Slow Medicine
Measured Respectful Equitable

CHOOSING WISELY ITALY
Doing more does not mean doing better

aigo
Associazione Italiana Gastroenterologi & Endoscopisti Digestivi Ospedalieri

Tests, treatments and procedures at risk of inappropriateness in Italy

that Physicians and Patients should talk about.

Five Recommendations on GREEN ENDOSCOPY from the Italian Association of Hospital Gastroenterologists and Digestive Endoscopists (AIGO)

1	**Do not prescribe endoscopic examination when low-waste, less invasive alternatives endorsed by evidence-based clinical guidelines are available**.
	Less invasive tests approved by regulatory agencies as alternatives to gastrointestinal endoscopy are: fecal calprotectin in monitoring patients with inflammatory bowel diseases and in chronic diarrhea; C-13 urea breath test and stool antigen test in diagnosis of Helicobacter Pylori infection; fecal immunohistochemical testing for colorectal cancer screening; platelet count and elastography for screening of esophageal varices in cirrhosis and in monitoring liver disease. These alternatives can reduce risk of harm to patients and the environmental impact of endoscopic procedures. Patients and citizens have to be informed and involved in these decisions.
2	**Do not take mucosal biopsies when the histopathological results would not change the patient management.**
	The processing of biopsies entails an added energy requirement and generates hazardous waste and a significant carbon footprint. International Guidelines endorsed strategies to safely avoid the need for histological analysis (use of optical diagnosis, apply the resect-and-discard strategy for colorectal polyps, adequate follow-up intervals); unnecessary biopsies may also induce a number of low-yield procedures and harmful treatments.
3	**Do not plan most elective endoscopic procedures on an inpatient basis if they can be performed safely without hospitalization, to avoid overnight hospital stays.**
	Hospitalization for a procedure incurs high resource consumption and CO2 emissions and is associated with the risk of hospital-acquired infections. Several reports support that most elective GI endoscopic procedures should be performed safely on an outpatient basis, as well as selected high risk procedures, without hospitalization (endoscopic submucosal dissection, peroral endoscopic myotomy or endoscopic retrograde cholangiopancreatography). Comorbidity, risks of the procedure, and accessibility to health care in case of an adverse event should be considered when deciding the need for admission. Patients and citizens have to be informed and involved in these decisions.
4	**Do not use single use endoscopes regularly as they should be reserved for highly selected patients, on a case-by-case basis (immunocompromised patients or those with multidrug-resistant bacteria).**
	In most studies the calculated minimum estimated endoscope-associated infection risk is low when reprocessing protocols are correctly applied. The carbon footprint of single-use endoscopes is substantial as recent studies estimates that releases of CO2 and consumes of energy are higher than with reusable one or with duodenoscope with disposable end caps. It has been proposed that immunocompromised patients or those with multidrug-resistant bacteria are likely to benefit from single-use endoscopes.
5	**Do not abuse of periprocedural and intraprocedural medication and prefer their use only when strictly indicated (e.g. avoid inadequate antibiotic prophylaxis and saline fluid intravenous solution)**
	The environmental burden of medications before endoscopy (bowel preparation and laxatives for colonoscopy, or mucolytic solutions), during (sedatives, antibiotics, or analgesics), and after the procedure has not been formally quantified but it has recently been estimated the 1 g medication has a high CO2 footprint of somewhere between 10 g and 1000 g. The use of medication is recommended only when strictly indicated and supported by guidelines; moderate versus deep sedation versus endotracheal intubation, and selective versus routinary involvement of an anhestesiologist may also influence the carbon footprint. Patients and citizens have to be informed and involved in these decisions.

Please note that these items are provided only for information and are not intended as a substitute for consultation with a clinician. Patients with any specific questions about the items on this list or their individual situation should consult their clinician.

Released: March 2023

How this list on **Green Endoscopy** was created

AIGO identified a working group formed by the Youth AIGO Commission and by the Committee for the Quality of Professional Medical Services. The review of the most recent international literature on Green Endoscopy allowed to select a list of good clinical practice recommendations. Following an internal survey, the most voted recommendations were identified. The working group then proceeded to elaborate the proposals of this document, sharing them with AIGO Executive Board and with all the society's members.

Sources

1	1. Jukic A, Bakiri L, Wagner EF et al. Calprotectin: from biomarker to biological function. Gut 2021; 70: 1978–1988. 2. Gisbert JP, Alcedo J, Amador J et al. V Spanish Consensus Conference on Helicobacter pylori infection treatment. Gastroenterol Hepatol 2021 3. De Franchis R. Baveno VI Faculty. Expanding consensus in portal hypertension: Report of the Baveno VI Consensus Workshop: Stratifying risk and individualizing care for portal hypertension. J Hepatol 2015; 63: 743–752. 4. Bortoluzzi F, Sorge A, Vassallo R et al. Sustainability in gastroenterology and digestive endoscopy: position paper from the Italian Association of hospital gastroenterologists and digestive endoscopists (AIGO). Dig Liv Dis 2022; 54: 1623-1629
2	1. Gordon IO, Sherman JD, Leapman M et al. Life cycle greenhouse gas emissions of gastrointestinal biopsies in a surgical pathology laboratory. Am J Clin Pathol 2021; 156: 540–549. 2. Pouw RE, Barret M, Biermann K et al. Endoscopic tissue sampling–Part 1: Upper gastrointestinal and hepatopancreatobiliary tracts. ESGE Guideline. Endoscopy 2021; 53: 1174–1188. 3. Pouw RE, Bisschops R, Gecse KB et al. Endoscopic tissue sampling–Part 2: Lower gastrointestinal tract. ESGE Guideline. Endoscopy 2021: 1261–1273. 4. Enrique Rodríguez de Santiago E, Dinis-Ribeiro M, Pohl H et al. Reducing the environmental footprint of gastrointestinal endoscopy: European Society of Gastrointestinal Endoscopy (ESGE) and European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) Position Statement. Endoscopy 2022; 54: 797–826.
3	1. Tennison I, Roschnik S, Ashby B et al. Health care's response to climate change: a carbon footprint assessment of the NHS in England. Lancet Planet Health 2021; 5: e84–e92. 2. Baldaque-Silva F, Marques M, Andrade AP et al. Endoscopic submucosal dissection of gastrointestinal lesions on an outpatient basis. UEG J 2019; 7: 326–334. 3. Zhang LY, Bejjani M, Ghandour B et al. Rethinking the need for overnight admission after peroral endoscopic myotomy (POEM): a pandemic- driven approach to the future. Endosc Int Open 2021; 9 E1381–E1385. 4. Coté GA, Lynch S, Easler JJ et al. Development and validation of a prediction model for admission after endoscopic retrograde cholangiopancreatography. Clin Gastroenterol Hepatol 2015; 13: 2323– 2332.e1-9.
4	1. Hernandez LV, Le NNT, Patnode C et al. Comparing the impact of reusable and single-use duodenoscopes using life cycle assessment. Gastrointest Endosc 2021; 93: AB29. 2. Sahakian AB, Siddiqui UD. Single-use duodenoscopes: The next disruptor or passing fad? Gastrointest Endosc 2021; 94: 1056–1058. 3. Holzwanger EA, Bilal M, Saperia J et al. Duodenoscope-related infections and potential role of single-use duodenoscopes. VideoGIE 2020; 5: 628–629.
5	1. Enrique Rodríguez de Santiago E, Dinis-Ribeiro M, Pohl H et al. Reducing the environmental footprint of gastrointestinal endoscopy: European Society of Gastrointestinal Endoscopy (ESGE) and European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) Position Statement. Endoscopy 2022; 54: 797–826. 2. Richie C. Environmental sustainability and the carbon emissions of pharmaceuticals. J Med Ethics 2021: doi:10.1136/medethics-2020-106842

Slow Medicine ETS, an Italian Third Sector organization of health professionals, patients and citizens promoting a Measured, Respectful and Equitable Medicine, launched the campaign **"Doing more does not mean doing better- Choosing Wisely Italy"** in Italy at the end of 2012, similar to Choosing Wisely in the USA. The campaign aims to help physicians, other health professionals, patients and citizens engage in conversations about tests, treatments and procedures at risk of inappropriateness in Italy, for informed and shared choices. The campaign is part of the Choosing Wisely International movement. Partners of the campaign are the National Federation of Medical Doctors' and Dentists' Orders (FNOMCeO), that of Registered Nurses' Orders (FNOPI), the Academy of Nursing Sciences (ASI), National Union of Radiologists (SNR), Tuscany regional health agency, PartecipaSalute, Altroconsumo, the Federation for Social Services and Healthcare of Aut. Prov. of Bolzano, Zadig.

www.choosingwiselyitaly.org; www.slowmedicine.it

AIGO (Italian Association of Hospital Gastroenterologists and Digestive Endoscopists) was established in Rome in 1969; it was established in response to the high incidence, prevalence, and social impact of diseases on the digestive system; its goal is the continued development of Gastroenterology and Digestive Endoscopy; it proposes and supports both a network of hospitals and territory capable of providing answers regarding appropriateness and adequate distribution of resources. It is articulated in regional sections, committees and study groups. Its goal is to develop understanding of the pathologies and preventative techniques, as well as to promote progress in the field of prevention, curing and rehabilitation of gastrointestinal diseases. It strives to further education and empowerment for science, technology, and organization of Gastroenterology, also in collaboration with regulatory authorities. www.webaigo.it