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Cosimo Callari
PRESIDENTE

Antonino Granata
RESP. SCIENTIFICO

PALERMO, 13 - 14 MARZO 2025

IL TRATTAMENTO INTEGRATO DELL'OBESITÀ

CHIRURGIA, ENDOSCOPIA E FARMACI
UNA SINERGIA VINCENTE

Endoscopia pre-operatoria

ROBERTO DI MITRI

CHIEF OF GASTROENTEROLOGY AND DIGESTIVE ENDOSCOPY UNIT

AZIENDA DI RILIEVO NAZIONALE ED ALTA SPECIALIZZAZIONE

" OSPEDALI " ARNAS CIVICO DI CRISTINA BENFRATELLI

PALERMO, ITALY

INTRODUCTION

- Bariatric procedures have drastically increased in the last decade

- Treatment of patients with morbid obesity can be challenging and requires an individualized approach

- Routine pre-operative gastroscopy is a controverse topic

- Preoperative endoscopy with EGD can identify patients with asymptomatic anatomic findings that may alter surgical planning.

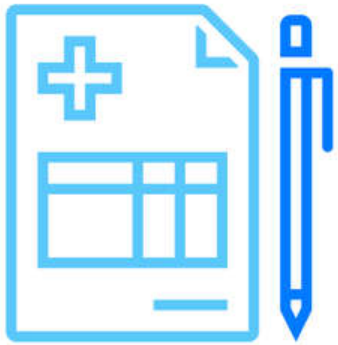
TABLE 2. Mechanism of weight loss for common obesity surgeries

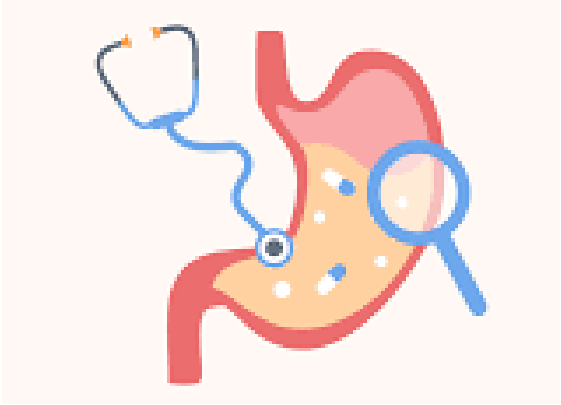
Procedure	Mechanism
Laparoscopic adjustable gastric band	Restrictive
Vertical banded gastroplasty	Restrictive
Sleeve gastrectomy	Restrictive; hormonal alteration
Sleeve gastrectomy with duodenal switch/ biliopancreatic diversion	Restrictive/maldigestive; hormonal alteration
Roux-en-Y gastrojejunal bypass	Restrictive/maldigestive; hormonal alteration

HOW TO DO IT

Pre-diagnostica con inquadramento del paziente

Anamnesi (familiarità, abitudini, fumo)
Sintomi
Noto intervento bariatrico da eseguire? By-pass o LSG o altro?





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HOW TO DO IT

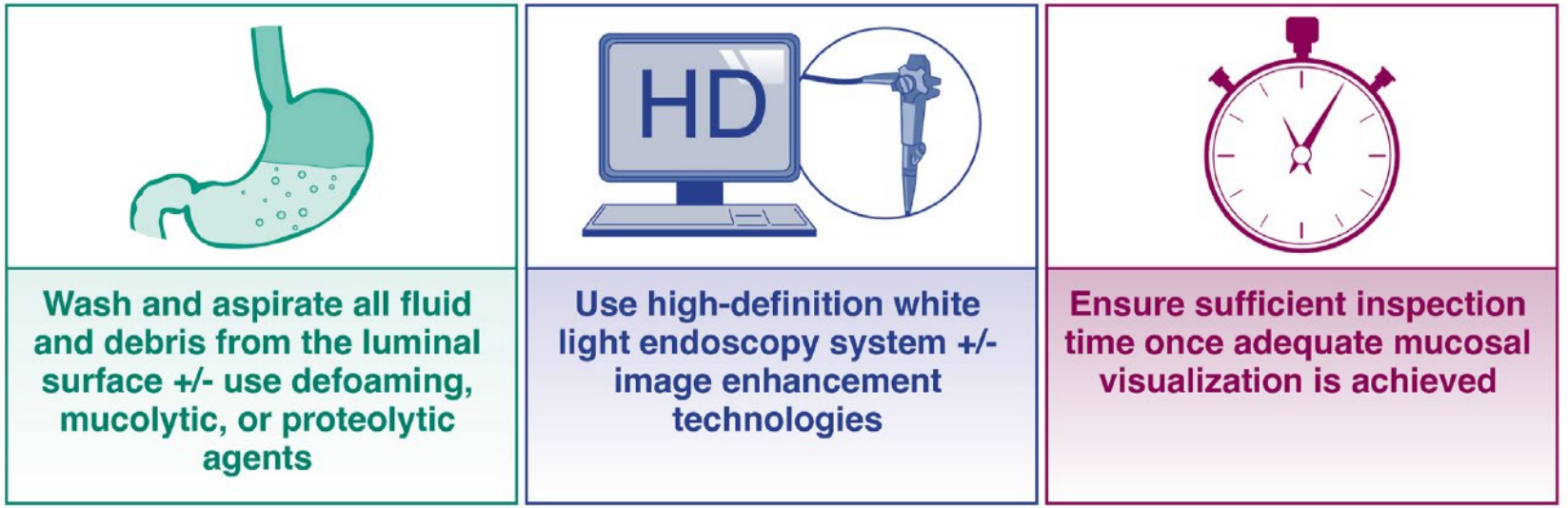
Diagnostica: EGDS di qualità

Timing schedulato di circa 10-12 minuti

Utilizzo di strumenti ad alta definizione con sistemi di magnificazione virtuale

Corretta sedazione (paziente bariatrico necessita molto spesso di un supporto anestesiologico)

Utilizzo di protocolli e classificazioni standardizzate



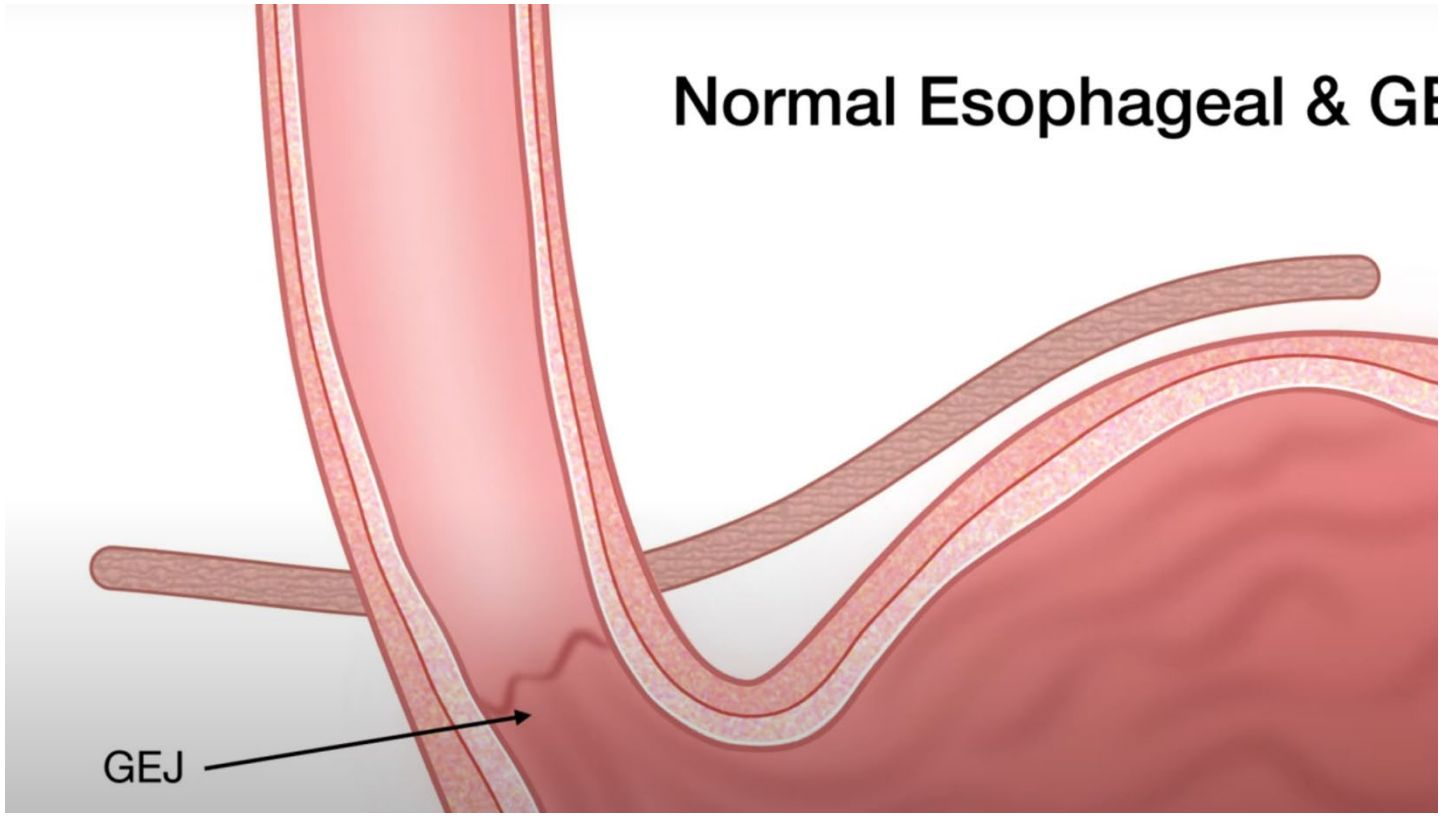
Nagula S et al, Clinical Gastroenterology and Hepatology 2024;22:933–943

HOW TO DO IT

Esophagus

Integrità della mucosa
Corretta motilità
Giunzione esofago-gastrica
Giunzione squamo-colonnare
Impronta diaframmatica

± biopsie



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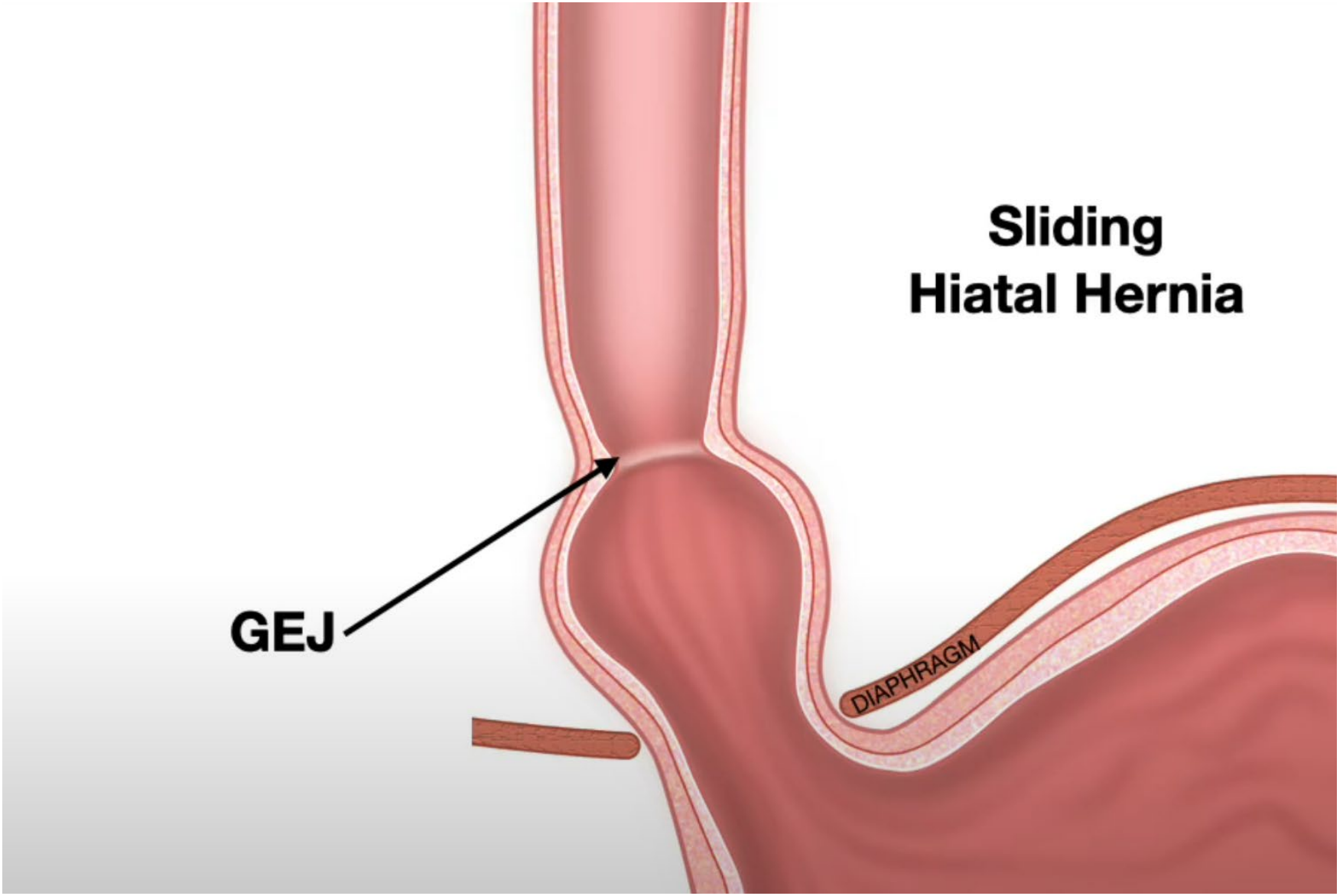
Classificazione Ernia Iatale



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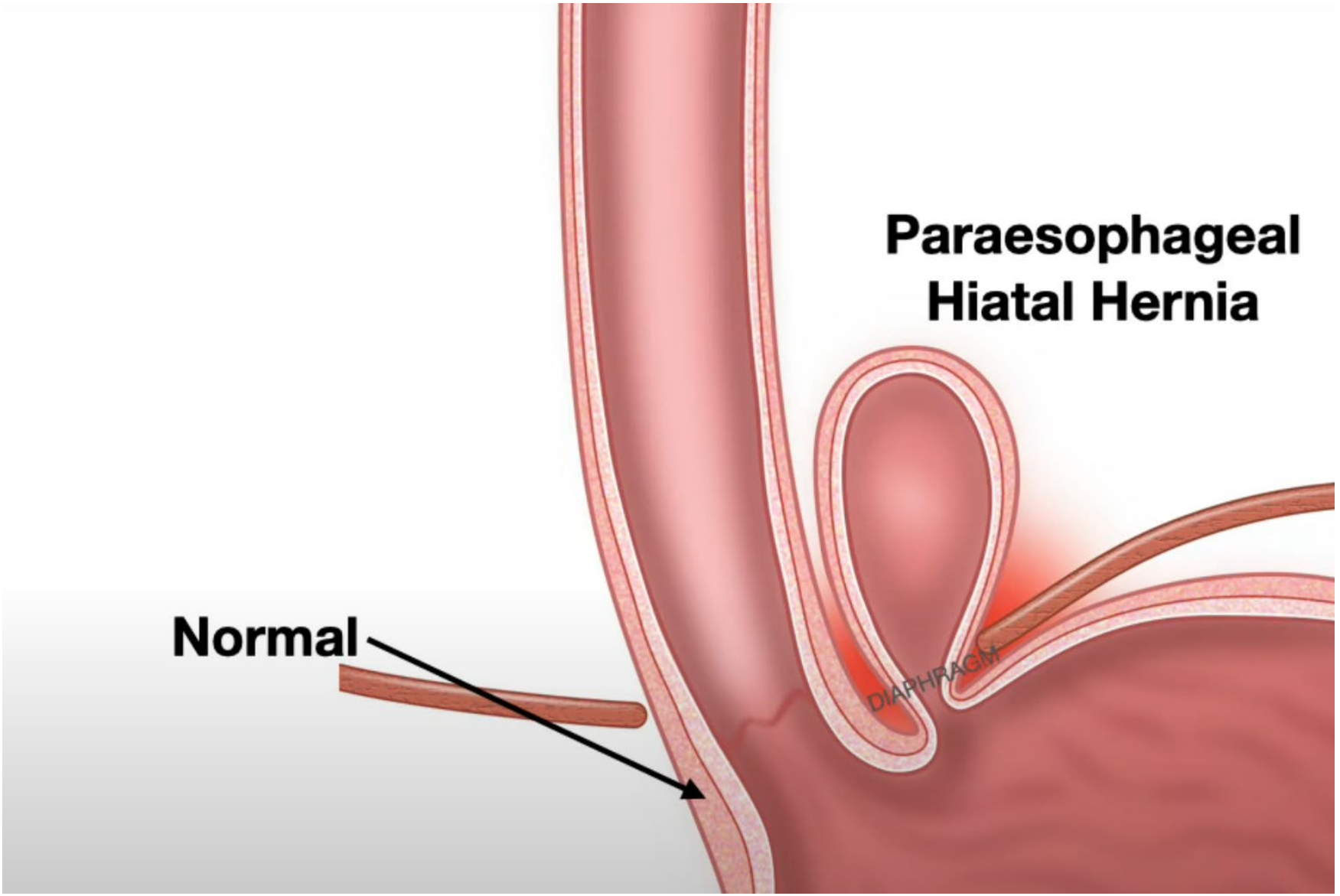
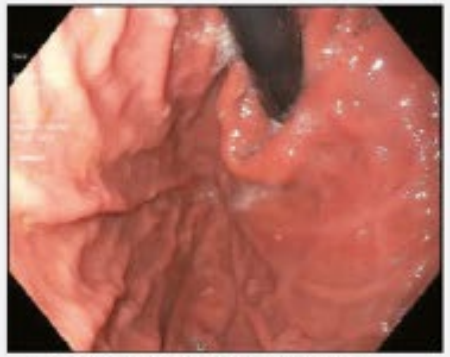
Classificazione Ernia Iatale

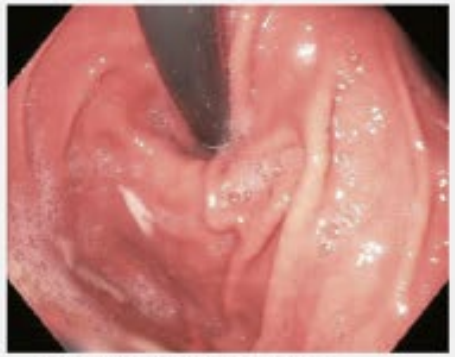


Classificazione di Hill

Hill classification of the gastroesophageal flap valve (GEFV)



Grade 1: Prominent fold of the cardia along lesser curve (GEFV), closely apposed to endoscope.



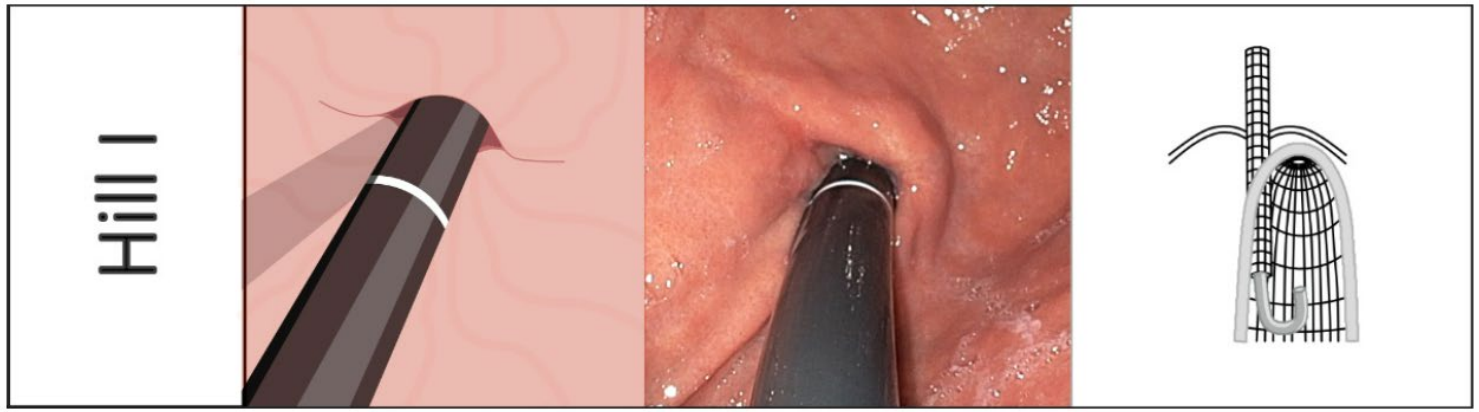
Grade 2: GEFV present, but transiently opens and closes with respiration.

Grade 3: GEFV present barely visible, failure to close around the endoscope.

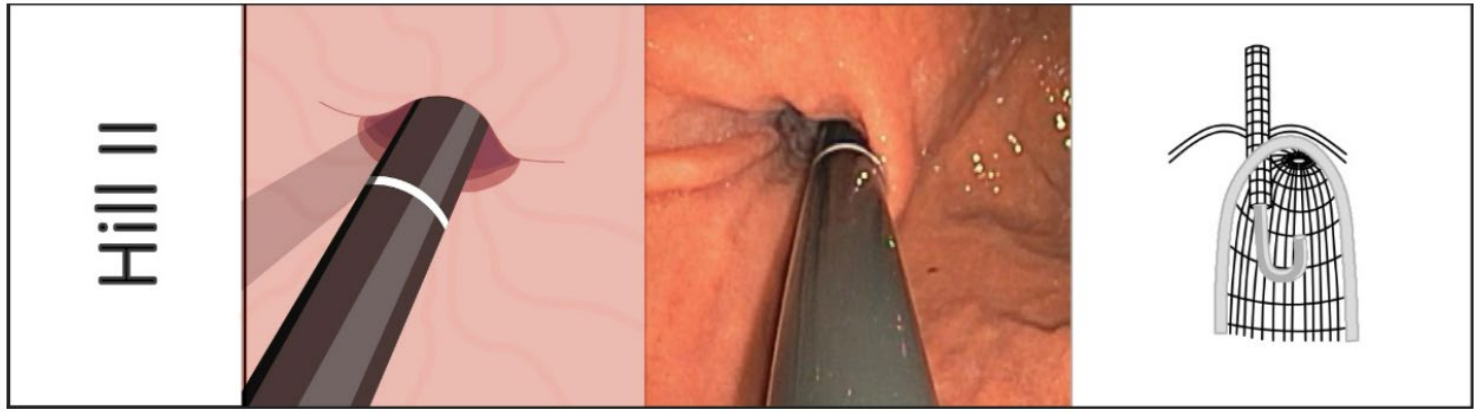
Grade 4: GEFV is absent, GE junction is continuously open. Hiatal hernia is always present.

Nagula S et al, Clinical Gastroenterology and Hepatology 2024;22:933–943

Classificazione di Hill



Hill I: Wall-like gastroesophageal flap valve, always with tight closure round the endoscope



Hill II: Gastroesophageal flap valve less marked, with respiration-dependent incomplete closure of the cardia round the endoscope

Menon S et al, Eur J Gastroenterol Hepatol. 2011

Classificazione di Hill

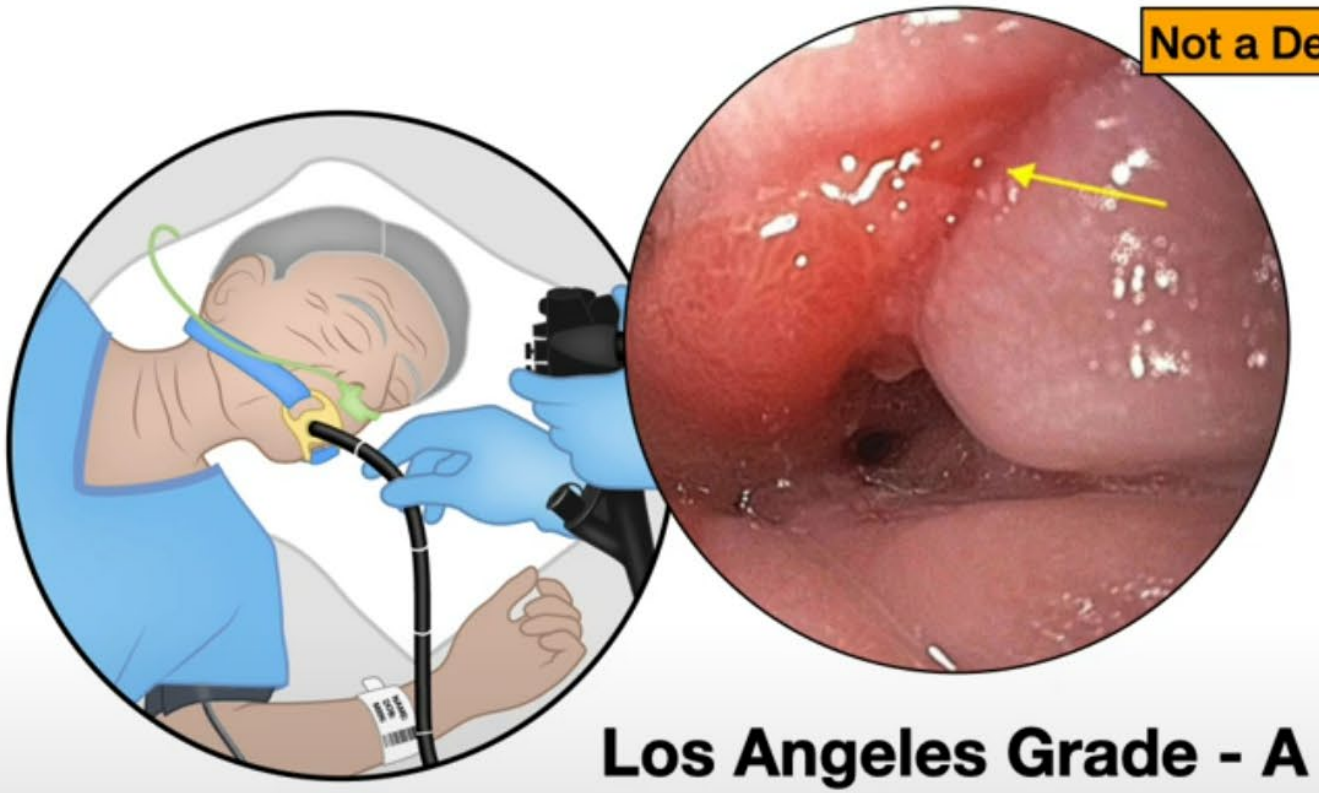
Hill III: Gastroesophageal flap valve hardly present any more, no closure around the endoscope

Hill IV: Gastroesophageal flap valve no longer present, permanent opening of the esophagogastric junction

Menon S et al, Eur J Gastroenterol Hepatol. 2011

Integrità della mucosa esofagea

Los Angeles classification

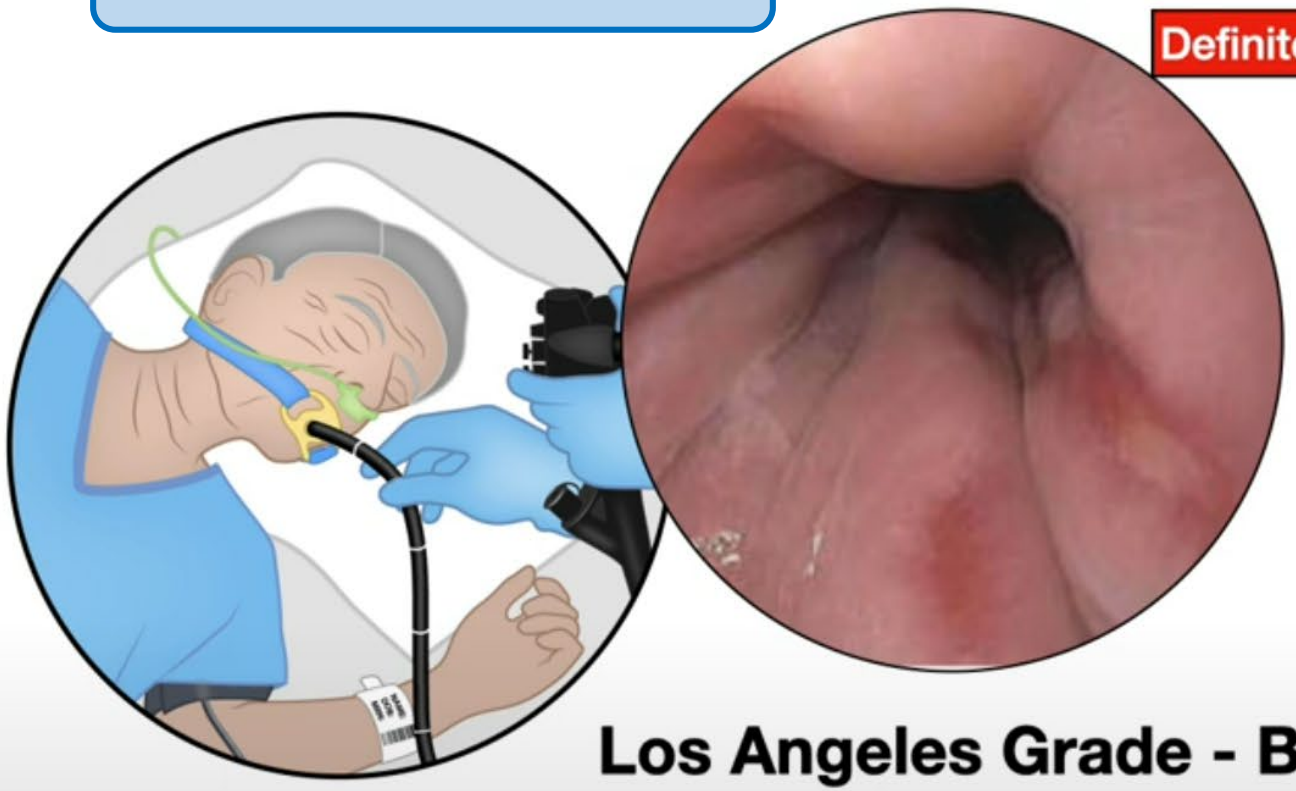


Grade	Erosions
A	**Longitudinal; < 5 mm**
B	Longitudinal; > 5 mm
C	Circumferential: <75% of cirumference
D	Circumferential; ≥75% of circumference

Fass R et al, Am J Gastroenterol. 2002

Integrità della mucosa esofagea

Los Angeles classification



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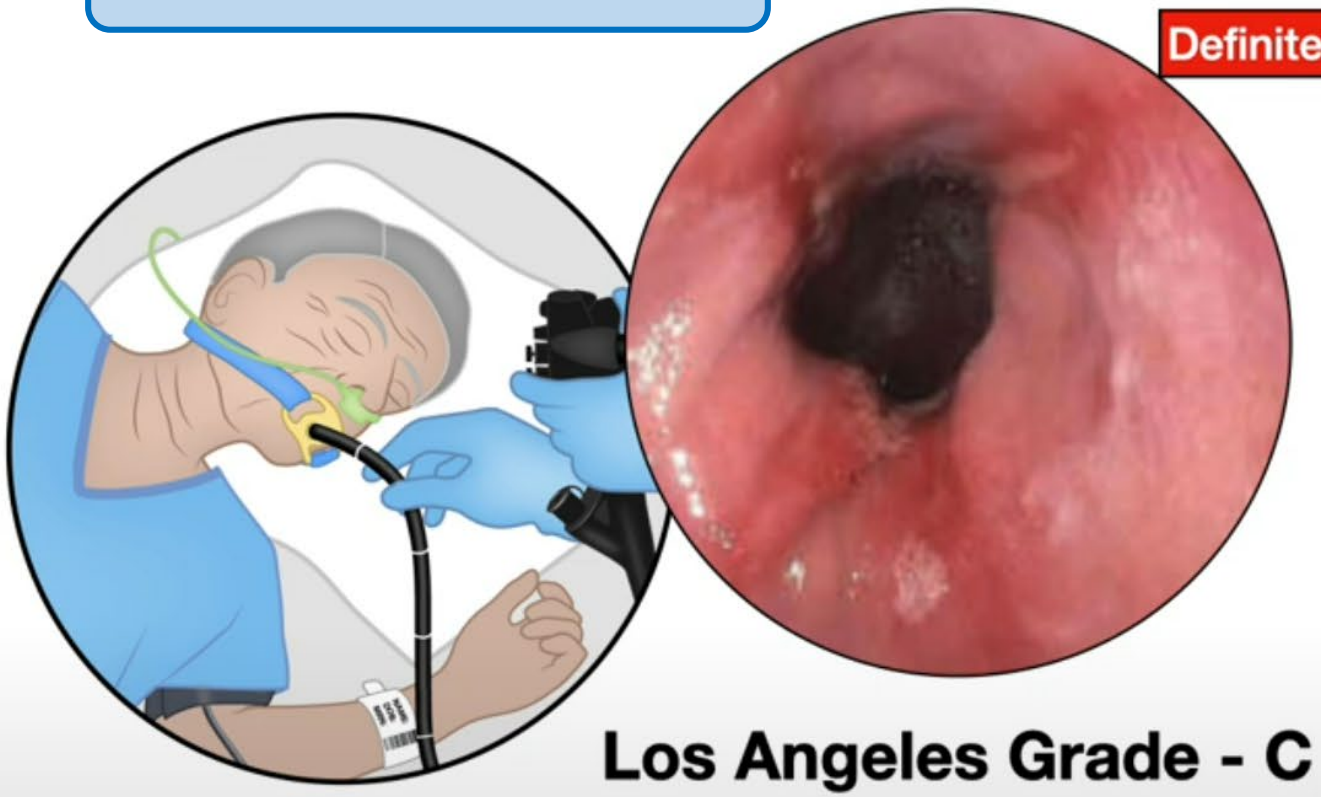
Fass R et al, Am J Gastroenterol. 2002

Integrità della mucosa esofagea

Los Angeles classification



Grade	Erosions
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Fass R et al, Am J Gastroenterol. 2002

Integrità della mucosa esofagea

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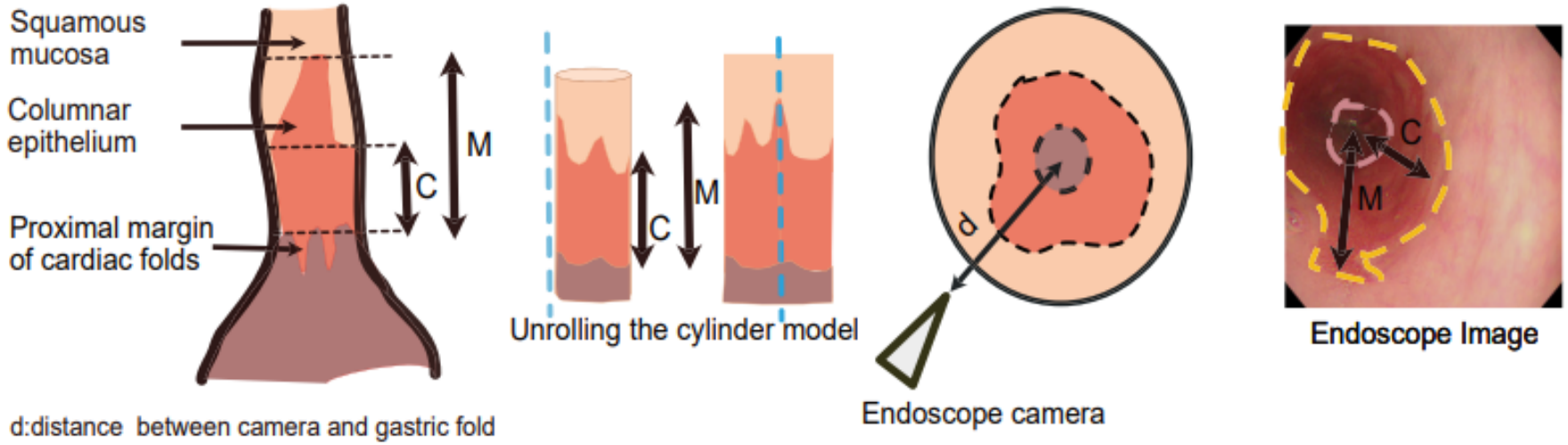
Fass R et al, Am J Gastroenterol. 2002

Barrett esophagus

Prague classification

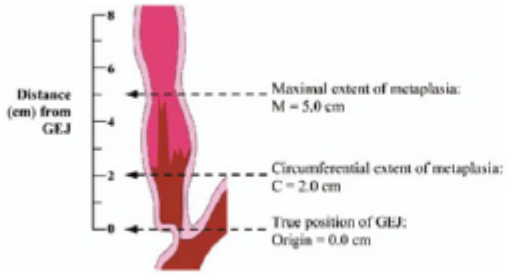


d:distance between camera and gastric fold

C: Barrett's circumferential length

M: Maximal Barrett's length (aka Barrett's tongue)

Prague C & M classification for Barrett's esophagus



C represents the maximal circumferential extent of metaplasia from the GE junction.

M represents the maximal extent of metaplasia from the GE Junction.

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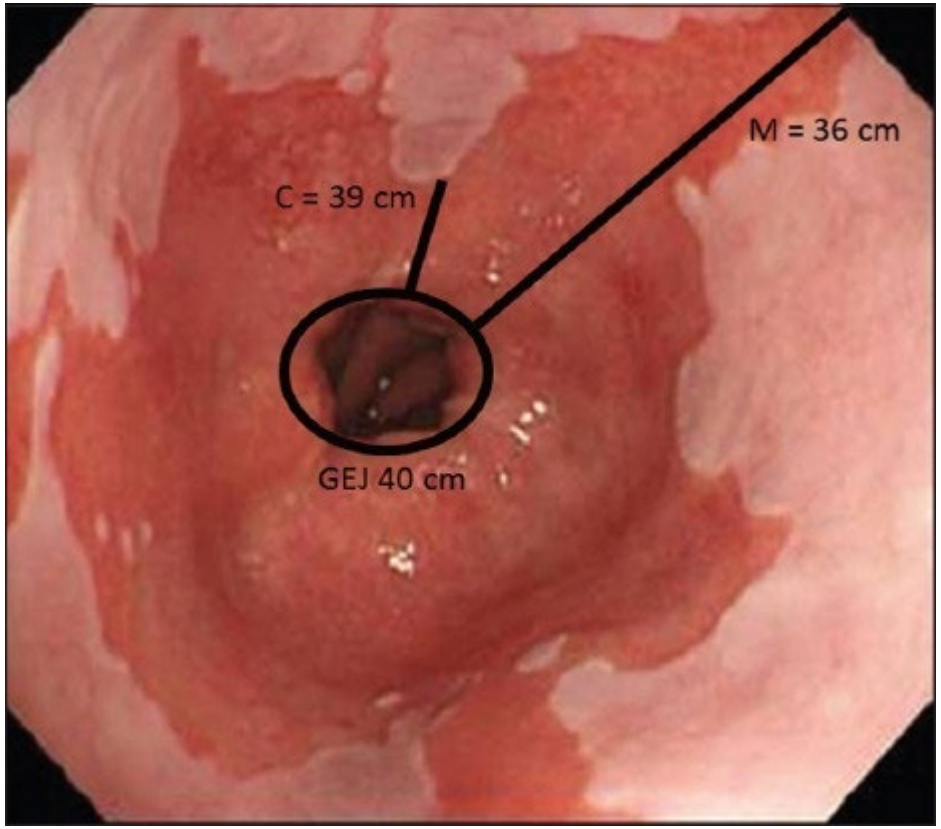
Sharma P et al, Gastroenterology. 2006

Nagula S et al, Clinical Gastroenterology and Hepatology 2024;22:933–943

Barrett esophagus

Prague classification



Sharma P et al, Gastroenterology. 2006

Barrett esophagus

Prague classification

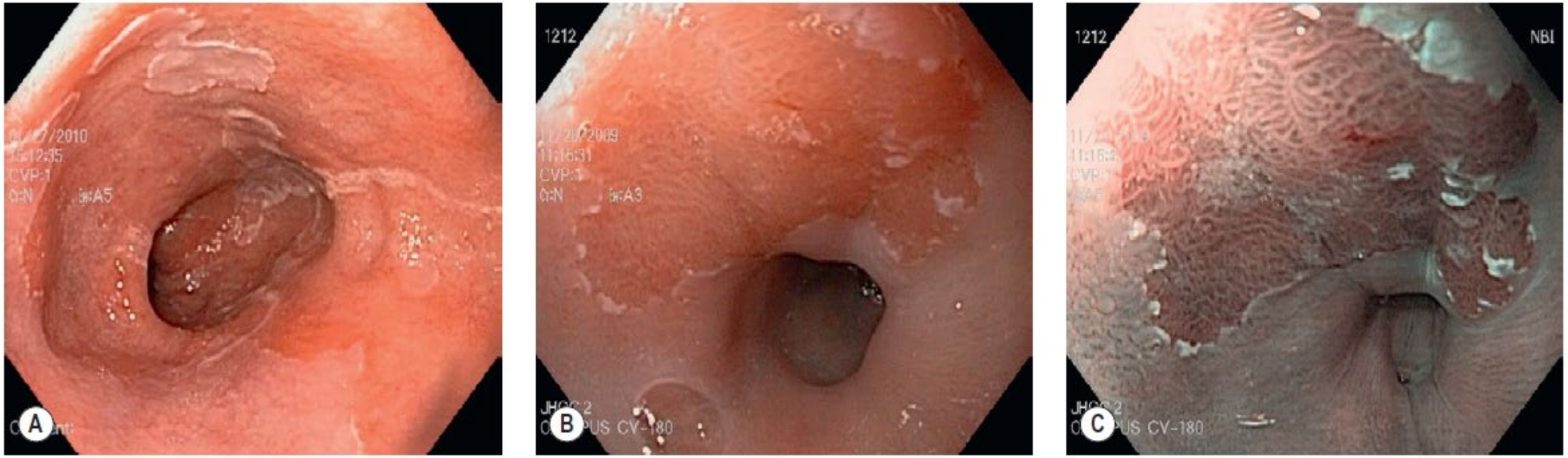


Figure 21 Barrett's esophagus. (A) Long segment Barrett's esophagus. (B) and (C) Barrett's esophagus seen under white light and following acetic acid application using NBI.

Sharma P et al, Gastroenterology. 2006

Barrett esophagus

Prague classification

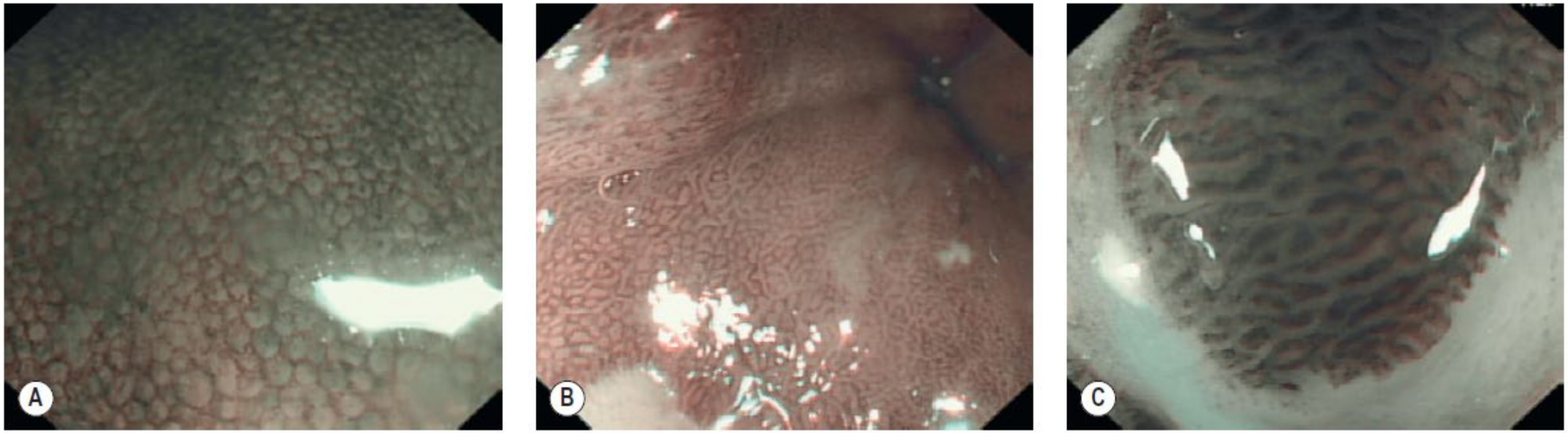


Figure 3 Barrett's esophagus seen at NBI. (A) Type 1–2 round and oval pits. (B) Regular round and oval pits. (C) Type 3 villous/ridged pits.

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Sharma P et al, Gastroenterology. 2006

HOW TO DO IT

Biopsy: Seattle protocol

	Biopsy protocol	Endoscopic appearance	Comments
Barrett's esophagus[51]	Four-quadrant biopsy specimens for every 1-2 cm of Barrett's esophagus (Seattle protocol), along with targeted biopsy specimens of mucosal abnormalities	Diagnosis requires salmon-colored mucosa that extends a minimum of 1 cm above the proximal extent of the gastric folds—best examined after gastric decompression Avoid routine biopsy specimens of a normal or irregular Z-line	Diagnostic yield is improved significantly if at least 8 biopsy specimens are taken, even if patients have only 1-2 cm of Barrett's esophagus

Nagula S et al, Clinical Gastroenterology and Hepatology 2024;22:933–943

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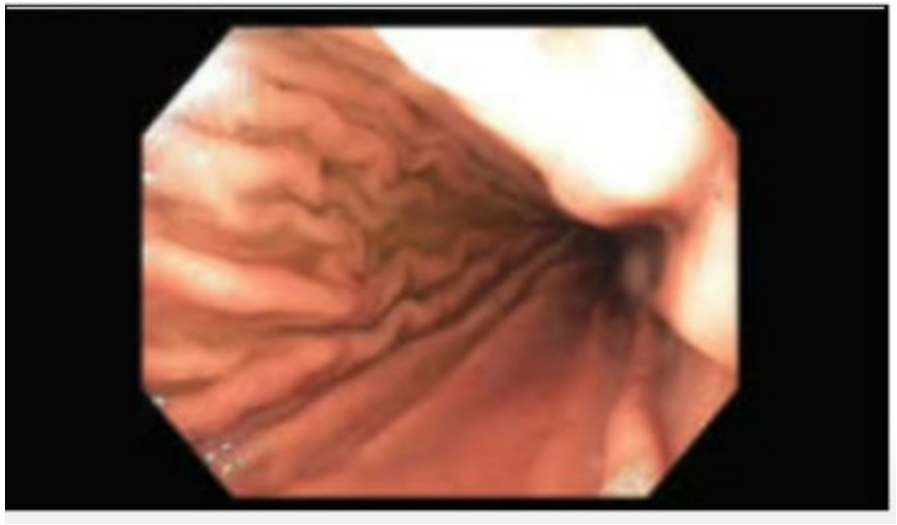
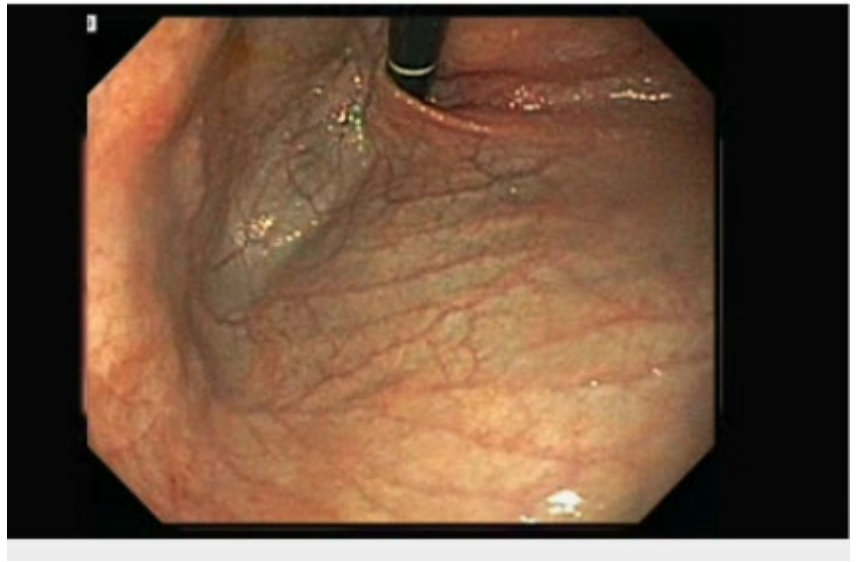
HOW TO DO IT

Stomach

Integrità della mucosa (erosioni? atrofia?)
Morfologia

± biopsie

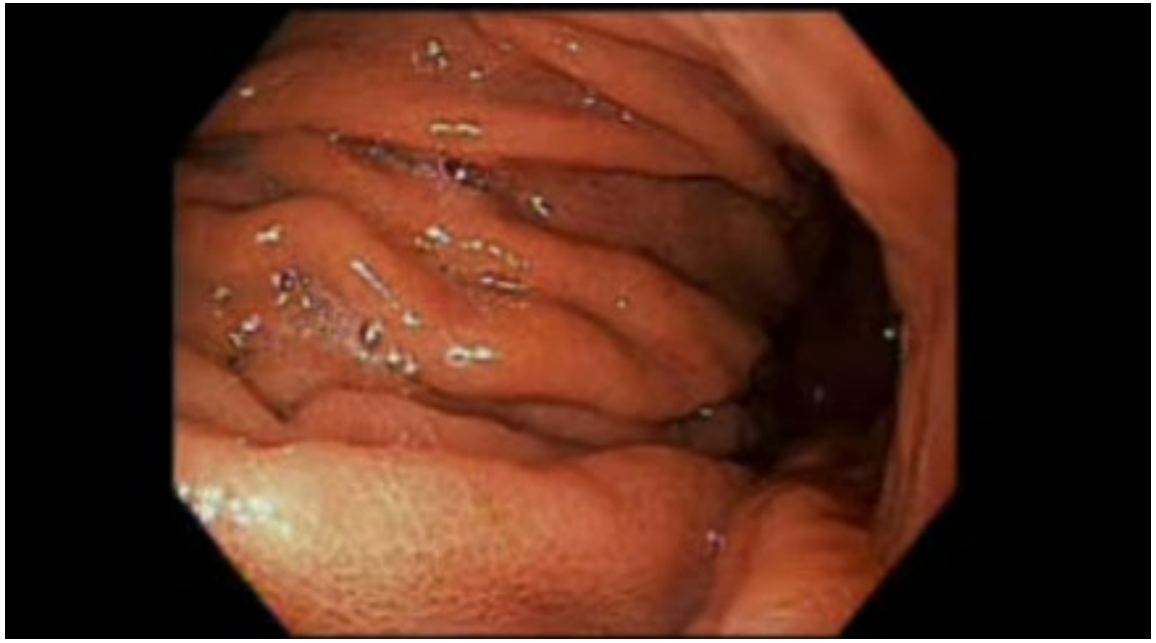


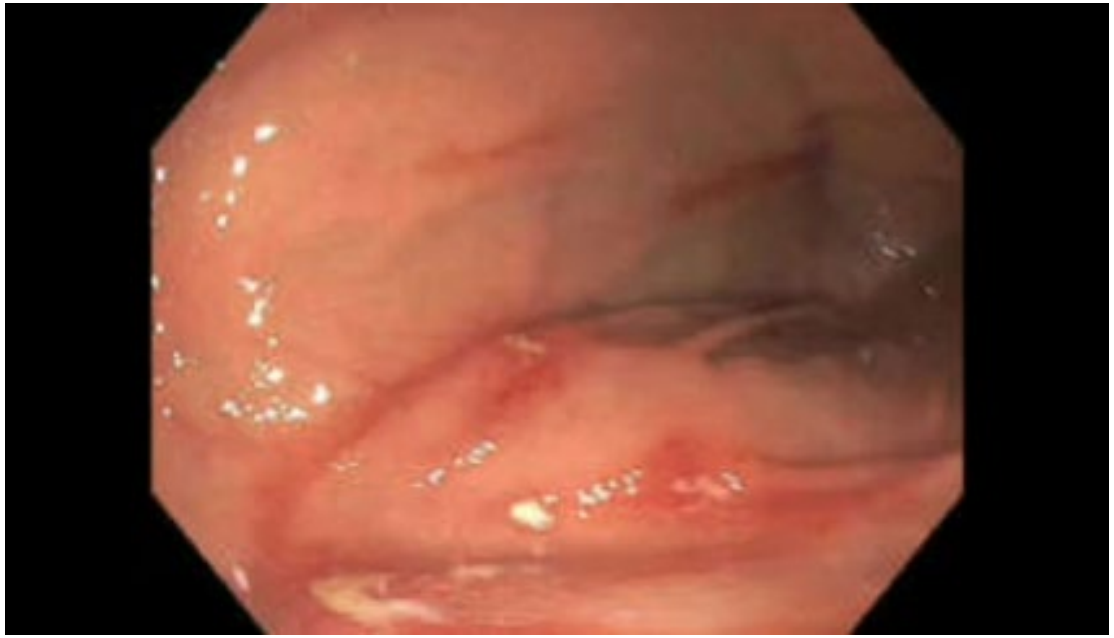


Gastrointestinal endoscopy in practice, book; 2011

HOW TO DO IT

Stomach

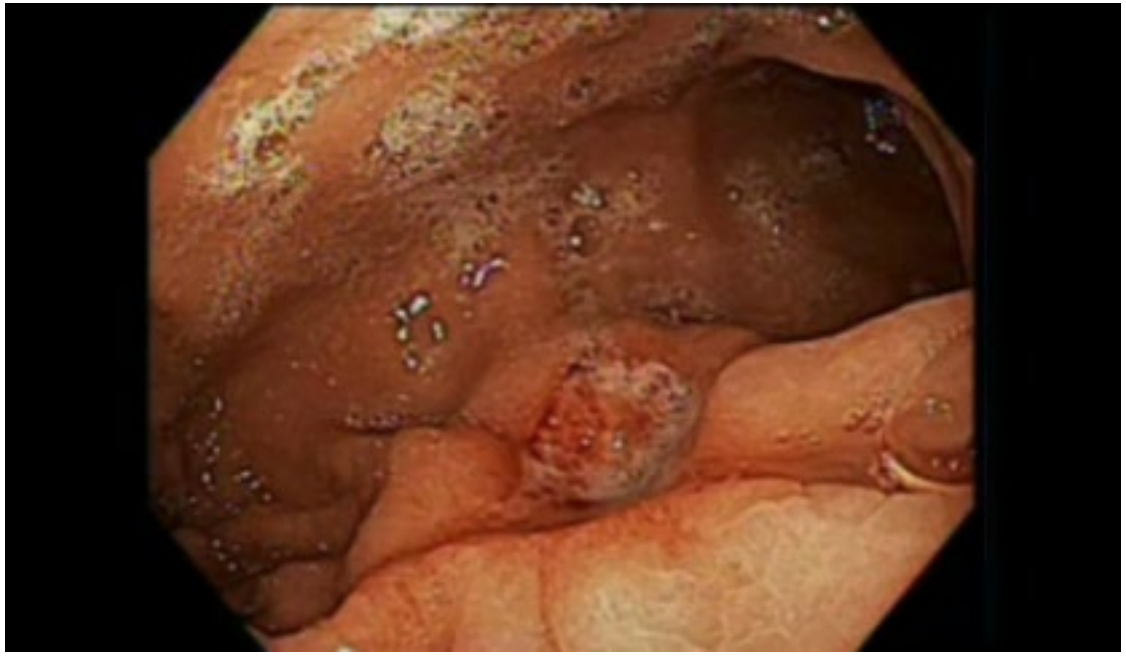




Gastrointestinal endoscopy in practice, book; 2011

HOW TO DO IT

Stomach



Gastrointestinal endoscopy in practice, book; 2011

HOW TO DO IT

Stomach

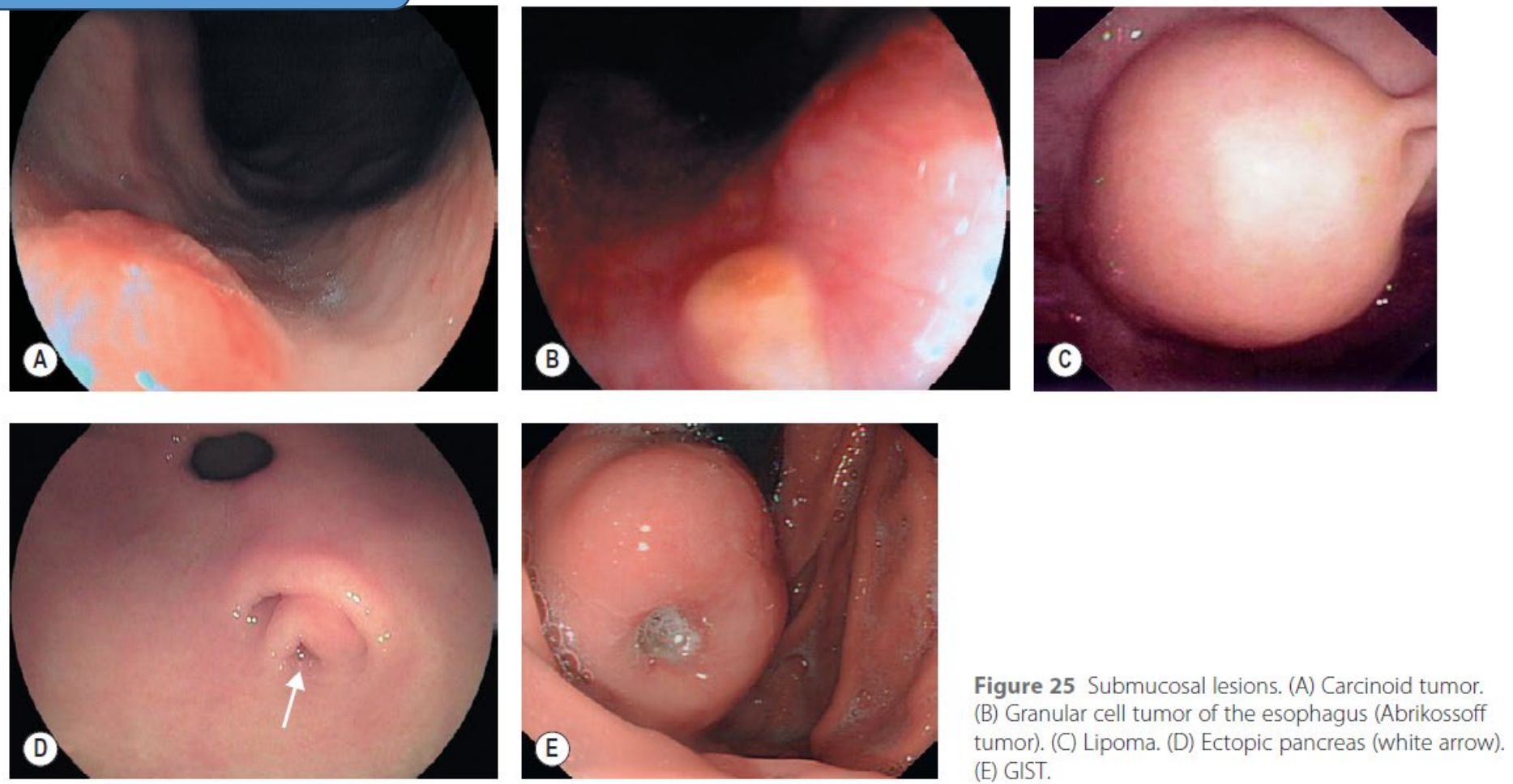
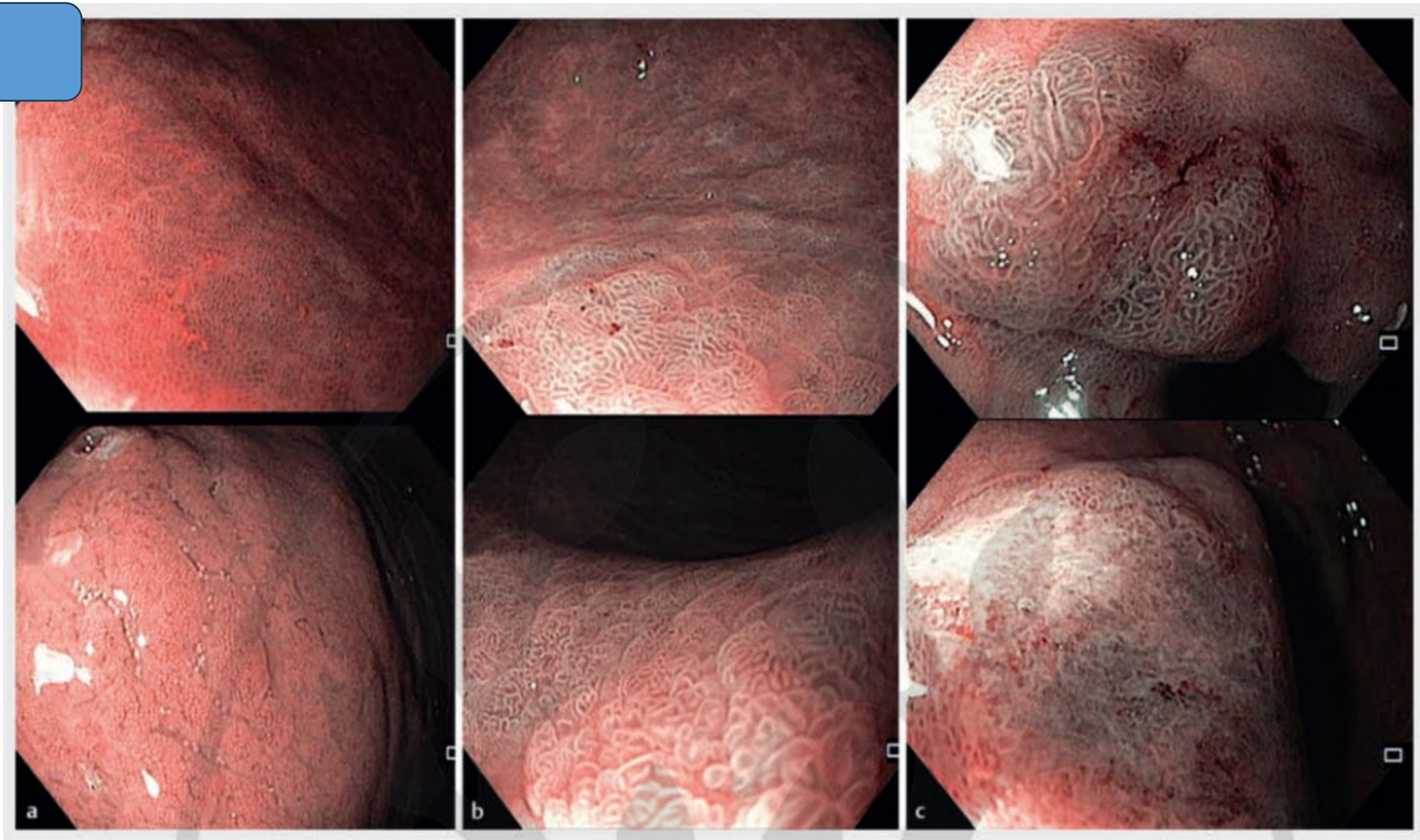


Figure 25 Submucosal lesions. (A) Carcinoid tumor. (B) Granular cell tumor of the esophagus (Abrikossoff tumor). (C) Lipoma. (D) Ectopic pancreas (white arrow). (E) GIST.

Gastrointestinal endoscopy in practice, book; 2011

HOW TO DO IT

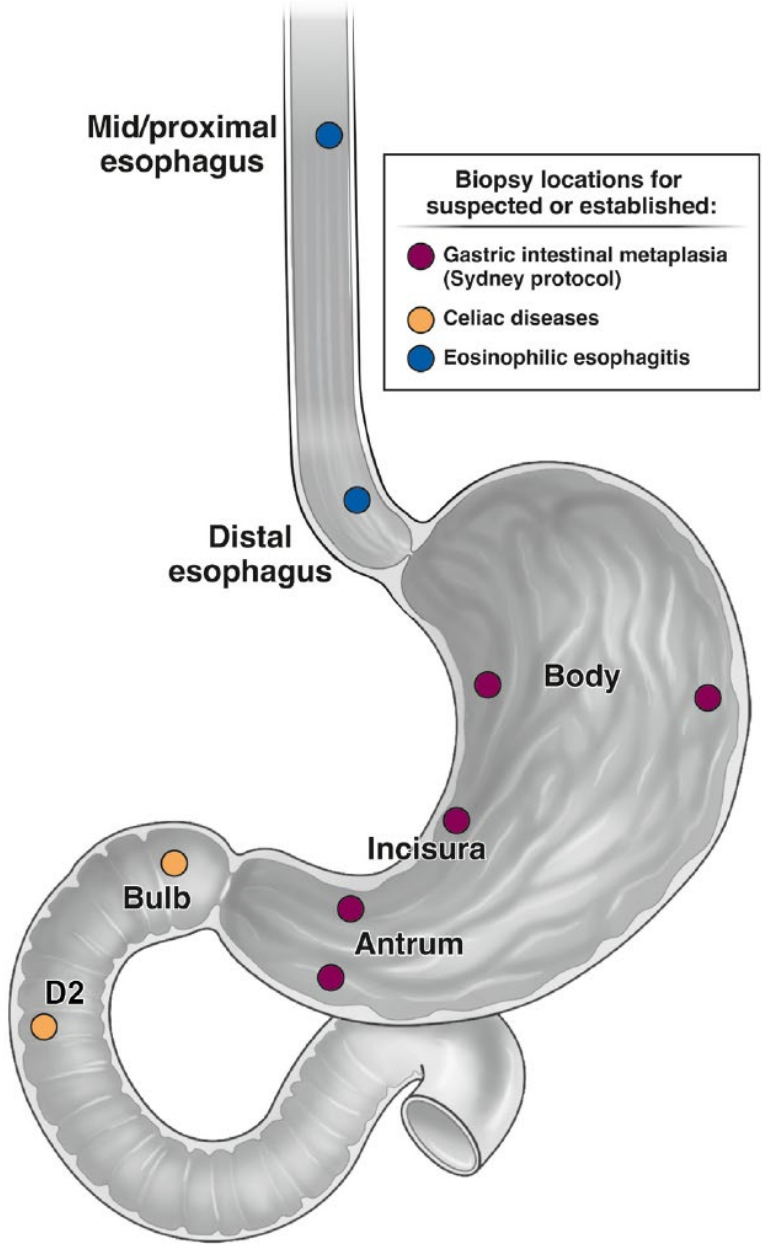
NBI



Pimentel-Nunes Pedro et al. MAPS II … Endoscopy 2019; 51

HOW TO DO IT

Biopsy: Sydney protocol



Nagula S et al, Clinical Gastroenterology and Hepatology 2024;22:933–943

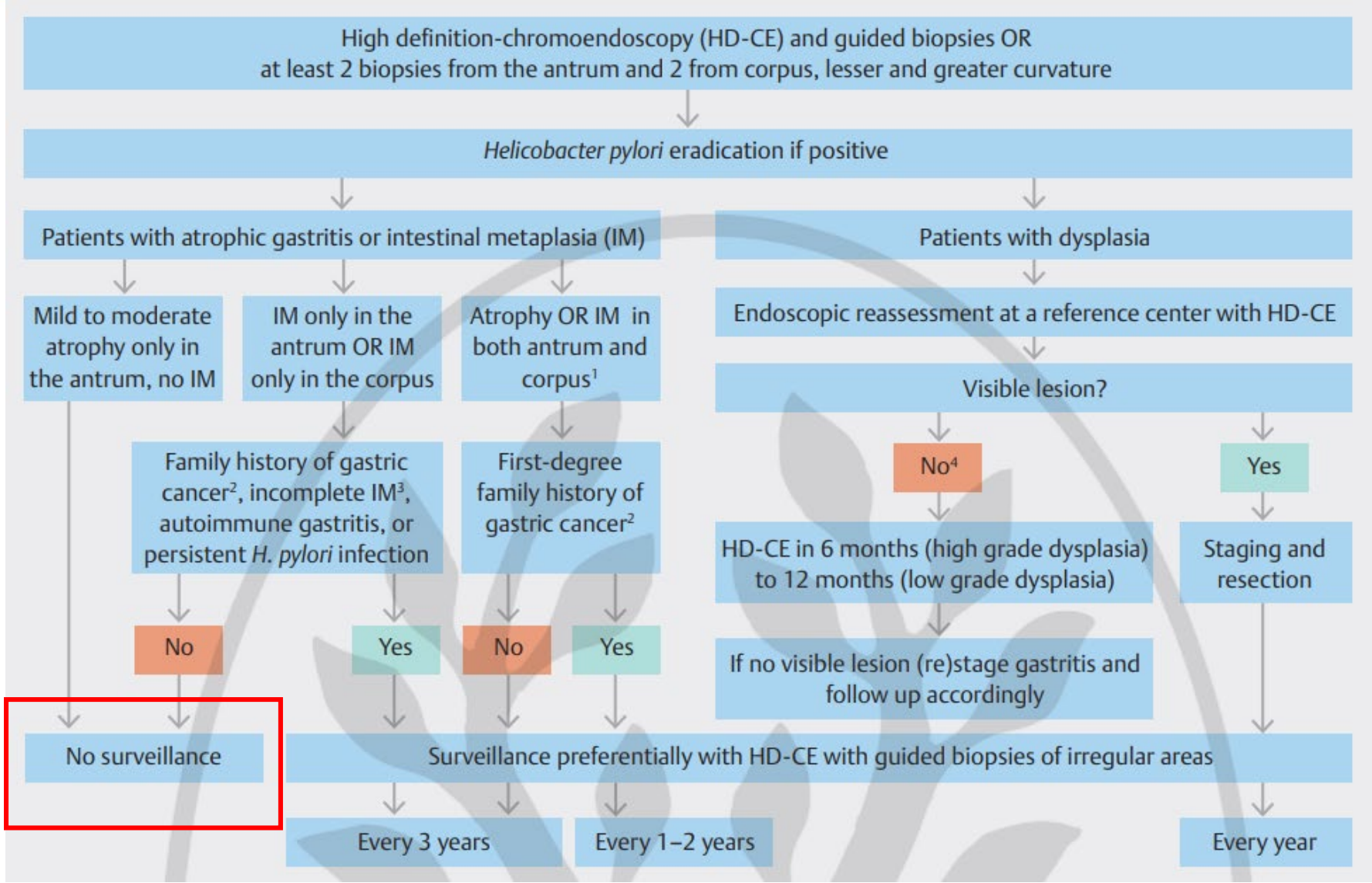
HOW TO DO IT

Biopsy: Sydney protocol

	Biopsy protocol	Endoscopic appearance	Comments
Stomach			
Dyspepsia/*H pylori*[52]	Obtaining 5 biopsy specimens from the following locations increases the sensitivity of *H pylori* detection: greater and lesser curve of gastric body, incisura, and greater and lesser curve of the antrum These ideally should be placed in 2 separately labeled jars (body; antrum/incisura) Obtaining gastric body biopsy specimens is especially important in patients using potent gastric acid–suppressing medications (eg, proton pump inhibitors, potassium-competitive acid blockers) owing to the proximal migration of *H pylori* organisms from the antrum to body	*H pylori* may be present despite normal-appearing stomach	No role for routine biopsy specimens of the esophagus or duodenum in the evaluation of dyspepsia symptoms
High risk for gastric preneoplasia (eg, gastric intestinal metaplasia) and neoplasia[53,54]	At least 5 biopsy specimens from the following locations should be obtained (updated Sydney System biopsy protocol): 2 from the antrum (within 2-3 cm from the pylorus, and from lesser and greater curvature), 1 from the incisura angularis, and 2 from the body (1 from lesser curvature, ~4 cm proximal from the angle, and 1 from greater curvature, ~8 cm distal to cardia) These should be separated in a minimum of 2 pathology jars (body and antrum/incisura) Targeted biopsy specimens of focal abnormalities should be placed in a separate jar	Atrophic mucosa has a pale appearance with increased visibility of submucosal vessels and loss of gastric folds Gastric intestinal metaplasia can be nodular with irregular mucosal pattern and narrow-band imaging may show bluish-white areas (light blue crest sign)	Separate antrum and gastric body biopsy specimens allows for assessment of extent, severity, and etiology of gastric atrophy and intestinal metaplasia Histologic subtyping of gastric intestinal metaplasia should be requested because this improves the prognostic value of biopsy specimens

Nagula S et al, Clinical Gastroenterology and Hepatology 2024;22:933–943

SURVEILLANCE



Pimentel-Nunes Pedro et al. MAPS II … Endoscopy 2019; 51

HELICOBACTER PYLORI

Helicobacter pylori infection is present in 23% to 70% of patients scheduled for bariatric surgery.

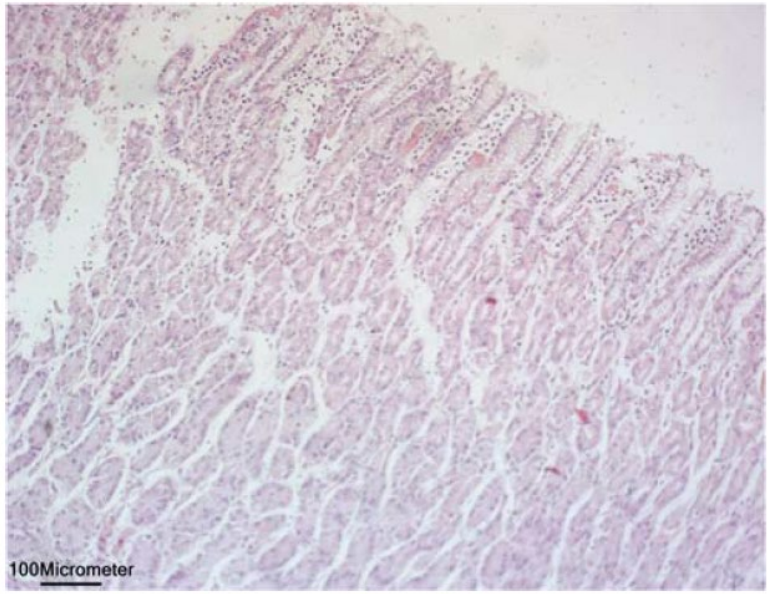


Fig. 1 Normal gastric mucosa (H&E, × 100)

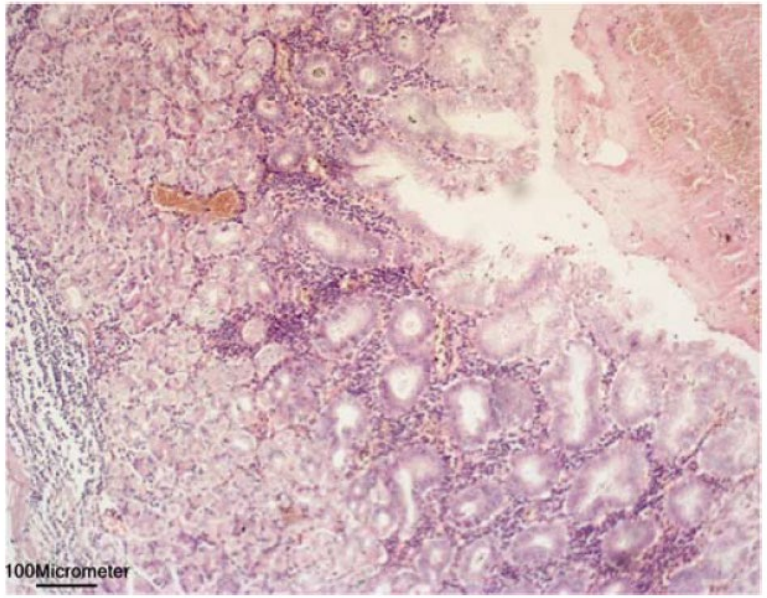


Fig. 2 Mild *Helicobacter pylori* with mild mucosal inflammatory reaction (H&E, × 100)

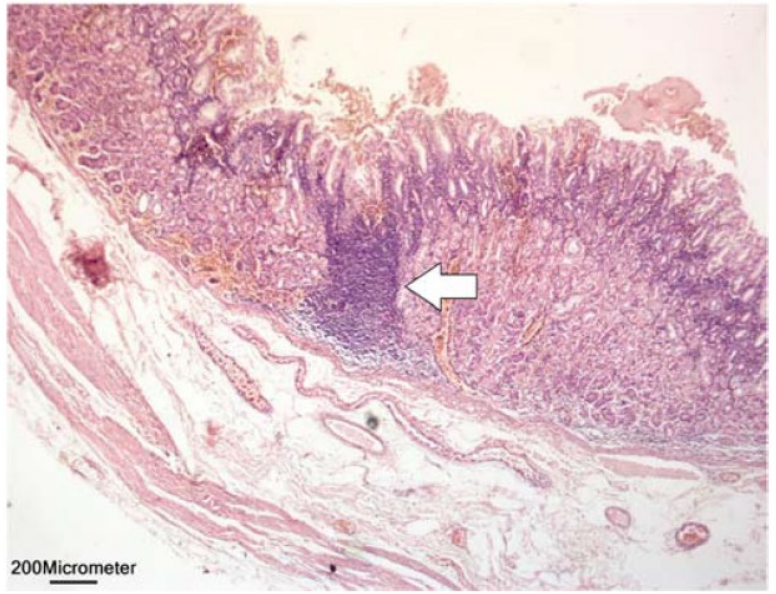


Fig. 3 Moderate *Helicobacter pylori* with lymphoid follicles in the mucosa (H&E, × 40)

Civico Di Cristina Benfratelli

Emile S et al. Obes Surgery, May 2020

HELICOBACTER PYLORI

Variable	H pylori	Non-*H. pylori*	*P* value
Number	69 (39.2)	107 (60.8)	–
Mean operation time in minutes	91.3 ± 12.8	94.6 ± 14.7	0.13ǂ
Mean BMI at 12 months in kg/m^2	34.4 ± 4.3	34.05 ± 4.35	0.6ǂ
Mean %EWL at 12 months	64.7 ± 6.1	64.4 ± 5.7	0.74ǂ
Improvement in GERD (%)	12/27 (44.4)	4/25 (19)	0.03§
Improvement in dyspepsia (%)	30/35 (85.7)	15/29 (51.7)	0.007#
Staple line leakage (%)	2 (2.9)	1 (0.9)	0.56§
Staple line bleeding (%)	2 (2.9)	0	0.15§

176 pazienti obesi trattati con LSG (analisi HP su pezzo operatorio)

69 pz (39.2%) erano positivi all'HP (presentavano più alto BMI, aumentata incidenza di GERD e riferivano dispepsia)

Eradicazione efficace in 67/69 (97.1%) pazienti

Pazienti HP + avevano incidenza di GERD più elevata rispetto al gruppo HP-

Il miglioramento dei sintomi di GERD nei pz HP+ che avevano eradicato l'infezione era maggiore di due volte rispetto a quello ottenuto nel gruppo HP-

Civico Di Cristina Benfratelli

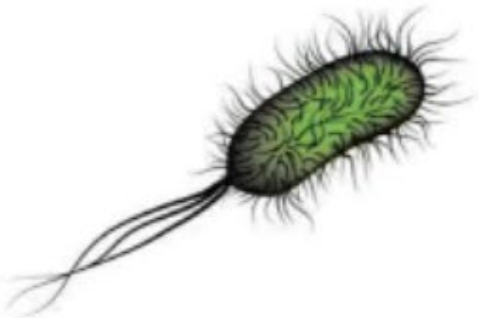
Emile S et al. Obes Surgery, May 2020

HELICOBACTER PYLORI

Helicobacter Pylori Increases Gastric Compliance on Resected Stomach after Laparoscopic Sleeve Gastrectomy

METHODS

- The patients were divided into two groups as HP+ and HP-

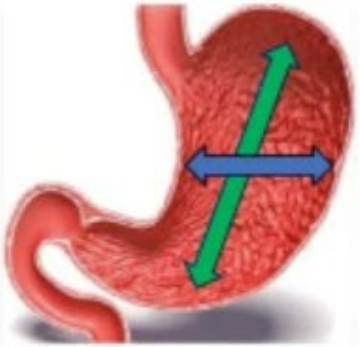


- Age, gender, BMI, comorbidities, pathological data, and specimen measurements were analyzed.

RESULTS

- Both the diameter of the widest point and the volume of the specimens were significantly increased in the HP+ group compared to the HP- group

CONCLUSIONS



- This is the first study showing that HP increases gastric compliance in obese patients who underwent sleeve gastrectomy.

Kuntay Kaplan, Emre Turgut, Gokalp Okut, Yusuf Murat Bag, Fatih Sumer, Cuneyt Kayaalp

IFSO

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Obes Surg. Year_____Month _____doi:_____

OBESITY SURGERY
The Journal of Metabolic Surgery and Allied Care

Kaplan K et al. Obes Surgery, July 2021

HELICOBACTER PYLORI

The Association of Helicobacter Pylori, Eradication and Early Complications of Laparoscopic Sleeve Gastrectomy

METHODS

1985 patients undergoing SG were retrospectively enrolled

HP status in SG specimens

179 ***HP+*** 1806 ***HP-***

39 ***HP+*** 72 ***HP-*** after preoperative eradication therapy

30-day outcomes comparison

RESULTS

SG specimen status	179 HP+	1806 HP-	P value
Total 30-day complications, n (%)	18 (10%)	154 (8.5%)	0.48
Clavien Dindo ≥ 3, n (%)	3 (1.67%)	61 (3.37%)	0.21
Mortality, n (%)	0 (0%)	3 (0.16%)	0.58

Post eradication SG specimen status	39 HP+	72 HP-	P value
Total 30-day complications, n (%)	6 (15.38%)	5 (6.94%)	0.15
Clavien Dindo ≥ 3, n (%)	2 (5.1%)	2 (2.77%)	0.53
Mortality, n (%)	0 (0%)	0 (0%)	-

SG specimen status Eradication therapy	140 HP+ no	72 HP- yes	P value
Total 30-day complications, n (%)	12 (8.57%)	5 (6.94%)	0.68
Clavien Dindo ≥ 3, n (%)	2 (1.42%)	2 (2.77%)	0.48
Mortality, n (%)	0 (0%)	0 (0%)	-

CONCLUSIONS

- HP is not associated with an increased 30-day morbidity and mortality following SG
- HP eradication does not affect outcomes
- The role of routine preoperative HP screening may be limited in SG
- HP eradication can be completed following SG

IFSO

Adam Abu Abeid, Subhi Abu Abeid, Eran Nizri, Joseph Kuriansky, Guy Lahat, Danit Dayan

OBESITY SURGERY
The Journal of Metabolic Surgery and Allied Care

Abu Abeid A et al. Obes Surgery, 2022

HELICOBACTER PYLORI

Title: Impact of Helicobacter Pylori Status on Postoperative Morbidities after Laparoscopic Sleeve Gastrectomy in an Endemic Region (A Retrospective Multicentric Study)

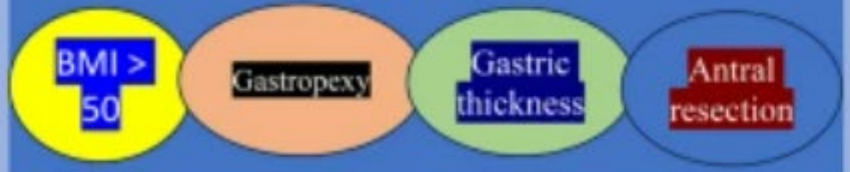
METHODS

Patients with morbid obesity who had LSG between between January 2018 and August 2023. The main research objectives were HP prevalence in patients with morbid obesity, and the effects of HP status on outcomes.

RESULTS

No significant differences were noted regarding complication rate, severity, and hospital mortality among the groups

Independent risk factors for the occurrence of postoperative complications



CONCLUSIONS

The early postoperative course is unaffected by HP status or eradication anymore. Therefore, routine preoperative HP screening may not be as necessary before LSG

IFSO

Authors:Ayman El Nakeeb, Ali Salem, Mohamed El Sorogy, Mohamad Elrefai, Aly E. Rashad, Alaa Mostafa Sewefy,Taha Kayed, Mohammed M. Mohammed, Ahmed Zaid, Hassan Maged Aldossary, Mahmoud D. Dabobash, Kalthoum Sboui, Mohamed Attia

Title: ..... Obes Surg.year ..... Month ..... doi: .....

OBESITY SURGERY
The Journal of Metabolic Surgery and Allied Care

El Nakeeb A et al. Obes Surgery, 2024

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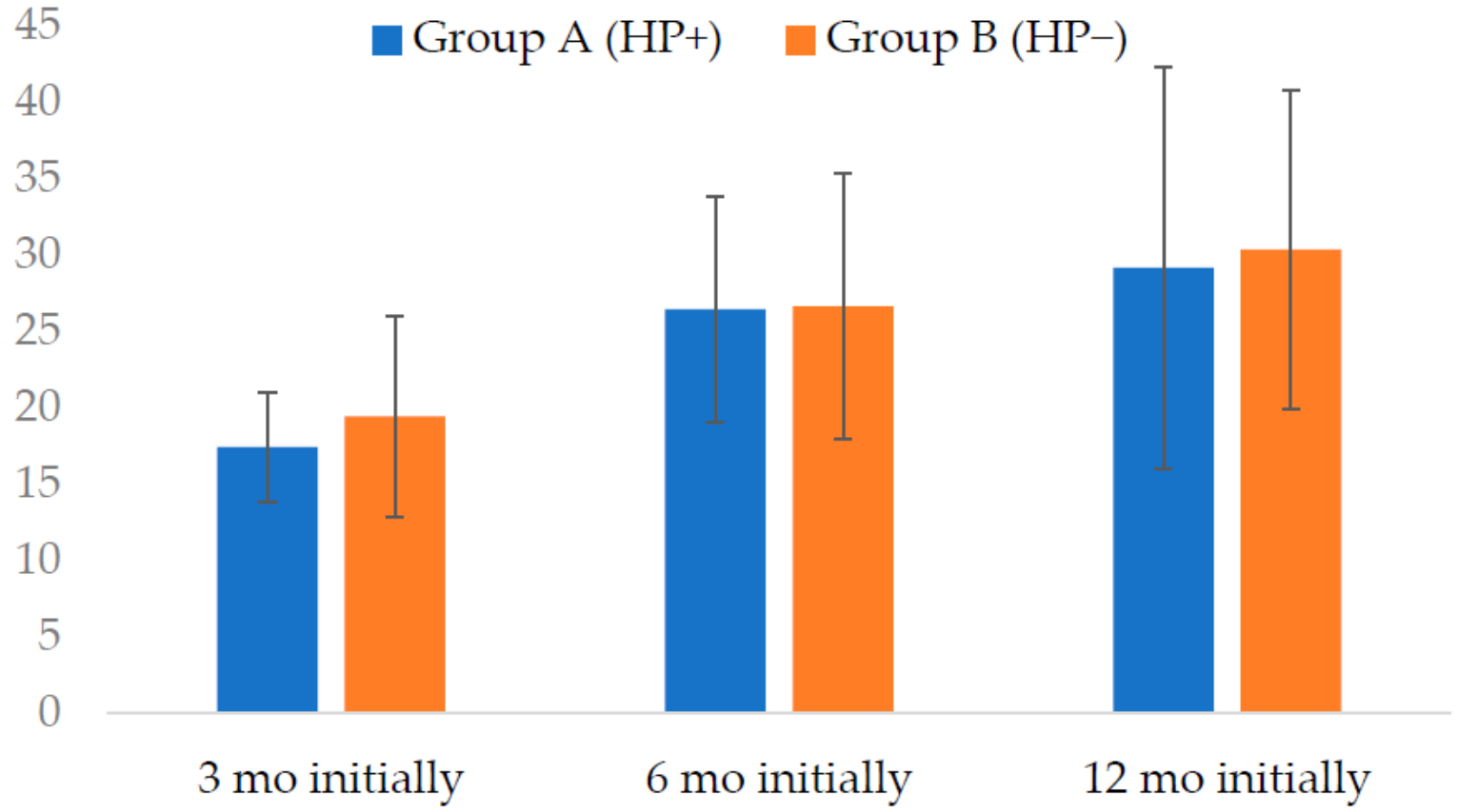

Figure 1. Comparative characterization of the studied groups in terms of body weight loss at 3, 6 and 12 months post-surgery compared to the baseline values.

Observational cohort study
-93 LSG patients

Conclusions: Patients with active HP infections undergoing SG displayed comparable rates of short- and long-term complications to the non-infected group.

Active HP infection did not impact body weight loss outcomes at 12 months,

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Łukasiewicz M et al. J. Clin. Med. 2025

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There are conflicting data for preoperative testing and treatment of H pylori with respect to related surgical outcomes and **additional studies are needed**.

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Evans JA et al. American Society for Gastrointestinal Endoscopy Standards of Practice Committee. Gastrointest Endosc. 2015 May

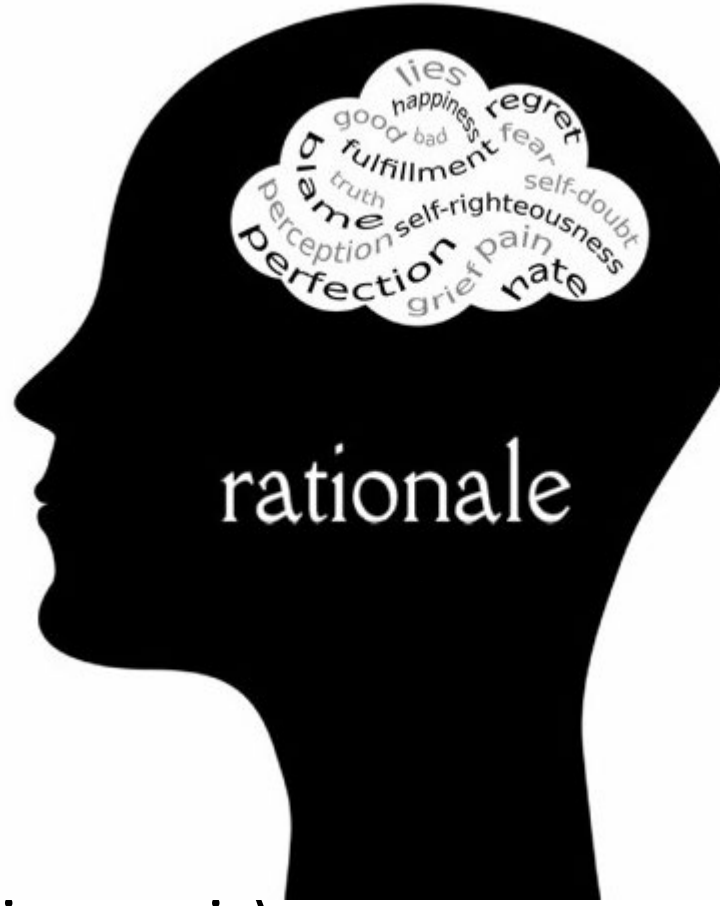
RATIONALE FOR PRE-OPERATIVE EGD

- Obesity is a major risk factor for

-GERD (hiatal hernias) and related pathology

-Ulceration

-Cancer



- Inability to survey gastric remnant post-operation
- Important for clinical decision making
- Provide additional information\necessities (hiatal hernia repair)
- Provide preoperative treatment (e.g., eradication of Helicobacter pylori).
- Poor correlation between symptoms and findings

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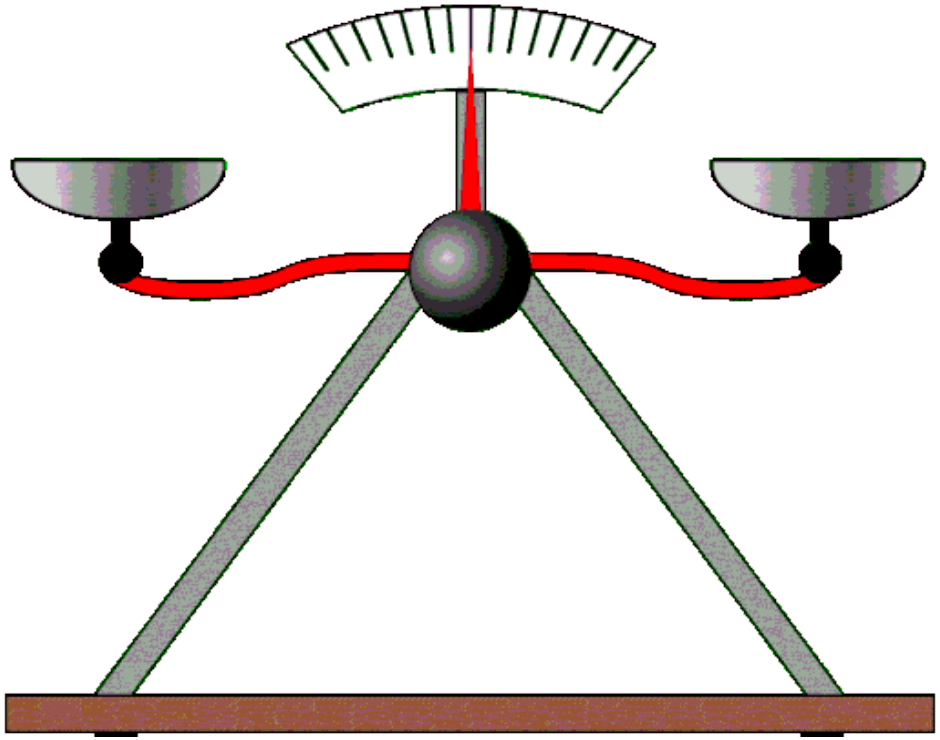
BARRIERS TO IMPLEMENTATION

- Procedure costs
- Access
- Controversy over clinical yield

Pre-Operative EGD

Which type of patient?

Reflux



Not Reflux

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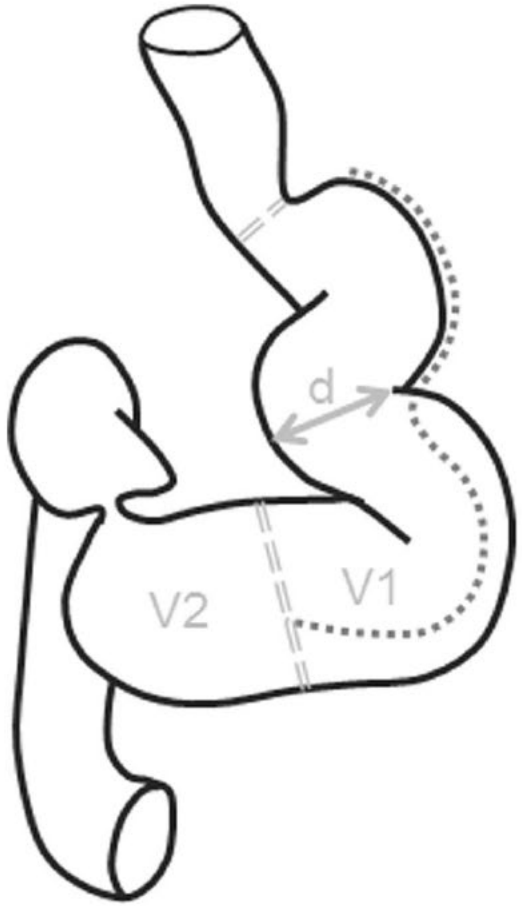
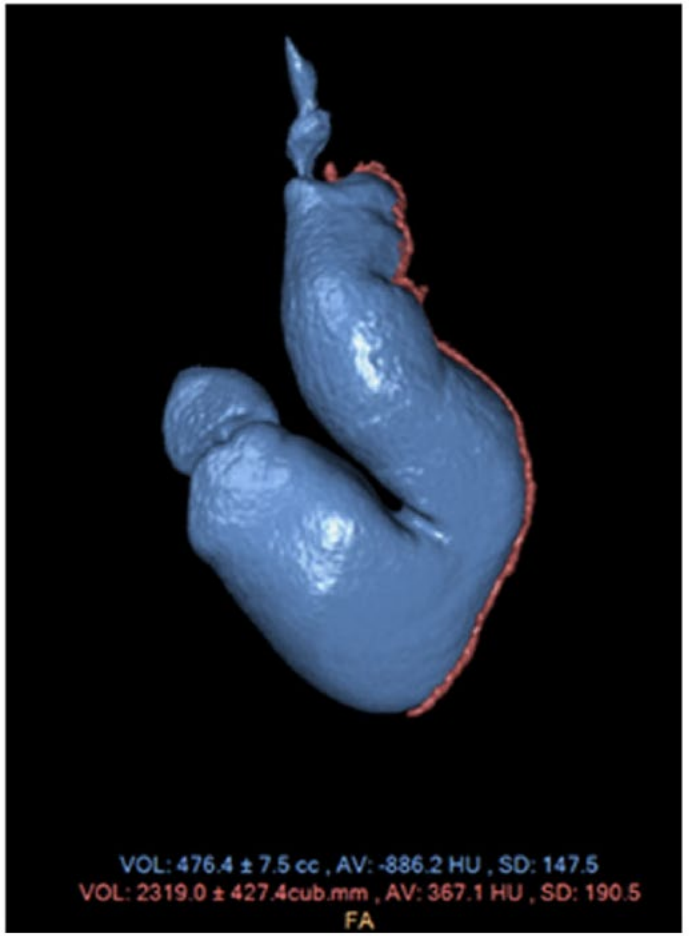
Post-LSG anatomy

Aumentato rischio di GERD post-sleeve

-Perdita normale conformazione dell'angolo di His
- Tubulo che aumenta la pressione intragastrica e riduce la normale compliance gastrica
-Migrazione intra-toracica dello stomaco residuo (sviluppo di ernia iatale)
-Tecnica chirurgica complicata con stenosi\twisting





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Mion F et al, Obes Surg 2016

Post-LSG anatomy

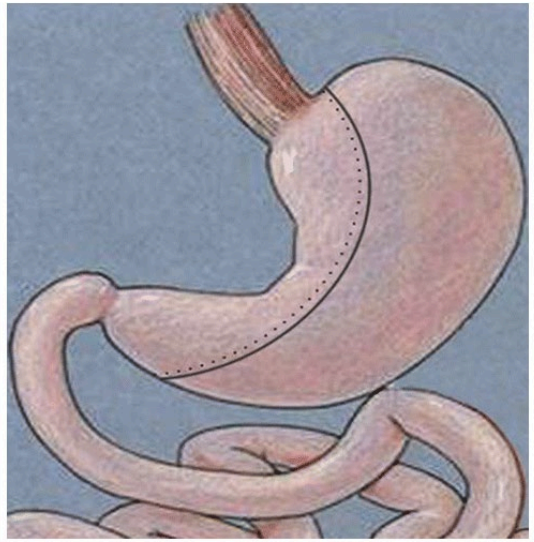
Physiopathology:

- Mechanic Theory → High Pressure on the “angle of His“ due to:

1)Excessive acuity of the gastric sleeve’s angle

2)Gastric sleeve’s sub-stenosis

3)Altered piloric motility



Perez M et al, Obesity Surgery 2014

Post-LSG anatomy

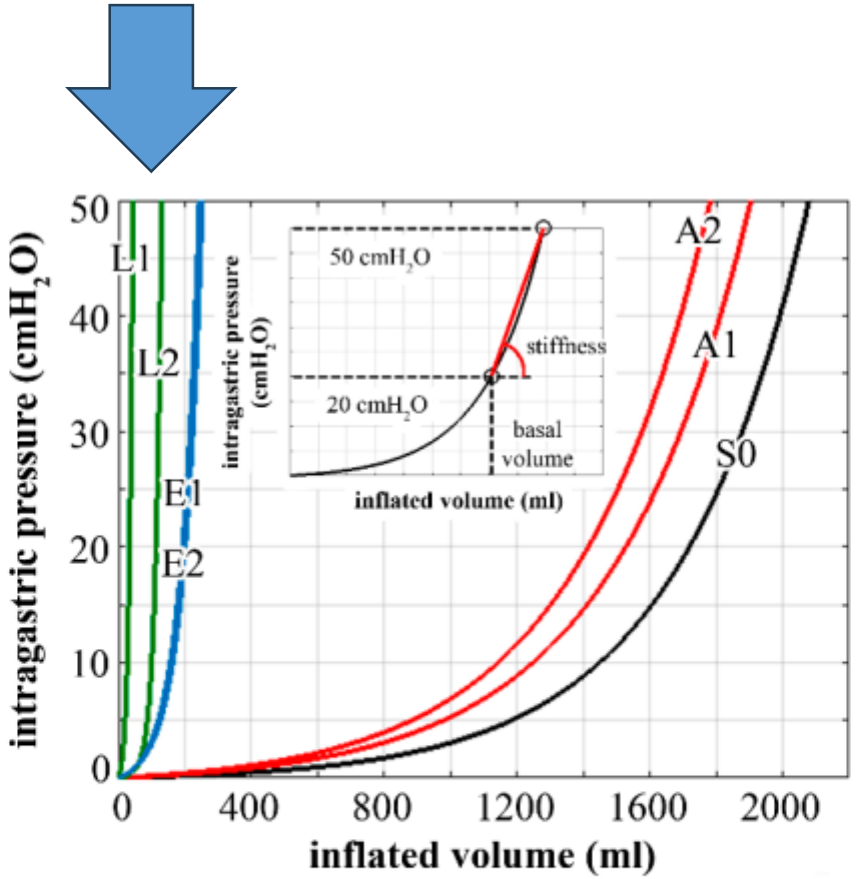


Figure 4. Computational analysis of stomach inflation: pressure–volume behavior of physiological stomach (S0), and postsurgical stomach after laparoscopic adjustable gastric banding (A1, A2), laparoscopic sleeve gastrectomy (L1, L2), and endoscopic sleeve gastroplasty (E1, E2). The subplot reports the procedure for the calculation of stomach basal volume and stiffness.

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Toniolo I et al, Bioengineering Dec 2020

Post-LSG anatomy

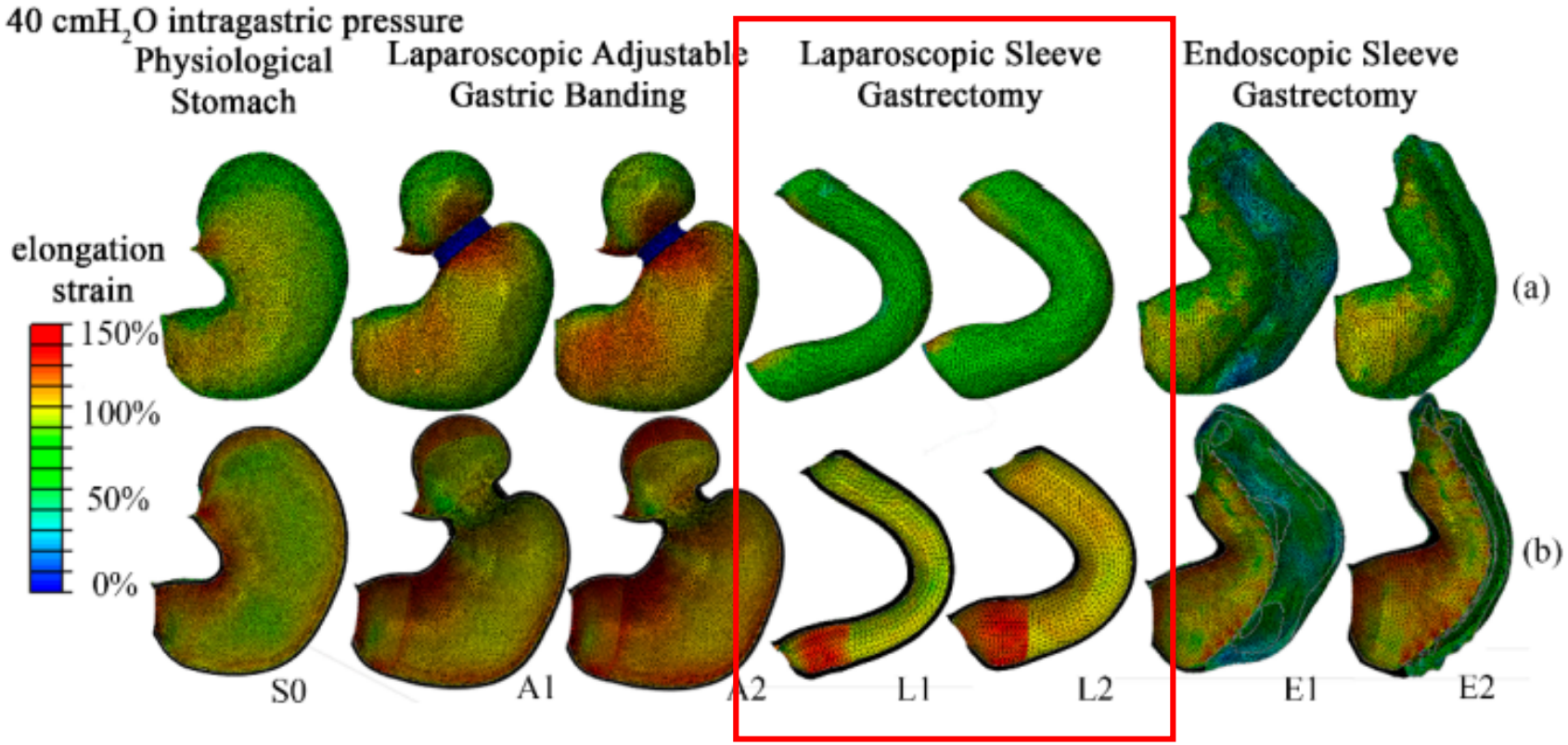


Figure 6. Contours of stomach distension as tissue elongation strain at 40 cm H_2O intragastric pressure: comparison of results for physiological stomach (S0), laparoscopic adjustable gastric banding (A1, A2), laparoscopic sleeve gastrectomy (L1, L2), and endoscopic sleeve gastroplasty (E1, E2) for the outer (**a**) and inner layers (**b**).

Toniolo I et al, Bioengineering Dec 2020

Regular anatomy

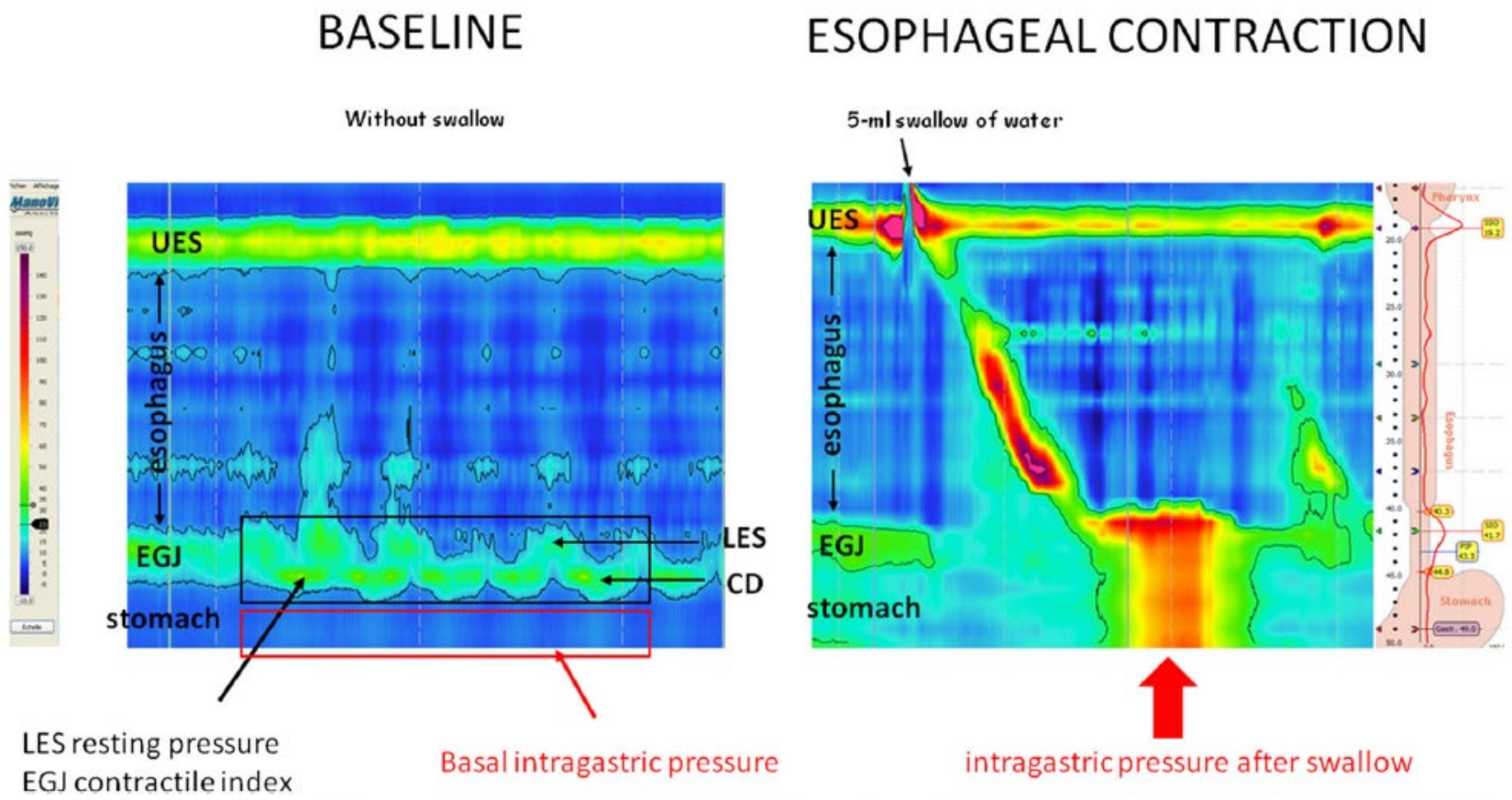


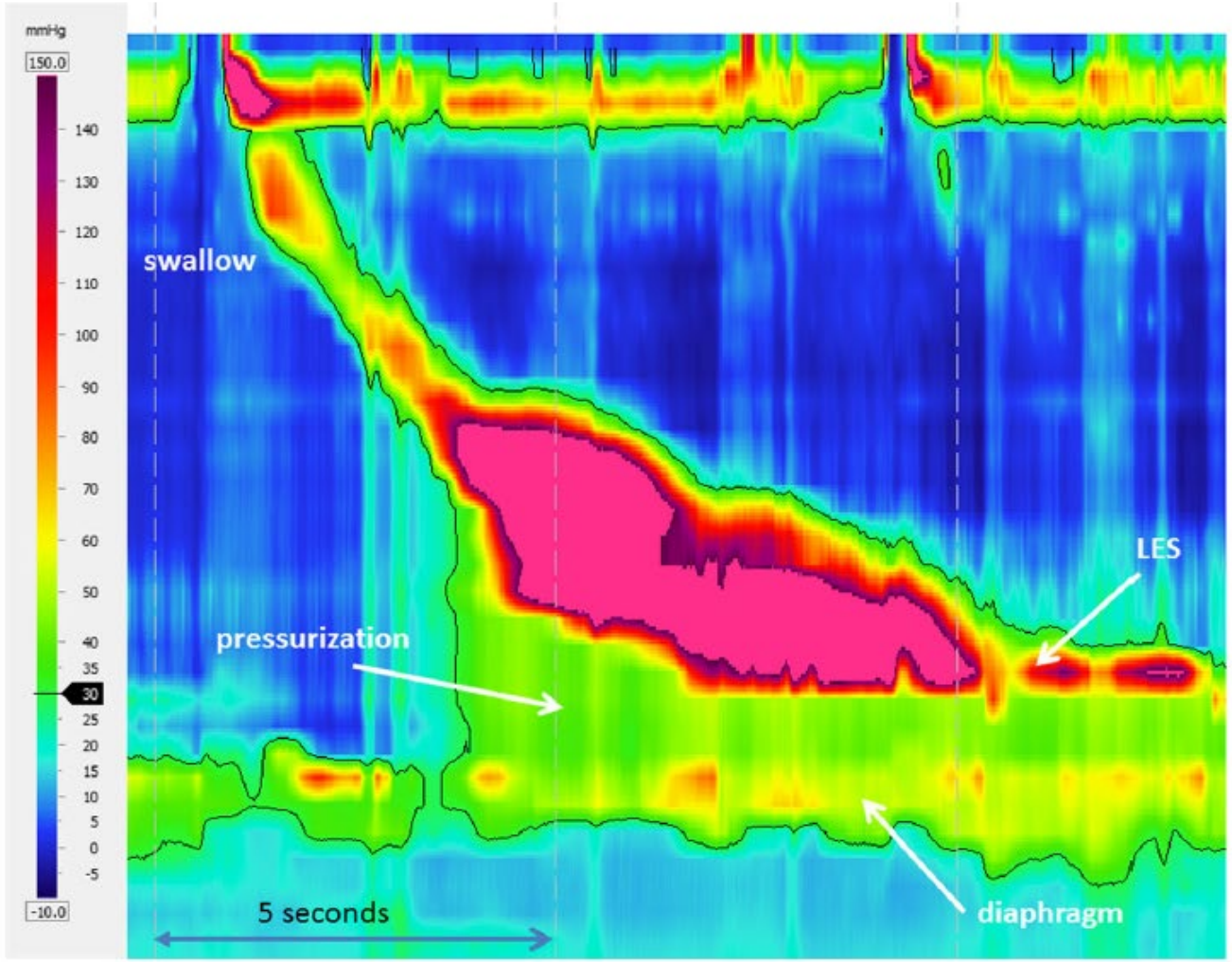
Fig. 1 Topographical representation of the manometric protocol. The color scale indicates the level of pressures. UES upper esophageal sphincter, LES low esophageal sphincter, ECJ esophageal gastric junction, CD crural diaphragm

Coupaye M et al, Obes Surg 2020

Post-LSG anatomy

Altered manometry

Fig. 2 Esophageal high-resolution manometry after sleeve gastrectomy. Typical supradiaphragmatic esophagogastric junction enlargement with bolus pressurization between lower esophageal sphincter (LES) and crural diaphragm after a 5-ml water swallow



Mion F et al, Obes Surg 2016

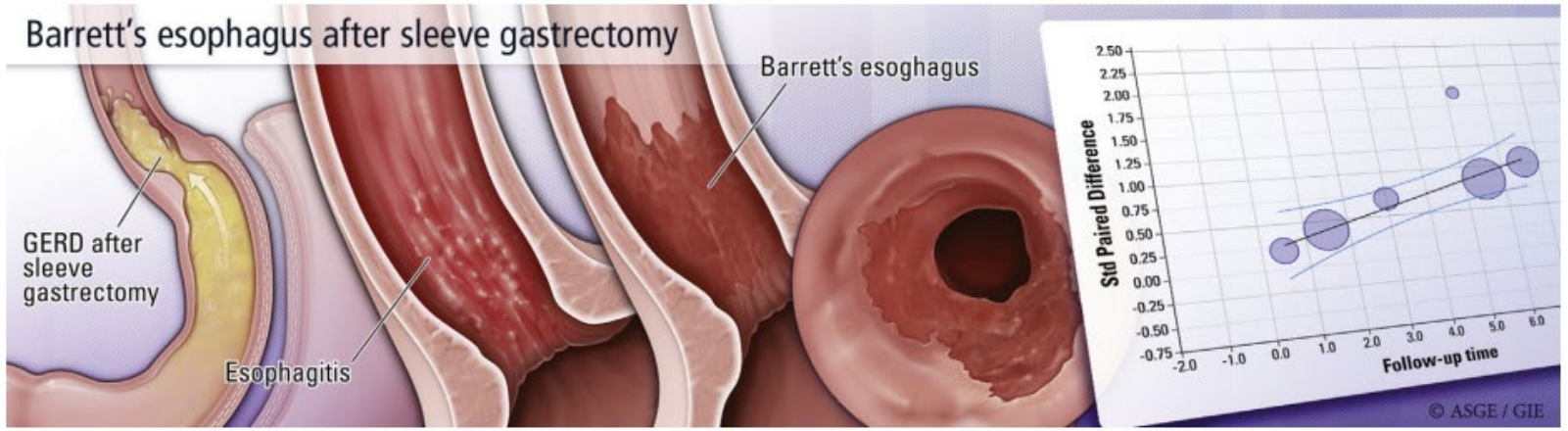
Barrett esophagus after LSG

Barrett's esophagus after sleeve gastrectomy: a systematic review and meta-analysis CME

Bashar J. Qumseya, MD, MPH,[1] Yazan Qumsiyeh, MD,[2] Sandeep A. Ponniah, MD,[3] David Estores, MD,[1] Dennis Yang, MD,[1] Crystal N. Johnson-Mann, MD,[4] Jeffrey Friedman, MD,[4] Alexander Ayzengart, MD, MPH,[4] Peter V. Draganov, MD[1]

Gainesville, Florida; Fresno, California, USA

GRAPHICAL ABSTRACT



10 studi, 680 pazienti

EGDS di controllo a 6 mesi dall'intervento

- 11,6% prevalenza stimata di BE (non associata a sintomi GERD)
- 45% tasso di GERD de novo
- 13% aumento annuale del rischio di esofagite post SG

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Qumseya BJ et al, Gastrointest Endosc. 2021 Feb

Barrett esophagus after LSG

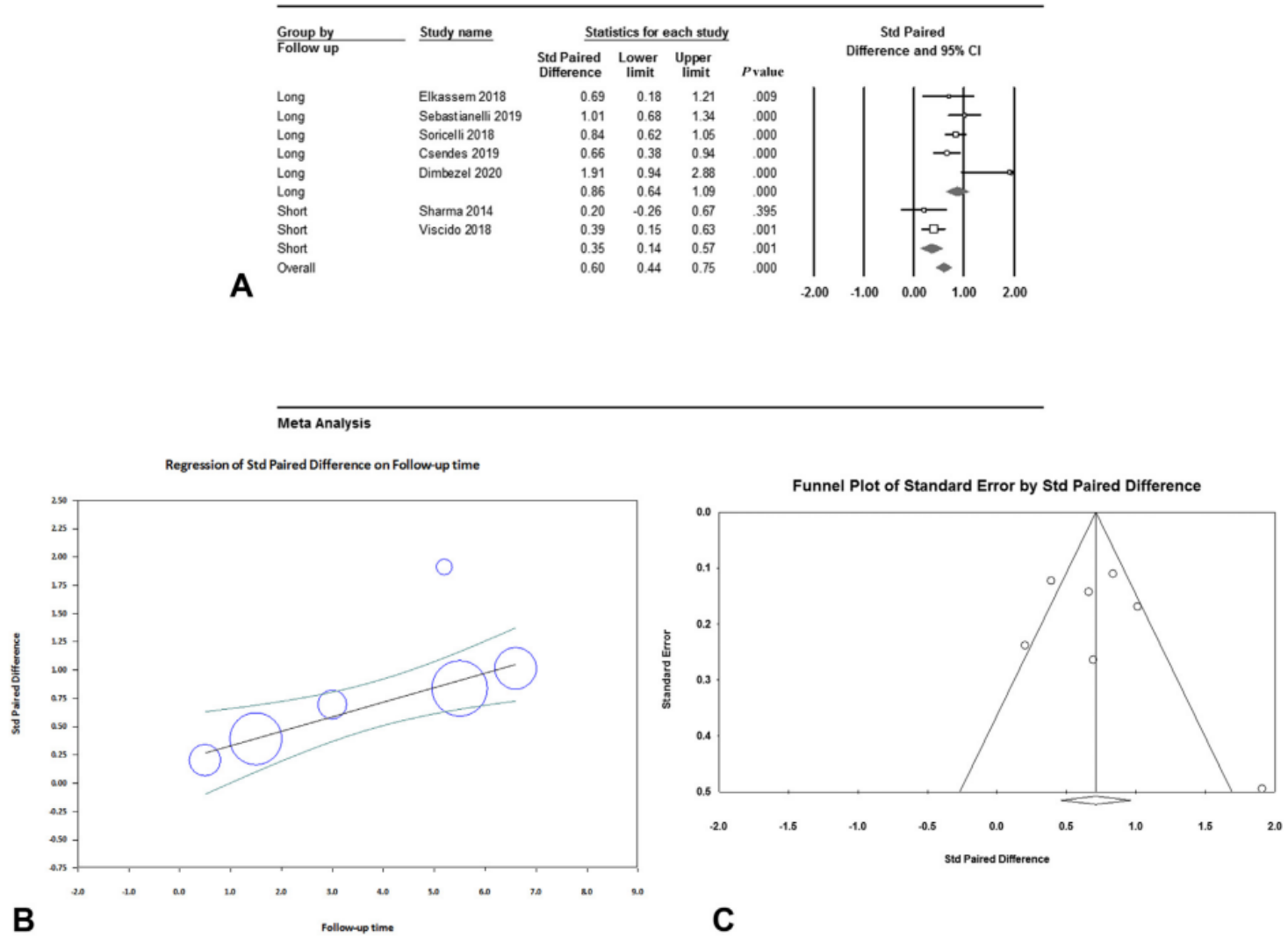

Figure 3. A, Relative risk increase in the rate of esophagitis after sleeve gastrectomy compared with the preoperative rate of esophagitis. **B**, Meta-regression of the risk difference of esophagitis based on follow-up times. **C**, Funnel plot assessing publication bias. *CI*, Confidence interval.

Qumseya BJ et al, Gastrointest Endosc. 2021 Feb

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Post-LSG anatomy

- According to the Bariatric Outcomes Longitudinal Database, LRYGB is more effective than other weight loss procedures in reducing GERD symptoms.
- 5-year outcomes of combined data from two randomized clinical trials (SLEEVEPASS and SM-BOSS) revealed that around 8% of patients undergoing SG necessitated conversion to RYGB due to GERD.

Table 3 Complications and mortality, from 30 days to 5 years after surgery

	Sleeve gastrectomy	Gastric bypass
Complications requiring intervention	20	34
Gastro-oesophageal reflux*	16	0
Small bowel obstruction	0	2
Internal hernia	0	26
Incisional hernia	4	2
Gastroscopy necessary (laparoscopy)	–	1
Severe dumping†	0	3
Mortality	2	4
Procedure-related death‡	0	1
All-cause mortality	2	4

Events requiring reoperation or endoscopic intervention are reported. *Conversion to Roux-en-Y gastric bypass. †Pouch revision (2), bypass reversal (1). ‡Early leakage (within 30 days).

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Wolnerhanssen BK et al, Br J Surg 108(1):49–57

Pre-Operative EGD

Thirteen (3.2%) patients had their planned sleeve gastrectomy switched to a laparoscopic gastric bypass procedure (LGBP) because of findings of gastroesophageal reflux disease (GERD)

Conclusion: Based on our study with a large, comprehensive cohort, we conclude that a preoperative EGD is indicated before SG, but it is not necessary before RYGB for asymptomatic patients without any risk factors for gastric pathology (family history of gastric cancer; H. pylori infection; usage of NSAIDs; smoking, age >50 ; chronic kidney ,heart ,or lung disease).

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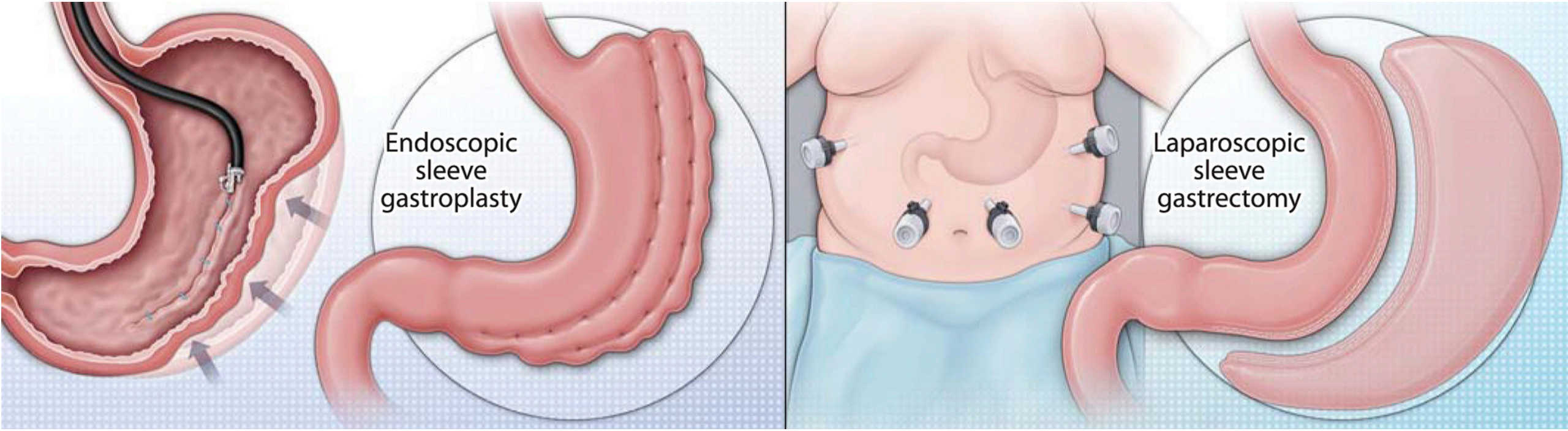
Saarinen T et al. Surg Obes Relat Dis 2018;14:757-62

General (future?) consideration



New-onset GERD was significantly lower in the ESG group compared with the SG group (1.9% vs 14.5%, P <.05).

Fayad L et al, Gastrointestinal Endoscopy. Apr 2019

Pre-Operative EGD

BIG QUESTIONS

Pre-operative upper GI endoscopy modify the subsequent surgery?

Is necessary to all the patients or just to a selected and restricted bariatric population?

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Pre-Operative EGD

Patients with symptoms of GERD, such as heartburn, regurgitation, dysphagia, or any postprandial symptoms that suggest a foregut pathology and/or who chronically use antisecretory medications, should have an upper GI endoscopic evaluation before bariatric surgery.

Hampel H et al, Ann Intern Med, 2005

Post-LSG anatomy

Age >55 years and the presence of GERD in the history were associated with an abnormal finding on screening upper endoscopy.

Table 5 Value of routine p-OGD for our 1369 cases categorized by patient groups: relationship between symptoms, change in management, and cost justification

Group	Suggestive UGI symptoms	p-OGD findings	Change in management	Costs justified?
0	Not present	Normal	No	Costs seem unjustified
1	Not present	Abnormal	No	Costs seem unjustified
2	Present in 68%[a]	Abnormal	Possibly yes (only for hiatal hernia patients where HHR was added)	Costs seem justified for symptomatic patients
3	No patients in our sample	–	–	–

[a] UGI symptoms were present in 68% of group 2 patients (those who had hiatus hernia or severe gastritis)

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Salama A et al, Obes Surg 2018;28:52-60

Pre-Operative EGD

Metanalisi

12,261 patients

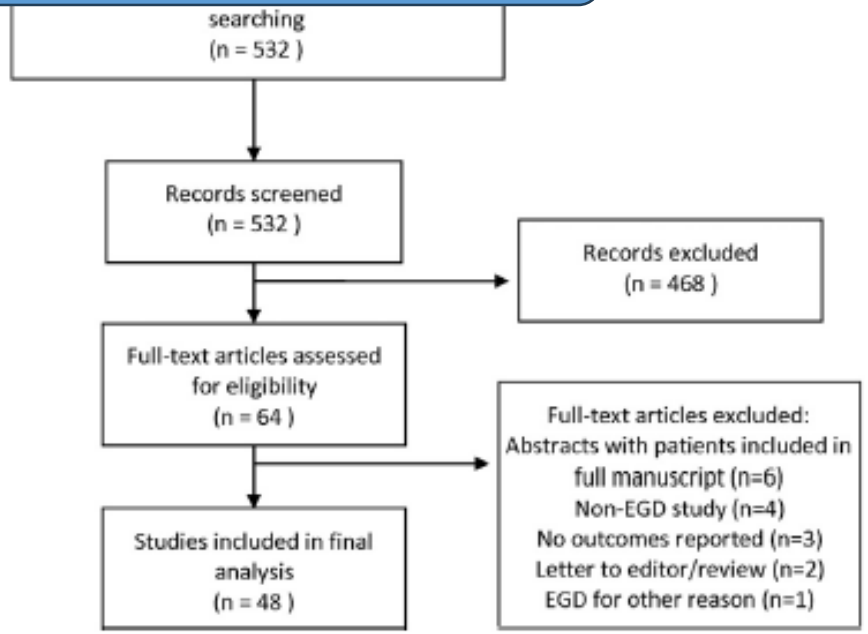

Table 2
Proportions of pathologic findings reported in all studies

Pathology	Proportion (%)	Number of studies reporting	Number of patients (total)
Esophagitis	14.4	37	9129
Barrett's esophagus	2.1	19	5802
Esophageal cancer	0.2	5	1278
Hiatal hernia	21.1	39	9723
Gastritis	37.6	31	7598
Gastric ulcer	3.6	25	6356
Duodenal ulcer	1.8	16	3547
HP (biopsied if suspicious)	36.2	8	1652
HP (routine biopsies)	20.2	23	5650
Gastric cancer	0.4	12	3586
Gastric intestinal metaplasia	2.2	5	1126
Bulbitis/duodenitis	5.2	20	5974

HP = *Helicobacter pylori*.

Total of endoscopies that determined a change in the surgical decision 7.8%
Total of endoscopies that determined a change in the Medical management 27.5%

Conclusion: it is reported a very low incidence of findings that can change the surgical managment. It is not recomended a routine endoscopy. Cost-Benefit

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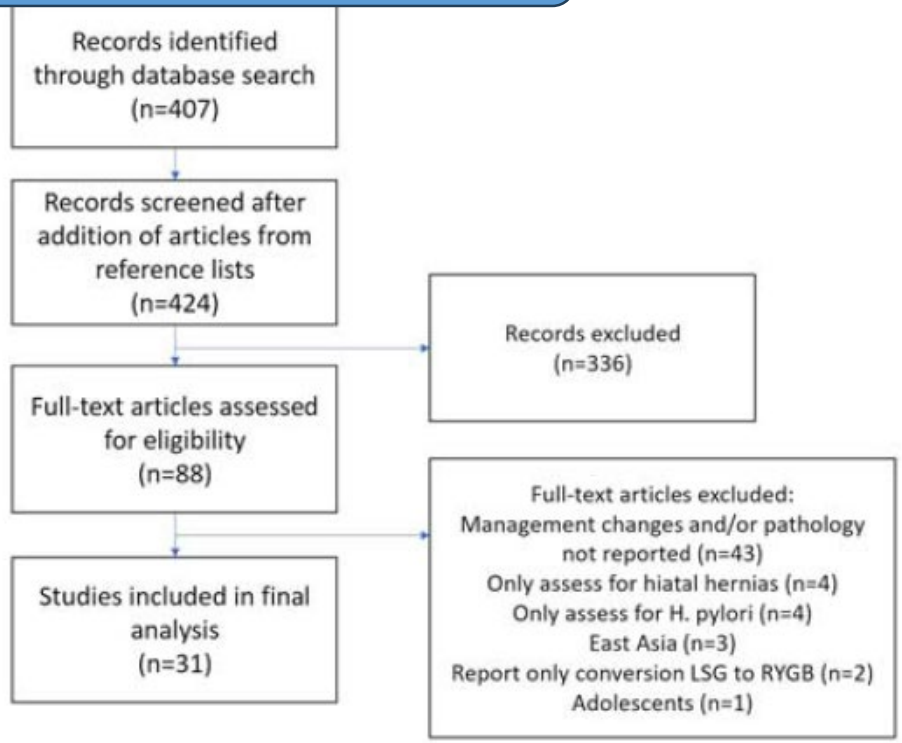
S. Bennett et al. / Surgery for Obesity and Related Diseases, 2016.

Pre-Operative EGD

Meta-analysis: COST ANALISYS

13,867 endoscopies



Endoscopic findings 3.9%
Decrease to 0.4% if Hiatal Hernia Dx. is removed

H. pylori finding 7.5%
The cost decreases to 0.2 if breath test is used

US $ 600,000 routine endoscopy costs
US $ 281,000 Costs of controversial findings
US $ 761,000 Costs of exclusion findings
US $ 2'554,500 Costs of exclusion of cancer

Conclusion: because the high cost, the benefit of routine pre-operative endoscopy must be individualized

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Evans G et al. J Clin Gastroenterol - May/June 2020

Pre-Operative EGD

523 patients 2007 al 2012 programmed for Gastric Bypass or Sleeve .

No abnormalities	48.9%
Abnormalities without treatment changes	17.2%
Helicobacter Pilori Positive	26.8%
In IBP´s treatment	14.3%
Required new endoscopy PRE-Op	1.1%
Surgery cancelled for Barrett´s with cancer	0.2%

Gastric Bypass	72.7%
Gastric sleeve	7.1%
Revisional surgery	20.9%

Endoscopic findings:	Postponed	Suspended
Barrett´s	0	1
Duodenitis	0	0
Gastric Tumor	1	0
Gastric Ulcer	3	0
Gastritis	3	1
Helicobacter	3	0
Esophagitis	1	1
Hiatal hernia	2	1
Schatzky ring	0	0

Conclusion: It is not justified to perform routine preoperative endoscopy in bariatric patients
There is a high number of patients that are programmed to surgery
The Cost-benefit is not justified

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Schigt A et al. Surgery for Obesity and Related Diseases, May/June 2014

Pre-Operative EGD

Preoperative EGD in patients without reflux symptoms undergoing Laparoscopic sleeve gastrectomy: utility or futility?

Clinical and Experimental Gastroenterology 2019:12 295–301

219 patients **WITHOUT gastroesophageal reflux programmed for Sleeve Gastrectomy**. 2016 to 2018

Group A. **WITH** Preop. Endoscopy

Group B. **WITHOUT** Preop. Endoscopy

GROUP A. Preop. Endoscopy	
NO Pathology.	77.5%
Gastritis.	18.9%
Suspicious Area with normal biopsy	2.7%
Reflux esophagitis by biopsy	0.9%

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Mazahreh T et al. Clinical and Experimental Gastroenterology 2019:12

Pre-Operative EGD

Preoperative EGD in patients without reflux symptoms undergoing Laparoscopic sleeve gastrectomy: utility or futility?

Clinical and Experimental Gastroenterology 2019:12 295–301

Table 2 Postoperative variables related to LSG with versus without EGD

Postoperative Variables	Group A N1 (% from Group A)	Group B N2 (% from Group B)	*p*-value
Complication[a]			NS
Bleeding	2 (1.8)	1 (0.9)	
Leak	0 (0)	1 (0.9)	
Gastric histopathology results[b]			
Normal	39 (35.1)	54 (50.0)	NS
Active gastritis	15 (13.5)	32 (29.6)	<0.01
Chronic gastritis	56 (50.5)	22 (20.4)	<0.01
Intestinal metaplasia	1 (0.9)	0 (0.0)	NS
Length of hospitalization (d) (mean ± S.E)[c]	3.01±0.6	3.14±0.8	NS
Symptomatic GERD at 1-year[a]	13 (11.7)	10 (9.3)	NS

Conclusion: It is not mandatory to perform a pre-operative endoscopy in asymptomatic reflux previous to a sleeve gastrectomy. There is no difference of post-operative problems in both groups.

Mazahreh T et al. Clinical and Experimental Gastroenterology 2019:12

Pre-Operative EGD

How preoperative upper gastrointestinal investigations affect the management of bariatric patients - results of a cohort study of 897 patients

METHODS

897 patients undergoing bariatric surgery
(741 LRYGB, 156 LSG)
from January 2017 to December 2022

Upper endoscopy

Esophageal manometry

Upper GI series

Evaluation of findings

RESULTS

In **14 patients (1.6%) change of planned procedure because of preoperative findings:**

LRYGB → LSG

In 5 patients **switch from LRYGB to LSG** due to:
- type A gastritis, precancerous lesions, esophageal and gastric varices

LSG → LRYGB

In 9 patients **switch from LSG to LRYGB** due to
- severe GERD (LA grade D), insufficient lower esophageal sphincter function, motility disorders, nutcracker esophagus, achalasia, large hiatal hernia

CONCLUSIONS

Upper endoscopy for **all** patients

Manometry only for **symptomatic** patients **before LSG**

Upper GI series no longer recommended

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Poljo A et al, Surgical Endoscopy, Jan 2025

GUIDELINES

RECOMMENDATIONS

1. We suggest that the decision to perform preoperative endoscopy should be individualized in patients scheduled to undergo bariatric surgery after a thorough discussion with the surgeon, taking into consideration the type of bariatric procedure performed. ⊕⊕◯◯

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Evans JA et al. ASGE STANDARDS OF PRACTICE COMMITTEE - Surg Endosc (2015) 29:1007–1017

GUIDELINES

Preoperative endoscopy versus no endoscopy in patients undergoing bariatric surgery?

Esophagogastroscopy can be considered as routine diagnostic test prior to bariatric surgery

Conditional recommendation

EAES

IFSO European Chapter

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Di Lorenzo N et al, EAES guidelines, Surg Endosc. 2020 Jun

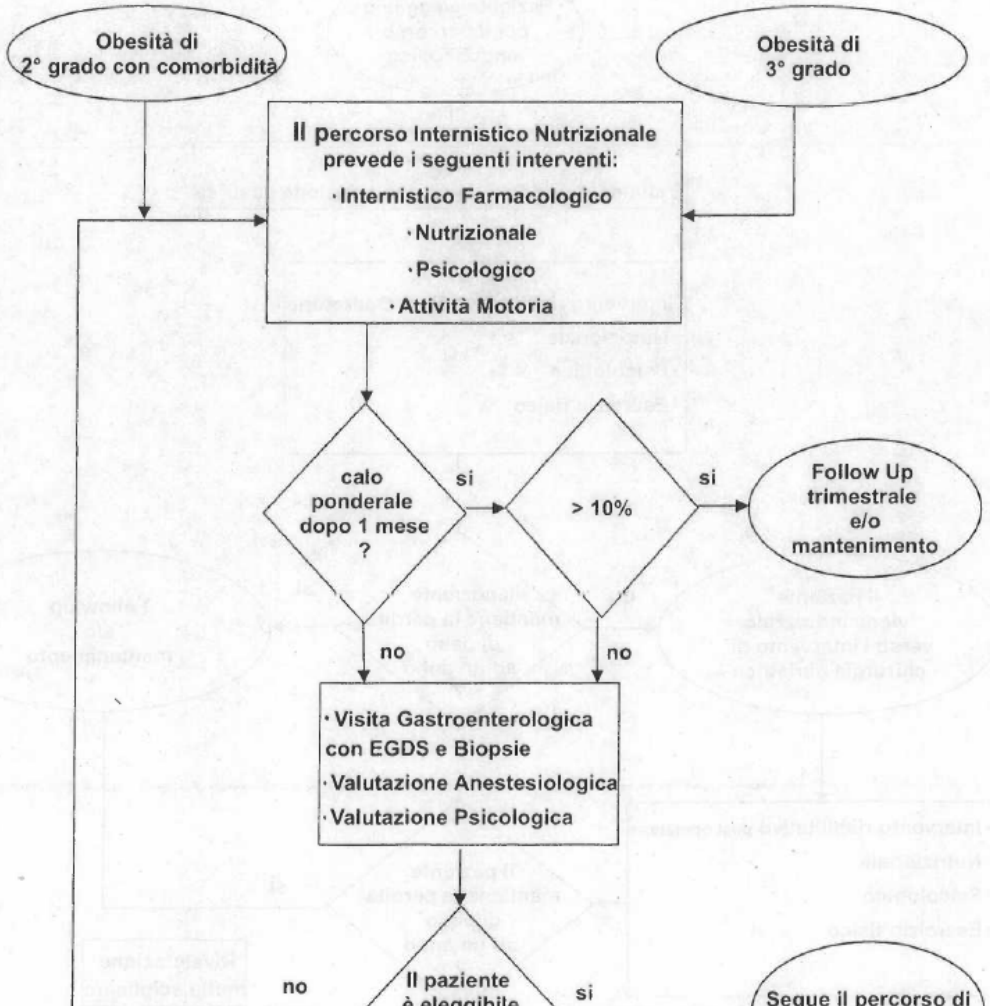
GUIDELINES

14	Non si esprime una preferenza né a favore né contro l'impiego della gastroscopia nelle fasi perioperatorie di un intervento di chirurgia metabolico-bariatrica, per ridurre l'incidenza di complicanze periprocedurali.	Debole né a favore né contro	Molto bassa

Sicob, 2023

PDTA AZIENDALE

13. Flowchart 3 - Percorso Internistico Nutrizionale per pazienti con obesità di 2° grado con comorbidità o di 3° grado



CONCLUSION

An **endoscopic work-up** should be strongly recommended in all bariatric patients.

Quality endoscopy must be performed according to certain behavioral, biopsy and classification criteria.

Pre-operative EGD frequently identifies significant GI pathology and prompts important treatments (cost-benefit?).

A **multidisciplinary approach** should be supportive in designating the best surgical option for the patient and subsequent follow-up.

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CONCLUSION

CLOSE COLLABORATION

Dimmi come stringi la mano e ti dirò chi sei

Grazie


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2025
Director Roberto Di Mitri | Co-director Alessandro Repici
Palermo | March 19-21, 2025
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