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GI&Hepatology News

August 2025

Volume 19 / Number 8

Member SPOTLIGHT

AGA President Brings Forth "Message of Inclusivity"

Courtesy Dr. Larry S. Kim

Dr. Larry Kim has served in numerous roles with AGA, among them the co-director of the AGA Clinical Congress, the Partners in Quality program, and the Principles of GI for the NP and PA Course.

BY JENNIFER LUBELL

MDedge News

Private practice gastroenterologist and new AGA President Lawrence Kim, MD, AGAF, initially thought he would pursue a career in health policy.

"I was always interested in medicine. From a relatively early age I thought that's what I would be doing," said Kim. When his father became disillusioned with his own career as a pathologist, he encouraged his son to look in other directions.

"In college I had the opportunity to study and learn broadly and I became interested in public policy and eventually majored in that discipline," he said.

The mentorship of the late Uwe Reinhardt, PhD, a well-respected health economist at Princeton University, had a major impact on Dr. Kim during his senior year of college. Reinhardt told him that physicians are afforded a special position in society. "They have a moral responsibility to take the lead in terms of guiding and shaping healthcare. His message made a big impression upon me," said Kim.

Ultimately, he decided to go into clinical medicine, but maintained his interest in healthcare policy. Experiences outside of the

See **President** · *page 20*

EoE Prevalence in US Reaches 1 in 700, Costs $1B Annually

BY CAROLYN CRIST

FROM CLINICAL GASTROENTEROLOGY AND HEPATOLOGY

The prevalence of eosinophilic esophagitis (EoE) has increased fivefold in the United States since 2009, now affecting about 1 in 700 people and totaling $1.32 billion in annual healthcare costs, according to recent research.

Although EoE has been considered a rare disease, the chronic condition is becoming more common, and healthcare providers should expect to encounter EoE in clinical settings, the study authors wrote.

"Our last assessment of the prevalence and burden of EoE was more than 10 years ago, and we had a strong suspicion we would continue to see increased numbers of patients with EoE and an increasing cost burden related to the condition in the United States," said senior author Evan S. Dellon, MD, MPH, AGAF, professor of gastroenterology and hepatology and director of the Center for Esophageal Diseases and Swallowing at the University of North Carolina School of Medicine, Chapel Hill.

"EoE is becoming more common," Dellon said. "Healthcare providers should expect to see EoE in their practices, including in the primary care setting, emergency departments, allergy practices, GI [gastroenterology] practices, ENT [ear, nose, and throat] clinics, and endoscopy suites."

The study was published in *Clinical Gastroenterology and Hepatology* (2024 Oct. doi: 10.1016/j.cgh.2024.09.031).

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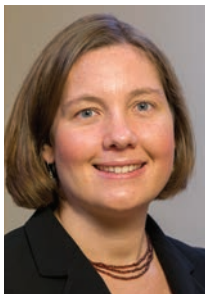
LETTER FROM THE EDITOR

The Aftermath of Kennedy v Braidwood

In our June issue, I highlighted the potentially seismic clinical implications of the US Supreme Court's then-pending decision in the *Kennedy v Braidwood Management, Inc.*, case. That ruling, recently released at the conclusion of the Court's term, ultimately affirmed the Affordable Care Act's mandate requiring insurers to cover certain preventive services, including colorectal cancer screening tests, without cost-sharing.

In doing so, however, the court determined that members of the US Preventive Services Task Force (USPSTF), which recommends these services, are "inferior officers" appropriately appointed by the Secretary of Health & Human Services (HHS), rather than needing Senate confirmation. Thus, the decision reinforced the HHS Secretary's authority to oversee and potentially influence USPSTF recommendations in the future. While the decision represented a victory in upholding a key provision of the ACA, it also signaled a potential threat to the scientific independence of the body charged with making those preventive care recommendations in a scientifically rigorous, unbiased manner.



Dr. Adams

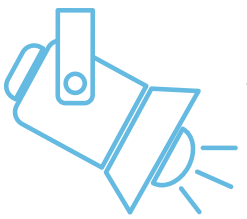
The fight to protect evidence-based health policy is far from over — effective advocacy necessitates that clinicians use their professional platforms to push back against the politicization of science — not only for the integrity of the medical profession, but for the health and future of the patients we serve.

As anticipated, the HHS Secretary responded to the Supreme Court's ruling by abruptly canceling the USPSTF's scheduled July meeting. This decision, coupled with his recent disbanding of the entire 17-member Advisory Committee on Immunization Practices — the group responsible for shaping evidence-based vaccine policy — has raised serious concerns across the healthcare field. On July 9, AGA joined a coalition of 104 health organizations in submitting a letter to the Chair and Ranking Members of the Senate Committee on Health, Education, Labor and Pensions and the House Committee on Energy and Commerce, urging them to protect the integrity of the USPSTF (available at https://academyhealth.org/sites/default/files/friends_of_ahrq_uspstf_support_letter_0_0.pdf).

The fight to protect evidence-based health policy is far from over — effective advocacy necessitates that clinicians use their professional platforms to push back against the politicization of science — not only for the integrity of the medical profession, but for the health and future of the patients we serve. ■

Megan A. Adams, MD, JD, MSc
Editor in Chief

Call for Nominations



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GI & Hepatology News is the official newspaper of the American Gastroenterological Association (AGA) Institute and provides the gastroenterologist with timely and relevant news and commentary about clinical developments and about the impact of healthcare policy. Content for **GI & Hepatology News** is developed through a partnership of the newspaper's medical board of editors (Editor in Chief and Associate Editors), Frontline Medical Communications Inc. and the AGA Institute Staff. "News from the AGA" is provided exclusively by the AGA, AGA Institute, and AGA Research Foundation. All content is reviewed by the medical board of editors for accuracy, timeliness, and pertinence. To add clarity and context to important developments in the field, select content is reviewed by and commented on by external experts selected by the board of editors.

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The AGA Institute headquarters is located at 4930 Del Ray Avenue, Bethesda, MD 20814, ginews@gastro.org.

GI & Hepatology News (ISSN 1934-3450) is published monthly for $230.00 per year by Frontline Medical Communications Inc., 283-299 Market Street (2 Gateway Building), 4th Floor, Newark, NJ 07102. Phone 973-206-3434

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Frontline Medical Communications Society Partners
Editor Richard Pizzi
Creative Director Louise A. Koenig
Director, Production/Manufacturing Rebecca Slebodnik
Director, Business Development Cheryl Wall
978-356-0032 cwall@mdedge.com
E-mail ginews@gastro.org

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An Approach to Exocrine Pancreatic Insufficiency: Considerations in Diagnosis and Treatment

BY YASMIN G. HERNANDEZ-BARCO, MD; MOTAZ ASHKAR, MBBS, MSCI

Exocrine pancreatic insufficiency (EPI) is a recognized condition in patients with underlying pancreatic disease. However, it is a disease state that requires a meticulous approach to diagnose, as misdiagnosis can lead to inappropriate testing and unnecessary treatment.

EPI has been defined as "a near total decline in the quantity and/or activity of endogenous pancreatic enzymes to a level that is inadequate to maintain normal digestive capacity leading to steatorrhea."[1] It can lead to complications including malnutrition, micronutrient deficiencies, and metabolic bone disease and have significant impact on quality of life. In this article, we will review the approach to diagnosis of EPI, differential diagnosis considerations, approach to treatment of EPI, and screening for complications.

EPI Diagnosis

EPI results from ineffective or insufficient pancreatic digestive enzyme secretion. In 2022, a group of experts from the American Gastroenterological Association (AGA) and PancreasFest met and proposed a new mechanistic definition of EPI. This suggests that EPI is the failure of sufficient pancreatic enzymes to effectively reach the intestine in order to allow for optimal digestion of ingested nutrients, leading to downstream macronutrient and micronutrient deficiencies with symptoms of maldigestion including post-prandial abdominal pain, bloating, steatorrhea, loose stools, or weight loss.[2]

A more pragmatic definition by Khan et al in 2022 utilized a staging system to distinguish exocrine pancreatic dysfunction (EPD) from EPI. As such EPD occurs when there is a decline in pancreatic function without impaired digestive capacity, while EPI requires digestive capacity impairment leading to objective steatorrhea (coefficient of fat absorption < 93 %).[3]

Differential Diagnosis: There are many factors that can impact normal digestion. For EPI, symptoms are often the most common reason to test for disease state in the appropriate clinical context. There can be pancreatic causes of EPI and non-pancreatic (secondary) causes of EPI (see Figure 1), though the latter can be challenging to detect.

The most common parenchymal etiologies for EPI include chronic pancreatitis, recurrent acute pancreatitis, cystic fibrosis, pancreatic cancer, or prior pancreatic resections. Non-pancreatic conditions that can predispose patients to EPI include synchronous mixing of endogenous pancreatic enzymes with meals (ie, Roux-en-Y gastric bypass, short bowel syndrome, delayed gastric emptying), mucosal barriers causing decreased endogenous pancreatic stimulation despite intact parenchyma, such as celiac disease, foregut Crohn's disease, intraluminal inactivation of pancreatic enzymes (Zollinger-Ellison syndrome), and bile salts de-conjugation with small intestinal bacterial overgrowth (SIBO).[4-6] The true prevalence of EPI is difficult to ascertain because of a variety of factors including challenges in diagnosis and misdiagnosis.

Some of the major challenges in the diagnosis and treatment of EPI is that the symptoms of EPI overlap with many other gastrointestinal (GI) conditions including celiac disease, diabetes mellitus, SIBO, irritable bowel syndrome (IBS), bile acid diarrhea, and other functional GI syndromes. These non-pancreatic conditions can also be associated with falsely low fecal elastase (FE-1). Hence, ordering FE-1 should be employed with caution when the pretest probability is low. Patients with EPI will generally have

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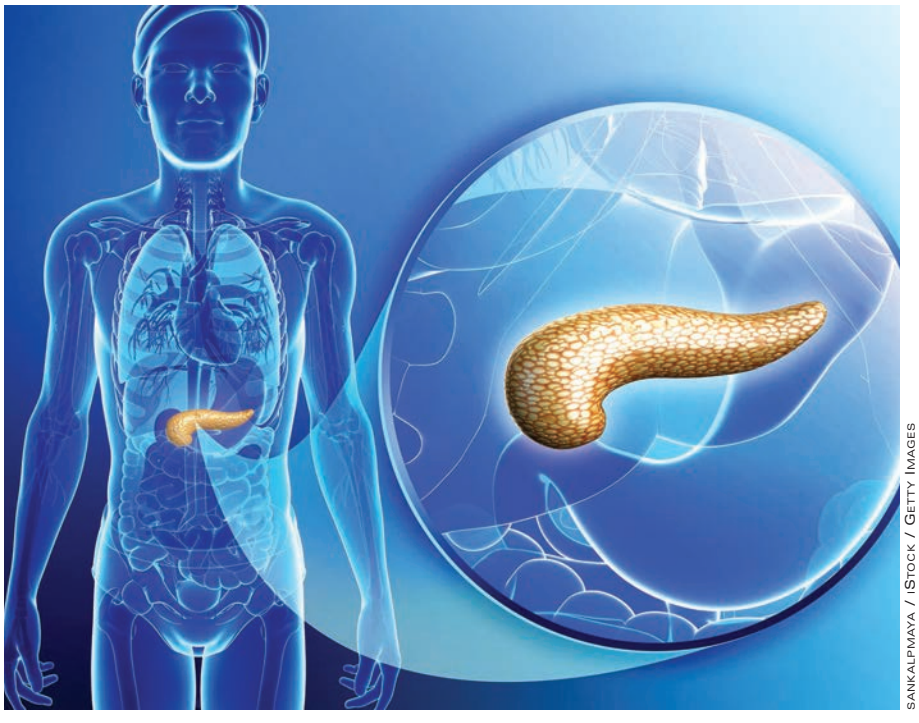


SANKALPMAYA / ISTOCK / GETTY IMAGES

Dr. Hernandez-Barco is based in the division of gastroenterology, Massachusetts General Hospital, Boston. **Dr. Ashkar** is based in the division of gastroenterology and hepatology, Mayo Clinic, Rochester, Minnesota. Dr. Hernandez-Barco disclosed consulting for Amgen and served as a scientific adviser for Nestle Health Science. She had project-related funding support or conflicts of interest to disclose. Dr. Ashkar disclosed consulting for Amgen. He had no project-related funding support or conflicts of interest to disclose.

Exocrine pancreatic insufficiency (EPI) is increasingly a differential diagnosis among patients who are presenting with vague symptoms of abdominal discomfort, bloating, and diarrhea. More commonly, patients are actually requesting to be tested for EPI.

In this In Focus, Dr. Yasmin G. Hernandez-Barco and Dr. Motaz Ashkar review their approaches to diagnosing and managing EPI, including differential diagnoses for EPI that should be considered, the various formulations of pancreatic enzymes, and monitoring of micronutrients. They also detail an algorithm for when EPI is suspected to help guide our trainees and early faculty with patients presenting with concerns for EPI.

Judy Trieu, MD, MPH
Editor in Chief
The New Gastroenterologist

Continued from previous page

a significant response to pancreatic enzyme replacement therapy (PERT) if it is adequately dosed, and a lack of response should prompt consideration of an alternative diagnosis. A framework to factors which contribute to EPI is outlined in Figure 2.

Symptoms Screening and Signs: Pancreatic enzymes output estimation is the most reliable indicator for pancreatic digestive capacity. However, EPI diagnosis requires a combination of symptoms screening, stool-based (indirect pancreatic function) testing, or direct pancreatic function testing (PFT).

The symptoms of EPI overlap with many other GI conditions including celiac disease, diabetes mellitus, SIBO, irritable bowel syndrome, bile acid diarrhea, and other functional GI syndromes.

Although symptoms might not correlate with objective disease state, in screening for symptoms of steatorrhea or maldigestion, it is important to ask specific questions regarding bloating, abdominal pain, stool frequency, consistency, and quality. Screening questions should be specific and include question such as, "Is there oil in the toilet bowl or is the stool greasy/shiny?", "Is the stool sticky and difficult to flush or wipe?", "Is there malodorous flatus?" If patients screen positive for EPI symptoms and there is a high pre-test probability of EPI such as the presence of severe chronic pancreatitis or significant pancreatic resection (> 90% loss of pancreatic parenchyma), then cautious trial of PERT and assessment for treatment response can be considered without additional stool-based testing. However, this practice endpoints are unclear and mainly based on subjective response.

Patients with EPI are at increased risk for malnutrition and micronutrient deficiencies. While not required for the diagnosis, low levels of fat-soluble vitamins (vitamin A, E, D, K) or other minerals (zinc, selenium, magnesium, phosphorus) can suggest issues with malabsorption. Once the diagnosis of EPI is made, micronutrient screening should occur annually.

Stool-Based Testing: The gold standard clinical test for steatorrhea is measuring coefficient of fat absorption (CFA). With a normal range of 93% fat absorption, the test is performed on a 72-hour fecal fat collection kit. To ensure accurate results, a patient must adhere to a diet with a minimum of 100 grams of fat per day in the 3 days leading up to the test and during the duration of the test. Patients must also abstain from taking PERT during the duration of the test. This can be incredibly challenging for someone with underlying steatorrhea but can reliably distinguish between EPD and EPI.

A more commonly used stool test is FE-1. While easier to perform, the test often results in many false positives and false negatives. FE-1 is an ELISA-based test, which measures the concentration of the specific isoform CELA3 (chymotrypsin-like elastase family) in the stool sample. The test must be run on a solid stool sample as soft or liquid stool will dilute down elastase concentration falsely. One test advantage is that a patient can continue PERT if needed. FE-1 test measures the concentration of patients' elastase and PERT is porcine derived. As such, there is no interaction between porcine lipase and human elastase in stool. FE-1 sensitivity and specificity are high for severe disease (< 100 mcg/g) if the test is performed properly on patients with a high pretest probability. However, the sensitivity and specificity are poor in mild to moderate pancreatic disease and in the absence of known pancreatic disease.[7]

Our suggested approach to utilizing FE-1 test is to reserve it for patients with known severe chronic pancreatitis or prior pancreatic surgery in patients with symptoms. In patients without pancreatic disease who are at low risk of EPI, a positive FE-1 can lead to misdiagnosis, further diagnostic testing, and

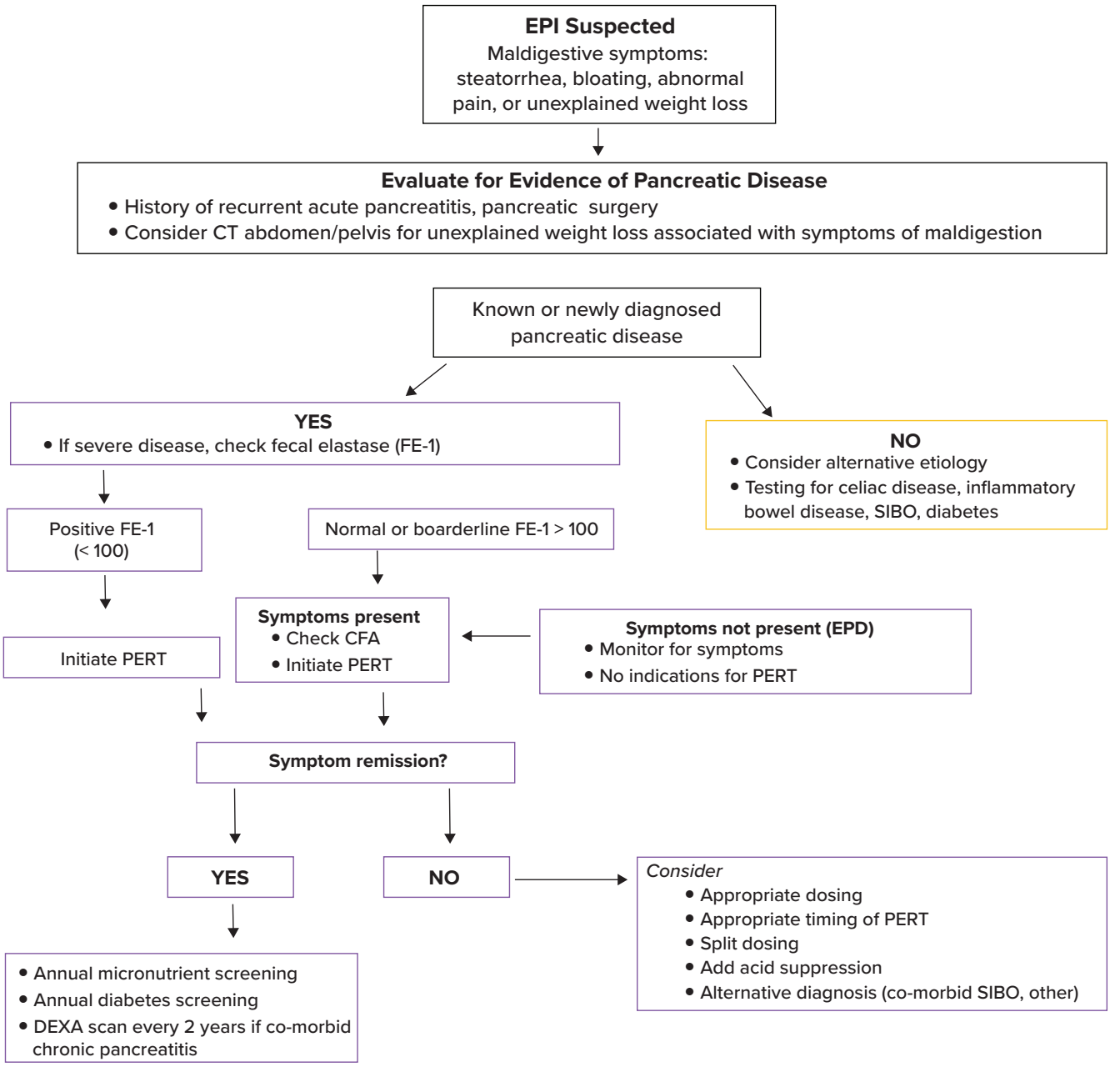
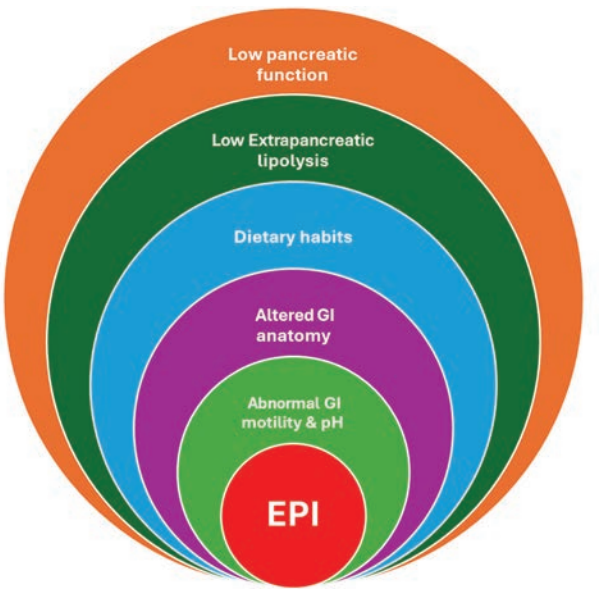


Figure 1. Flowchart evaluates evidence of pancreatic disease: There can be pancreatic causes of EPI and non-pancreatic (secondary) causes of EPI.



Courtesy Dr. Yasmin Hernandez-Barco and Dr. Motaz Ashkar

Figure 2. A framework depicting factors which contribute to the development of EPI.

unnecessary treatment. Currently, there is no stool-based test that is accurate, reproducible, and reliable.

Direct Pancreatic Function Testing: Secretin stimulated PFT is highly reliable in measuring ductal function with bicarbonate concentration. However, it cannot reliably estimate acinar function as both do not decline at the same rate, unless in severe pancreatic disease. A much more robust test should include cholecystokinin analog to measure pancreatic enzymes concentration. This test involves endoscopy, administration of secretin, and/or a cholecystokinin analog, and subsequent measurement of bicarbonate and digestive enzymes in the pancreatic juice. This test is not routinely offered as it is invasive, cumbersome, and difficult to repeat for reassessment of pancreatic function over time.[8]

Treatment

The primary goal of treatment is to improve symptoms and nutritional status of the patient. EPI treatment consists of PERT and nutritional counseling. In the United States, there are multiple FDA approved PERT preparations, which include Creon, Zenpep, Pancreaze, Pertzye, Viokase, and Relizorb. While dosing is dependent on lipase concentration, all PERT (aside from Relizorb) preparations have a combination of lipase, proteases, and amylase. All but Viokace and Relizorb are enteric-coated formulations.[9]

In patients with an inadequate response to enteric-coated PERT, non–enteric coated PERT can be added as it may provide a more immediate effect than enteric-coated formulations, especially if concern about rapid gut transit with inadequate mixing is raised. If a non-enteric formations is used, acid suppression should be added to prevent inactivation of the PERT. Relizorb is a cartridge system which delivers lipase directly to tube feeds. This cartridge is utilized only in patients receiving enteral nutrition and allows for treatment of EPI even when patients are unable to tolerate oral feeding.

PERT dosing is intended to at least compensate for 10% of the physiologically secreted amount of endogenous lipase after a normal meal (approximately 30,000 IU). Hence, dosing is primarily weight-based. In symptomatic adults, PERT dose of 500-1000 units/kg per meal and half of the amount with snacks is appropriate. Although higher doses of 1500-2000 units/kg per meal may be needed when there is significant steatorrhea, weight loss, or micronutrient deficiencies, PERT doses exceeding 2500 units/kg per meal are not recommended and warrant further investigation.[10]

Proper counseling is important to ensure compliance with pancreatin preparations. PERT will generally be effective in improving steatorrhea, weight loss, bowel movement frequency, and reversal of nutritional deficiencies, but it does not reliably help symptoms of bloating or abdominal pain. If a patient's steatorrhea does not respond to PERT, then alternative diagnoses such as SIBO, or diarrhea-predominant IBS should be considered.

Pancreas exocrine function is rich with significant reserve to allow for proper digestive capacity, yet EPI occurs when an individual's pancreatic digestive enzymes are insufficient to meet their nutritional needs.

PERT must be taken with meals. There are studies that support split dosing as a more effective way of absorbing fat.[11] If PERT is ineffective or minimally effective, review of appropriate dosing and timing of PERT to a meal is recommended. Addition of acid suppression may be required to improve treatment efficacy, especially in patients with abnormal intestinal motility or prior pancreatic surgery as PERT is effective at a pH of 4.5. Cost, pill burden, and persistence of certain symptoms may impact adherence to PERT and thus pre-treatment counseling and close follow-up after initiation is important. This aids in assessing patients' response to therapy, ensuring appropriate PERT administration, and identifying any barriers to therapy adherence.

Nutritional management of EPI consists of an assessment of nutritional status, diet, and lifestyle. An important component of nutritional management is the assessment of micronutrient deficiencies. Patients with a confirmed diagnosis of EPI should be screened for the following micronutrients annually: vitamins (A, E, D, K, B_{12}), folate, zinc, selenium, magnesium, and iron. Patients with chronic pancreatitis and EPI should also be screened for metabolic bone disease once every 2 years and for diabetes mellitus annually.[4, 12]

Conclusion

EPI is a challenging diagnosis as many symptoms overlap with other GI conditions. Pancreas exocrine function is rich with significant reserve to allow for proper digestive capacity, yet EPI occurs when an individual's pancreatic digestive enzymes are insufficient to meet their nutritional needs. In patients with high likelihood of having EPI, such as those with pre-existing pancreatic disease, diagnosing EPI combines clinical evidence based on subjective symptoms and stool-based testing to support a disease state.

Appropriate dosing and timing of PERT is critical to improve nutritional outcomes and improve certain symptoms of EPI. Failure of PERT requires evaluating for proper dosing/timing, and consideration of additional or alternative diagnosis. EPI morbidity can lead to significant impact on patients' quality of life, but with counseling and proper PERT use, nutritional consequences can be mediated, and quality of life can improve. ■

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Practical Tips on Delivering Feedback to Trainees and Colleagues

BY MICHELLE BALISS, DO; CHRISTINE HACHEM, MD

Courtesy Washington University in St. Louis

Dr. Baliss

Courtesy Intermountain Medical

Dr. Hachem

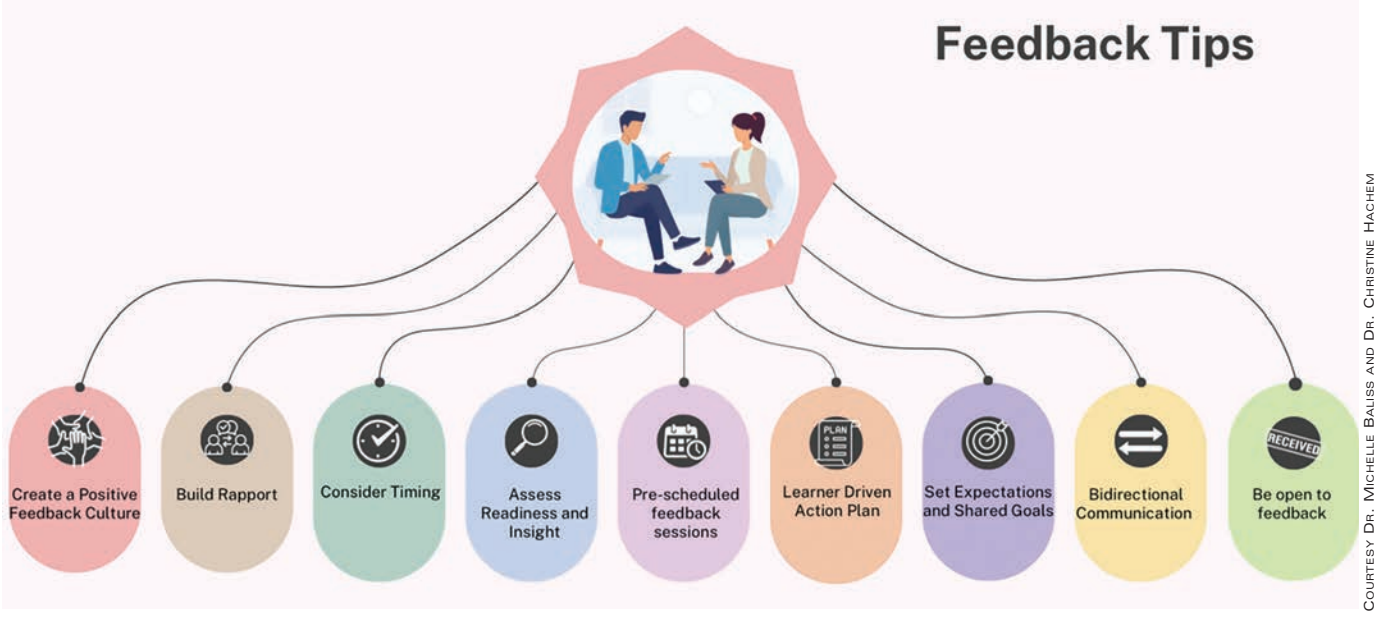
Feedback is the purposeful practice of offering constructive, goal-directed input rooted in the power of observation and behavioral assessment. Healthcare inherently fosters a broad range of interactions among people with unique insights, and feedback can naturally emerge from this milieu. In medical training, feedback is an indispensable element that personalizes the learning process and drives the professional development of physicians through all career stages.

If delivered effectively, feedback can strengthen the relationship between the evaluator and recipient, promote self-reflection, and enhance motivation. As such, it has the potential to impact us and those we serve for a lifetime. Feedback has been invaluable to our growth as clinicians and has been embedded into our roles as educators. However, delivering effective feedback requires preparation and consideration of potential challenges. Here, we provide some "tried and true" practical tips on delivering feedback to trainees and co-workers and on navigating potential barriers based on lessons learned.

Barriers to Effective Feedback

- ***Time:*** Feedback is predicated on observation over time and consideration of repetitive processes rather than isolated events. Perhaps the most challenging factor faced by both parties is that of time constraints, leading to limited ability to engage and build rapport.
- ***Fear:*** Hesitancy by evaluators to provide feedback in fear of negative impacts on the recipient's morale or rapport can lead them to shy away from personalized corrective feedback strategies and choose to rely on written evaluations or generic advice.
- ***Varying approaches:*** Feedback strategies have evolved from unidirectional, critique-based, hierarchical practices that emphasize the evaluator's skills to models that prioritize the recipient's goals and participation (see Table 1). Traditionally employed feedback models such as the "Feedback Sandwich" or the "Pendleton Rules" are criticized because of a lack of proven benefit on performance, recipient goal prioritization, and open communication.[1,2] Studies showing incongruent perceptions of feedback adequacy between trainees and faculty further support the need for recipient-focused strategies.[3] Recognition of the foundational role of the reciprocal learner-teacher alliance in feedback integration inspired newer feedback models, such as the "R2C2" and the "Self-Assessment, Feedback, Encouragement, Direction."[4,5]

But which way is best? With increasing abundance and complexity of feedback frameworks, selecting an approach can feel overwhelming and impractical. A generic "one-size-fits-all" strategy or avoidance of feedback altogether can be detrimental. Structured feedback models can also lead to rigid, inauthentic interactions. Below, we suggest a more practical approach through our tips that unifies the common themes of various feedback models and embeds them into daily practice habits while leaving room for personalization.



Courtesy Dr. Michelle Baliss and Dr. Christine Hachem

Figure 1: Key Principles of Effective Feedback

Our Practical Feedback Tips

Tip 1: Set the scene: Create a positive feedback culture

Proactively creating a culture in which feedback is embedded and encouraged is perhaps the most important step. Priming both parties for feedback clarifies intent, increases receptiveness, and paves the way for growth and open communication. It also prevents the misinterpretation of unexpected feedback as an expression of disapproval. To do this, start by regularly stating your intentions at the start of every experience. Explicitly expressing your vision for mutual learning, bidirectional feedback, and growth in your respective roles attaches a positive intention to feedback. Providing a reminder that we are all works in progress and acknowledging this on a regular basis sets the stage for structured growth opportunities.

Scheduling future feedback encounters from the start maintains accountability and prevents feedback from being perceived as the consequence of a particular behavior. The number and timing of feedback sessions can be customized to the duration of the working relationship, generally allowing enough time for a second interaction (at the end of each week, halfway point, etc).

Tip 2: Build rapport

Increasing clinical workloads and pressure to teach in time-constrained settings often results in insufficient time to engage in conversation and trust building. However, a foundational relationship is an essential precursor to meaningful feedback. Ramani et al state that "relationships, not recipes, are more likely to promote feedback that has an impact on learner performance and ultimately patient care."[6] Building this rapport can begin by dedicating a few minutes (before/during rounds,

Table 1: Feedback Models

Feedback Model	Description	Strengths	Pitfalls
Feedback Sandwich	Corrective feedback delivered between positive opening and closing remarks	- "Softens the blow" for evaluator and recipient - May improve receptiveness	Can be perceived as insincere or manipulative
Pendleton Rules	- Recipient lists strengths followed by evaluator - Recipient then lists deficiencies followed by evaluator - Summarize	- Reinforces positive behaviors - Encourages dialogue - Requires learner self-reflection to provide self-assessment	Rigid structure that can feel artificial, tendency for evaluator to repeat recipient's points, disproportionate amount of time spent on strengths
Relationship, Reaction, Content, Coaching (R2C2)	4 phases: - Relationship building - Exploring reactions - Exploring understanding of feedback compared to standard milestones - Coaching for performance change	Engages the learner to take charge of their action plan with the evaluator in a coaching role	Time consuming, does not fit well into an informal feedback setting, requires insight from learner
Self-Assessment, Feedback, Encouragement, Direction (SFED)	- Learner provides a self-assessment - Reinforcing and corrective feedback - Encouragement and direction	- Encourages self-reflection - Improves relationship between parties because of collaborative approach	Time consuming, requires insight from learner, may not be well suited for all feedback encounters

Source: Michelle Baliss, DO; Christine Hachem, MD.

between cases) to exchange information about career interests, hobbies, favorite restaurants, etc. This "small talk" is the beginning of a two-way exchange that ultimately develops into more meaningful exchanges.

In our experience, this simple step is impactful and fulfilling to both parties. This is also a good time for shared vulnerability by talking about what you are currently working on or have worked on at their stage to affirm that feedback is a continuous part of professional development and not a reflection of how far they are from competence at a given point in time.

Tip 3: Consider timing, assess readiness, and preschedule sessions

Lack of attention to timing can hinder feedback acceptance. We suggest adhering to delivering positive feedback publicly and corrective feedback privately ("Praise in public, perfect in private"). This reinforces positive behaviors, increases motivation, and minimizes demoralization. Prolonged delays between the observed behavior and feedback can decrease its relevance. Conversely, delivering feedback too soon after an emotionally charged experience can be perceived as blame. Pre-designated times for feedback can minimize the guesswork and maintain your accountability for giving feedback without inadvertently linking it to one particular behavior. If the recipient does not appear to be in a state to receive feedback at the predesignated time, you can pivot to a "check-in" session to show support and strengthen rapport.

Tip 4: Customize to the learner and set shared goals

Diversity in backgrounds, perspectives, and personalities can impact how people perceive their own performances and experience feedback. Given the profound impact of sociocultural factors on feedback assimilation, maintaining the recipient and their goals at the core of performance evaluations is key to feedback acceptance.

A. Trainees

We suggest starting by introducing the idea of feedback as a partnership and something you feel privileged to do to help them achieve mutual goals. It helps to ask them to use the first day to get oriented with the experience, general expectations, challenges they expect to encounter, and their feedback goals. Tailoring your feedback to their goals creates a sense of shared purpose which increases motivation. Encouraging them to develop their own strategies allows them to play an active role in their growth. Giving them the opportunity to share their perceived strengths and deficiencies provides you with valuable information regarding their insight and ability to self-evaluate. This can help you predict their readiness for your feedback and to tailor your approach when there is a mismatch.

Examples:

- *Medical student:* Start with "What do you think you are doing well?" and "What do you think you need to work on?" Build on their response with encouragement and empathy. This helps make them more deliberate with what they work on because being a medical student can be overwhelming and can feel as though they have everything to work on.
- *Resident/Fellow:* By this point, trainees usually have an increased awareness of their strengths and deficiencies. Your questions can then be more specific, giving them autonomy over their learning, such as "What are some of the things you are working on that you want me to give you feedback on this week?" This makes them more aware, intentional, and receptive to your feedback because it is framed as something that they sought out.

B. Colleagues/Staff

Unlike the training environment in which feedback is built in, giving feedback to co-workers requires you to establish a feedback-conducive environment and to develop a more in-depth understanding of coworkers' personalities. Similar strategies can be applied, such as proactively setting the scene for open communication, scheduling check-ins, demonstrating receptiveness to feedback, and investing in trust-building.

Longer working relationships allow for strong foundational connections that make feedback less threatening. Personality assessment testing like Myers-Briggs Type Indicator or DiSC Assessment can aid in tailoring feedback to different individuals.[7,8] An analytical thinker may appreciate direct, data-driven feedback. Relationship-oriented individuals might respond better to softer, encouragement-based approaches. Always maintain shared goals at the center of your interactions and consider collaborative opportunities such as quality improvement projects. This can improve your working relationship in a constructive way without casting blame.

Tip 5: Work on delivery: Bidirectional communication and body language

Nonverbal cues can have a profound impact on how your feedback is interpreted and on the recipient's comfort to engage in conversation. Sitting down, making eye contact, nodding, and avoiding closed-off body posture can project support and feel less judgmental. Creating a safe and nondistracted environment with privacy can make them feel valued. Use motivating, respectful language focused on directly observed behaviors rather than personal attributes or secondhand reports.

Lack of attention to timing can hinder feedback acceptance. We suggest adhering to delivering positive feedback publicly and corrective feedback privately ('Praise in public, perfect in private').

Remember that focusing on repetitive patterns is likely more helpful than isolated incidents. Validate their hard work and give them a global idea of where they stand before diving into individual behaviors. Encourage their participation and empower them to suggest changes they plan to implement. Conclude by having them summarize their action plan to give them ownership and to verify that your feedback was interpreted as you intended. Thank them for being a part of the process, as it does take

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Neighborhood Determinants of Health Adversely Impact MASLD

BY DIANA SWIFT
MDedge News

FROM CLINICAL GASTROENTEROLOGY AND HEPATOLOGY

Neighborhood-level social determinants of health (SDOH) are linked to the burden, comorbidities, and mortality of metabolic dysfunction–associated steatotic disease (MASLD). These health mediators should be considered along with individual SDOH in clinical care and healthcare quality and equity improvement, a large retrospective study of adults with MASLD at a multi-state healthcare institution concluded.

Across quartiles, patients in the most disadvantaged neighborhoods (according to home addresses) vs the least disadvantaged had worse outcomes and were also disproportionately Hispanic, Black, and Native American/Alaska Native, more often Spanish-speaking in primary language, and more often uninsured or on Medicaid, according to Karn Wijarnpreecha, MD, MPH, of the division of gastroenterology and hepatology at University of Arizona College of Medicine–Phoenix, and colleagues writing in *Clinical Gastroenterology and Hepatology* (2024 Dec. doi: 10.1016/j.cgh.2024.10.019).


Dr. Wijarnpreecha

Even after adjustment for measures in the

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The spectrum of steatotic liver disease (SLD) including metabolic dysfunction–associated steatotic liver disease (MASLD) is increasing in the United Statues: 38% of adults and 7%-14% of children currently have MASLD and it is projected that by 2040 the prevalence rate for MASLD will be higher than 55% in US adults. Fortunately, most will not develop serious liver disease. However, even if a small subset is impacted, significant liver-related morbidity and mortality will be the result.


Dr. Reau

Yet, concentrating only on the liver misses the substantial impact of other metabolic outcomes associated with MASLD. Equally important, at-risk MASLD is treatable with lifestyle modifications, pharmacotherapy, and surgical options which improve liver-related outcomes, metabolic complications, and all-cause mortality. When over half of the US has a disease that requires individuals to navigate a complex care pathway that includes screening, staging, and risk modification across multiple metabolic conditions, any factor that can help identify those in need for targeted interventions is paramount. And personalization that allows someone to effectively traverse the care pathway allows for the most successful outcome.

Social determinants of health (SDOH) are complex but not insurmountable. By recognizing the contribution of SDOH, researchers can design studies to discover which factors drive disparate outcomes on a granular level. This can then support funding and policy changes to address these elements. It is already well established that food insecurity is associated with both prevalence of MASLD and liver-related mortality. Policies to address the issues related to poverty can be prioritized and their impact measured.

This study also highlights the importance of needs by neighborhood. Culture has an impact on diet which is inextricably linked to MASLD. Acculturation, or the process of adapting to a new culture, is associated with poor health, physical inactivity, and poor diet but is also recognized. Western diets are high in saturated fat and refined carbohydrates which then increase risk of obesity and MASLD. In neighborhoods where culturally tailored interventions can improve health outcomes, community-based programs are imperative. In conclusion, a holistic approach that acknowledges and integrates cultural practices and preferences into MASLD prevention and management strategies can improve treatment adherence and outcomes, particularly for high-risk populations.

Nancy S. Reau, MD, AGAF, is professor and section chief of hepatology in the division of digestive diseases and nutrition at Rush University, Chicago. She has no disclosures in relation to this commentary.

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a partnership for feedback to be effective.

Tip 6: Be open to feedback

Demonstrating your willingness to accept and act on feedback reinforces a positive culture where feedback is normalized and valued. After an unintended outcome, initiate a two-way conversation and ask their input on anything they wish you would have done differently. This reaffirms your commitment to maintaining culture that does not revolve around one-sided critiques. Frequently soliciting advice about your feedback skills can also guide you to adapt your approach and to recognize any ineffective feedback practices.

Tip 7: Prepare for when things don't go as planned

Receiving feedback, no matter how thoughtfully it is delivered, can be an emotionally charged experience ending in hurt feelings. This happens because of misinterpretation of feedback as an indicator of inadequacy, heightened awareness of underlying insecurities, sociocultural or personal circumstances, frustration with oneself, and need for additional guidance, or being caught off-guard by the assessment.

The evaluator should always acknowledge the recipient's feelings, show compassion, and allow time for processing. When they are ready to talk, it is important to help reframe the recipients' mindsets to recognize that feedback is not personal or defining and is not a "one and done" reflection of whether they have "made it." Instead, it is a continual process that we benefit from through all career stages. Again, shared vulnerability can help to normalize feedback and maintain open dialogue. Setting an opportunity for a future check-in can reinforce support and lead to a more productive conversation after they have had time to process.

Conclusion

Effective feedback delivery is an invaluable skill that can result in meaningful goal-directed changes while strengthening professional relationships. Given the complexity of feedback interactions and the many factors that influence its acceptance, no single approach is suitable for all recipients and frequent adaptation of the approach is essential.

In our experience, adhering to these general overarching feedback principles (see Figure 1) has allowed us to have more successful interactions with trainees and colleagues. ■

Dr. Baliss is based in the division of gastroenterology, Washington University in St. Louis, Missouri. Dr. Hachem is director of the division of gastroenterology and digestive health at Intermountain Medical, Sandy, Utah. *Both authors declare no conflicts of interest.*

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H. pylori and Long-Term Gastric Cancer Risk

BY DIANA SWIFT
MDedge News

FROM GASTROENTEROLOGY

Helicobacter pylori (HP) eradication reduced the risk of gastric noncardia adenocarcinoma in five Scandinavian countries, a population-based study in *Gastroenterology* reported (2025 Feb. doi: 10.1053/j.gastro.2025.01.23). Risk became virtually similar to the background population from 11 years after treatment onward.


Dr. Lagengren

HP infection of the stomach is the main established risk factor for this tumor, but not much was known about the impact of eradication on long-term risk, particularly in Western populations, noted investigators led by Jesper Lagengren, MD, a gastrointestinal surgeon and professor at the Karolinksa Institutet in Stockholm. Research with longer follow-up has reported contradictory results.

The study cohort included all adults treated for HP from 1995 to 2019 in Denmark, Finland, Iceland, Norway, and Sweden. Standardized incidence ratios (SIRs) with 95% CIs were calculated by comparing the gastric noncardia adenocarcinoma incidence in the study cohort with the incidence in the background population of the same age, sex, calendar period, and country.

The 659,592 treated participants were 54.3% women, 61.5% age 50 or younger, and had no serious comorbidities. They contributed to 5,480,873 person-years at risk with a mean follow-up of 8.3 years. Treatment consisted of a minimum 1-week antibiotic regimen with two of amoxicillin, clarithromycin, or metronidazole, in combination with a proton-pump inhibitor. This is the recommended regimen in the Nordic countries, where it achieves successful eradication in 90% of infected individuals.

Among these patients, 1311 developed gastric noncardia adenocarcinoma. Over as many as 24 years of follow-up, the SIR in treated HP patients was initially significantly higher than in the background population at 2.27 (95% CI, 2.10-2.44) at 1-5 years after treatment. By 6-10 years the SIR had dropped to 1.34 (1.21-1.48) and by 11-24 years it further fell to 1.11 (0.98-1.27). In terms of observed vs expected cases, that translated to 702 vs 310 at 1-5 years, 374 vs 270 at 6-10 years, and 235 vs 211 from 11-24 years.

Gastric HP infection is the most prevalent bacterial infection worldwide, found in approximately 50% of the global population but with striking geographical variations in prevalence and virulence.

The results of the Nordic study align with systematic reviews from Asian populations indicating that eradication reduces the risk of gastric cancer, the authors said (Gastroenterology. 2016 Jan. doi: 10.1053/j.gastro.2016.01.028).

They noted gastric HP infection is the most prevalent bacterial infection worldwide, found in approximately 50% of the global population but with striking geographical variations in prevalence and virulence. The highest prevalence (> 80%) and virulence are found in countries with low socioeconomic status and sanitation standards such as regions in Africa and Western Asia.

Gastric adenocarcinoma is the fourth-commonest cause of cancer-related death globally, leading to 660,000 deaths in 2022 (CA Cancer J Clin. 2024 May-Jun. doi: 10.3322/caac.21834).

Lagergren and colleagues cited the need for research to delineate high-risk individuals who would benefit rom HP screening and eradication.

This study was supported by the Sjoberg Foundation, Nordic Cancer Union, Stockholm County Council, and Stockholm Cancer Society. The authors had no conflicts of interest to disclose. ■

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Social Deprivation Index (SDI), the incidence of death, cirrhosis, diabetes mellitus (DM), and major adverse cardiovascular events (MACE) was higher in Native American/Alaska Native patients compared with their non-Hispanic White counterparts. The SDI is a composite measure of seven demographic characteristics from the American Community Survey, with scores ranging from 1 to 100 and weighted based on characteristics from national percentile rankings.

Aligning with the growing prevalence of obesity and DM, MASLD has increased substantially over the past 3 decades, and is now the leading cause of chronic liver disease in this country and the world.

This rise in prevalence has underscored health disparities in MASLD and prompted research into links between liver disease and SDOH, defined as the conditions under which people are born, grow, live, work, and age. These are fundamental drivers of health disparities, including those in MASLD.

Study Details

Primary outcomes were MASLD burden, mortality, and comorbidities by neighborhood SDOH, assessed using the SDI in cross-sectional and longitudinal analyses.

A total of 69,191 adult patients (more than 50% female) diagnosed with MASLD were included, 45,003 of whom had at least 365 days of follow-up. They were treated from July 2012 to June 2023 in Banner Health Systems, a network that includes primary-, secondary-, and tertiary-care centers in Arizona, Colorado, Wyoming, Nevada, Nebraska, and California.

The median follow-up time was 48 months. Among patients across SDI quartiles (age range 49-62 years), 1390 patients (3.1%) died, 902 (2.0%) developed cirrhosis, 1087 (2.4%) developed liver-related event (LRE), 6537 (14.5%) developed DM, 2057 (4.6%) developed cancer, and 5409 (12.0%) developed MACE.

'Our findings are consistent with a recent study by Chen et al of over 15,900 patients with MASLD in Michigan that found neighborhood-level social disadvantage was associated with increased mortality and incident [liver-related events] and [cardiovascular disease].'

Those living in the most disadvantaged quartile of neighborhoods compared with the least had the following higher odds:

- cirrhosis, adjusted odds ratio [aOR], 1.42 (P < .001)
- any cardiovascular disease (CVD), aOR, 1.20 (P < .001),
- coronary artery disease, aOR, 1.17 (P < .001)
- congestive heart failure, aOR, 1.43 (P < .001)
- cerebrovascular accident, aOR, 1.19 (P = .001)
- DM, aOR, 1.57 (P < .001)
- hypertension, aOR, 1.38 (P < .001).

They also had increased incidence of death (adjusted hazard ratio [aHR], 1.47; P < .001), LRE (aHR, 1.31; P = .012), DM (aHR, 1.47; P < .001), and MACE (aHR, 1.24; P < .001).

The study expands upon previous SDOH-related research in liver disease and is the largest analysis of neighborhood-level SDOH in patients with MASLD to date. "Our findings are consistent with a recent study by Chen et al of over 15,900 patients with MASLD in Michigan that found neighborhood-level social disadvantage was associated with increased mortality and incident LREs and CVD," Wijarnpreecha and colleagues wrote.

"Beyond screening patients for individual-level SDOH, neighborhood-level determinants of health should also be considered, as they are important mediators between the environment and the individual," they added, calling for studies to better understand the specific neighborhood SDOH that drive the disparate outcomes. In practice, integration of these measures into medical records might inform clinicians which patients would benefit from social services or help guide quality improvement projects and community partnerships.

Wijarnpreecha had no conflicts of interest to disclose. Several coauthors reported research support, consulting/advisory work, or stock ownership for various private-sector companies. ■

Post-Polypectomy CRC Seen Before Follow-Up

BY NANCY A. MELVILLE

FROM DDW 2025

SAN DIEGO — The majority of colorectal cancers (CRCs) that emerge following a negative colonoscopy and polypectomy occur prior to recommended surveillance exams, and those cases are more likely to be at an advanced stage, according to new research.

Of key factors linked to a higher risk for such cases, one stands out — the quality of the baseline colonoscopy procedure.

Dr. Gupta

'What is key to emphasize is that [colonoscopy] quality is probably the most important factor in post-polypectomy risk. But, advantageously, it's also the most modifiable factor.'

"A lot of the neoplasia that we see after polypectomy was probably either missed or incompletely resected at baseline," said Samir Gupta, MD, AGAF, a professor of medicine in the division of gastroenterology, UC San Diego Health, La Jolla, California, in discussing the topic at Digestive Diseases Week® (DDW) 2025.

"Therefore, what is key to emphasize is that [colonoscopy] quality is probably the most important factor in post-polypectomy risk," he said. "But, advantageously, it's also the most modifiable factor."

Research shows that the risk for CRC incidence following a colonoscopy ranges from just about 3.4 to 5 cases per 10,000 person-years when baseline findings show no adenoma or a low risk; however, higher rates ranging from 13.8 to 20.9 cases per 10,000 person-years are observed for high-risk adenomas or serrated polyps, Gupta reported.

"Compared with those who have normal colonoscopy, the risk [for CRC] with high-risk adenomas is increased by nearly threefold," Gupta said.

In a recent study of US veterans who underwent a colonoscopy with polypectomy between 1999 and 2016 that was labeled negative for cancer, Gupta and his colleagues found that over a median follow-up of 3.9 years, as many as 55% of 396 CRCs that occurred post-polypectomy were detected prior to the recommended surveillance colonoscopy (Am J Gastroenterol. 2025 Mar. doi: 10.14309/ajg.0000000000003430).

The study also showed that 40% of post-polypectomy CRC deaths occurred prior to the recommended surveillance exam over a median follow-up of 4.2 years.

Cancers detected prior to the recommended surveillance exam were more likely to be diagnosed as stage IV compared with those diagnosed later (16% prior to recommended surveillance vs 2.1% and 8.3% during and after, respectively; $P = .003$).

Importantly, the most prominent reason for the cancers emerging in the interval before follow-up surveillance was missed lesions during the baseline colonoscopy (60%), Gupta said.

Colonoscopist Skill and Benchmarks

A larger study of 173,288 colonoscopies further underscores colonoscopist skill as a key factor in post-polypectomy CRC (Gastroenterology. 2020 Oct. doi: 10.1053/j.gastro.2020.10.009), showing that colonoscopists with low vs high performance quality — defined as an adenoma detection rate (ADR) of either < 20% vs ≥ 20% — had higher 10-year cumulative rates of CRC incidence among patients following a negative colonoscopy ($P < .001$).

Likewise, in another analysis of low-risk vs high-risk polyps, a higher colonoscopist performance status was significantly associated with lower rates of CRCs ($P < .001$).

"Higher colonoscopist performance was associated with a lower cumulative colorectal cancer risk within each [polyp risk] group, such that the cumulative risk after high-risk adenoma removal by a higher performing colonoscopist is similar to that in patients who had a low-risk adenoma removed by a lower performer," Gupta explained.

"So, this has nothing to do with the type of polyp that was removed — it really has to do with the quality of the colonoscopist," he said.

The American College of Gastroenterology and the American Society for Gastrointestinal Endoscopy Quality Task Force recently updated recommended benchmarks for colonoscopists for detecting polyps, said Aasma Shaukat, MD, AGAF, director of GI outcomes research at NYU Grossman School of Medicine, New York City, in further discussing the issue in the session (Am J Gastroenterol. 2024 Sep. doi: 10.14309/ajg.0000000000002972).

They recommend an ADR of 35% overall, with the recommended benchmark being ≥ 40% for men aged 45 years or older and ≥ 30% for women aged 45 years or older, with a rate of 50% for patients aged 45 years or older with an abnormal stool test, Shaukat explained.

Dr. Shaukat

And "these are minimum benchmarks," she said. "Multiple studies suggest that, in fact, the reported rates are much higher."

Among key strategies for detecting elusive adenomas is the need to slow down withdrawal time during the colonoscopy in order to take as close a look as possible, Shaukat emphasized.

She noted research that her team has published showing that physicians' shorter withdrawal times were in fact inversely associated with an increased risk for cancers occurring prior to the recommended surveillance ($P < .0001$) (Gastroenterology. 2015 Jul. doi: 10.1053/j.gastro.2015.06.044).

"Multiple studies have shown it isn't just the time but the technique with withdrawal," she added, underscoring the need to flatten as much of the mucosa and folds as possible during the withdrawal. "It's important to perfect our technique."

Sessile serrated lesions, with often subtle and indistinct borders, can be among the most difficult polyps to remove, Shaukat noted. Studies have shown that as many as 31% of sessile serrated lesions are incompletely resected, compared with about 7% of tubular adenomas.

Patient Compliance Can't Be Counted On

In addition to physician-related factors, patients themselves can also play a role in post-polypectomy cancer risk — specifically in not complying with surveillance recommendations, with reasons ranging from cost to the invasiveness and burden of undergoing a surveillance colonoscopy.

"Colonoscopies are expensive, and participation is suboptimal," Gupta said.

One study of high-risk patients with adenoma shows that only 64% received surveillance, and many who did receive surveillance received it late, he noted (Cancer. 2023 Feb. doi: 10.1002/cncr.34692).

This underscores the need for better prevention as well as follow-up strategies, he added.

Recommendations for surveillance exams from the World Endoscopy Organization range from every 3-10 years for patients with polyps, depending on the number, size, and type of polyps, to every 10 years for those with normal colonoscopies and no polyps.

A key potential solution to improve patient monitoring within those periods is the use of fecal immunochemical tests (FITs), which are noninvasive, substantially less burdensome alternatives to colonoscopies, which check for blood in the stool, Gupta said.

While the tests can't replace the gold standard of colonoscopies, the tests nevertheless can play an important role in monitoring patients, he said.

Evidence supporting their benefits includes a recent important study of 2226 patients who underwent either post-polypectomy colonoscopy, FIT (either with FOB Gold or OC-Sensor), or FIT-fecal DNA (Cologuard) test, he noted (Dig Dis Sci. 2024 May. doi: 10.1007/s10620-024-08466-x).

The results showed that the OC-Sensor FIT had a 71% sensitivity, and FIT-fecal DNA had a sensitivity of 86% in the detection of CRC.

Importantly, the study found that a positive FIT result prior to the recommended surveillance colonoscopy reduced the time-to-diagnosis for CRC and advanced adenoma by a median of 30 and 20 months, respectively.

FIT Tests Potentially a 'Major Advantage'

"The predictive models and these noninvasive tests are likely better than current guidelines for predicting who has metachronous

Patient Navigation Boosts Colonoscopy Completions

BY MARILYNN LARKIN

Patient navigation was more effective than usual care in increasing follow-up colonoscopy rates after an abnormal stool test result, a new randomized controlled trial revealed.

The intervention led to a significant 13-point increase in follow-up colonoscopy completion at 1 year, compared with usual care (55.1% vs 42.1%), according the study, which was published online in *Annals of Internal Medicine* (2025 Apr. doi: 10.7326/ANNALS-24-01885).

"Patients with an abnormal fecal test results have about a 1 in 20 chance of having colorectal cancer found, and many more will be found to have advanced adenomas that can be removed to prevent cancer," Gloria Coronado, PhD, of Kaiser Permanente Center for Health Research, Portland, Oregon, and University of Arizona Cancer Center, Tucson, said in an interview.

"It is critical that these patients get a follow-up colonoscopy," she said. "Patient navigation can accomplish this goal."

Dr. Coronado

'Most patients who were reached were contacted with six or fewer phone attempts. Further efforts are needed to determine how to reach and motivate patients to get a follow-up colonoscopy.'

'Highly Effective' Intervention

Researchers compared the effectiveness of a patient navigation program with that of usual-care outreach in increasing follow-up colonoscopy completion after an abnormal stool test. They also developed a risk-prediction model that calculated a patient's probability of obtaining a follow-up colonoscopy without navigation to determine if the addition of this intervention had a greater impact on those determined to be less likely to follow through.

The study included 967 patients from a community health center in Washington State who received an abnormal fecal test result within the prior month. The mean age of participants was 61 years, approximately 45% were women and 77% were White, and 18% preferred a Spanish-language intervention. In total, 479 patients received the intervention and 488 received usual care.

The intervention was delivered by a patient navigator who mailed introductory letters, sent text messages, and made live phone calls. In the calls, the navigators addressed the topics of barrier assessment and resolution, bowel preparation instruction and reminders, colonoscopy check-in, and understanding colonoscopy results and retesting intervals.

Patients in the usual-care group were contacted by a referral coordinator to schedule a follow-up colonoscopy appointment. If they couldn't be reached initially, up to two follow-up attempts were made at 30 and 45 days after the referral date.

Patient navigation resulted in a significant 13% increase in follow-up, and those in this group completed a colonoscopy 27 days sooner than those in the usual-care group (mean, 229 days vs 256 days).

Contrary to the authors' expectation, the effectiveness of the intervention did not vary by patients' predicted likelihood of obtaining a colonoscopy without navigation.

Notably, 20.3% of patients were unreachable or lost to follow-up, and 29.7% did not receive navigation. Among the 479 patients assigned to navigation, 79 (16.5%) declined participation and 56 (11.7%) were never reached.

The study was primarily conducted during the height of the COVID-19 pandemic, which created additional systemic and individual barriers to completing colonoscopies.

Nevertheless, the authors wrote, "our findings suggest that patient navigation is highly effective for patients eligible for colonoscopy."

"Most patients who were reached were contacted with six or fewer phone attempts," Coronado noted. "Further efforts are needed to determine how to reach and motivate patients [who did not participate] to get a follow-up colonoscopy."

Coronado and colleagues are exploring ways to leverage artificial intelligence and virtual approaches to augment patient navigation programs — for example, by using a virtual navigator or low-cost automated tools to provide education to build patient confidence in getting a colonoscopy.

'A Promising Tool'

"Colonoscopy completion after positive stool-based testing is critical to mitigating the impact of colon cancer," commented Rajiv Bhuta, MD, assistant professor of clinical gastroenterology & hepatology, Lewis Katz School of Medicine, Temple University, Philadelphia, who was not involved in the study. "While prior studies assessing navigation have demonstrated improvements, none were as large enrollment-wise or as generalizable as the current study."

Dr. Bhuta

That said, Bhuta said in an interview that the study could have provided more detail about coordination and communication with local gastrointestinal practices.

"Local ordering and prescribing practices vary and can significantly impact compliance rates. Were colonoscopies completed via an open-access pathway or were the patients required to see a gastroenterologist first? How long was the average wait time for colonoscopy once scheduled? What were the local policies on requiring an escort after the procedure?"

He also noted that some aspects of the study — such as access to reduced-cost specialty care and free ride-share services — may limit generalizable to settings without such resources.

He added: "Although patient navigators for cancer treatment have mandated reimbursement, there is no current reimbursement for navigators for abnormal screening tests, another barrier to widespread implementation."

Bhuta said that the dropout rate in the study mirrors that of his own real-world practice, which serves a high-risk, low-resource community. "I would specifically like to see research that provides behavioral insights on why patients respond positively to navigation — whether it is due to reminders, emotional support, or logistical assistance. Is it systemic barriers or patient disinterest or both that drives noncompliance?"

Despite these uncertainties and the need to refine implementation logistics, Bhuta concluded, "this strategy is a promising tool to reduce disparities and improve colorectal cancer outcomes. Clinicians should advocate for or implement structured follow-up systems, particularly in high-risk populations."

The study was funded by the US National Cancer Institute. Coronado received a grant/contract from Guardant Health. Bhuta declared no relevant conflicts of interest. ■

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advanced neoplasia or colon cancer," Gupta said.

"For this reason, I really think that these alternatives have a potentially major advantage in reducing colonoscopy burdens. These alternatives are worthwhile of studying, and we really do need to consider them," he said.

More broadly, the collective evidence points to factors that can and should be addressed with a proactive diligence, Gupta noted.

"We need to be able to shift from using guidelines that are just based on the number, size, and histology of polyps to a scenario where we're doing very high-quality colonoscopies with excellent ADR rates and complete polyp excision," Gupta said.

Furthermore, "the use of tools for more precise risk stratification could result in a big, low-risk group that could just require 10-year colonoscopy surveillance or maybe even periodic noninvasive surveillance, and a much smaller high-risk group that we could really focus our attention on, doing surveillance colonoscopy every 3-5 years or maybe even intense noninvasive surveillance."

Gupta's disclosures included relationships with Guardant Health, Universal DX, CellMax, and Geneoscopy. Shaukat's disclosures included relationships with Iterative Health and Freenome. ■

Intermittent Fasting With Behavioral Support Outperforms Daily Calorie Cutting for Weight Loss

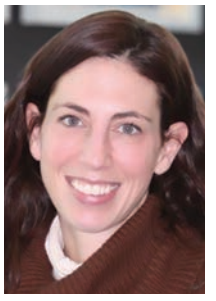
BY DIANA SWIFT

Intermittent fasting (IMF) with behavioral support may be more effective and better tolerated by patients than standard daily caloric restriction (DCR) in weight loss programs, a randomized study found.

A 4:3 IMF program produced modestly superior weight loss than DCR of 2.89 kg over 12 months in the context of a guidelines-based, high-intensity, comprehensive behavioral weight loss program, according to Danielle M. Ostendorf, PhD, MS, co–lead author and an assistant professor at the University of Tennessee, Knoxville, and Victoria Catenacci, MD, study principal investigator, co–lead author, and an associate professor located at the University of Colorado Anschutz Medical Campus, Aurora.

Dr. Ostendorf

Fasting strategies 'come in two different flavors and oftentimes get confused in the lay press and by patients and researchers. And there is a difference between IMF and time-restricted eating.'



Dr. Catenacci

Many said it was the easiest diet they had ever been on. 'But it did take time for people to adjust to this strategy. It was reassuring to see no evidence of increased binge-eating behaviors.'

The study, published in *Annals of Internal Medicine* (2025 Apr. doi: 10.7326/ANNALS-24-01631), found that objectively measured percentage caloric restriction was greater in the 4:3 IMF group, whereas there was no between-group difference in change in total moderate to vigorous physical activity, suggesting that differences in weight loss may have been caused by greater adherence to 4:3 IMF. The 4:3 IMF program was well tolerated and attrition was lower in this group: 19% for IMF group vs 30% for DCR group.

The authors noted that alternative patterns for restricting dietary energy intake are gaining attention owing to the difficulty of adhering to a reduced-calorie diet daily, with most adults who lose weight through DCR showing significant weight regain a year later (Am J Clin Nutr. 2001 Nov;74[5]:579-584).

According to Ostendorf and Catenacci, fasting strategies "come in two different flavors and oftentimes get confused in the lay press and by patients and researchers. And there is a difference between IMF and time-restricted eating [TRE]," they said in an interview. "TRE involves limiting the daily window of food intake to 8-10 hours or less on most days of the week — for example, 16:8 or 14:10 strategies. TRE is done every day, consistently and involves eating in the predefined window, and fasting outside of that window."

IMF is a more periodic and significant fast and involves cycling between complete or near-complete (> 75%) energy restriction on fast days and ad libitum energy intake on nonfast days (Nutrients. 2019 Oct 14;11[10]:2442).

An appealing feature of IMF is that dieters do not have to focus on counting calories and restricting intake every day as they do with DCR, the authors wrote. Furthermore, the periodic nature of fasting is simpler and may mitigate the constant hunger associated with DCR.

Some said the diet was dreadful, but many said it was the easiest diet they had ever been on. "But it did take time for people to adjust to this strategy," Catenacci said. "It was reassuring to see no evidence of increased binge-eating behaviors."

Although objectively measured adherence to the targeted energy deficit (percentage caloric restriction from baseline) was below the target of 34.3% in both groups, the 4:3 IMF group showed greater percentage caloric restriction over 12 months. This suggests that, on average, the 4:3 IMF group may be more sustainable over a year than the DCR group. However, weight loss varied in both groups. Future studies should evaluate biological and behavioral predictors of response to both 4:3 IMF and DCR groups in order to personalize recommendations for weight loss.

Study Details

The investigators randomized 165 patients at the University of Colorado Anschutz Medical Campus, with a mean age of 42 years (18-60), a mean baseline weight of 97.4 kg, and a mean baseline BMI of 34.1 to IMF (n = 84) or DCR (n = 81). Of these, 74% were women and 86% were White individuals, and 125 (76%) completed the trial.

The 4:3 IMF group restricted energy intake by 80% on 3 nonconsecutive fast days per week, with ad libitum intake on the other 4 days (4:3 IMF). The 80% calorie reduction fasting corresponded to about 400-600 kcals/d for women and 500-700 kcals/d for men.

"Participants were only required to count calories on their fast days, which is part of the appeal," Ostendorf said. Although permitted to eat what they wanted on nonfast days, participants were encouraged to make healthy food choices and consume healthy portion sizes.

For its part, the DCR group reduced daily energy intake by 34% to match the weekly energy deficit of 4:3 IMF.

Both groups participated in a high-intensity comprehensive weight loss program with group-based behavioral support and a recommended increase in moderate-intensity physical activity to 300 min/wk.

On the primary endpoint, the 4:3 IMF group showed a weight loss of 7.7 kg (95% CI, –9.6 to –5.9 kg) compared with 4.8 kg (95% CI, –6.8 to –2.8 kg, *P* =.040) in the DCR group at 12 months. The percentage change in body weight from baseline was –7.6% (95% CI, –9.5% to –5.7%) in the 4:3 IMF group and –5% (95% CI, –6.9% to –3.1%) in the DCR group.

At 12 months, 58% (n = 50) of participants in the 4:3 IMF group achieved weight loss of at least 5% vs 47% (n = 27) of those in the DCR group. In addition, 38% (n = 26) of participants in the 4:3 IMF group achieved weight loss of at least 10% at 12 months vs 16% (n = 9) of those in the DCR group. Changes in body composition, BMI, and waist circumference also tended to favor the 4:3 IMF group.

On other 12-month measures, point estimates of change in systolic blood pressure, total and low-density lipoprotein cholesterol levels, triglyceride level, homeostasis model assessment of insulin resistance, fasting glucose level, and hemoglobin A1c level favored 4:3 IMF. Point estimates of change in diastolic blood pressure and high-density lipoprotein cholesterol level favored DCR.

Currently lacking, the authors said, are data on safety in children and older adults, and adults affected by a long list of conditions: diabetes, cardiovascular disease, kidney disease (stage 4 or 5), cancer, and eating disorders. Also, people of normal weight or only mild overweight, and pregnant or lactating women. "There have been concerns about IMF causing eating disorders, so we did not include people with eating disorders in our study," Ostendorf and Catenacci said.

Offering an outside perspective on the findings, James O. Hill, PhD, director of the Nutrition Obesity Research Center and a professor at the University of Alabama at Birmingham believes IMF is a viable option for people trying to lose weight and has prescribed this approach for some in his practice. "But there is no one strategy that works for everyone," he said in an interview. "I recommend IMF as a science-based strategy that can be effective for some people, and I think it should be on the list of science-based tools that people can consider using." But as it won't work for everyone, "we need to consider both metabolic success

Dr. Hill

Continued on following page

Chatbot Helps Users Adopt a Low-FODMAP Diet

BY MEGAN BROOKS

FROM DDW 2025

SAN DIEGO — Low–fermentable oligo-, di-, and monosaccharides and polyols (FODMAPs) dietary advice has been shown to be effective in easing bloating and abdominal pain, especially in patients with irritable bowel syndrome (IBS), but limited availability of dietitians makes delivering this advice challenging. Researchers from Thailand have successfully enlisted a chatbot to help.

In a randomized controlled trial, they found that chatbot-assisted dietary advice with brief guidance effectively reduced high-FODMAP intake, bloating severity, and improved dietary knowledge, particularly in patients with bothersome bloating.

"Chatbot-assisted dietary advice for FODMAPs restriction was feasible and applicable in patients with bloating symptoms that had baseline symptoms of moderate severity," study chief Pochara Somvanapanich, with the division of gastroenterology, Chulalongkorn University and King Chulalongkorn Memorial Hospital, Bangkok, Thailand, told *GI & Hepatology News*.

Somvanapanich, who developed the chatbot algorithm, presented the study results at Digestive Disease Week® (DDW) 2025.

More Knowledge, Less Bloating

The trial enrolled 86 adults with disorders of gut-brain interaction experiencing bloating symptoms for more than 6 months and consuming more than seven high-FODMAP items per week. Half of them had IBS.

At baseline, gastrointestinal (GI) symptoms and the ability to identify FODMAPs were assessed. All participants received a 5-minute consultation on FODMAPs avoidance from a GI fellow and were randomly allocated (stratified by IBS diagnosis and education) into two groups.

The chatbot-assisted group received real-time dietary advice via a chatbot which helped them identify high-, low-, and non-FODMAP foods from a list of more than 300 ingredients/dishes of Thai and western cuisines.

The control group received only brief advice on high-FODMAP restriction. Both groups used a diary app to log food intake and postprandial symptoms. Baseline bloating, abdominal pain, and global symptoms severity were similar between the two groups. Data on 64 participants (32 in each group) were analyzed.

After 4 weeks, significantly more people in the chatbot group than the control group responded — achieving a 30% or greater reduction in daily worst bloating, abdominal pain or global symptoms (19 [59%] vs 10 [31%], $P < .05$). Responder rates were similar in the IBS and non-IBS subgroups.

Subgroup analysis revealed significant differences between groups for participants with bothersome bloating only, not those with mild bloating severity.

In those with bothersome bloating severity, the chatbot group had a higher response rate (69.5% vs 36.3%) and fewer bloating symptoms ($P < .05$). They also had a greater reduction in high-FODMAP intake (10 vs 23 items/week) and demonstrated improved knowledge in identifying FODMAPs ($P < .05$).

"Responders in a chatbot group consistently engaged more with the app, performing significantly more weekly item searches than nonresponders ($P < .05$)," the authors noted in their DDW conference abstract.

"Our next step is to develop the chatbot-assisted approach for the reintroduction and personalization phase based on messenger applications (including Facebook Messenger and other messaging platforms)," Somvanapanich told *GI & Hepatology News*.

"Once we've gathered enough data to confirm these are working effectively, we definitely plan to create a one-stop service application for FODMAPs dietary advice," Somvanapanich added.

Lack of Robust Data on Digital GI Health Apps

Commenting on this research for *GI & Hepatology News*, Sidhartha R. Sinha, MD, director of digital health and innovation, division of gastroenterology and hepatology, Stanford University in California, noted that there is a "notable lack of robust data supporting digital health tools in gastroenterology. Despite hundreds of apps available, very few are supported by well-designed trials."

"The study demonstrated that chatbot-assisted dietary advice significantly improved bloating symptoms, reduced intake of high-FODMAP foods, and enhanced patients' dietary knowledge compared to brief dietary counseling alone, especially in those with bothersome symptoms," said Sinha, who wasn't involved in the study.

"Patients actively used the chatbot to manage their symptoms, achieving a higher response rate than those in the control arm who received brief counseling on avoiding high-FODMAP food," he noted.


Dr. Sinha

Sinha said in his practice at Stanford, "in the heart of Silicon Valley," patients do use digital resources to manage their GI symptoms, including diseases like IBS and inflammatory bowel disease (IBD) — and he believes this is "increasingly common nationally."

"However, the need for evidence-based tools is critical and the lack here often prevents many practitioners from regularly recommending them to patients. This study aligns well with clinical practice, and supports the use of this particular app to improve IBS symptoms, particularly when access to dietitians is limited. These results support chatbot-assisted dietary management as a feasible, effective, and scalable approach to patient care," Sinha told *GI & Hepatology News*.

The study received no commercial funding. Somvanapanich and Sinha had no relevant disclosures. ■

Continued from previous page

and behavioral success. In other words, would it be more effective if people could do it and how easy or hard is it for people to do?"

Audra Wilson, MS, RD, a bariatric dietitian at Northwestern Medicine Delnor Hospital in Geneva, Illinois, who was not involved in the study, expressed more reservations. "We do not specifically recommend intermittent fasting at Northwestern Medicine. There is no set protocol for this diet, and it can vary in ways that can limit nutrition to the point where we are not meeting needs on a regular basis," she said in an interview.

Moreover, this study did not specify exact nutritional recommendations for participants but merely reduced overall caloric intake. "Although intermittent fasting may be helpful to some, in my nearly 10 years of experience I have not seen it be effective for many and especially not long term," Wilson added.

'I recommend IMF as a science-based strategy that can be effective for some people, and I think it should be on the list of science-based tools that people can consider using.'

Concerningly, IMF can foster disordered eating patterns of restriction followed by binging. "Although a balanced diet is more difficult to achieve, guidance from professionals like dietitians can give patients the tools to achieve balance, meet all nutrient needs, achieve satiety, and maybe most importantly, have a better relationship with food," she said.

As for the influence of metabolic factors that may be associated with better weight loss, Ostendorf said, "be on the lookout for future publications in this area. We are analyzing data around changes in energy expenditure and changes in hunger-related hormones, among others." A colleague is collecting biological samples to study genetics in this context. "However, in general, it appeared that the difference in weight loss was due to a greater caloric deficit in the 4:3 IMF group."

Ostendorf and Catenacci are currently conducting a pilot study testing 4:3 IMF in breast cancer survivors. "We think this is a promising strategy for weight loss in breast cancer survivors who struggle with overweight/obesity in addition to their cancer diagnosis," Ostendorf said.

This study was funded by the National Institute of Diabetes and Digestive and Kidney Diseases. Ostendorf, Catenacci, Hill, and Wilson disclosed no relevant financial conflicts of interest. ■

Member SPOTLIGHT

New President Larry Kim Has Served in Numerous Roles With AGA

President *from page 1*

standard approach to medicine "helped me stay in the big picture of healthcare, to make a difference beyond just my individual patients. And that's played a big part in keeping me involved in organized medicine," said Kim, who began his term as AGA president in May 2025.

Kim is also a partner at South Denver Gastroenterology, a 33-provider, independent GI practice in Colorado. As the first physician in Colorado with fellowship training in endoscopic ultrasound, he introduced this service line into South Denver's advanced endoscopy practice.

Kim has served in numerous roles with AGA, among them the co-director of the AGA Clinical Congress, the Partners in Quality program, and the Principles of GI for the NP and PA Course. He is a Digestive Disease Week® (DDW) abstract reviewer, and has served as AGA representative to the Accreditation Association for Ambulatory Health Care and to the Alliance of Specialty Medicine. He has also served on the AGA Governing Board as clinical private practice councillor and secretary treasurer.

He discussed the high points of his career in an interview, revealing his plans as AGA president for unifying the sectors of GI medicine and fostering GI innovation and technology.

As the new AGA president, what are your goals for the society?

Dr. Kim: I want to put out a message of inclusivity. I think what's special about AGA is that we're the society for all gastroenterologists. Among all the other GI organizations, I think we really have the biggest tent and we work to unite clinicians, educators, and researchers — all gastroenterologists, regardless of their individual practice

Courtesy Dr. Larry Kim

When Dr. Kim is not taking care of patients, he prefers to be out on the slopes.

Courtesy Dr. Larry Kim

Dr. Larry Kim travels with his wife Nhung.

situation. These days, there is a tendency toward tribalism. People are starting to gravitate toward limiting their interactions to others that are from the same backgrounds. But as gastroenterologists we have more that unites us than divides us. It's only by working together that we can make things better for everyone.

I think the second point is that we're on the cusp of some important transformations in gastroenterology. The screening colonoscopy model that has sustained our specialty for decades is rapidly evolving. In addition, there is an increasing ability for patients as consumers to direct their own care through advances in technology, such as virtual health platforms. We're seeing this as patients increasingly adopt things like complementary and alternative medicine outside of the standard model of physician-directed healthcare. These are two important trends that gastroenterologists need to be aware of and learn how to manage and adapt to. I think AGA's role is to help guide that evolution and to give physicians the tools to be able to respond.

We want to focus on innovation and we want to focus on practical solutions.

In terms of fostering innovation in gastroenterology, we're the first medical professional society to create an incubator for new technologies. Not only do we provide that resource to our members, but we're also putting our money where our mouth is. Through venture capital initiatives such as our GI Opportunity Fund, we directly invest in companies that we're helping to develop.

On the practice side, we have been engaging directly with payers to foster improved communication and address pain points on both sides. I think we're the only medical society that's taking this type of approach and moving away from the traditional adversarial approach to dealing with payers. Recently, we had a very productive discussion with UnitedHealthcare around some of their upcoming formulary changes for inflammatory bowel disease. We used that opportunity to highlight how nonmedical switching between existing therapies can adversely impact patients, as well as increasing burden of red tape for practices.

Your practice was one of the original groups that formed the Digestive Health Physicians Association (DHPA). What accomplishments of the association are you most proud of?

Dr. Kim: DHPA formed about 10 years ago as an advocacy organization to combat a specific perceived threat, which was the in-office ancillary exception. This is the legislative pathway that allows gastroenterologists to provide ancillary services within their practice. An example of this is pathology for endoscopic procedures, which is an incredible value to patients and improves quality of care. This was under a significant legislative threat at that time. As independent physicians, DHPA took the lead in advocating against eliminating that exception.

I think the larger accomplishment was it demonstrated that gastroenterologists, specifically independent community practice gastroenterologists, could come together successfully and advocate for issues that were of importance to our specialty. AGA and DHPA have worked very well together, collaborating on shared policy interests and have worked closely on both legislative as well as regulatory issues. We've sponsored joint meetings that we've programmed together and we're looking forward to continuing a robust partnership.

You have introduced several new clinical practice and practice management models. Can you discuss the part-time partnership model and what it has achieved?

Dr. Kim: Like many practices, South Denver Gastroenterology historically required physician partners to work full time. This conflicted with our desire and our need to attract more women gastroenterologists into our practice. The process involved careful analysis of our direct and indirect expenses, but more importantly it required a negotiation and a meeting of the minds among our partners. A lot of this ultimately came down to trust. It helped a great deal that our practice has always had strong cohesiveness. That helped us to build that trust that partners would stay engaged in the practice even if they worked part time.

Our practice has also always prioritized work-life balance. We were able to come up with a formula that allows partners to work 3 days per week, retaining their partnership interest and their participation in practice decisions. They stay involved but are also financially sustainable for the practice. It's been very successful. It's been a big draw, not just for women, but it has

allowed us to create a situation where women are fully one third of our partnership. It's something we're all extremely proud of.

How did you get involved in AGA?

Dr. Kim: One of the first projects I participated in was the Roadmap to the Future of GI Practice. This was an initiative to help prepare GI practices for value-based care. We did things like develop quality measure sets for GI conditions such as inflammatory bowel disease and hepatitis C. We published a bundled payment model for screening colonoscopies. We also created a model for obesity management by gastroenterologists. This was 15 years ago, and I think it was about 15 years ahead of its time! It's interesting to see how many of these changes in GI practice that we envisioned are slowly coming to pass.

I saw that AGA was interested in me as a community-based clinician. They focused on trying to develop those practical tools to help me succeed. It's one of the reasons I've stayed engaged.

What is your approach to patient communication and education?

COURTESY DR. LARRY KIM

The Kim family includes, from left, Larry, Rachel, Alex, and Nhung.

Dr. Kim: There are two things that I always tell both my staff as well as young people who come to me asking for advice. I think the first and most important is that you should always strive to treat your patients the way that you would want your family treated. Of course, we're not perfect, but when that doesn't happen, look at your behavior, the way that you're interacting, but also the way the system is treating your patients and try to improve things within your own practice. And then the other thing that I tell folks is try to spend more time listening to your patients than talking or speaking at them.

What do you think is the biggest misconception about GI?

Dr. Kim: We're not just about colonoscopies! I went into GI not just because I enjoy performing procedures, but because our specialty covers such a broad spectrum of physiology and diseases. We also have the ability as gastroenterologists to develop long-term relationships with our patients. I've been in practice now more than 25 years, and the greatest satisfaction in my career doesn't come from the endoscopy center, although I still enjoy performing procedures. It comes from the clinic; it comes from the patients whom I've known for decades, and the interaction and conversations that I can have with them, the ability to see their families, their parents, and now in some cases their kids or even their grandkids. It's incredibly satisfying. It makes my job fun.

What advice would you give to aspiring medical students?

Dr. Kim: One of the things I would say is stay involved in organized medicine. As physicians, we are endowed with great trust. We also have a great responsibility to help shape our healthcare system. If we work together, we really can make a difference, not just for our profession, but also for society at large and for the patients whom we serve.

I really hope that young people don't lose their optimism. We hear a lot these days about how much negativity and pessimism there is about the future, especially among young people in our society. But I think it's a great time to be in medicine. Advances in medical science have made huge strides in our ability to make real differences for our patients. And the pace of technology progress is only going to continue to accelerate. Sure, there are lots of shortcomings in the practice of medicine, but honestly, that's always been the case. I have faith that as a profession, we are smart people, we're committed people, and we will be successful in overcoming those challenges. That's the message that I have for young folks. ■

LIGHTNING ROUND

What's the best piece of advice you've ever received?
Follow your heart

What's one hobby you'd like to pick up?
Anything except pickleball

What's your favorite season of the year?
Winter, I'm a skier

What's your favorite way to spend a weekend?
Doing anything outside

If you could have dinner with any historical figure, who would it be?
Ben Franklin

What's your go-to karaoke song?
You don't want to hear me sing

What's one thing on your bucket list?
Skiing in South America

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Artificial Intelligence–Enhanced Digital Collaborative Care Improves IBS Symptoms

BY MEGAN BROOKS

FROM DDW 2025

SAN DIEGO — An artificial intelligence (AI)–enhanced digital collaborative care model led to rapid, clinically significant, and sustained symptom relief for patients with irritable bowel syndrome (IBS) seen at Cleveland Clinic, an observational study found.

Symptom tracking at 4-week intervals showed that "almost everybody got better" regardless of IBS subtype, with relief starting in the first 4 weeks, Stephen Lupe, PsyD, gastrointestinal psychologist and director of behavioral medicine, department of gastroenterology, hepatology, and nutrition at Cleveland Clinic, said in an interview.

The findings were presented at Digestive Disease Week® (DDW) 2025.

Digital Boost to Collaborative Care Model

The combination of dietary interventions and brain-gut behavioral therapy has demonstrated excellent outcomes for patients with IBS, but patients struggle to access these needed services, Lupe noted. A medical home collaborative care model in which patients get care from a multidisciplinary team has been shown to be a good way to successfully deliver this combination of care.

"When you do collaborative in-person care, people get better quicker," Lupe said.

However, scaling access to this model remains a challenge. For their study, Cleveland Clinic researchers added an AI-enhanced digital platform, Ayble Health, to the in-person collaborative care model to expand access to disease-management services and evaluated whether it improved clinical outcomes for study's 171 participants, who were recruited via social media advertisements.

Dr. Lupe

'The care team is still there. We've just augmented it to make sure that as many people as possible get behavioral skills training and dietary support, with monitoring between visits.'

Here's how the platform works. Once a patient enrolls in Ayble Health, a personalized care plan is recommended based on a virtual visit, screening questionnaire, and baseline survey.

The platform includes brain-gut programs, including guided audio content on mindfulness, hypnosis, meditation, cognitive-behavioral therapy, and breathing techniques; personalized nutrition support to find and remove trigger foods, a food barcode scanner, and a comprehensive groceries database; and AI-powered wellness tools to help manage and track symptoms. Lupe worked with Ayble Health to develop the platform's behavioral health content and care pathways.

Patients may choose to follow any combination of three care pathways: a care team overseen by gastro-psychologists, dietitians, and gastroenterologists; a holistic nutrition program including a personalized elimination diet; and a brain-gut behavioral therapy program with gut-directed hypnosis, cognitive-behavioral therapy, and acceptance and commitment therapy. They go at their own pace, can connect with Ayble Health's virtual care team to help with education and goal setting, and continue to consult their Cleveland Clinic providers as needed for evaluation and treatment.

"The care team is still there. We've just augmented it to make sure that as many people as possible get behavioral skills training and dietary support, with monitoring between visits — instead of the traditional, 'I'll see you in 6 months' approach," Lupe explained.

Symptom Scores Improve Across All Care Pathways

Of the study's 171 patients, 20 had IBS-diarrhea, 23 had IBS-constipation, 32 had IBS-mixed, and 8 had IBS-unspecified. The remaining 88 patients reported IBS without indication of subtype.

At intake, all patients had active IBS symptoms, with scores ≥ 75 on the IBS symptom severity scale (IBS-SSS). Most patients enrolled in more than one care pathway, and 95% of participants completed at least 4 weeks on their chosen pathways.

Overall, patients saw an average 140-point decrease in IBS-SSS from intake through follow-up lasting up to 42 weeks. A drop in IBS-SSS score ≥ 50 points was considered a clinically meaningful change.

Symptom improvements occurred as early as week 4, were sustained, and were uniform across IBS subtypes, suggesting that the AI-enhanced digital collaborative care model has wide utility in patients with IBS, Lupe said.

Patients with the most severe IBS symptoms showed the greatest improvement, but even 50% of those with mild symptoms had clinically meaningful changes in IBS-SSS.

Improvement in IBS symptoms was seen across all care pathways, but the combination of multiple pathways improved outcomes better than a single care pathway alone. The combination of nutrition and brain-gut behavioral therapy demonstrated the greatest reduction in IBS-SSS scores and proportion of patients achieving clinically meaningful results (95%).

The digital comprehensive care model for IBS is now "up and running" at Cleveland Clinic, and the team plans to proactively reach out to patients with gastrointestinal

Continued on following page

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‘EoE Is Becoming More Common’

Prevalence *from page 1*

Estimating EoE Prevalence: No Longer a Rare Disease

Dellon and colleagues analyzed the Merative MarketScan Commercial Claims and Encounters and Medicare Fee-for-Service databases to calculate the annual prevalence of EoE, as well as age- and sex-stratified estimates standardized to the US population. They also calculated healthcare utilization, including medications and endoscopic procedures, to estimate annual EoE-associated costs. Since the EoE billing code was introduced in 2008, the analysis included 2009-2022 MarketScan and 2009-2017 Medicare data.

Dr. Dellon

‘The rapidly increasing prevalence year over year for the entire timeframe of the study was surprising, as were our estimates of the total number of EoE patients in the US.’

In the MarketScan database, the research team identified 20,435 EoE cases in 2022, with a mean age of 38 years, 16% younger than 18 years, 62% men, and 41% with a comorbid allergic disease code. The most common symptoms and diagnoses were dysphagia (39%), abdominal pain or dyspepsia (24%), and esophageal stricture (19%). Over time, patients also had previous codes for comorbid allergic diseases (64%), dysphagia (62%), or esophageal stricture (32%).

In the Medicare database, the research team identified 1913 EoE cases in 2017, with a mean age of 73 years, 47% men, 90% non-Hispanic White, and 36% with a comorbid allergic disease. The most common symptoms and diagnoses were dysphagia (49%), abdominal pain or dyspepsia (35%), and esophageal stricture (30%). Over time, patients also had codes for comorbid allergic diseases (64%), dysphagia (65%), or esophageal stricture (42%).

The database numbers translated to EoE prevalences of about 163 cases per 100,000 people in MarketScan in 2022 and 64 cases per 100,000 people in Medicare in 2017. Since 2009, there has been a fivefold increase in prevalence in both databases.

In MarketScan, the prevalence was higher among men than among women, at 204 vs 122 cases per 100,000 people. For both sexes, peak prevalence occurred between ages 40 and 44.

In Medicare, prevalence was also higher among men than among women, at 79 vs 55 cases per 100,000 people. Peak prevalence occurred between ages 65 and 69.

Standardized to the US population, EoE prevalence was 142.5 cases per 100,000 people, extrapolating to 472,380 cases. The overall prevalence was approximately 1 in 700, with rates of 1 in 617 for those younger than 65 years and 1 in 1562 for those aged ≥ 65 years.

“The rapidly increasing prevalence year over year for the entire timeframe of the study was surprising, as were our estimates of the total number of EoE patients in the US, which suggests that EoE is no longer a rare disease and is now seen in about 1 in 700 people,” Dellon said. “This almost triples our prior estimates of 1 in 2000 from 10 years ago, with all trends suggesting that the prevalence will continue to increase.”

Calculating EoE Costs: A ‘Growing Burden’

In terms of procedures, endoscopy with dilation or biopsy was used in about 60%-70% of patients with EoE in both MarketScan and Medicare during the years analyzed. In addition, upper endoscopy with biopsy was coded in 80%-90% of patients, guidewire-based dilation in 11%-17% of patients, and balloon-based dilation in 13%-20% of patients.

Dr. Chang

‘Clinicians should remain vigilant for symptoms, utilize guideline-based diagnostic approaches, and consider both medical and dietary treatment strategies to optimize patient outcomes.’

In terms of prescription medications, proton-pump inhibitors (41%) and topical steroids (26%) were the most common in MarketScan in 2022, as well as in Medicare in 2017, at 32% and 9%, respectively.

As for analysis of costs by age and sex, the male cohort with the highest costs was aged 10-14 years, estimated at $106.7 million. Among the female cohort, the highest costs were associated with ages 15-19, estimated at $46.5 million.

Overall, total EoE-associated healthcare costs were estimated to be $1.04 billion in 2017, and when adjusted for inflation, the costs were estimated at $1.32 billion in 2024. This is likely an underestimate, the authors wrote, given that EoE prevalence has likely increased for ages 65 or older since 2017 and for all ages since 2022.

“Researching the prevalence and costs is essential to improving patient care by highlighting the growing burden of this recently recognized and growing chronic disease, guiding policy and insurer decisions, and advocating for better access to effective treatments and support for patients,” said Joy Chang, MD, assistant professor of medicine in the division of gastroenterology, University of Michigan, Ann Arbor, Michigan.

Chang, who wasn’t involved with this study, specializes in eosinophilic GI diseases and researches patient-physician preferences and decision-making in EoE care.

“Clinicians should remain vigilant for symptoms, utilize guideline-based diagnostic approaches, and consider both medical and dietary treatment strategies to optimize patient outcomes and reduce long-term costs,” she said. “Increased awareness and timely intervention can help mitigate the growing impact of this chronic condition.”

The study was supported by a National Institutes of Health grant and used resources from the University of North Carolina Center for Gastrointestinal Biology and Disease. Dellon reported receiving research funding from and having consultant roles with numerous pharmaceutical companies and organizations. Chang reported having no relevant disclosures. ■

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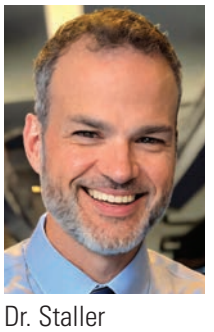
disorders recently seen at their center to alert them to the availability of this tool, Lupe said.

A randomized controlled trial is planned to further validate these observational findings, he added.

‘Wave of the Future’

The digital collaborative care model is “innovative, and I think is the wave of the future,” Kyle Staller, MD, MPH, gastroenterologist and director of the Gastrointestinal Motility Laboratory at Massachusetts General Hospital, Boston, who wasn’t involved in the study, told *GI & Hepatology News*.

“These digital platforms bundle nondrug options, such as cognitive-behavioral therapy, dietary therapy, hypnotherapy, so patients can choose what suits them, rather than the gastroenterologist hunting down each individual resource, which requires a lot of work,” Staller said.



Dr. Staller

‘Patients chose which option they wanted. At the end of the day, the way that we should be thinking about IBS care is really making sure that we engage the patient with treatment choices.’

The study “provides real-world evidence that a deliberative, digital, collaborative care model that houses various types of nondrug IBS treatment under one roof can provide meaningful benefit to patients,” Staller told *GI & Hepatology News*.

Importantly, he said, “patients chose which option they wanted. At the end of the day, the way that we should be thinking about IBS care is really making sure that we engage the patient with treatment choices,” Staller said.

This study had no specific funding. Three authors had relationships with Ayble Health. Lupe is a scientific adviser for Boomerang Health and paid lecturer for Takeda Pharmaceuticals.

Staller disclosed having relationships with Mahana Therapeutics, Ardelyx, Gemelli Biotech, Salix Pharmaceuticals, and Takeda Pharmaceuticals. ■