GASTROESOPHAGEAL REFLUX DISEASE
LYON CONSENSUS 2.0

Emna Bel Hadj Mabrouk
Gastroenterology department, Charles Nicolle Hospital
Faculty of medecine of Tunis

OPEN ACCESS

Updates to the modern diagnosis of GERD: Lyon consensus 2.0

C Prakash Gyawali [1], Rena Yadlapati [2], Ronnie Fass [3], David Katzka [4], John Pandolfino [5], Edoardo Savarino [6], Daniel Sifrim [7], Stuart Spechler [8], Frank Zerbib [9], Mark R Fox [10], Shobna Bhatia [11], Nicola de Bortoli [12], Yu Kyung Cho [13], Daniel Cisternas [14], Chien-Lin Chen [15], Charles Cock [16], Albis Hani [17], Jose Maria Remes Troche [18], Yinglian Xiao [19], Michael F Vaezi [20], Sabine Roman [21]

Update points

1. Actionable GERD = tests supporting revising, dose escalating or personalizing GERD treatment
2. Modern definition of GERD
3. Objective endoscopic findings of GERD: LA Grade B esophagitis
4. Threshold values off/on PPI
5. Wireless pH monitoring
6. Baseline impedance

« Modern » definition of actionable GERD

2006 **Montreal definition**

Reflux of gastric content causes :

troublesome symptoms and/or **complications**

- Typical
- Atypical (cough, laryngistis, asthma, dental erosion)

Esophagitis
Peptic stenosis
Barett's Esophagus
Esophageal adenocarcinoma

Vakil N, and al. Am J Gastroenterol. 2006

« Modern » definition of actionable GERD

2006 **Montreal definition**

Reflux of gastric content causes :
troublesome symptoms and/or **complications**

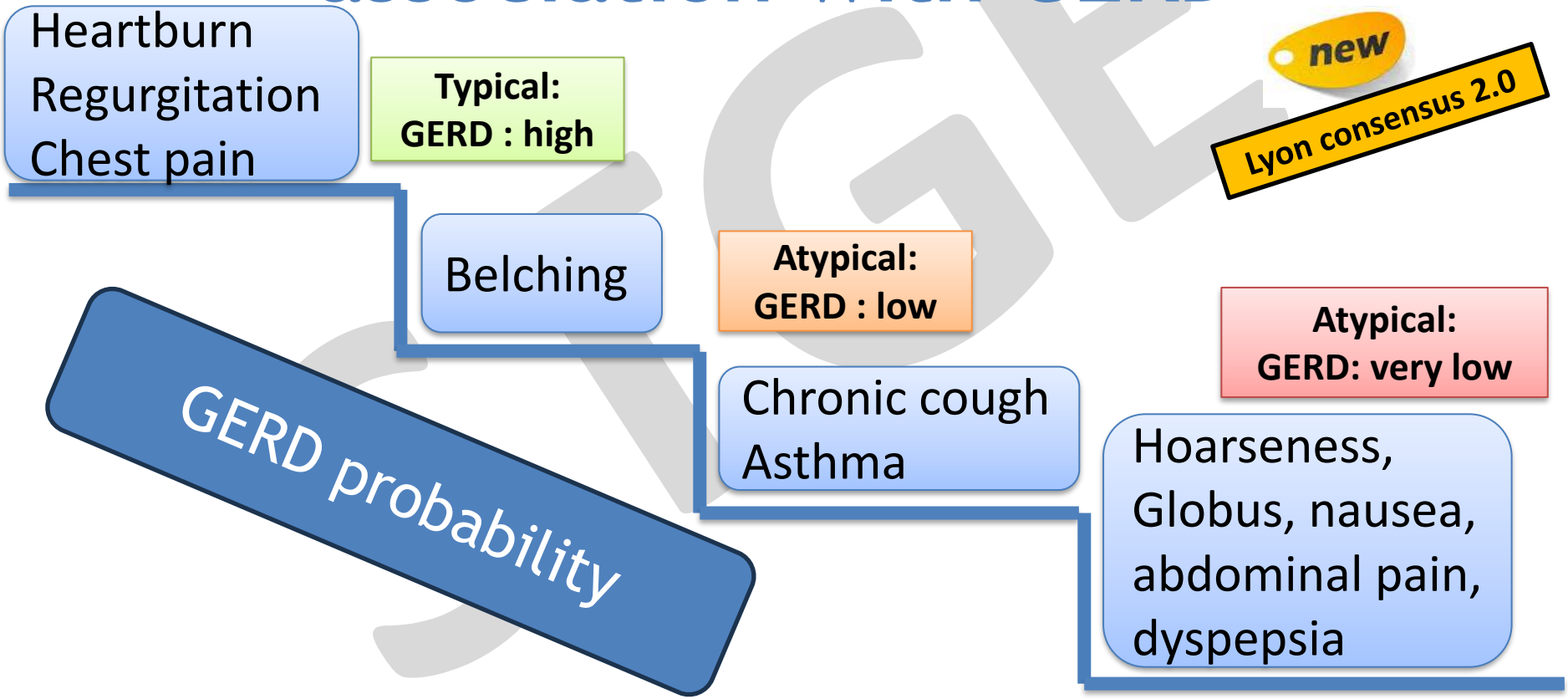
new
Lyon consensus 2.0

2024 **Lyon consensus 2.0**

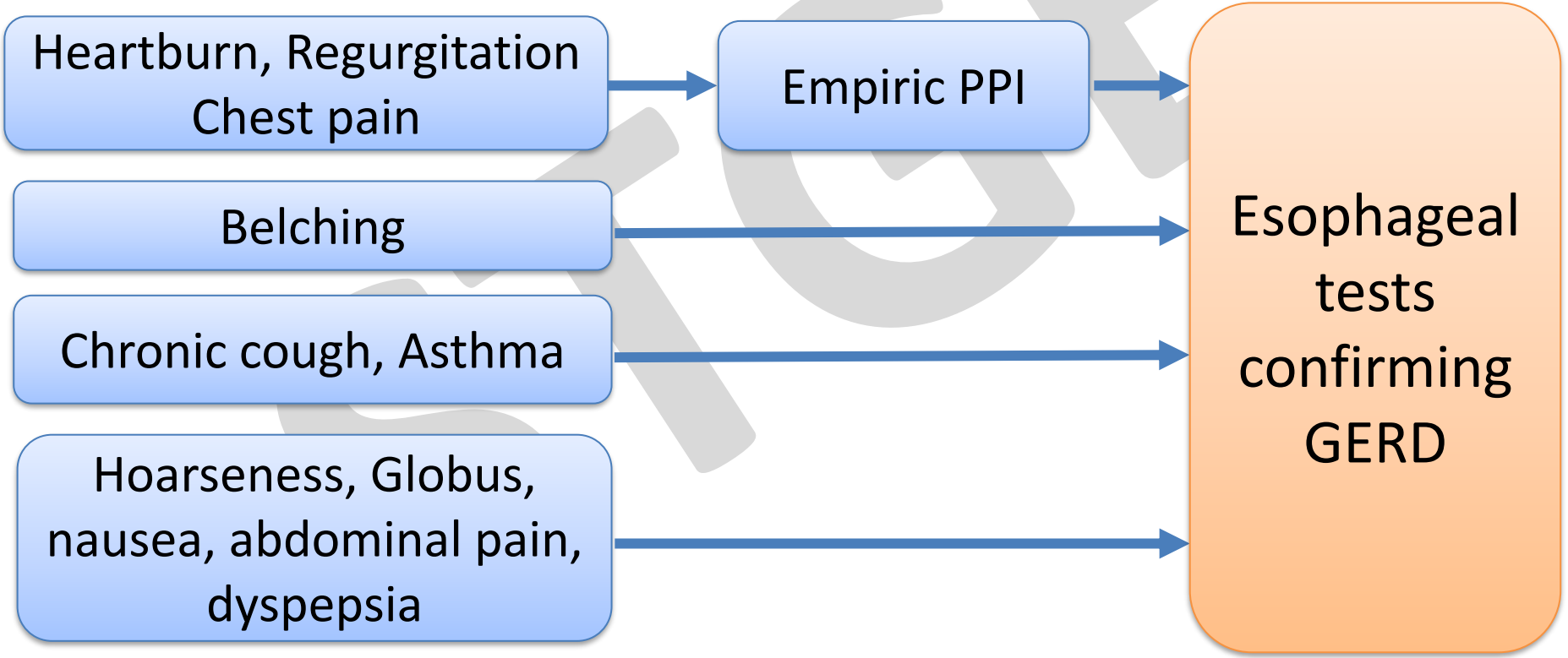
Conclusive evidence of reflux-related pathology on endoscopy and/or abnormal reflux monitoring (using Lyon consensus thresholds) in the presence of compatible **troublesome symptoms**

Vakil N, and al. Am J Gastroenterol. 2006
Gyawali CP, and al. Gut. 2024

Symptoms and probability of association with GERD



Symptoms and probability of association with GERD

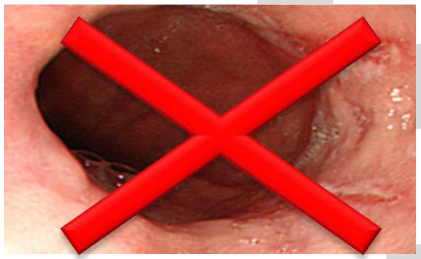


Tests confirming GERD diagnosis

Upper Endoscopy (esophagogastroduodenoscopy)

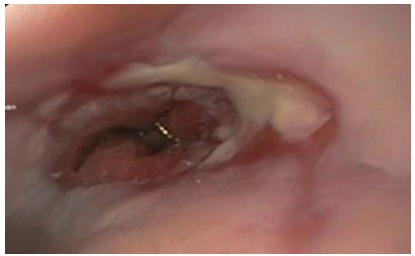
*To maximise the diagnostic yield, endoscopy should be performed **2-4 weeks after discontinuation** of antisecretory therapy in unproven GERD*

Conclusive Criteria for GERD: - LA grade **B**, **C** and **D** esophagitis

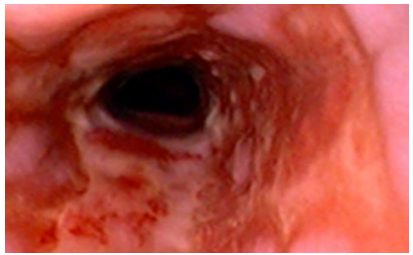


Los Angeles A

Los Angeles B



Los Angeles C



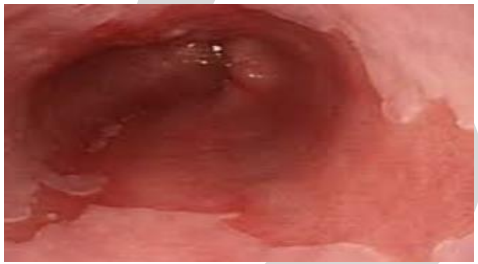
Los Angeles D

Tests confirming GERD diagnosis

Upper Endoscopy (esophagogastroduodenoscopy)

*To maximise the diagnostic yield, endoscopy should be performed **2-4 weeks after discontinuation** of antisecretory therapy in unproven GERD*

Conclusive Criteria for GERD: - LA grade **B**, **C** and **D** esophagitis
- Barrett's esophagus



Barrett mucosa > 1 cm

Intestinalized epithelium

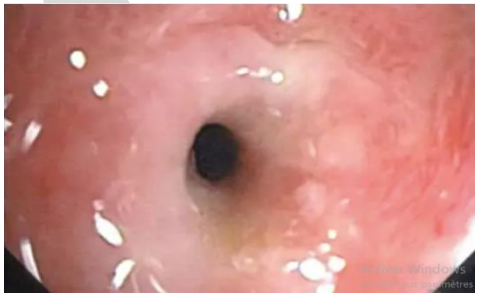
Tests confirming GERD diagnosis

Upper Endoscopy (esophagogastroduodenoscopy)

*To maximise the diagnostic yield, endoscopy should be performed **2-4 weeks after discontinuation** of antisecretory therapy in unproven GERD*

Conclusive Criteria for GERD:

- LA grade **B**, **C** and **D** esophagitis
- Barrett's oesophagus
- Peptic stenosis



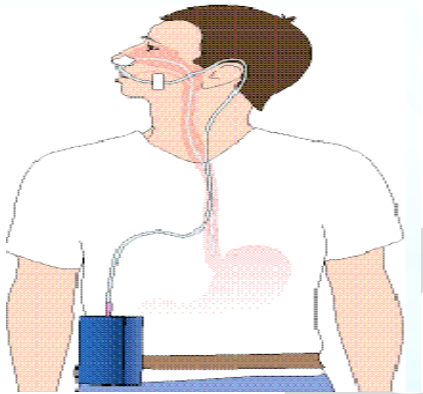
Tests confirming GERD diagnosis

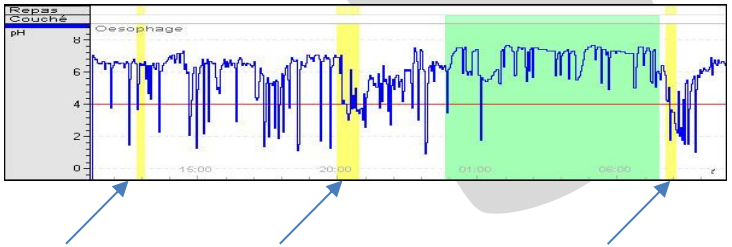
- 70 % of symptomatic patients:
  normal esophageal mucosa

- **Ambulatory reflux monitoring**
  required to confirm the diagnosis of GERD

Ambulatory reflux monitoring

Catheter based 24 hours pH monitoring





- Detection of reflux using esophageal pH monitoring

➔ **Only acid reflux is detected**

- Assessment of esophageal acid exposure: **EAT**

➔ **Expressed as the percentage of time with esophageal pH<4**

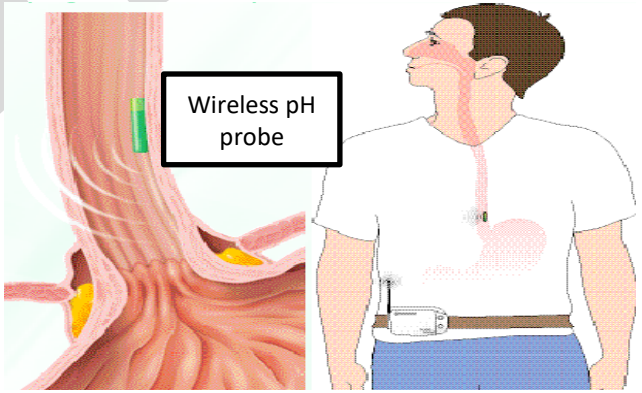
Ambulatory reflux monitoring

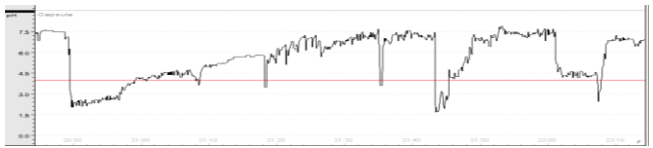
Wireless pH monitoring

72 – 96 hours

➔**Only acid reflux is detected**

- Assessment of esophageal acid exposure: **AET**
- **Number of days with pathological esophageal acid exposure**



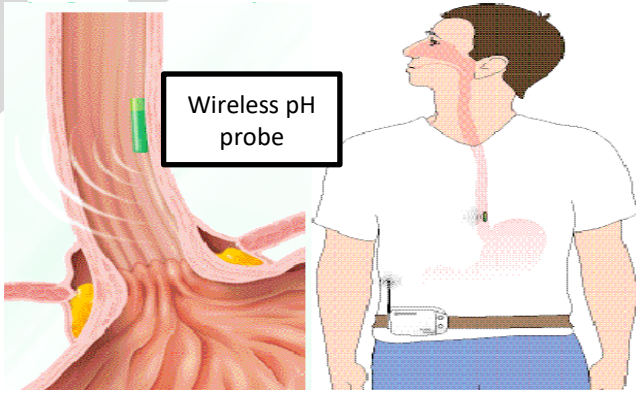


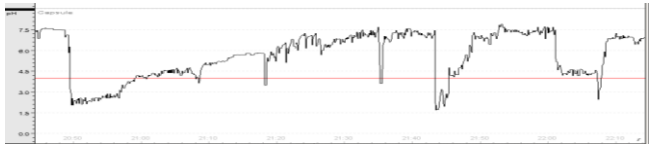
Ambulatory reflux monitoring

Wireless pH monitoring

72 – 96 hours

- **Preferred diagnostic tool in unproven GERD**
  - (off PPI)
- Highest diagnostic yield:
  - Better patient comfort
  - Longer study duration (96h)



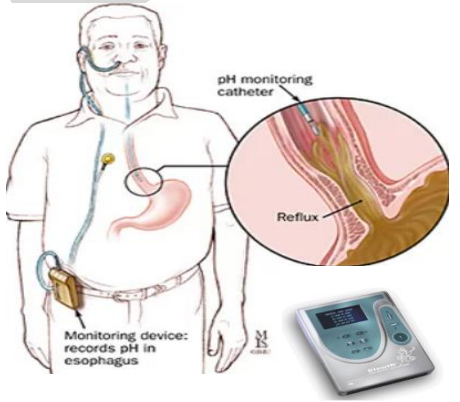


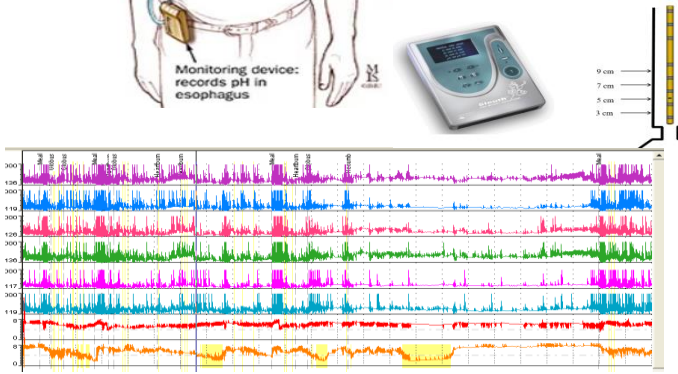
Ambulatory reflux monitoring

Ambulatory pH-impedance monitoring

Catheter based 24 hours

- **Both acid and weakly acid reflux (impedance + esophageal pH)**
- Assessment of esophageal acid exposure: **AET**
- **Total number of reflux events**
- **Detection of gaz reflux**



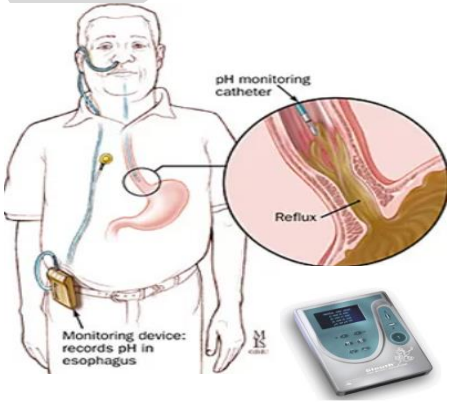


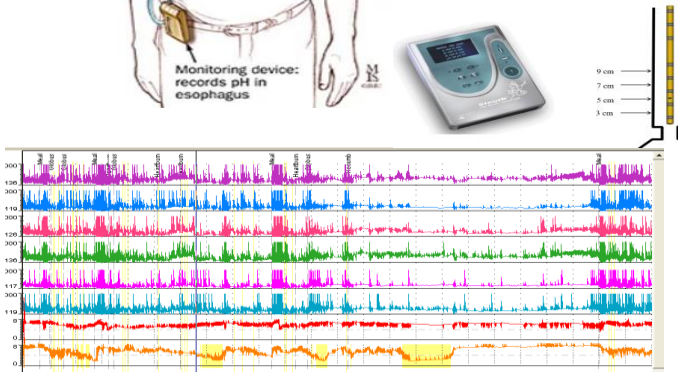
Ambulatory reflux monitoring

Ambulatory pH-impedance monitoring

Catheter based 24 hours

- **Preferred diagnostic tool:**
  - **Unproven GERD:**
    - **Belching**
    - **Suspicion of rumination**
    - **Pulmonary symptoms**
  - **Proven GERD:**
    - **Suspicion of refractory GERD**
      - **(on PPI)**





Ambulatory reflux monitoring

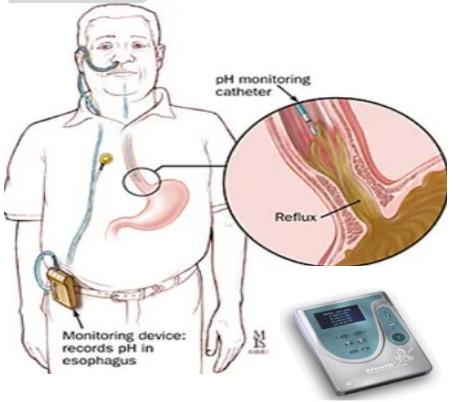
Ambulatory pH-impedance monitoring

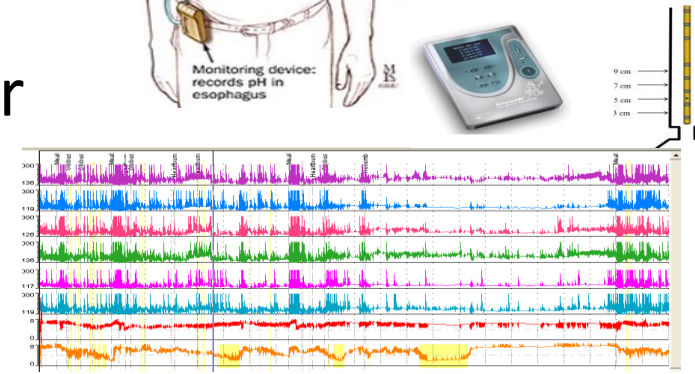
Catheter based 24 hours

- **Baseline impedance measurement**
- > 2500 ohms : evidence against pathological GERD
- <1500 ohms : adjunctive evidence for GERD

new

Lyon consensus 2.0





Ambulatory reflux monitoring

- **Specific metrics and thresholds are defined:**
  - Unproven GERD
    - Off PPI
  - Proven GERD
    - On PPI

Ambulatory reflux monitoring

1 **AET: acid exposure time (%)**

Analyse of the association reflux-symptoms

2 **Pourcentage of symptoms associated with reflux-events**

Symptom index: $\frac{\text{number of reflux-associated symptoms}}{\text{total number of symptoms reported}} \times 100$

3 **Symptom association probability**

positive >50%

Likelihood that the symptoms are related to reflux (**positive >95%**)

Unproven GERD (tests off antisecratory therapy)

	Endoscopy	pH or pH impedance
Conclusive evidence for pathological Reflux	LA grade B, C & D esophagitis Biopsy proven Barett's mucosa peptic esophageal stricture	AET>6% *
Evidence against pathological reflux		AET <4% each day Total reflux episodes <40/day Baseline impedance >2500 Ω

*: 24hours studies or ≥2 days on wireless studies

Unproven GERD (tests off antisecratory therapy)

Endoscopy

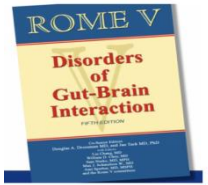
pH or pH impedance

Evidence against pathological reflux

AET <4 %

SI >50% , SAP >95%

SI <50%, SAP <95%



Reflux hypersensitivity

Esophageal disorders of gut–brain interaction

*: 24hours studies or ≥2 days on wireless studies

Unproven GERD (tests off antisecratory therapy)

	Endoscopy	pH or pH impedance
Conclusive evidence for pathological Reflux	LA grade B, C & D esophagitis Biopsy proven Barett's mucosa peptic esophageal stricture	AET>6% *
Borderline or inconclusive evidence	LA grade A esophagitis	AET 4-6% * Total reflux episodes 40-80/day
Adjunctive or supportive evidence	Hiatus hernia	Positive Reflux symptom association Total reflux episodes >80/day Baseline impedance <1500 Ω
Evidence against pathological reflux		AET <4% each day Total reflux episodes <40/day Baseline impedance >2500 Ω

*: 24hours studies or ≥2 days on wireless studies

Proven GERD (tests on antisecratory therapy)

	Endoscopy	pH or pH impedance
Conclusive evidence for pathological Reflux	LA grade B, C & D esophagitis Biopsy proven Barett's mucosa peptic esophageal stricture	AET>4% * Total reflux episodes >80/day
Borderline or inconclusive evidence	LA grade A esophagitis	AET 1-4% * Tot.reflux episodes 40-80/day Baseline impedance 1500-2500 Ω
Adjunctive or supportive evidence	Hiatus hernia	Positive Reflux symptom association Baseline impedance <1500 Ω
Evidence against pathological reflux		AET <1% Total reflux episodes <40/day Baseline impedance >2500 Ω

*: 24hours studies or ≥2 days on wireless studies

Take home messages

- **Definition of actionable GERD**
- **Grade B esophagitis** is sufficient to establish the diagnosis of GERD.
- **Different threshold values** apply for tests performed **off** and **on PPI.**
- **Prolonged pH monitoring** may provide additional diagnostic value.
- **Baseline impedance measurements** should also be taken into account.