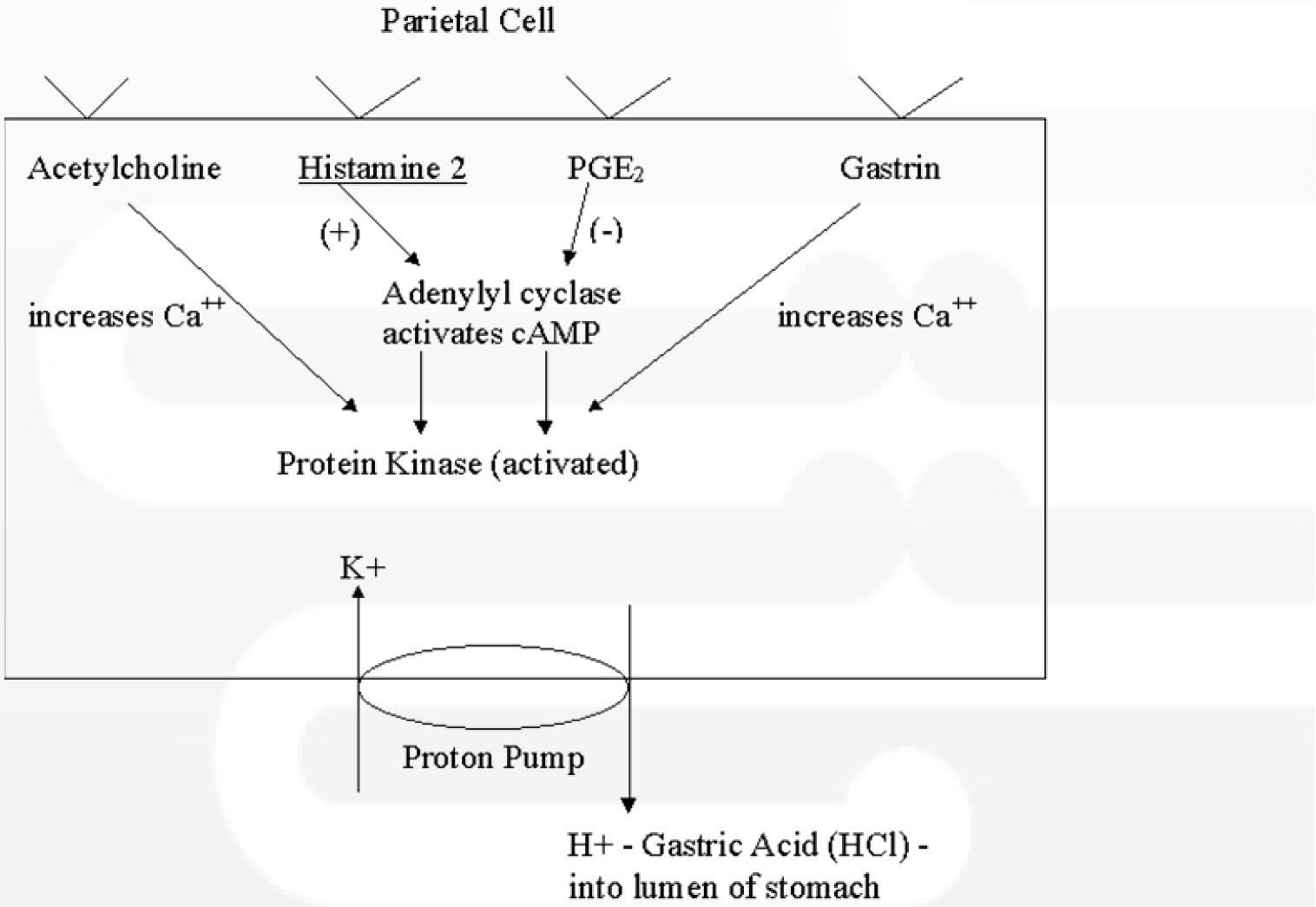
- Antacids
  - Work immediately to buffer pH in stomach
    - No effect on acid pocket
- Gaviscon
- Mylanta

Medical treatment of GORD





H2 Blockers

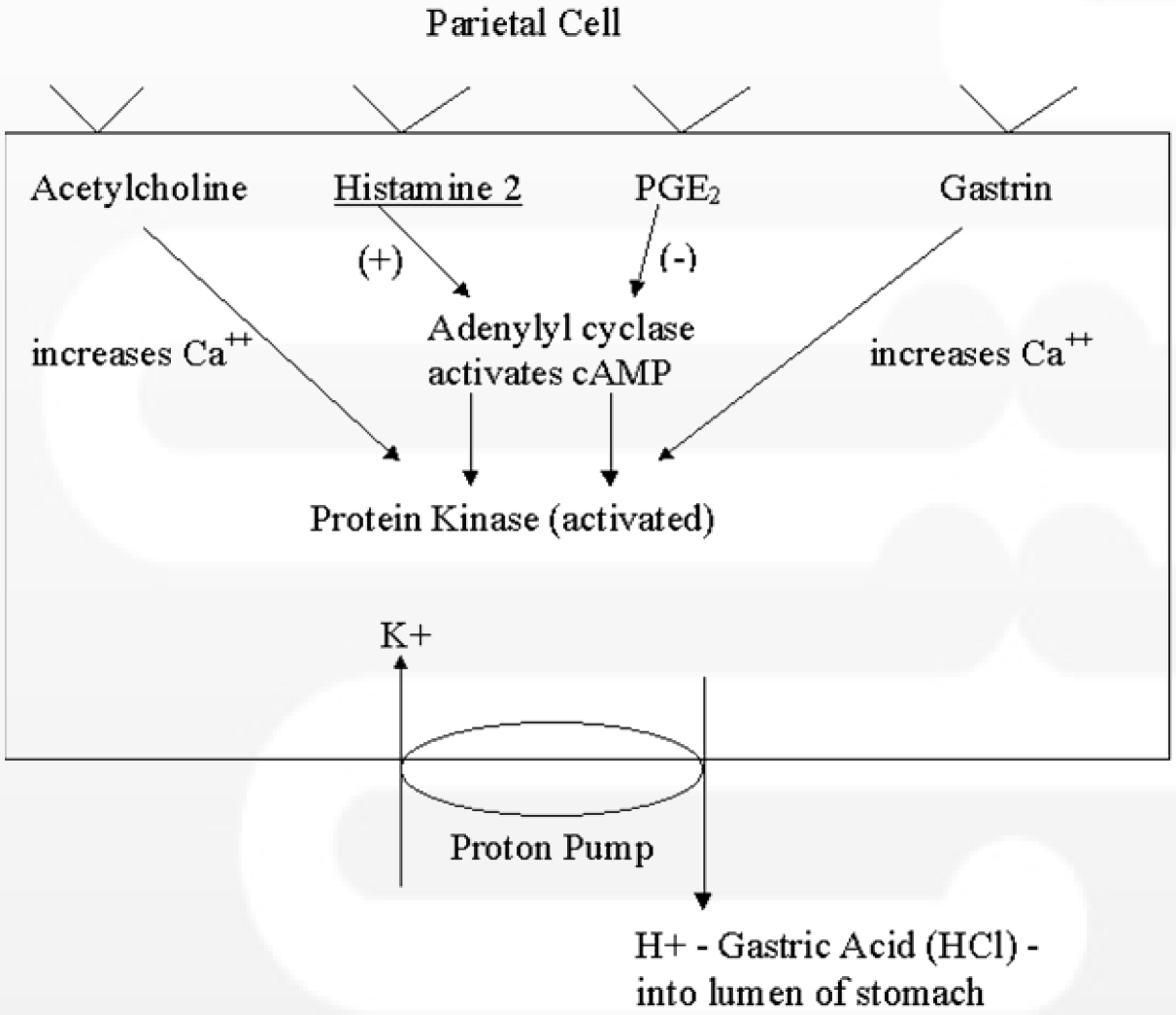

Parietal Cell
Acetylcholine
Histamine 2
PGE2
Gastrin
(+)
(-)
increases Ca++
Adenylyl cyclase
activates cAMP
increases Ca++
Protein Kinase (activated)
K+
Proton Pump
H+ - Gastric Acid (HCl) -
into lumen of stomach

H2 Blockers

- Fairly rapid onset of action
  - Faster than PPIs
  - There is a tolerance effect

- Cimetidine
    - Apotex. PS 400mg
- Famotidine
    - Famox. S 40mg
- Ranitidine
    - Arrow. S 300mg

PPIs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PPIs

- Structurally similar
- Accumulate in secretory canniliculus
- Amount of H-K- ATPase highest after fast
  - Best given in morning
- Effect is markedly reduced if given with H2 blockers
  - Give at H2 blockers at bedtime
- Take 3-5 days for max effect
- Take approximately 1 hour to work
- Rebound acid secretion on stopping

PPIs

- There are theoretical differences between PPIs
  - Pantoprazole least likely to interact
- No real clinical differences
- Lansoprazole
    - Solox. S 30mg
- Omeprazole
    - Dr Reddys. S 40mg
- Pantoprazole
    - Dr Reddys. S 40mg

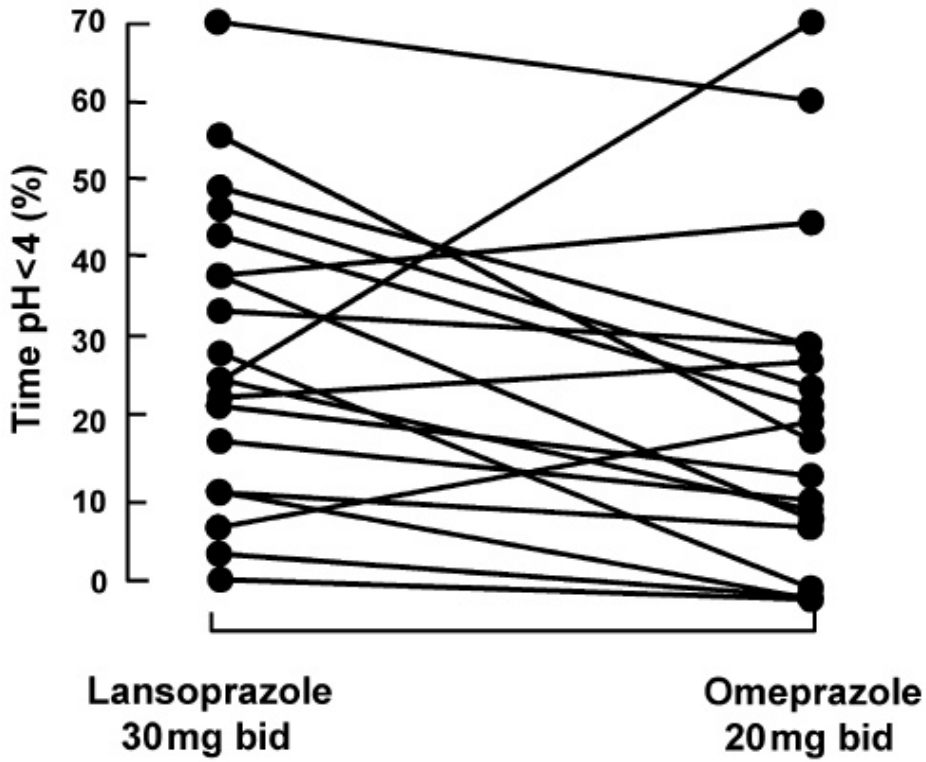


Figure 8. This cross-over study compared intragastric pH control on two PPIs, omeprazole and lansoprazole, given twice-daily. Note the wide variability in pH control among the 20 subjects and the several subjects who achieved markedly different pH control on omeprazole vs. lansoprazole.[27]

When to stop PPI therapy?

- Risk of long term PPI
  - Side effects many but rare
    - Increased risk of hip fracture
    - Increased risk of pneumonia
    - Increased risk of iron deficiency
- Never stop abruptly
  - After 8 weeks half dose for 4 weeks
  - Use intermittently for 4 weeks then stop
- If difficult to withdraw then consider a referral

Prokinetics

- Limited evidence
- Domperidone (Motilium)
  - Does not cross blood brain barrier (as much)
    - Less side effects
- Metoclopramide (Maxalon)
  - Often limited by side effect

Summary

- Lifestyle modifications
- Anti-acids
- H2 Blockers
- PPIs
  - Regular
  - Change PPI
    - No difference at 8 weeks
  - Double dose
- Prokinetics

Other options?

- Endoscopic therapy

Stretta

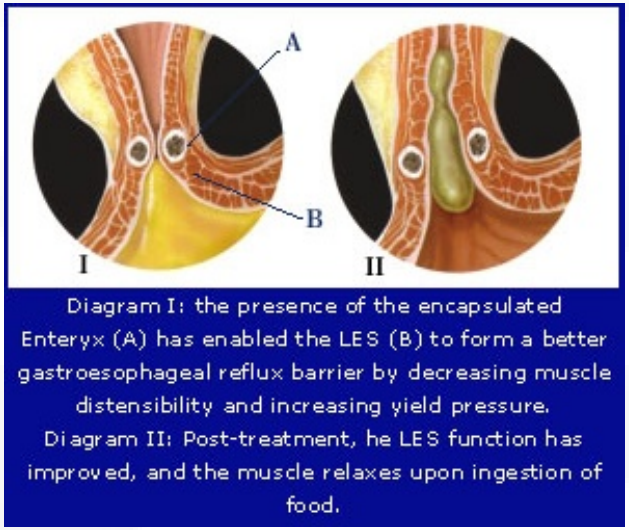
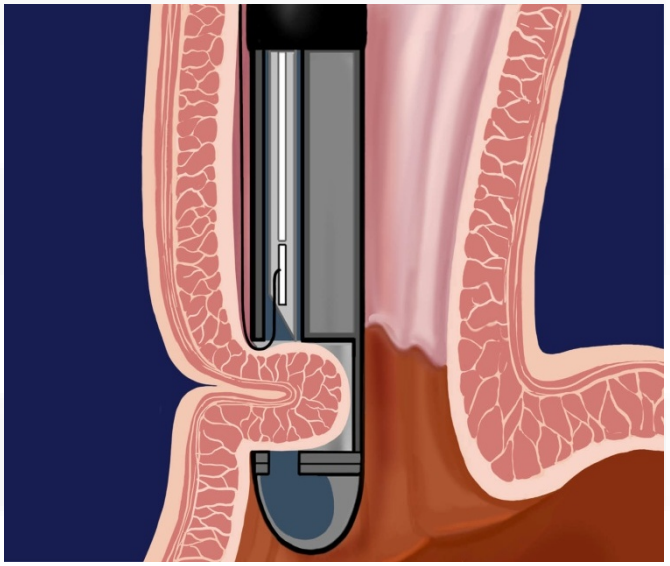


Diagram I: the presence of the encapsulated Enteryx (A) has enabled the LES (B) to form a better gastroesophageal reflux barrier by decreasing muscle distensibility and increasing yield pressure.
Diagram II: Post-treatment, he LES function has improved, and the muscle relaxes upon ingestion of food.

Enteryx



Endo-cinch

Surgical fundoplication

- Laproscopic technique
  - Technically possible 99% of the time
  - 2.5% re-operation rate
  - Takes 2-3 hours operating time
  - At 6 months 93% have relief of symptoms
  - For atypical symptoms 70-80%
    - » Annals of Thoracic surgery 1998

Rules of thumb- Who to refer?

- Alarm symptoms
- Atypical symptoms
  - Uncertain diagnosis
- Failed therapy
  - Ongoing symptoms despite 2 months of standard dose PPI
- Young patients/ considering surgery

Investigations

- pH/impedance

- Bravo capsule

pH/Impedance study

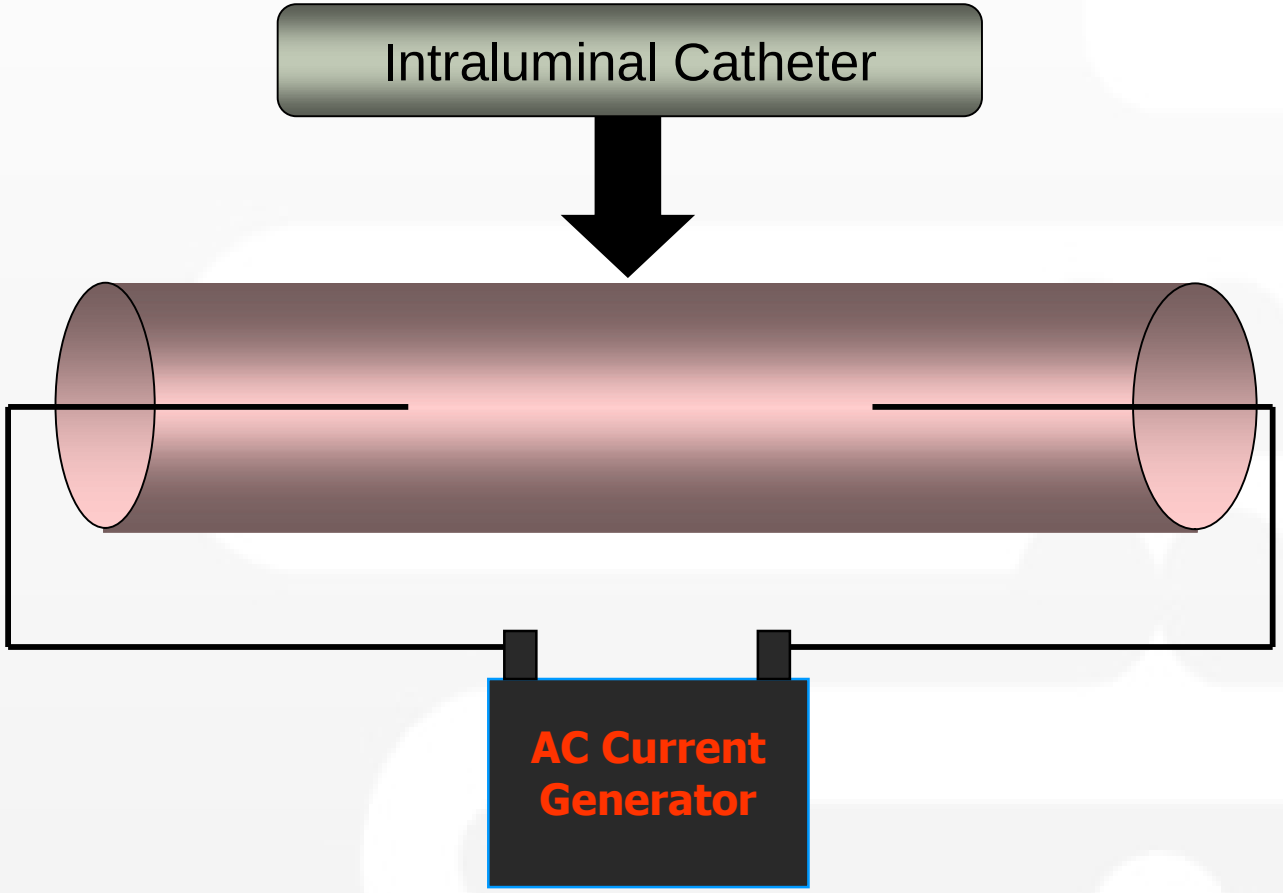
- Catheter placed via nose to 5cm above LOS

- Measures pH

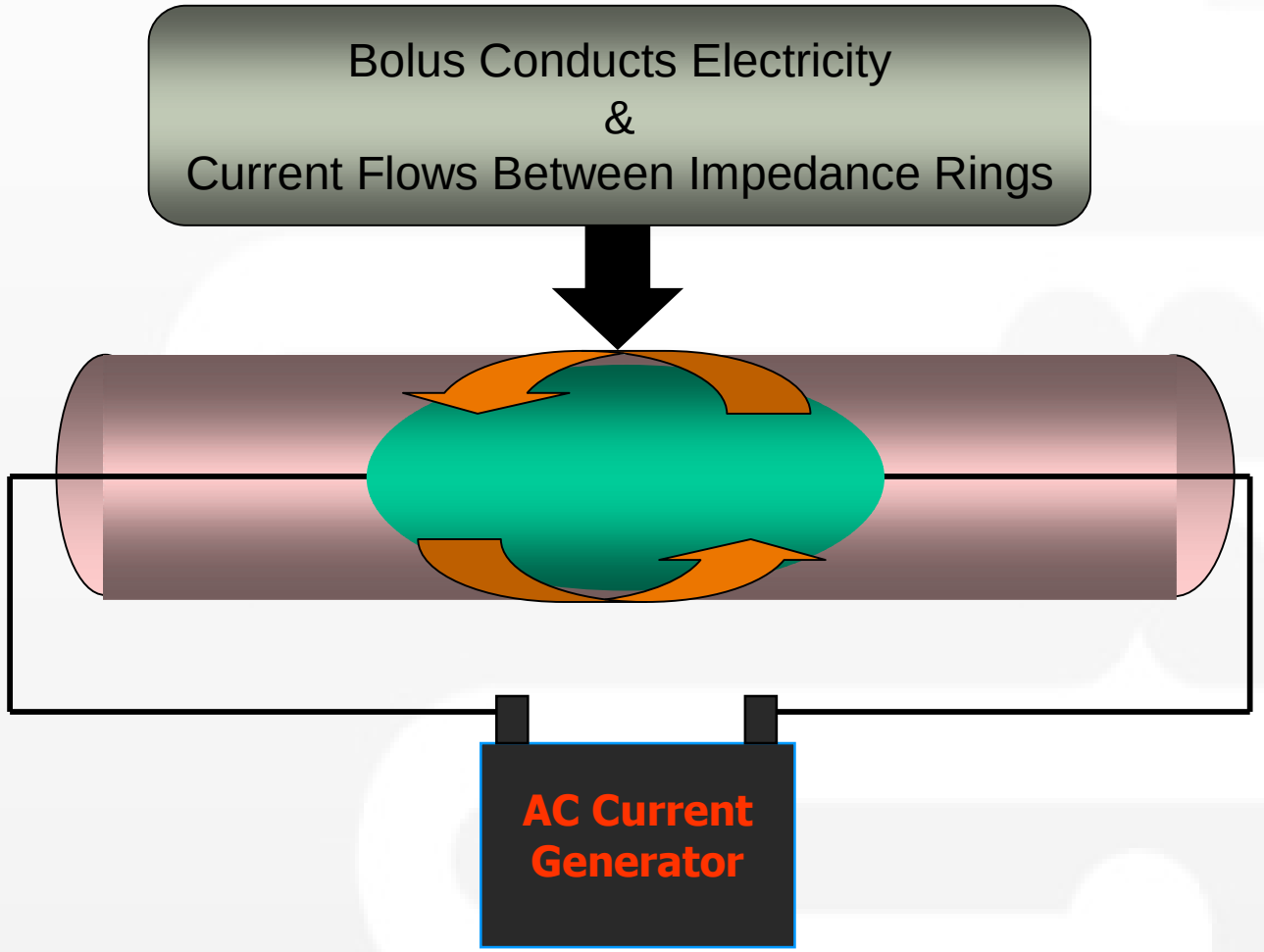
  over 24 hour period

- Event recorder that patient can activate to correlate symptoms with reflux.

Impedance Technology Fundamentals



Impedance Technology Fundamentals



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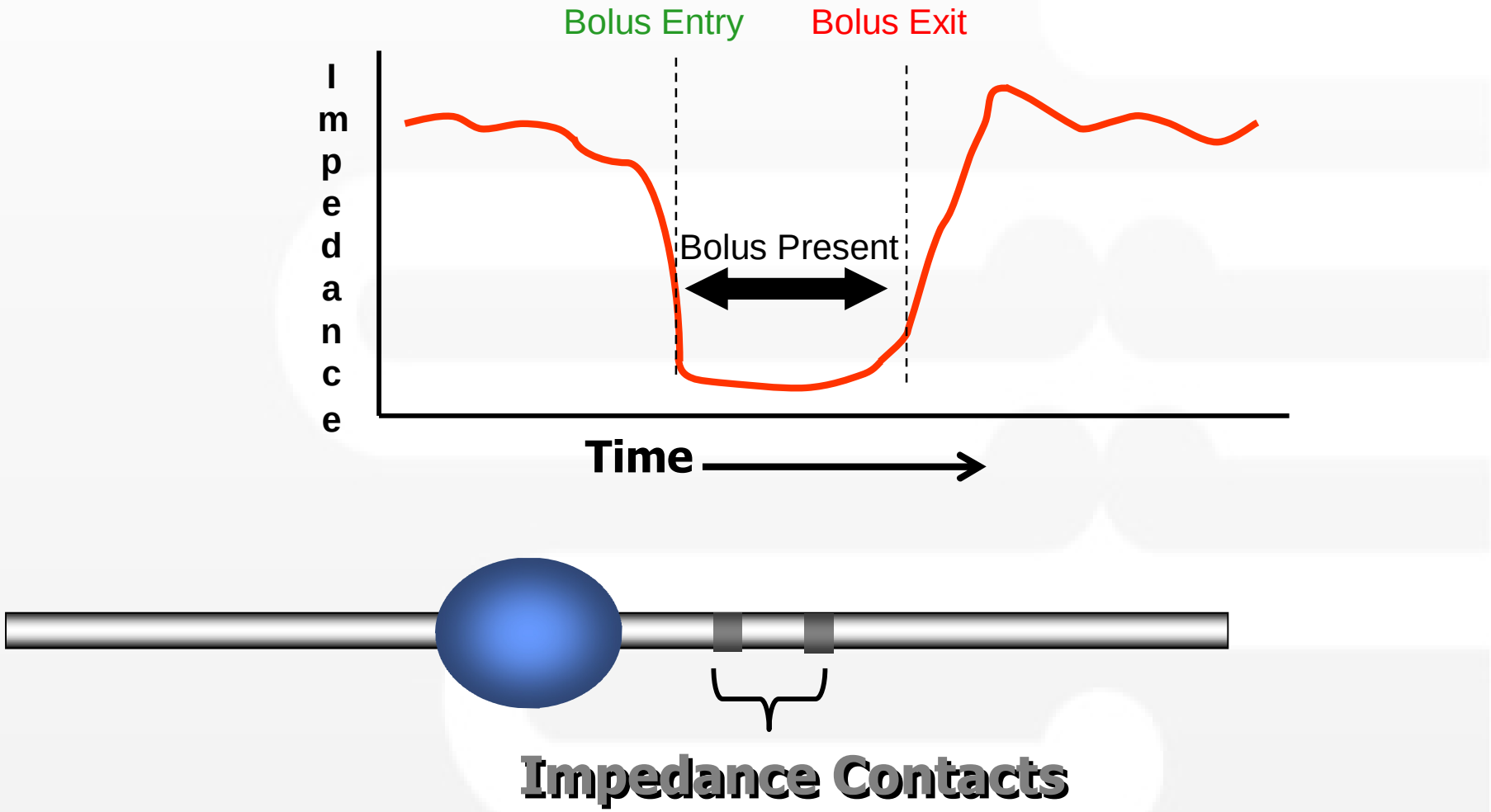
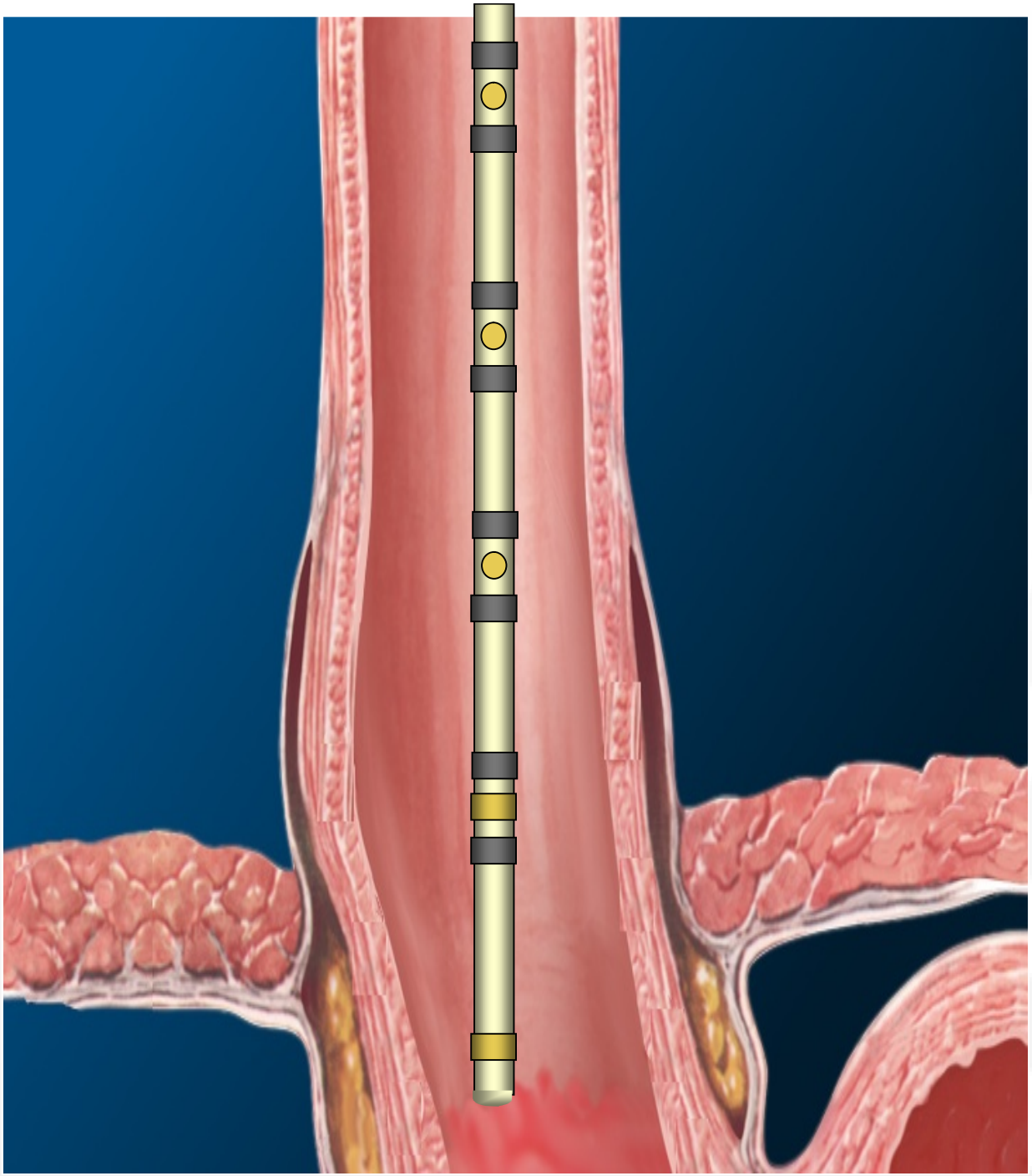
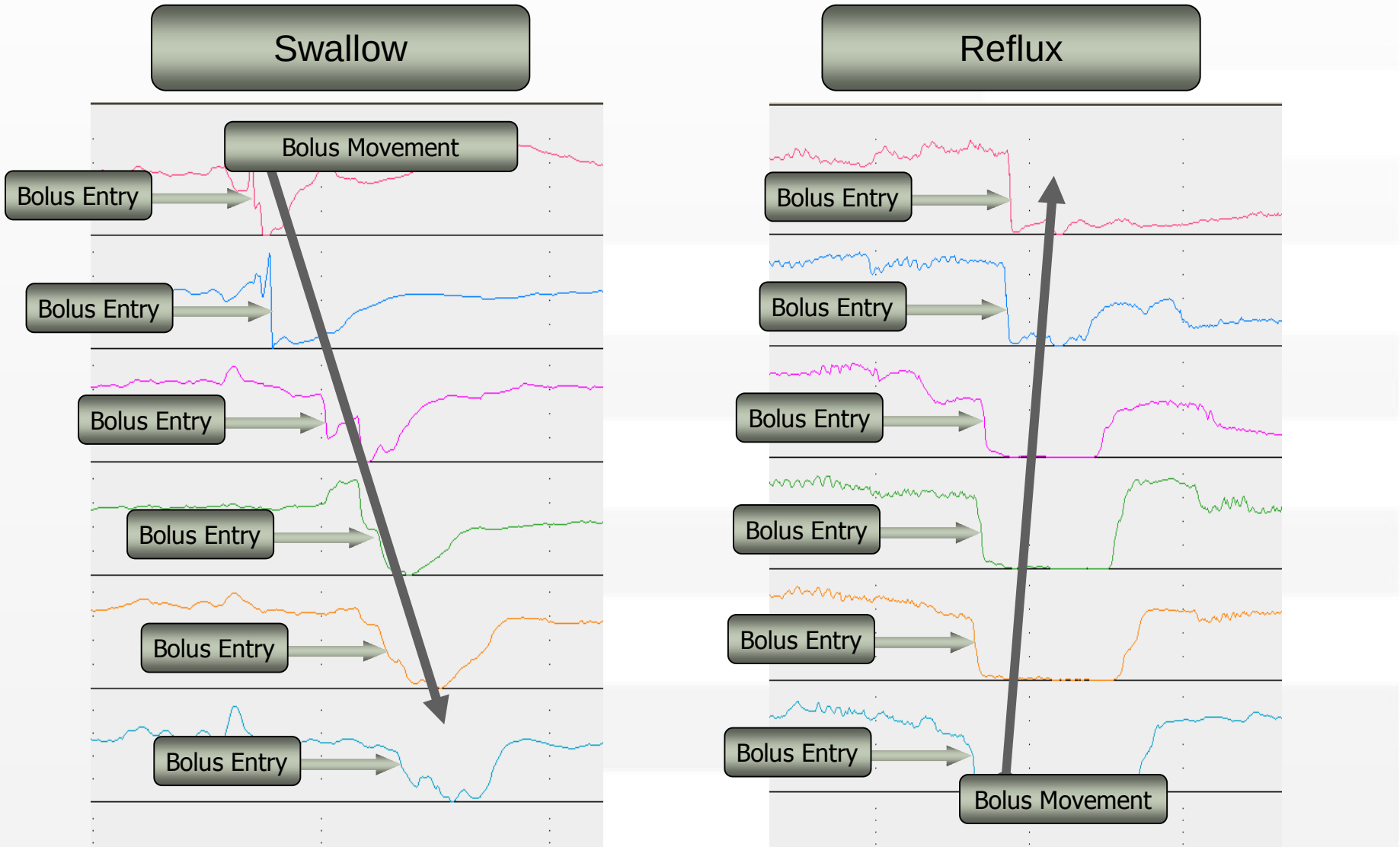




LES

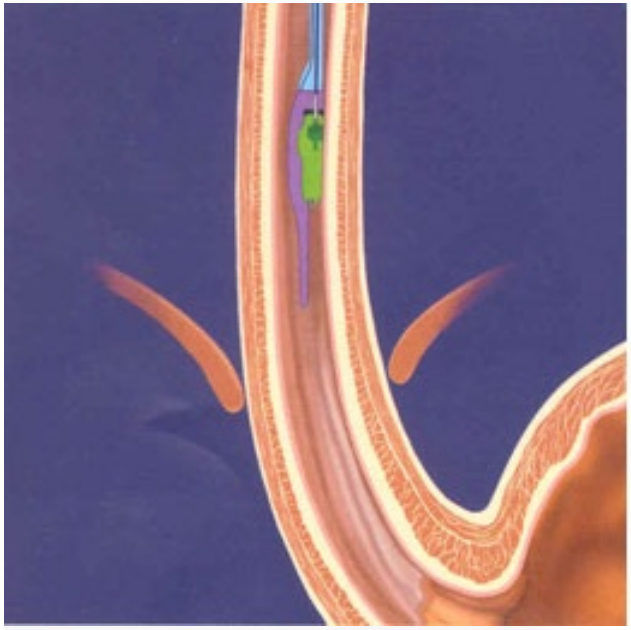
Impedance Technology Fundamentals

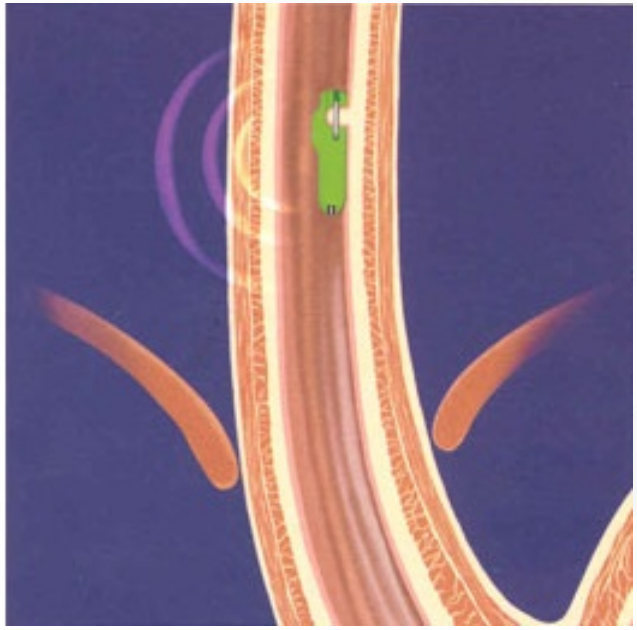


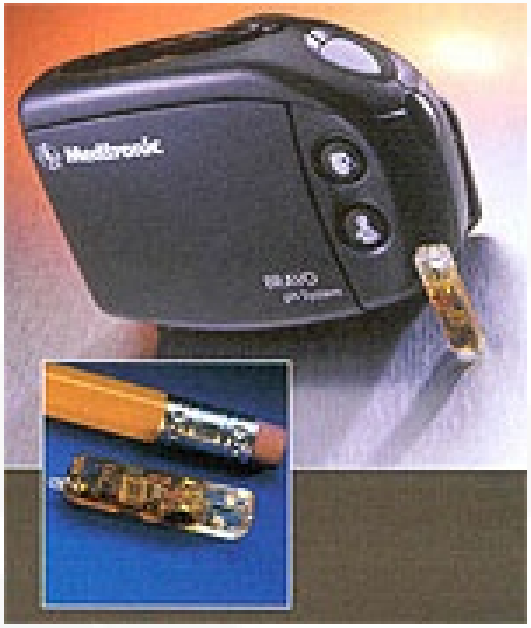
pH/Impedance

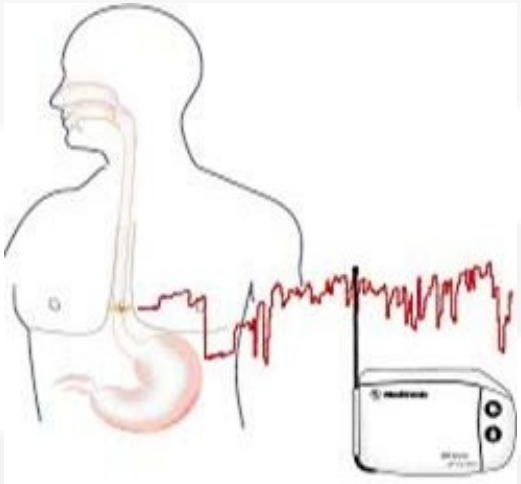
- Advantages
  - Detects weak acid
    - Atypical Sx
  - Shows direction of bolus
  - Detects gas
  - Stay on Rx
- Disadvantages
  - Uncomfortable
    - 93% refuse repeat study
  - Only 24 hours
  - Change lifestyle
    - 80% off work

Bravo capsule









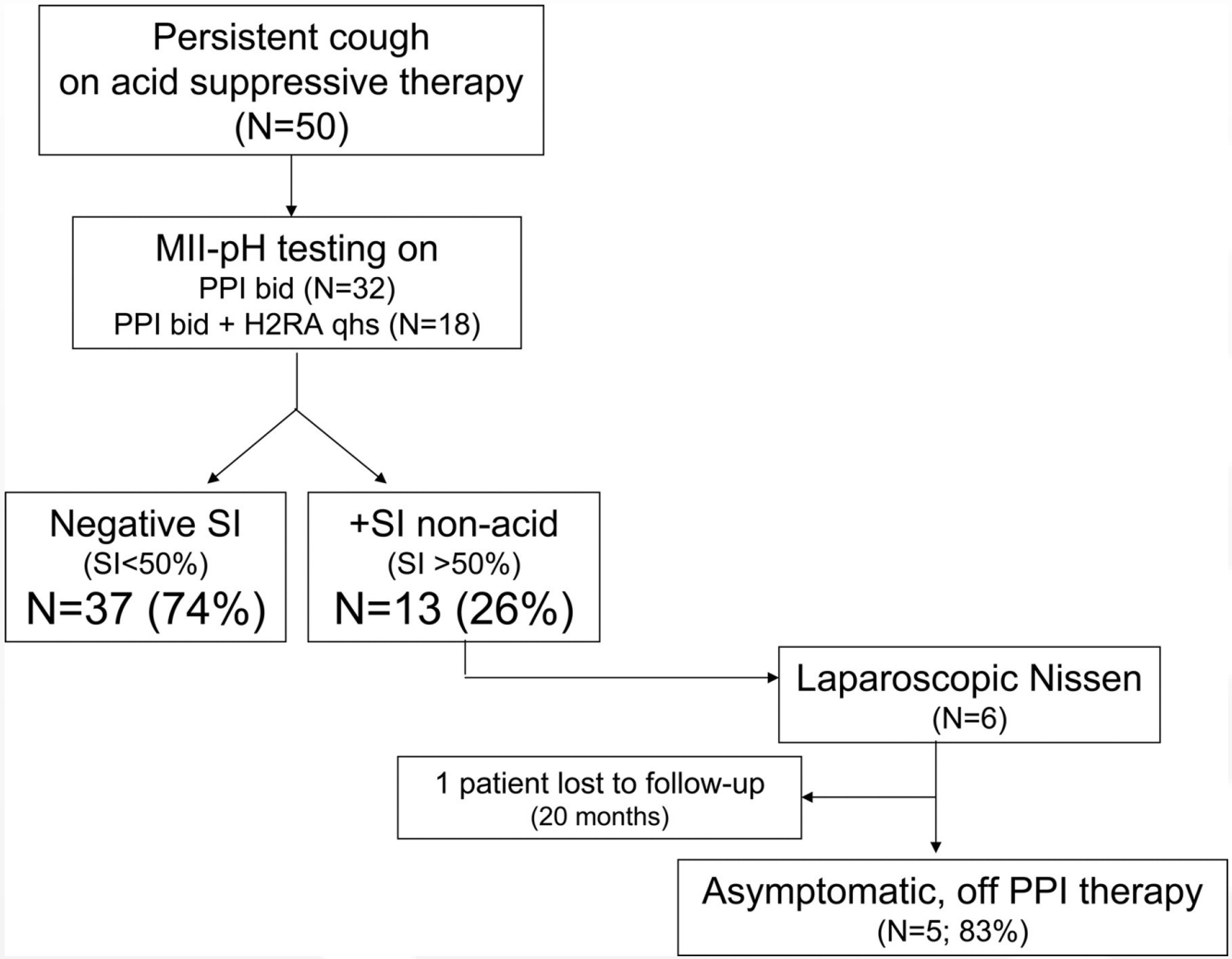
Bravo advantages

- Increase yield by 50% with 48 hour recording
- >90% carry on with normal activities
- Patients much prefer this option
  - 82% would have repeat test (cf 7%)

Clinical utility of Investigation: Classic symptoms

- 200 patients assessed
- 19 patients underwent fundoplication
- 18/19 had positive symptom index (14 non acid, 4 acid)
- All with +ve SI had good outcome except for 1 patient with hoarseness
  - » Mainie et al. Br J Surg 2006;93(12):1483

Flow chart with the results of MII-pH monitoring and postsurgical follow-up of patients with persistent cough who were receiving acid-suppressive therapy



Tutuian, R. et al. Chest 2006;130:386-391

CHEST
The Cardiopulmonary and Critical Care Journal

Summary: pH testing

- Made a significant impact
  - Guide therapy
    - Acid suppression
    - Hypersensitive oesophagus
  - Clinch the diagnosis
    - “the Gastroenterologists angiogram”
  - Predict surgical outcome

Dysphagia

- Oropharyngeal
- Oesophageal
  - Mechanical cause
    - Intrinsic or extrinsic lesion
  - Motility disorder
    - Achalasia, Ineffective motility, spasm etc.
- New technology is changing diagnosis and treatment

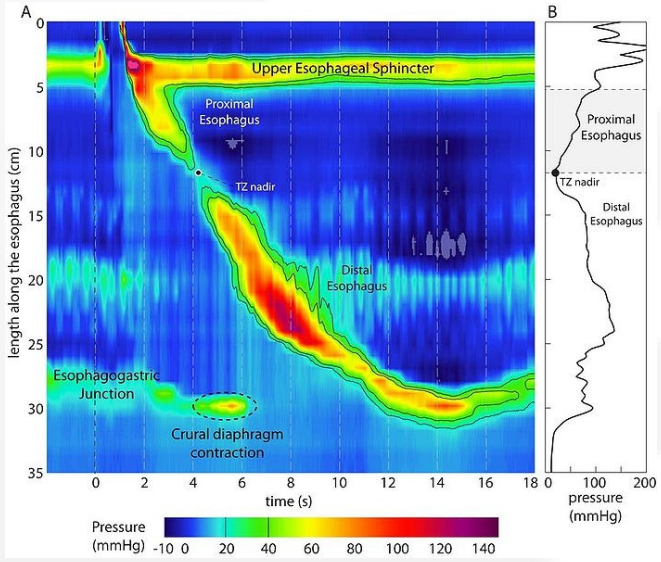
Conventional manometry

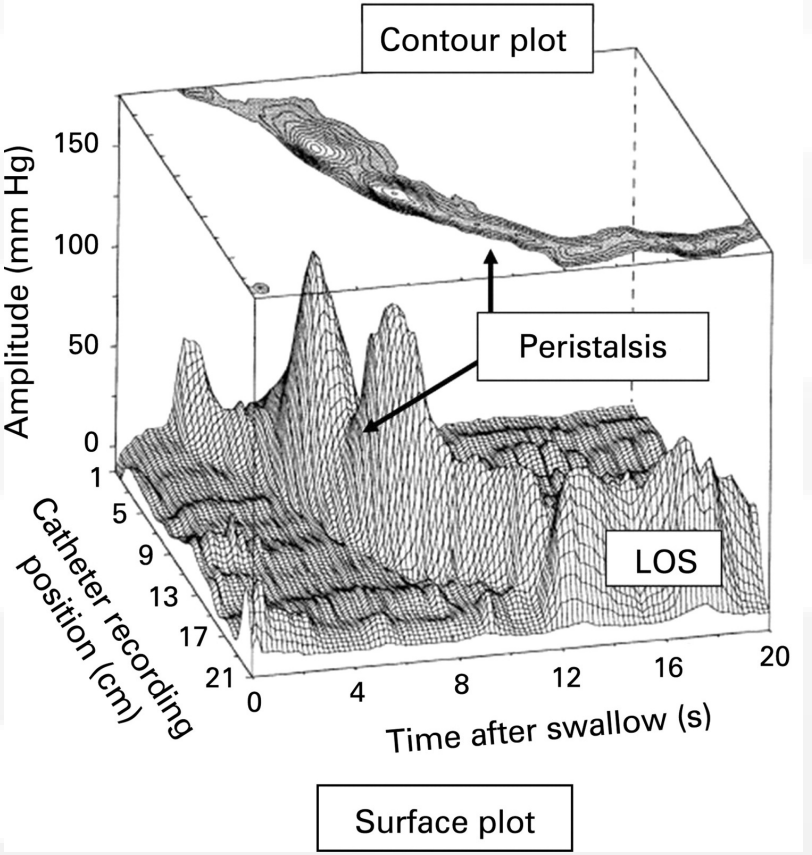
- 5-8 pressure sensors
- Time consuming and a lot of training required
- Hard to interpret
- Needs pull through
  - No overall bolus movement information

High resolution manometry

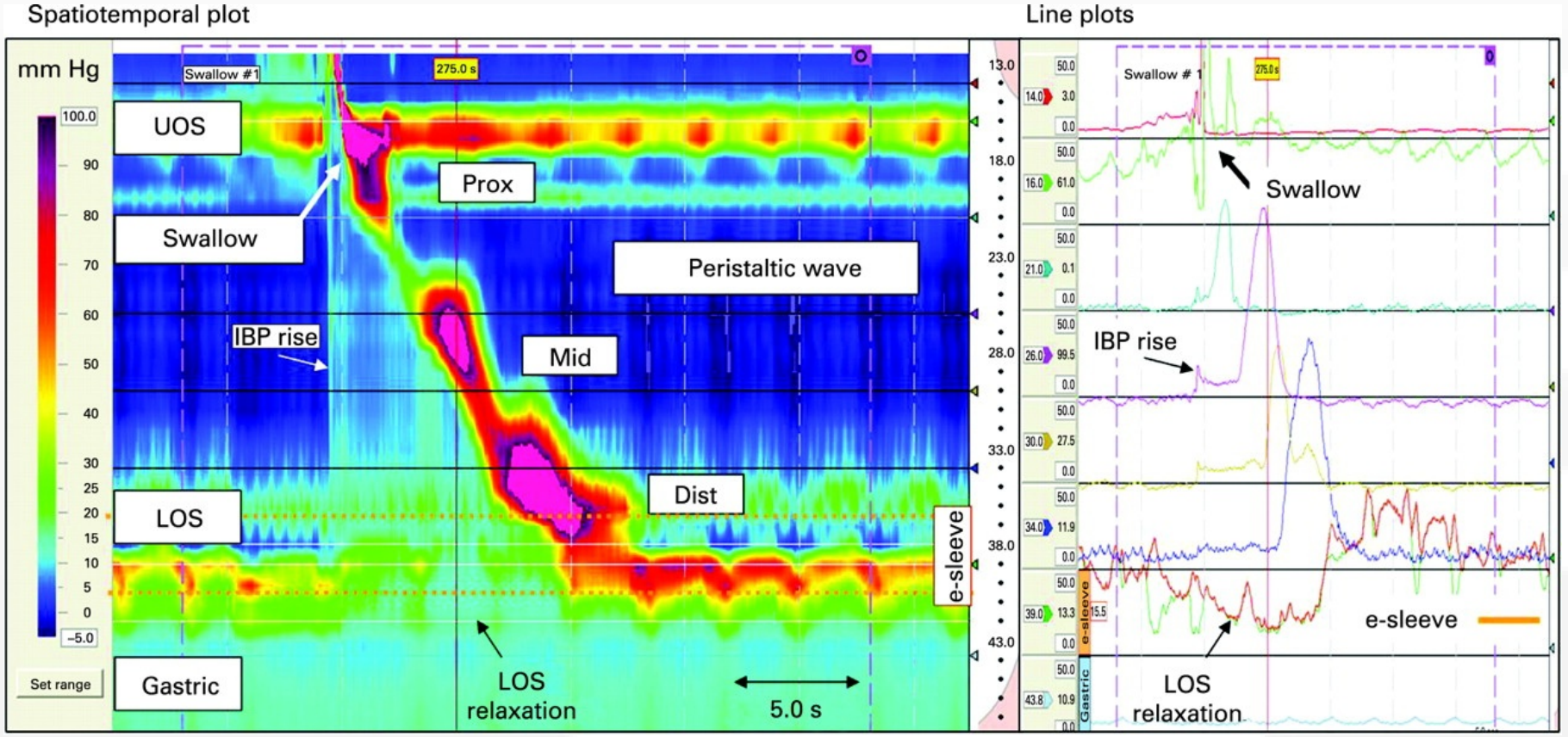
- Pressure sensors < 2cm apart
- 36 channels each with

  12 sensors





High-resolution manometry depicts oesophageal pressure activity from the pharynx to the stomach



Fox M R , Bredenoord A J Gut 2008;57:405-423

High resolution manometry

- Combined with impedance
  - Now we know functional effect of pressure defect
  - Is changing the classification of motility disorders
  - Is leading to new treatments

Non cardiac chest pain

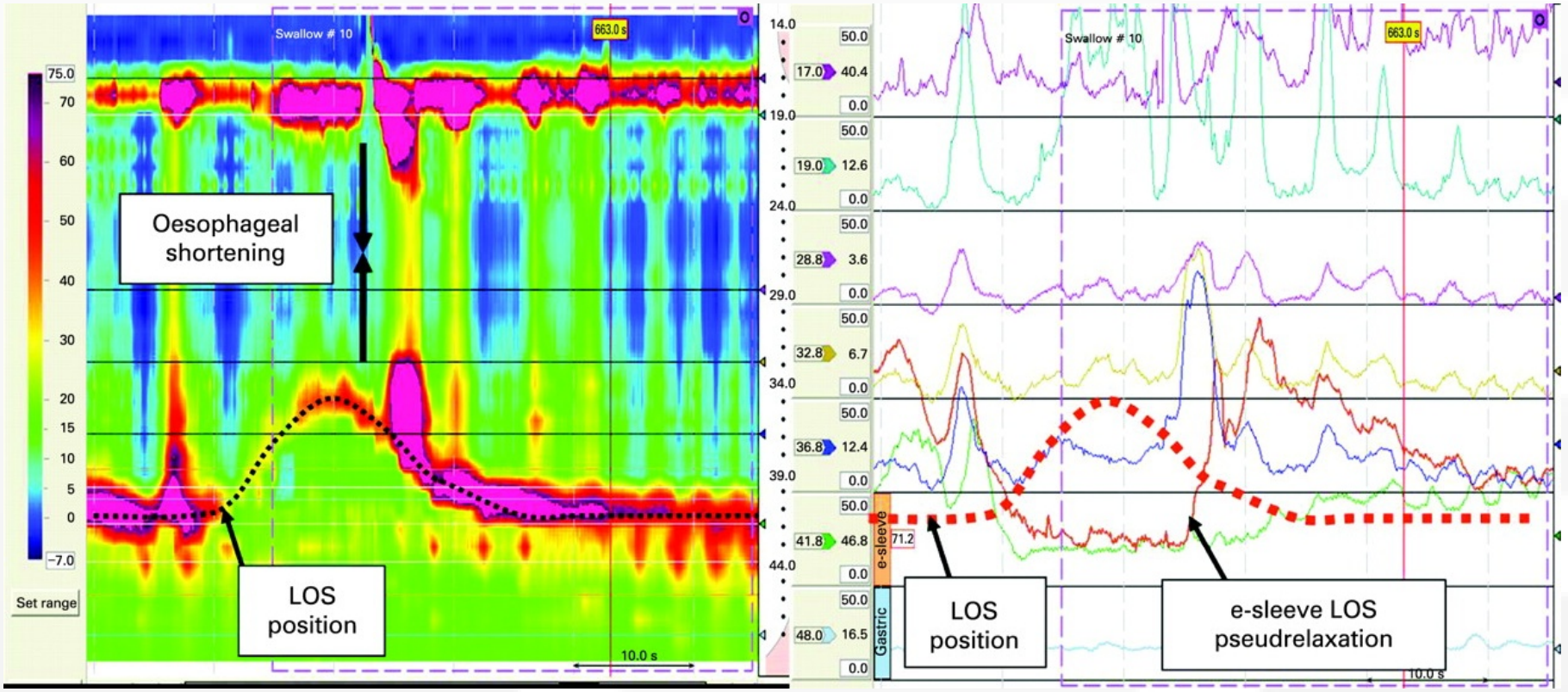
- Very common
- Big societal cost
  - Recurrent consultations and admissions
  - Time off work
  - Reduced QOL
- Making a diagnosis helps (85%)
- Commonest cause is oesophageal
  - GORD, Hyperalgesia, Dysmotility

Non cardiac chest pain

- 50% have abnormal pH/impedance
- 30% have abnormal manometry

- New technology again helping!

Longitudinal muscle layer spasm in NCCP



Fox M R , Bredenoord A J Gut 2008;57:405-423

Summary

- GORD
  - Obesity and genetics
  - Impedance and BRAVO
- Dysphagia
  - High resolution manometry
- Non cardiac chest pain
  - Making a diagnosis helps the patient

The only comprehensive digestive disease centre in Auckland

Consultations in a team environment
- 5 Gastroenterologists
- 1 Hepatologist
- Upper and Lower GI surgeons

Dietician
Health Psychologist
Clinical nurse specialists

The only place with full diagnostic and therapeutic services

Full endoscopy services
BRAVO
Capsule endoscopy
pH/Impedance
High resolution Manometry
CT colonography