Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

applied to polyp detection during colonoscopy. Randomized controlled trials have provided evidence from various perspectives that computer-aided detection (CADe) systems can improve adenoma detection rate as well as decrease the adenoma miss rate.[2–5] However, the letter by Sinagra et al reflects an important concern in the GI community that over-reliance on high-performance artificial intelligence (AI) systems may lead to the deskilling of endoscopists, especially junior endoscopists who may become too reliant on these systems during and after training.

There has not yet been any published evidence to help determine whether CADe may improve or decrease the skill of individual trainees to detect polyps on their own, and rational arguments can be made that either improvement or over-reliance/deskilling might occur when CADe is used in endoscopic training. We believe that proper training on the correct use of any CADe system can minimize most concerns. The goal of CADe is not to replace a doctor's individual judgment regarding any particular lesion. CADe systems, by design, are auxiliary tools that assist the human endoscopist to increase adenoma detection by compensating for the limits of human vision, especially on polyps that may flash by the edge of the screen before being quickly lost from view, polyps that are partially blocked by colon folds, and those that are flat and isochromatic in appearance. Good endoscopic technique, including methodical mucosal inspection, careful irrigation and cleaning, and tip control are prerequisites for any doctor to perform colonoscopy well and are also important when implementing CADe. Junior endoscopists should be rigorously trained on these aspects of colonoscopy, even when CADe is integrated into the endoscopy suite.

Second, if thoughtful engagement with CADe technology is offered during endoscopic training, there is a rational hypothesis that such tools could lead to improved learning curves for endoscopists by allowing junior endoscopists to detect more colon polyps than if they were operating without an AI-based safety net. This is certainly a question worthy of further study. Our prediction is that implementing CADe systems in training may have a double benefit. First, it may allow for real-time feedback, which is generally preferable and more practical than post hoc video review, and second it may provide an avenue for continued learning and feedback on lesion detection, even after physicians have graduated from their formal endoscopic training.

Physicians must always be vigilant to the various potential pitfalls and limitations of applying AI (or any new technology) to gastroenterology and clinical medicine.[6] It is clear, however, that AI-based CADe will likely play a growing role in GI endoscopy so long as the evidence for clinical benefit continues to accrue, alongside the development of complementary tools such as wider viewing-angled endoscopy systems and mucosal exposure devices.[7,8] Our view is that incorporating high performance CADe systems into GI endoscopy will contribute to higher adenoma detection rates, and holds promise for decreasing performance variability among endoscopists by improving the consistency of lesion detection during GI endoscopy. Although enthusiasm for CADe must be countered with thoughtful algorithm development, trial design, regulation, and ethical implementation, we have high hopes that the next generation of endoscopists will be able to use CADe not as a crutch, but as a valuable tool: to improve their own performance, to learn, and to help support consistent, high-quality care for their patients.

PU WANG
Sichuan Academy of Medical Sciences *and*
Sichuan Provincial People's Hospital
Chengdu, China

TYLER M. BERZIN
JEREMY R. GLISSEN BROWN
Center for Advanced Endoscopy
Beth Israel Deaconess Medical Center *and*
Harvard Medical School
Boston, Massachusetts

References

1. Sinagra E, et al. Gastroenterology 2021;160:2212.
2. Wang P, et al. Gut 2019;68:1813–1819.
3. Wang P, et al. Lancet Gastroenterol Hepatol 2020;5:343–351.
4. Wang P, et al. Gastroenterology 2020;159:1252–1261.e5.
5. Repici A, et al. Gastroenterology 2020;159:512–520.e7.
6. Sebastian Vollmer, et al. BMJ 2020.20;368:l6927.
7. Adler A, et al. Clin Gastroenterol Hepatol 2012;10:155–159.
8. ASGE Technology Committee, et al. Gastrointest Endosc 2015;81:1122–1129.

Conflicts of interest
The authors have made the following disclosures: Dr Berzin is a consultant for Wision AI, Magentiq Eye, Boston Scientific, and Medtronic. Dr Glissen Brown and Dr. Wang declare no conflict of interest.


Most current article

https://doi.org/10.1053/j.gastro.2021.01.217

Lay-off of Endoscopy Services for the COVID-19 Pandemic: How Can We Resume the Practice of Routine Cases?

Dear Editors:

We read with interest the American Gastroenterological Association (AGA) Institute Rapid Recommendations for Gastrointestinal Procedures During the coronavirus disease 2019 (COVID-19) pandemic,[1] in which AGA aims to provide timely guidance on appropriate personal protective equipment and triage of gastrointestinal (GI) endoscopy in context of the COVID-19 pandemic in the United States.

Because the COVID infection is spreading all over the world, this rapid recommendation document offers reliable guidance for all physician who are dealing with the same issues.

In Italy, where the emergency began at the end of February, different measures to contain the infection were taken until a complete national lockdown on March 9, 2020, was instituted (phase 1). As of April 2021, the results of this strategy are emerging, with an initial decrease in the number of infected patients, hospitalizations, intensive care unit admissions, and virus-related mortality.

As a consequence of the lockdown, social distancing measures, and hospital reorganization, endoscopy centers have drastically decreased the number of outpatients examinations and are now delivering emergency and urgent procedures only. Being now in the contagion reduction phase, we are starting to work on the restart of the activities (phase 2). Although the number of endoscopic examinations to be rescheduled is currently not foreseeable because the restart of normal activities has not been established yet, the protocol for rescheduling the canceled examinations that will be delegated to the endoscopy services is included in the preparation of phase 2 management. As concerns the strategies to adopt, one could be to extend the working hours of the endoscopy services. However, this is likely unrealistic, because it implies the need for additional health care personnel and economic resources in a time where financial resources are limited. Postponing all the already scheduled procedures to give priority to the cancelled ones might be another option, but this strategy carries the risk of deferring a procedure that has been correctly scheduled, favoring another procedure that does not need any priority. Therefore, the strategy of rescheduling the appointments based on the stratification of the procedure indication might represent a valuable and reasonable alternative. We describe the policy we are adopting in our endoscopy service.

At the time of cancelling the endoscopy appointment, the nurse and medical staff performed a brief interview on the indication to the procedure, and double checked it with the medical prescription, registered in the hospital database, categorizing them as time-sensitive or not time-sensitive, as suggested by the AGA. In the first group, we arbitrarily included examinations required for symptoms of recent onset (4–6 weeks). In the not time-sensitive group we included the following two subgroups: subgroup A, chronic symptoms or postpolypectomy surveillance for high-risk lesions, according to published guidelines,[2] or for any dysplastic lesion in the upper GI tract (ie, dysplastic Barrett's esophagus, or advance stages of gastritis with dysplasia); and subgroup B, postpolypectomy surveillance for low-risk lesions and for screening or surveillance of an upper GI preneoplastic risk condition without dysplasia. The rationale was to identify a priority scale to be used to reorganize the timetable for the phase 2.

Our endoscopy service carries out about 8000 procedures per year, including 4100 colonoscopies, 3150 gastroscopies, and 400 endoscopic ultrasound examinations. In the first 4 weeks of the lockdown, we have canceled 232 colonoscopies, 183 gastroscopies, and 15 endoscopic ultrasound examinations (we are continuing to perform oncologic endoscopic ultrasound examinations). In accordance with the proposed strategy of rescheduling, we as time-sensitive procedures 58 colonoscopies and 57 gastroscopies, whereas we had categorized 174 colonoscopies (50 and 124 in subgroups A and B, respectively) and 126 gastroscopies (104 and 22 in subgroups A and B, respectively) as not time-sensitive. Considering our usual daily case volume and the gradual resumption of activity, we should be able to allocate all the canceled procedures categorized within 3–4 months from the previous appointment, also in relation to the estimates for the start of phase 2 (probably within 2 weeks) .

As pointed out by the AGA recommendation, there is evidence supporting that delays of up to a few months also in some cancer diagnoses[3] and up to 6 months in colonoscopy for positive fecal immunochemical testing may not lead to worse clinical outcomes.[4] Therefore, this strategy seems to be reasonable, balancing the risks of missing lesions and the need not to overload the endoscopy services and not to put the staff at risk of contagion. However, this policy offers an opportunity to improve the appropriateness of particular procedures in an open access system. Upon resumption of activity, we will systematically record the effective appropriateness of the both rescheduled and already planned procedures to check the effectiveness of the proposed policy.

ARNALDO AMATO
EMANUELE RONDONOTTI
FRANCO RADAELLI
Division of Digestive Endoscopy and Gastroenterology
Valduce Hospital
Como, Italy

References

1. Sultan S, et al. Gastroenterology 2020;159:739–758.
2. Hassan C, et al. Endoscopy 2013;45:842–851.
3. Droste JS, et al. BMC Cancer 2010;10:332.
4. Corley D, et al. JAMA 2017;317:1631–1641.

Conflicts of interest
The authors disclose no conflicts.

Most current article

https://doi.org/10.1053/j.gastro.2020.04.049

Negative Age-Dependence of the Polygenic Risk Score Gradient for Colorectal Cancer

Dear Editors:

As a researcher developing cancer risk models, I read with interest the article by Archambault et al.[1] on the difference in the association of a polygenic risk score (PRS) with colorectal cancer (CRC) between early-onset and late-onset CRC defined by a threshold for age at diagnosis of 50 years. The authors concluded that from "an analysis of associations with CRC per standard deviation of PRS, we found the cumulative burden of CRC-associated common genetic variants