Quality in Upper GI Endoscopy

A Practical Guide for Young Endoscopists

P Eisendrath | B S G I E 2026

Grounded in ESGE Quality Improvement Initiative 2025 | AGA Clinical Practice Update 2024 | ACG/ASGE Quality Indicators 2025

ESGE 2025 **AGA 2024** **ACG/ASGE 2025** **BSG 2017 / 2025**

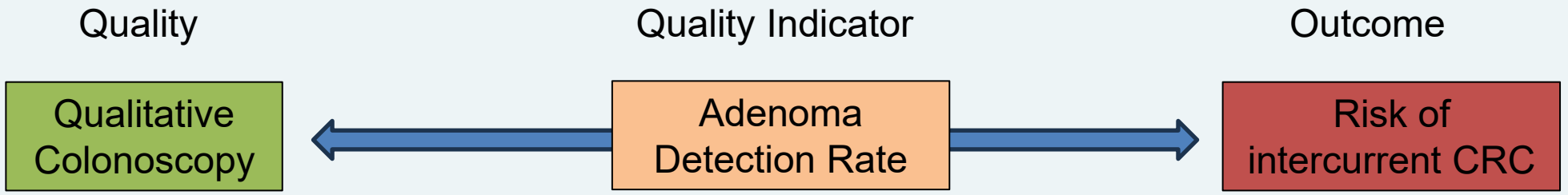
BSGIE
Belgian Society of Gastrointestinal Endoscopy

Quality and performance measures

Quality in Endoscopy : degree to which an endoscopic procedure increases the likelihood of desired health outcomes and aligns with current professional medical knowledge

≠

Performance Measure (// quality indicator) **in Endoscopy**: specific, quantifiable tool used to evaluate the care delivered during a endoscopic procedure in order to achieve dedicated outcome.



Why Quality Matters in UGI Endoscopy

> 450.000

OGDs performed in the Belgium in 2025

5%–49%

of OGDs performed without an appropriate indication

10.7%

of UGI cancers diagnosed within 3 years of a previous "neg" OGD

23.9%

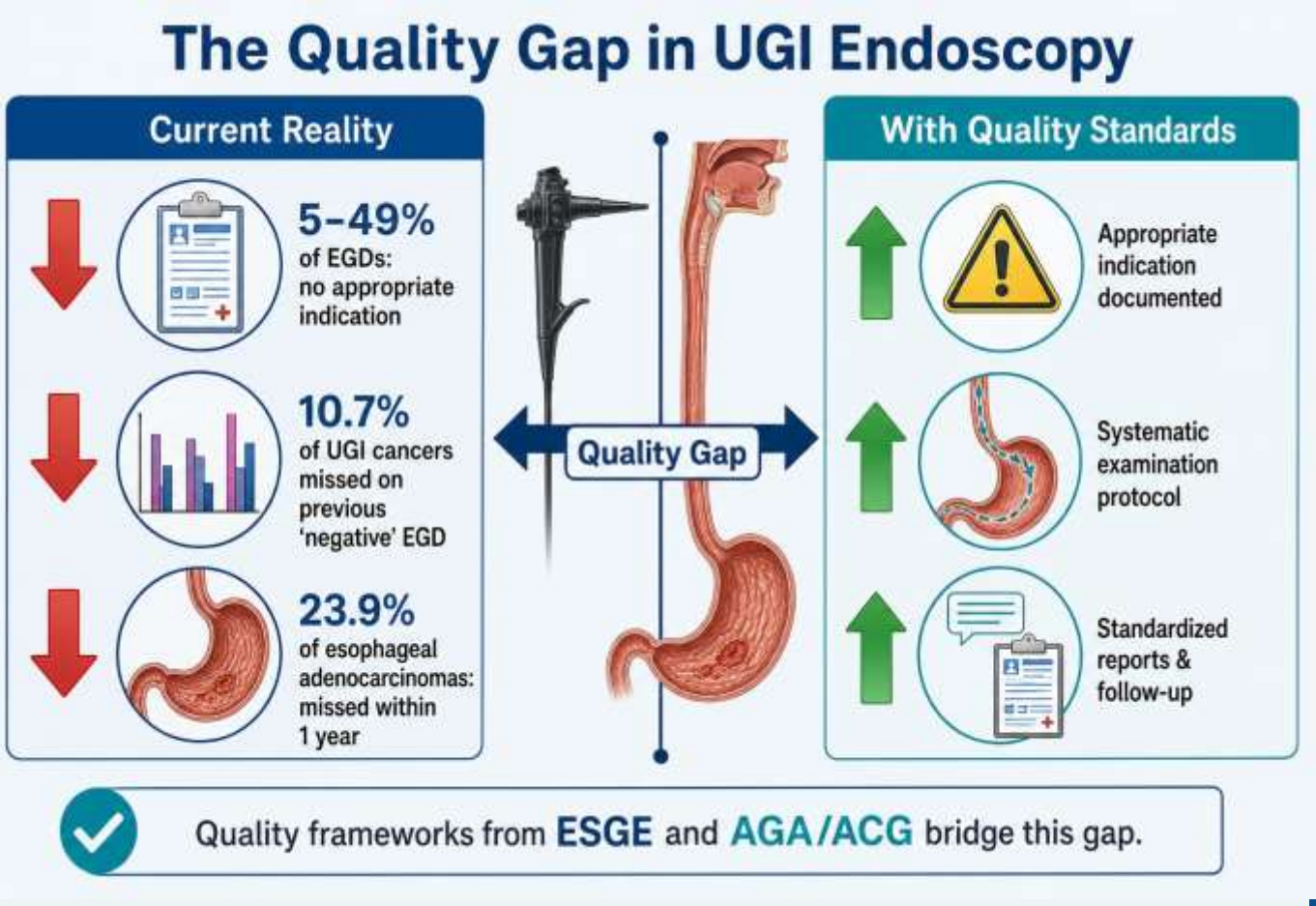
of Oeso ADC in BE patients: diagnosed within 1 year of a "neg" OGD

Bleeding : up to 20 / 10000

Cardio-Vascular Comp : 20 / 10000

Death : 8 / 10000

after diagnostic OGD in older population



INAMI 2025 | Yadlapati et al., 2025 | Nagula et al., 2024 | Kim et al., 2021

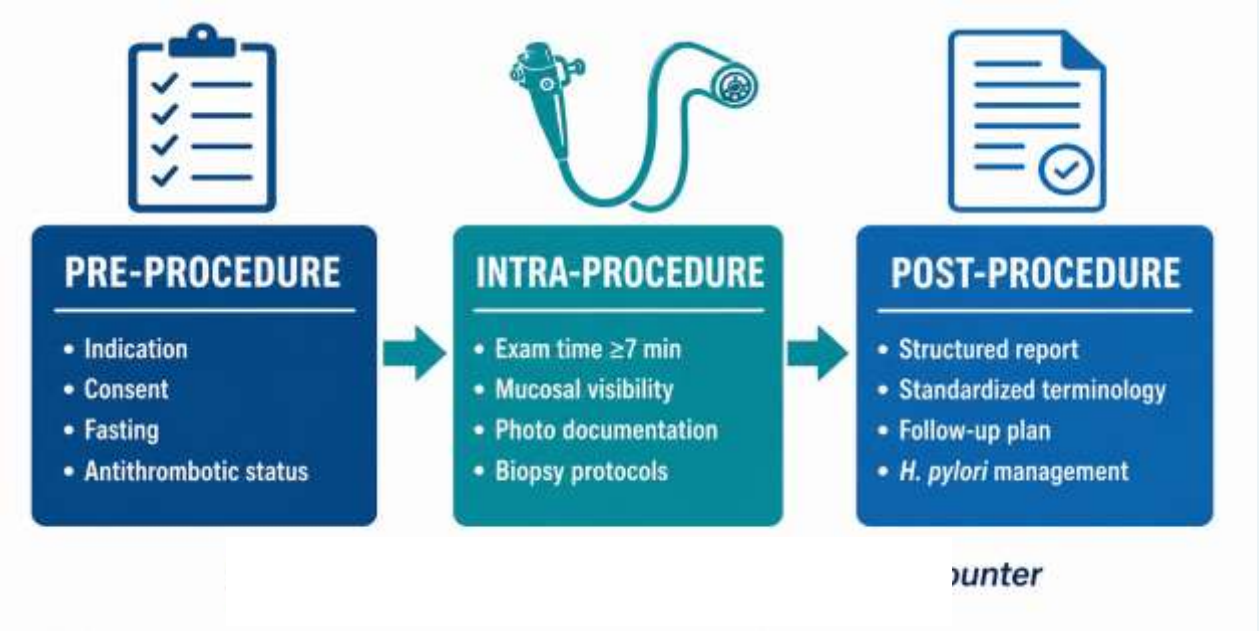
BSGIE
Belgian Society of Gastrointestinal Endoscopy

A Three-Domain Quality Framework

bsg 2017

ASGE 2025 (New update)

ESGE 2025 (New update)



Pre-procedure → Intra-procedure → Post-procedure

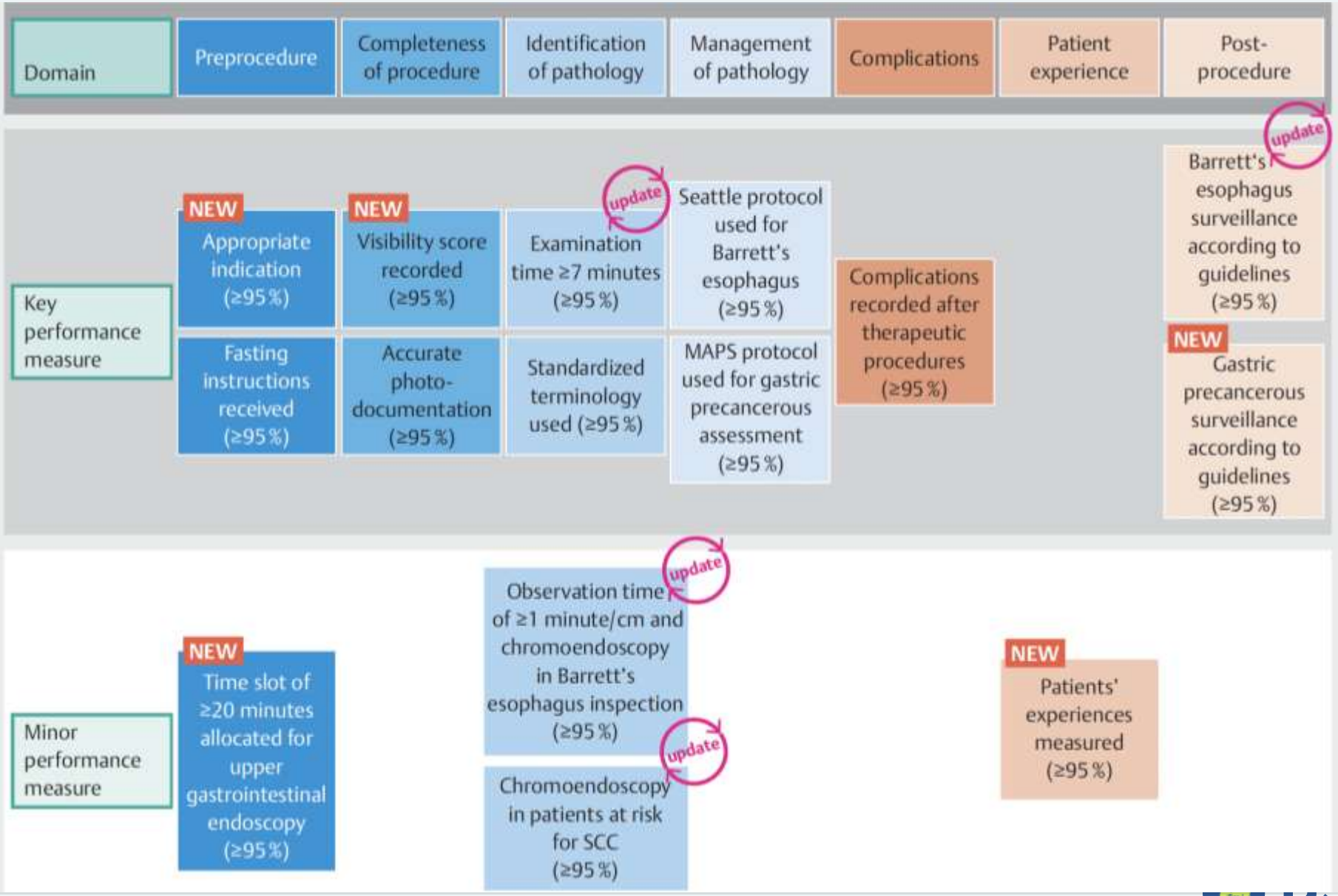
ASGE Performance Measures

TABLE 1. Quality indicators for EGD

	Quality indicator	Performance target (%)
Preprocedure		
1	Frequency with which endoscopy is performed for an indication that is included in a published standard list of appropriate indications and the indication is documented	>95
2	Frequency of EGD performed within 24 hours for patients admitted to or under observation in hospital for upper GI bleeding	>80
Intraprocedure		
3*	Frequency of photodocumentation of the esophagus, gastroesophageal junction, gastric cardia/fundus, corpus, incisura, antrum/pylorus, second portion of duodenum, and detected lesions in patients undergoing EGD	>90
4	Frequency of obtaining a total of 6 biopsy samples (or more) obtained from at least 2 levels (proximal/mid and distal) of the esophagus in the absence of an endoscopically evident etiology for dysphagia in patients reporting dysphagia	>90
5	Frequency of endoscopic reference score documentation when eosinophilic esophagitis is suspected or established	>95
6*	Frequency of Los Angeles classification documentation when erosive esophagitis is present	>98
7	Frequency with which the locations of the squamocolumnar junction, gastroesophageal junction, and diaphragmatic hiatus (if there is a hiatal hernia present) are recorded for patients with endoscopically suspected columnar metaplasia in the tubular esophagus	>95
8*	Frequency with which the presence of at least 1 cm of endoscopically evident columnar mucosa is documented while obtaining biopsy samples to evaluate for BE	>95
9*	Frequency with which the extent of suspected or confirmed BE is documented using the Prague criteria in cases of suspected or confirmed BE	>95
10	Frequency with which high-definition white-light endoscopy (with dye-based or virtual chromoendoscopy) is used for performing surveillance endoscopy in patients with BE	>90
11	Frequency of systematic 4-quadrant biopsy sampling every 2 cm taken throughout the extent of the endoscopically involved segment of BE in patients with known BE undergoing surveillance endoscopy	>90
12	Frequency with which biopsy samples or endoscopic resection is obtained from visible lesions and processed separately from the systematic biopsy samples in a patient with known BE with a visible lesion identified on surveillance endoscopy	>90
13*	Frequency with which, during EGD examination revealing peptic ulcers, at least 1 of the following stigmata is noted: active bleeding, nonbleeding visible vessels (pigmented protuberance), adherent clot, flat spot, or clean based	>98
14*	Frequency of endoscopic treatment delivered to ulcers with active spurting or oozing or with nonbleeding visible vessels	>90
15	Frequency of a second treatment modality delivered (eg, coagulation, clips, argon plasma) when epinephrine injection is used to treat actively bleeding or nonbleeding visible vessels in patients with bleeding peptic ulcers	>98
16*	Frequency with which achievement of primary hemostasis in cases of attempted hemostasis of nonvariceal upper GI bleeding lesion is documented	>90
17	Frequency with which gastric biopsy sampling is done or follow-up endoscopy is planned to exclude malignancy in patients with gastric ulcers	>80
18*	Frequency of systematic biopsy sampling of the gastric corpus, antrum, and incisura in patients with known GPMCs, patients at high-risk for gastric cancer, or patients with an endoscopic appearance concerning for GPMCs	>90
19	Frequency with which high-definition white-light endoscopy and virtual chromoendoscopy is used in patients with known GPMCs, patients at high-risk for gastric cancer, or patients with an endoscopic appearance concerning for GPMCs	>90
20	Frequency with which gastric polyps (without the typical appearance of a fundic gland polyp) >10 mm in size undergo biopsy sampling or are resected	>80
21	Frequency with which ≥4 duodenal biopsy samples (including 1 from the bulb) are obtained in patients with suspected celiac disease	>98
Postprocedure		
22	Frequency of repeat endoscopy recommendation after a course of acid suppression in cases of Los Angeles grade C or D erosive esophagitis	>90
23	Frequency of acid suppression therapy recommendation for patients who underwent dilation for peptic esophageal strictures and do not have allergy or other contraindication to these medications	>98
24	Frequency with which follow-up surveillance endoscopy is recommended no sooner than 3 years if systematic surveillance biopsy sampling was performed in a patient known to have nondysplastic BE without prior history of dysplasia	>80
25	Frequency of achieving complete eradication of intestinal metaplasia within 18 months of initial endoscopic treatment in patients with BE and dysplasia or intramucosal carcinoma undergoing endoscopic eradication therapy	>75
26*	Frequency of administering high-dose proton pump inhibitor therapy (continuous or intermittently for 3 days) after successful endoscopic hemostatic therapy of a bleeding ulcer in patients without allergy or contraindication to the medication	>95
27	Frequency with which plans to test for *Helicobacter pylori* infection are documented in patients with GPMCs, peptic ulcer disease, and other *H pylori*–associated conditions	>95
28	Frequency with which plans to treat and assess eradication of *H pylori* infection are documented in patients with endoscopically diagnosed *H pylori*	>95
29	Frequency that the GPMC surveillance plan is documented in patients with known GPMCs	>90

Yadlapati et al., 2025

ESGE Performance Measures



Areia et al., 2025

Belgian Society of Gastrointestinal Endoscopy

ESGE Performance Measures

Domain	Preprocedure
Key performance measure	NEW Appropriate indication (≥95%)
	Fasting instructions received (≥95%)
Minor performance measure	NEW Time slot of ≥20 minutes allocated for upper gastrointestinal endoscopy (≥95%)

Areia et al., 2025

Trust your knowledge … or refer to Guidelines



≥ 2 hours for liquids



≥ 6 hours for solids



Institution / Department responsibility

- **Routine UGI endoscopy** ≥ 20 min
- **Extensive gastritis** ≥ 30 min
- **Barrett's** ≥ 30 min, increasing to 40 min for ultralong segments

Institution / Department responsibility

BSGIE Belgian Society of Gastrointestinal Endoscopy

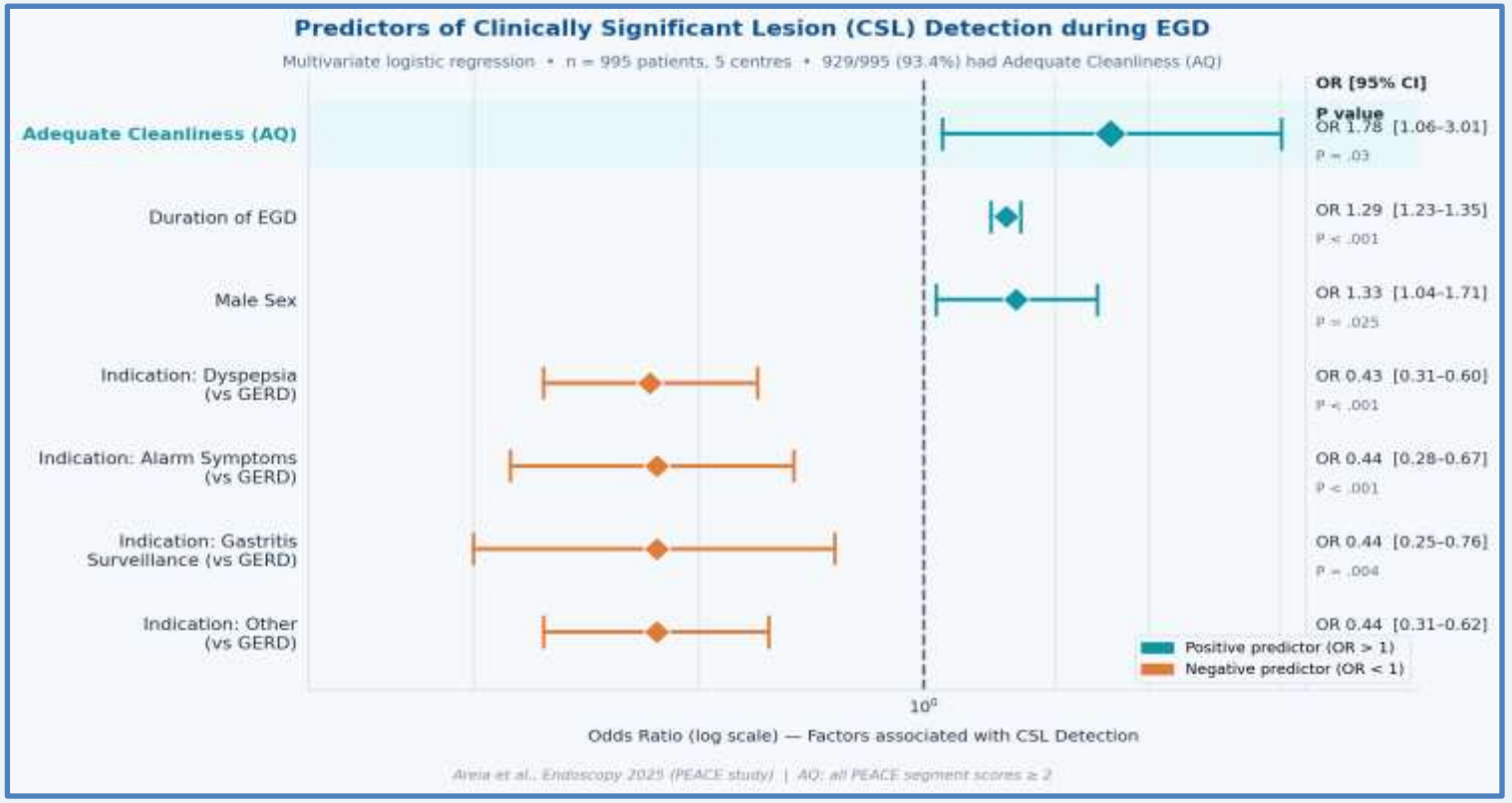
Completeness of the procedure : Visibility score / Data

KEY OUTCOME DATA

OR 1.78

Adequate cleanliness: independent predictor of UGI pathology detection (PEACE, n = 995)

95%CI 1.06–3.01 P = 0.03



Adequate visibility is fundamental for detection and diagnosis of lesions, and improves communication among endoscopists — ESGE Performance Measure

Romańczyk et al., 2024

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Completeness of the procedure : Visibility score / Scales

ESGE recommends GRACE, PEACE, or Barcelona to report mucosal visibility after cleansing — selected for full upper GI coverage and robust interobserver agreement (Consensus R2: 89.7%)

Scale	Segments Assessed	Score Range	Interobserver Agreement	UGI Coverage
Crema (CSCS)	Fundus, corpus, antrum	Grade 1–3	Kappa 0.91	Stomach only
Toronto (TUGCS)	Fundus, corpus, antrum, duodenum	Grade 0–3	ICC 0.79; test-retest 0.83	No esophagus
Barcelona (ESGE Recommended)	Esoph, fundus, corpus, antrum, duodenum	Grade 0–2; total 0–10	Kappa 0.83; intraobs 0.89	Full UGI
PEACE (ESGE Recommended)	Esoph, stomach, duodenum	Grade 0–3; total 0–9	ICC 0.82	Full UGI
GRACE (ESGE Recommended)	Esoph, stomach, duodenum	Grade 0–3; total 0–9	ICC 0.80–0.81	Full UGI

Teal rows = ESGE-recommended. PEACE validated in 995 patients (5 centres); GRACE validated in real-time use. Both designed analogously to the Boston Bowel Preparation Scale.

Areia et al., 2025 | Nagula et al., 2024

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Completeness of the procedure : Visibility score / Simethicone

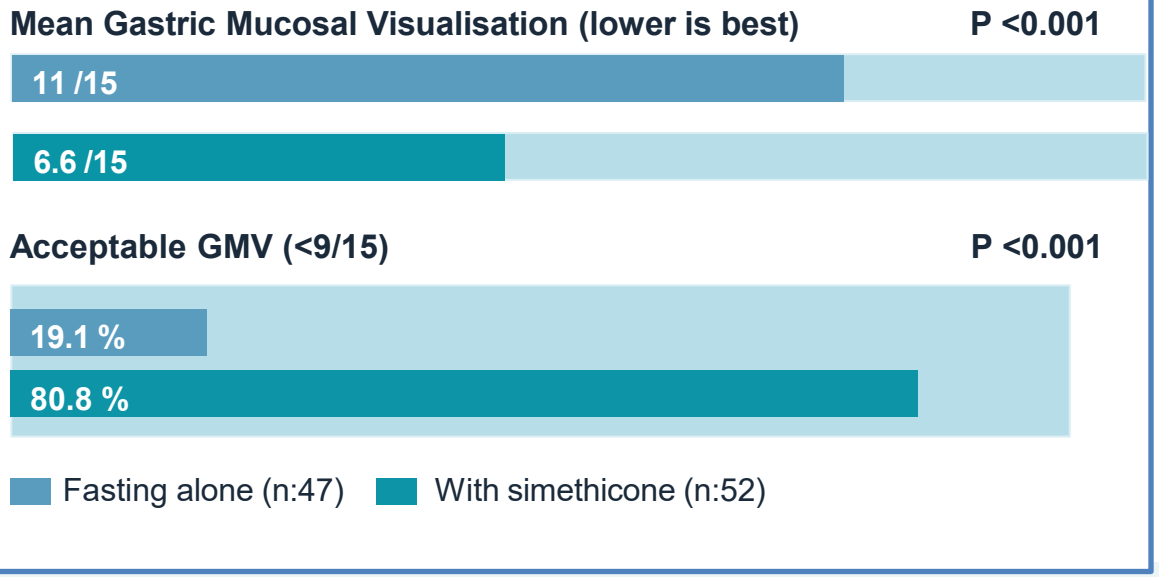
Premedication with simethicone for improving the quality of gastric mucosal visualization: a double-blind randomized controlled trial

Pre-procedure Preparation

- **Agent:** Simethicone (antifoaming agent)
- **Dose:** 200 mg in 100 mL water
- **Timing:** 10–20 min before endoscopy

Excellent Gastric Visibility Rates

Fasting alone (with Placebo) vs with Fasting + simethicone premedication





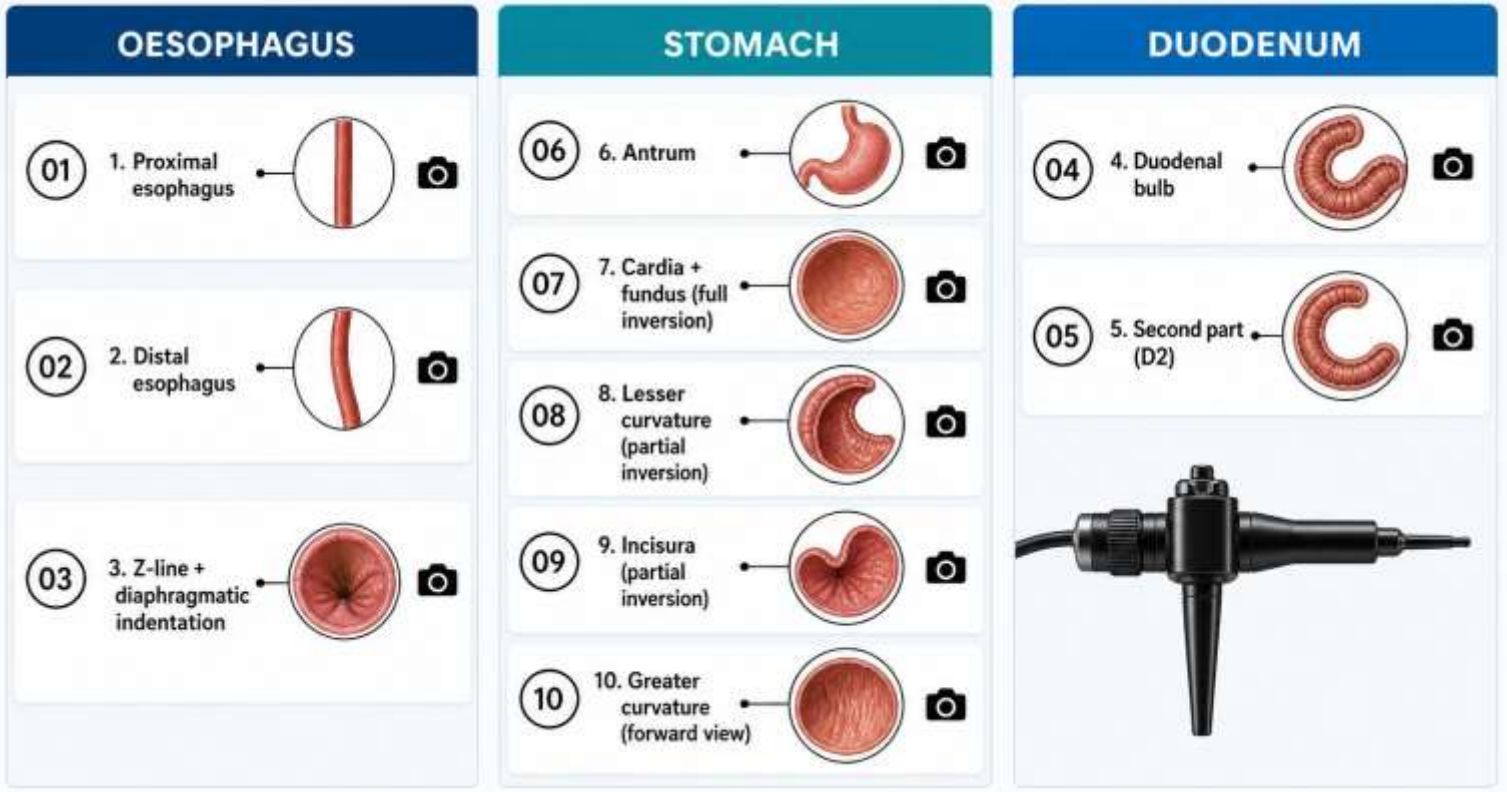
Safety of Premedication with Simethicone

- No adverse events vs controls (RR 0.4, 95%CI 0.2–1.0; P=0.05)
- No aspiration in 13 studies (n=11,086 patients)
- No O2 saturation difference in sedated patients
- 20 mg simethicone + 400 mg NAC not superior — dose matters

Duhez et al. 2022. Areia et al., 2025 | Nagula et al., 2024

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Completeness of the procedure : Photo Documentation



Rational :

- Photodocumentation of all anatomical landmarks = **indicator of a complete examination**
- Photodocumentation of abnormal findings = better communication and follow-up

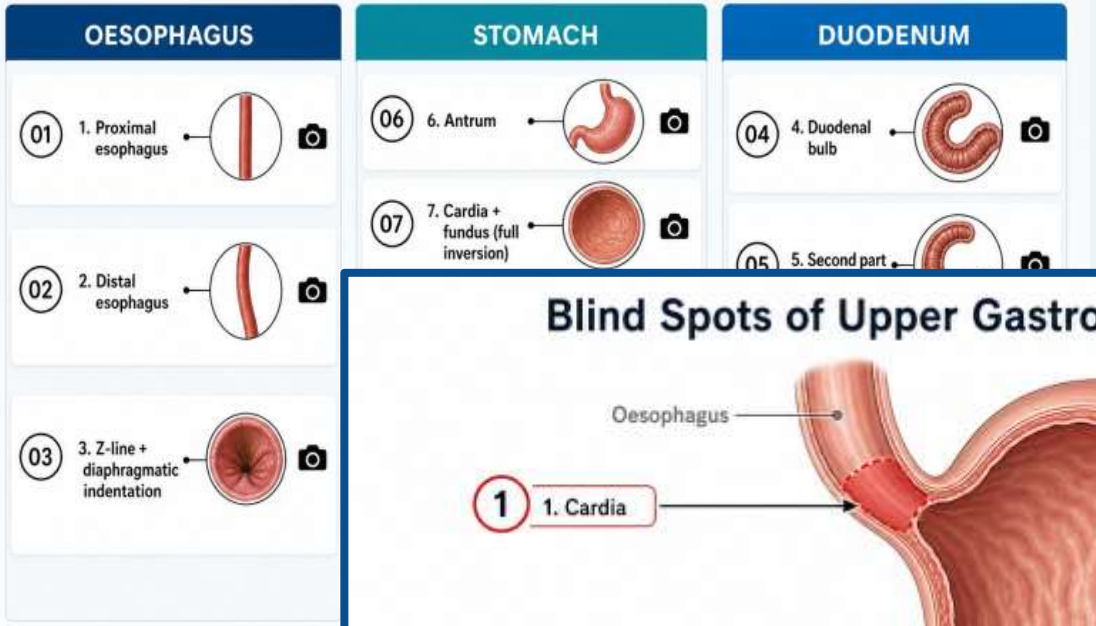
Questions :

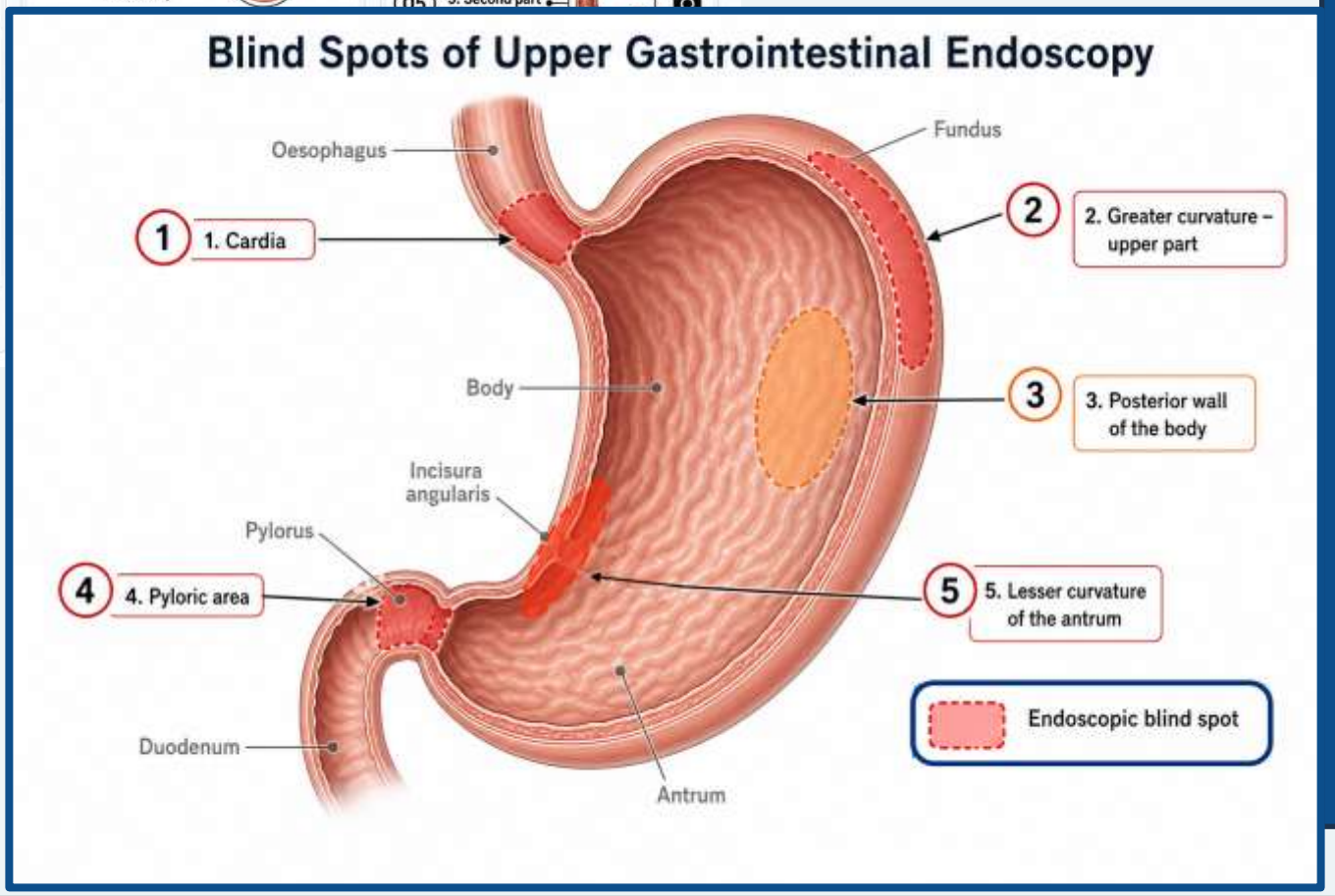
- Photo's order = flow of UGI endoscopy ?
- Number of picture required (AGA : min **5** ….. WEO : ideally **28** !)
- Real diagnostic yield impact ?
  (Evidence Grading = very low)
- Legal impact ?
- To be included in the written protocol (as suggest by ESGE) ?
- Ecological impact ?

Esposito et al., 2025 | Yadlapati et al., 2025 | Nagula et al., 2024

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Completeness of the procedure : Photo Documentation





Rational :

- Photodocumentation of all anatomical landmarks = **indicator of a complete examination**
- Photodocumentation of abnormal findings = better communication and follow-up

Questions :

- Photo's order = flow of UGI endoscopy ?
- Number of picture required (AGA : min **5** ….. WEO : ideally **28** !)
- Real diagnostic yield impact ?
  (Evidence Grading = very low)
- Legal impact ?
- To be included in the written protocol (as suggest by ESGE) ?
- Ecological impact ?

Esposito et al., 2025 | Yadlapati et al., 2025 | Nagula et al., 2024

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Identification of pathology: Examination Time

≥7 min intubation to extubation
ESGE Key Performance Measure 2025

Evidence at a Glance

3.4×
higher odds of detecting dysplasia or cancer for endoscopists spending ≥7 min (OR 3.42, 95% CI 1.25– 10.38)



2.5×
higher odds of detecting high-risk gastric lesions in Singapore cohort study (OR 2.50, 95% CI 1.52–4.12)

1.9×
higher odds of detecting gastric neoplasia with 5–7 min vs <5 min examination time (OR 1.90, 95% CI 1.06–3.40)

7 vs >7 min
studies fail to show differences

The et al., 2015 | Kawamura et al., 2017 | Areia et al., 2025 | Nagula et al., 2024

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Identification of pathology: Examination Time for Barrett Oesophagus

≥1 min / cm of BE

ESGE Minor Performance Measure 2025

Evidence at a Glance

OR 1.05 to 1.21 for detecting dysplasia in targeted and non-targeted B+

Incremental yield of dysplasia per additional minute for Seattle protocol (odds ratio [OR] 1.10, 95 %CI 1.00–1.20, P = 0.04), and for patients with BE > 6cm also on targeted biopsies (OR 1.21, 95 %CI 1.04–1.40; P = 0.01).



Combined Minor performance Measure : Adequate inspection of nondysplastic BE should include the use of chromoendoscopy

Vithayathil et al., 2023 | Areia et al., 2025

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Identification of pathology: Chromoendoscopy for risk of SCC

Chromo for patient at risk of SCC

ESGE Minor Performance Measure 2025

Evidence at a Glance

- early synchronous/metachronous cancer in 5% of ENT/lung cancer population
- Virtual vs Lugol staining
  - > superior PPV
  - > same NPV
  - > shorter examination time

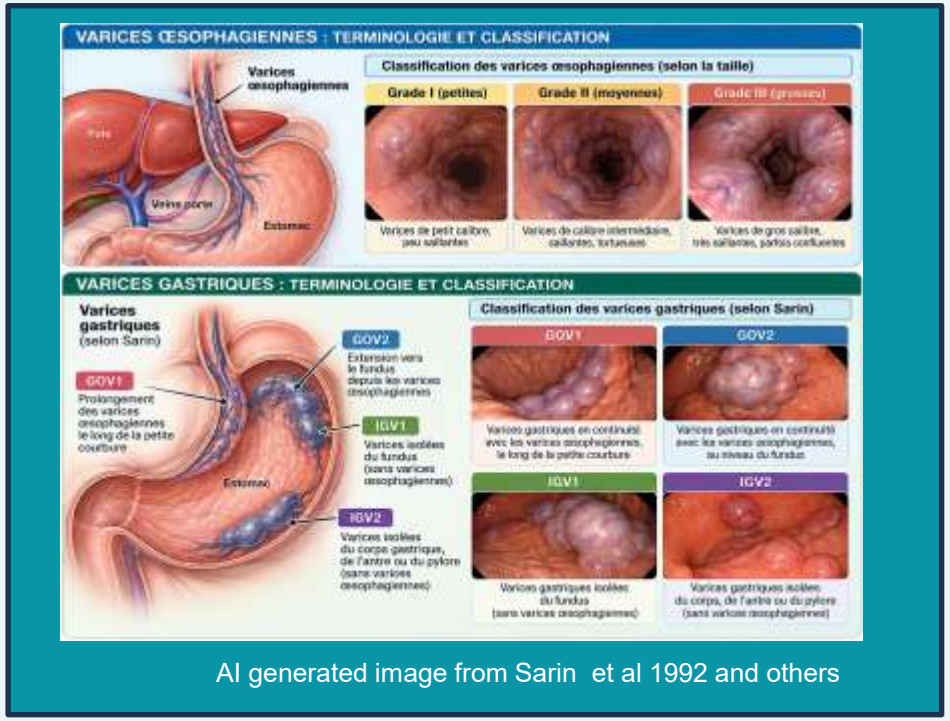
Gruner et al., 2021 | Chaber-Ciopinska et al. 2023 | Areia et al., 2025

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Identification of pathology: Standardize Terminology

- uniformity in communication.
- severity in a validated classification allows physicians to optimize the patient's treatment

- Los Angeles classification for erosive esophagitis
- Prague classification for Barrett's esophagus
- Forrest classification for bleeding ulcers
- Paris classification for visible lesions
- Baveno classification for varices
- Zargar classification for caustic lesions
- Spigelman classification for duodenal adenomas in patients with familial adenomatous polyposis



AI generated image from Sarin et al 1992 and others

The et al., 2015 | Kawamura et al., 2017 | Areia et al., 2025 | Nagula et al., 2024

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Management of pathology: Sampling protocol

Seattle Protocol

ESGE Key Performance Measure 2025

Evidence at a Glance

- **2-to-13-fold drop in dysplasia detection when no adherence to the Seattle protocol**
- **Adherence may be less than 50% !**

the Seattle protocol consists of targeted biopsies of any visible lesion within the Barrett's epithelium, followed by four-quadrant biopsies taken at 2-cm intervals, all collected in different containers per level, and per lesion [5]. Any suspicious areas should be biopsied before taking the random biopsies to avoid bleeding that may impair adequate visibility

Areia et al., 2025

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Management of pathology: Sampling protocol

Seattle Protocol

ESGE Key Performance Measure 2025

Evidence at a Glance

- **2-to-13-fold drop in dysplasia detection when no adherence to the Seattle protocol**
- **Adherence may be less than 50% !**

MAPS Protocol

ESGE Key Performance Measure 2025

If suspicion of
gastric atrophy or intestinal metaplasia (after the use of virtual chromoendoscopy)
to evaluate extension
(i.e. OLGA/OLGIM)

Areia et al., 2025

BSGIE
Belgian Society of Gastrointestinal Endoscopy

Complications / Patient experience / Post Procedure

Complications

(after therapeutic procedures)

- Post-procedure patient contact (in person / phone / e-services)
- 30-day follow-up recommended to capture all adverse events
- Enables benchmarking and AGREE AE classification

Institution / Department responsibility

Patient experience

British Society 2025

« Patients need reassurance as many are anxious about the prospect of endoscopy: individual and team endoscopy non-technical skills (ENTS) are important in this »

« Non-pharmacological interventions, such as auditory or visual distraction, to reduce patient anxiety are recommended.»

Institution / Department responsibility

Post procedure

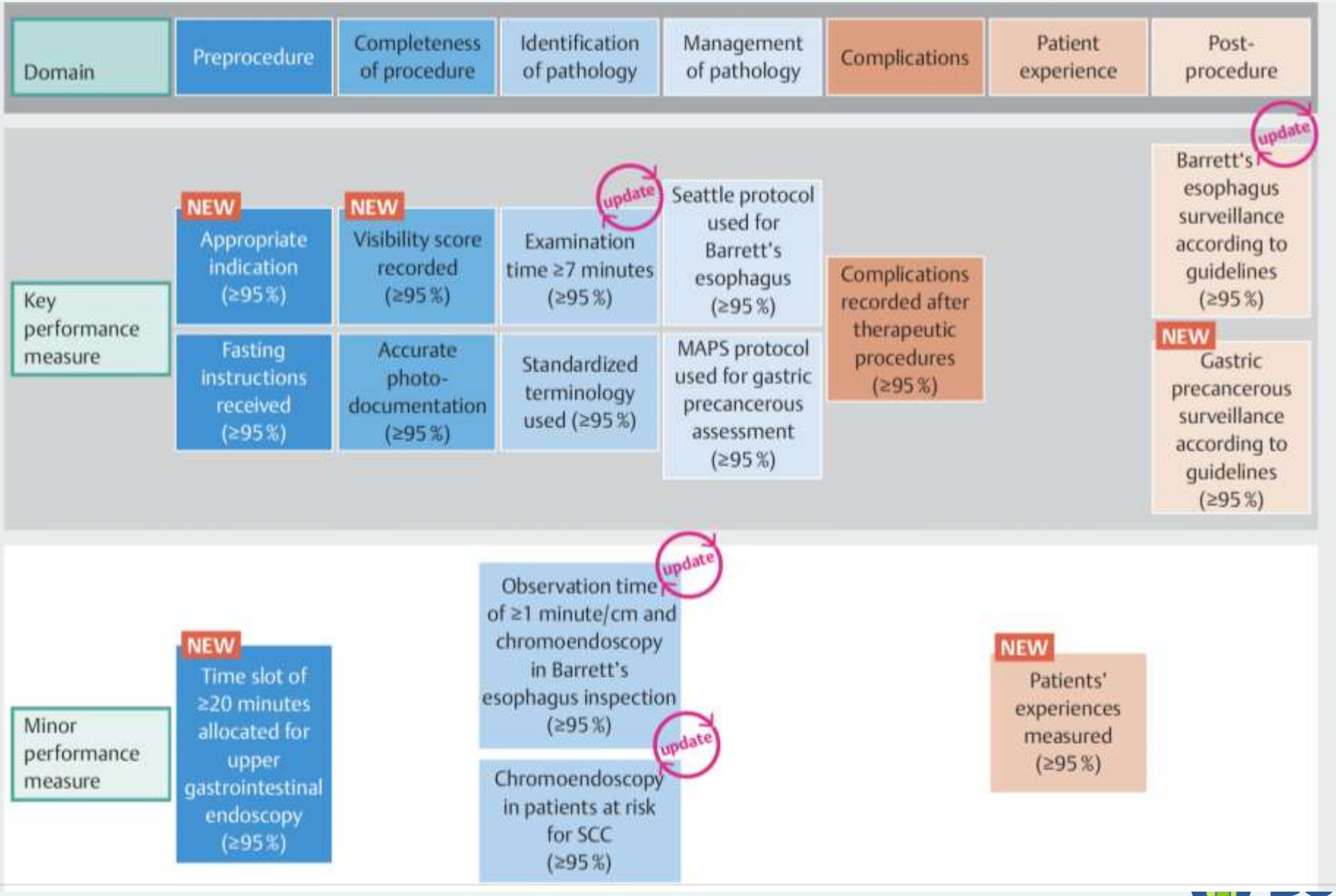
Barrett extension	Surveillance intervals
1 to 3 cm	5 years
3 to 10 cm	3 years
> 10 cm	1-2 years (expert center)

Validated classification	Gastric cancer risk		
	No risk	Low risk	High risk
OLGA	Stage 0	Stage I–II	Stage III–IV
OLGIM	Stage 0	Stage I–II	Stage III–IV
Kimura–Takemoto	C0	C1 and C2	C3 to O3
EGGIM	0	1–4	5–10
Surveillance recommendation	Not recommended	Not recommended	Every 3 years

Areia et al., 2025

Belgian Society of Gastrointestinal Endoscopy

ESGE Performance Measures



Areia et al., 2025

Belgian Society of Gastrointestinal Endoscopy

Quality in Upper GI endoscopy

- Avoid unnecessary endoscopy
- Moderate your speed
- Clear the field and look everywhere (and capture it !)
- Sample adequately
- Speak “gastro”

Quality is not an act, it is a habit



Areia et al., 2025

BSGIE
Belgian Society of Gastrointestinal Endoscopy