ADVANCES IN ENDOSCOPY

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Key Questions in Gastrointestinal Endoscopy to Guide Future Research

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G&H How were the key unanswered questions in gastrointestinal endoscopy identified and ranked?

PS Establishing the key unanswered research questions within the field of gastrointestinal endoscopy was a 3-step process that began in 2014. Round 1 involved preparatory work; the European Society of Gastrointestinal Endoscopy (ESGE) Research Committee along with the ESGE Governing Board, Quality Improvement Committee, and Quality Improvement working groups gathered the topics that were thought to be the most important to clinicians. A list of questions was created, and feedback concerning research priorities was provided from workshops held throughout the 21st United European Gastroenterology Week.

In Round 2, the ESGE Research Committee and the Governing Board came together to refine the questions and categorize them into main topics and subtopics. The questions were grouped according to anatomic positions (upper gastrointestinal, lower gastrointestinal, small bowel, and hepatopancreaticobiliary endoscopy, which was subdivided into endoscopic ultrasound and endoscopic retrograde cholangiopancreatography), as well as generic priorities and cross-cutting themes. Altogether, 58 questions within 7 categories were identified.

In Round 3, all of the questions were incorporated into an online questionnaire that included a weighted ranking system. The questionnaire was sent out to all ESGE members, who were asked to rank the questions in terms of priority (with 1 being the highest priority and 5 being the lowest). It took 2 years to arrive at the final results, which were published in *Endoscopy*.

G&H What were the results of the questionnaire?

PS Nearly 300 people from more than 60 countries responded to the questionnaire, with most replies coming from the United Kingdom, Italy, and Spain. In some cases, a single response from 1 country was actually a reply from a gastrointestinal board that ranked the questions collectively. Survey participants represented teaching hospitals, community hospitals, and private clinics, and were mainly specialized endoscopists or general gastroenterologists who performed endoscopy. The questionnaire rankings were analyzed with a weighted ranking matrix, and the initial 58 questions were narrowed down to 26 (Table).

G&H Were there any significant differences in ranking across countries or clinical settings?

PS There were no significant differences in priority, although the ranking of questions did have a tendency to reflect the different disease prevalences in countries and levels of practice. For example, issues such as cleaning and disinfection were more important in less developed areas, whereas advanced technologies were more reflective of more developed countries. Similarly, certain topics were more relevant to specialized endoscopists compared to general gastroenterologists and trainees. Overall, the questions that were finally integrated into the questionnaire were more or less representative of all the questions that were gathered during the first round of the process.

G&H Were there any topics that appeared more frequently than others?

Table. The Top 26 Unanswered Research Questions Within the Field of Gastrointestinal Endoscopy

Rank	Questions	Score[a]
	Generic Priorities	
1	How do we define the correct surveillance interval following initial endoscopic diagnosis?	439
2	How do we correctly utilize advanced endoscopic imaging?	367
3	What are the best markers of endoscopy quality?	353
	Upper Gastrointestinal Endoscopy	
1	What is the correct surveillance strategy for atrophic gastritis and metaplastic gastritis?	500
2	What is the correct surveillance strategy for Barrett esophagus?	469
3	When can anticoagulant medication be restarted following gastrointestinal bleeding?	440
4	What is the role of advanced imaging in dysplasia detection in Barrett esophagus, squamous cancer detection in high-risk patients, or intestinal metaplasia in the stomach?	387
5	Can training modules improve image interpretation and lesion recognition for endoscopists?	366
	Lower Gastrointestinal Endoscopy	
1	What is the optimal surveillance of patients following colonoscopic polypectomy?	566
2	What is the importance of sessile serrated polyps?	556
3	Can further polyp characterization (sessile serrated lesions, number of polyps, and size of polyps) be a better predictor of interval cancer rates than adenoma detection rate?	370
4	What are the risks and benefits of leaving smaller polyps in place in older persons? Is it possible to define an age cutoff where the risks exceed the benefits?	335
5	Can surveillance interval be adjusted depending upon patient factors and the quality of the endoscopy?	310
	Small-Bowel Endoscopy	
1	How should we investigate occult or acute gastrointestinal bleeding following normal upper and lower gastrointestinal endoscopy?	626
2	What is the optimal imaging modality for the small bowel?	424
3	How can capsule endoscopy be used therapeutically?	361
4	Should we perform capsule endoscopy or deep enteroscopy?	307
5	Can we develop automatic reading analysis algorithms?	298
	Hepatopancreaticobiliary Endoscopy—Endoscopic Ultrasound	
1	How do we optimally diagnose and manage cystic pancreatic tumors?	311
2	How do we improve noninvasive diagnostic methods (eg, contrast-enhanced endoscopic ultrasonography, 3-dimensional reconstruction) for differential diagnosis of pancreatic cancer and inflammatory diseases?	286
	Hepatopancreaticobiliary Endoscopy—Endoscopic Retrograde Cholangiopancreatography	
1	What are the roles for magnetic resonance cholangiopancreatography, endoscopic retrograde cholangiopancreatography, and endoscopic ultrasonography?	355
2	What is the optimal approach to access the biliary tree in patients with altered anatomy?	310
3	Where is precut indicated and safe?	299
	Other Cross-Cutting Themes/Questions	
1	How do we define the interface between endotherapy and gastrointestinal surgery?	318
2	Can we better understand the prevalence and natural history of diseases diagnosed and treated by gastrointestinal endoscopy—in particular neoplasia?	314
3	How do we validate and establish the clinical application of scoring and diagnostic tools for gastrointestinal endoscopy?	304

[a]Scores are a summation of weighting; questions with higher priority were given a higher weighting (eg, a rating of 1 received a weighted score of 5).

Adapted from Rees CJ, et al. *Endoscopy*. 2016;48(10):884-891.

PS Within both sets of questions (the initial 58 and the final 26), questions regarding optimal surveillance intervals as well as the role of advanced endoscopic imaging modalities appeared frequently. Both of these topics are relatively new, which may account for the increase in interest. Another explanation is that prevention is becoming a more discussed topic in gastrointestinal endoscopy. A lot of focus is on recognizing lesions at an earlier stage with imaging modalities. Additionally, removal of early lesions is becoming more important, not only in the Western world but in all countries in which screening is being applied. Clinicians are still not sure whether the surveillance interval after removing 1 to 2 small (<10 mm) tubular adenomas should be 5 or 10 years, or some time in between. Surveillance intervals are currently based on large groups, in which some patients are more at risk for redeveloping polyps than others. The unanswered questions created by the ESGE can hopefully cover the gap in understanding the optimal surveillance intervals for various disease processes.

G&H What was the end goal of establishing these priorities?

PS By identifying the key unanswered research questions within the field of gastrointestinal endoscopy, it was our intention to highlight the topics that are important and could be of interest to journals to publish. Moreover, there is a large amount of money in Europe (through national authorities and governments) available for funding research, but gastrointestinal endoscopy is not playing a role in major studies because not enough importance is being placed on the topics established in the list. Therefore, the list summarizes the topics that are most in need of research to allow funders to allocate resources appropriately.

G&H What steps can be taken to translate these topics into research?

PS The first step is for organizations that provide grants for multicenter studies to include the prioritized questions in the topics that will be funded. Institutions should then direct their research programs to the multicenter, randomized, or prospective follow-up studies for which funding is available. Importantly, these questions should be resolved by studies that can represent a large group of patients or a large area, not by single-center studies.

G&H Does the ESGE have plans to revisit this list or to create a new list of topics in the future?

PS Because the list was recently published, there are no current plans to create a new list. However, these types of lists become less relevant after 3 to 5 years, in which case the priorities will need to be reconsidered, and the process perhaps repeated. At that point, it would be beneficial to also include the input of patients or patient representatives. Currently, these choices represent only the experts in the field.

G&H Are there any plans to replicate this process in North America or Asia, or within other areas of gastroenterology?

PS The American Society for Gastrointestinal Endoscopy showed interest, although I am not aware that the members were planning to replicate the process. I would suggest that the United States as well as other parts of the world consider this process because it is beneficial in recognizing which areas require more research. It is important that this not just be a European agenda, but adapted for other countries. The priorities in Asia are likely different, to some extent, as compared to those in Europe. Furthermore, it would be helpful to extend this agenda beyond endoscopists over to hepatologists and dietitians, among other clinicians, to try to identify the key questions that need to be answered in order for more progress in the near future.

Dr Siersema serves as a consultant for EndoStim BV, Motus GI, and Medi-Globe, and has received research support from EndoStim BV, Cook Medical, Boston Scientific, and Yakult.

Suggested Reading

Papanikolaou IS, Siersema PD. UEG Week 2014 highlights: putting endoscopy into perspective. *Endoscopy*. 2015;47(2):147-153.

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