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March 2024 ▪ Volume 9, Issue 2

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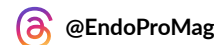
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ENDOPRO Magazine (ISSN 2469-3731 print; ISSN 2469-374X online/digital) is published eight times per year by 7 Toes Media, PO Box 10547, Glendale, AZ 85318-0547; (877) 519-9592, Fax # (877) 463-6097. Postage paid at Glendale, AZ and additional offices. POSTMASTER: Please send address changes to: ENDOPRO, PO Box 10547, Glendale, AZ 85318-0547. Volume 9, Number 2. EndoPro subscription rates: one-year domestic \$36; one-year Canada USD \$66; one-year foreign USD \$96; single issue: USD \$10.. All subscriptions are non-refundable. Foreign/Canadian subscriptions must be prepaid in U.S. funds only. Copyright © 2024 7 Toes Media. All rights reserved. The publisher reserves the right to accept or reject any advertising or editorial material. Advertisers, and/or their agents, assume the responsibility for all content of published advertisements and assume responsibility for any claims against the publisher based on the advertisement. Editorial contributors assume responsibility for their published works and assume responsibility for any claims against the publisher based on the published work. No part of this publication may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without permission in writing from the publisher. All items submitted to ENDOPRO become the sole property of 7 Toes Media. Editorial content may not necessarily reflect the views of the publisher.

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Endoscopy and Environmentalism Can They Be Friends?



I'm pleased that our magazine this month focuses on environmentalism in healthcare—particularly in the endoscopy suite. Of course, I'd be more pleased if we didn't have climate change to contend with and therefore wouldn't even need such an article, but alas, reality is reality. Since we do indeed have a catastrophic global problem to deal with, then by goodness, let's deal with it.

We all know we can take many steps in our personal lives to combat climate change, but it's also interesting (and possibly overwhelming) to think about what we can do in our professional lives as well.

When it comes to environmentalism in the workplace, I've long used the approach I take at home, which is to try to be effective but not drive myself crazy. Sure, we can be those people who sell *everything* and move into a yurt and live off the land and only own what we can fit in a backpack, but that's not exactly practical for most of us.

Instead, I try to focus on small things I can do, one thing at a time. Knowing I can't do everything, I focus on mitigating. For instance, flying is terrible for the environment, but I'm not going to completely give up air travel. So instead, I try to balance my occasional flights by making other earth-friendly choices. This includes using less water (I live in a desert, after all), using less electricity and natural gas, owning a hybrid vehicle and not driving it much anyway, etc.

I like this moderate approach better than becoming overwhelmed and then doing nothing at all. In college, I'm ashamed to say that I felt so overwhelmed by recycling (why? It's so easy) that I didn't start until senior year. That was half my life ago and fortunately, I've improved. At 43, I realize that small, digestible bites are the way to go—starting with a simple task, then gaining momentum.

We all know we can take many steps in our personal lives to combat climate change, but it's also interesting (and possibly overwhelming) to think about what we can do in our professional lives as well.

And so, I ask if there's anything you think you could do to help our Earth in your healthcare position. Unfortunately, the healthcare sector is extremely tough in this regard. One reason is infection control, in that chemicals are necessary, and many items are single-use and must be packaged. The waste is extraordinary and depressing. But there are still steps that can be taken, and you can learn about them in our cover story, "Greening the Endo Suite: Environmentalism in Healthcare," by our senior editor, Lisa Hewitt, MA. The story starts on page 18.

Positive steps, one at a time, doing what we can reasonably do. There's a tremendous power in that, and we *do* have the power to mitigate climate change. It's not too late.

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Orlando Health Digestive Health Institute Caring for the Team That Cares for You

By Madison Knutson



Orlando Health Digestive Health Institute Center for Advanced Endoscopy (or CARE), located in Orlando, Florida, offers a diverse list of digestive and endoscopy services done by a diverse team of registered nurses, assistants and technicians.

The center consists of advanced endoscopists, advanced endoscopy technicians, cytotechnologists, nurse managers, clinical assistants, advanced registered nurses, radiology technicians, nursing assistants, sterile processing technicians, anesthesia licensed practical nurses, a supply chain manager, materials control personal, office coordinator, and a team assistant.

Diversity is a defining aspect of CARE, according to Nursing Operations Manager Jessica Holkuka. Not only is the staff diverse in their skill sets, but in their background, cultures and generations, as well. They pride themselves on encouraging an accepting and understanding environment to support all the staff at CARE.

The healthy team environment comes from their work building camaraderie in and out of the office. The team holds various celebrations throughout the year, including holiday parties, baby showers, and monthly birthday parties. They also bond

through work activities such as monthly staff meetings and educational luncheons.

However, this team is not without challenges. CARE is among many endoscopy clinics that have experienced staffing shortages. But with every challenge, the team members find ways to grow and view every problem with a positive attitude.

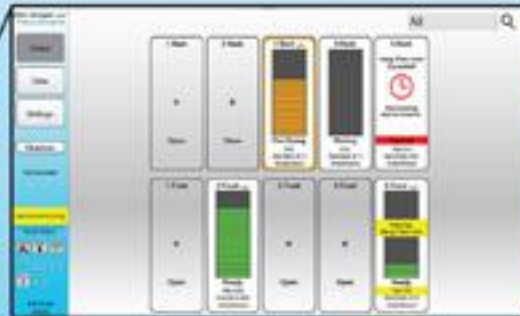
Roland Cervenka, manager of regional supply chain logistics, is closely involved with the efficiency of the staff's work and finds that CARE is dedicated to overcoming problems. "The Digestive Health Institute is a resilient team, turning obstacles into opportunities; what makes us insecure and vulnerable becomes the fuel we need to be overachievers," Cervenka said. "I appreciate the hard work, perseverance, and their ability to laugh easily and frequently. It's a tremendous resource for challenges."

Procedures

The center contains four procedure rooms and 18 endoscopy bays that serve nine procedural sections, providing services in endoscopic retrograde cholangiopancreatography (ERCP), endoscopic ultrasound, luminal stenting, deep enteroscopy, hemostasis, stricture/fistula management, tissue resection,

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endoscopy in inflammatory bowel disease, and third space endoscopy.

The first two sections offer the widest selection of procedures.

ERCP offers procedures such as cholangioscopy, intraductal tumor ablation using radiofrequency ablation, laser lithotripsy, intraductal ultrasound, tumor ablation, ampullectomy, sphincter of Oddi manometry (SOM), biliary and pancreatic ductal stricture management, management of complex biliary and pancreatic ductal stones, altered surgical anatomy, and pancreatic and biliary duct leaks.

Endoscopic ultrasound offers procedures including fine-needle aspiration biopsy, pseudocyst drainage, celiac plexus block/neurolysis, biliary and pancreatic duct drainage, fiducial placement, abdominal and pelvic abscess drainage, pancreatic cyst ablation, endoscopic ultrasound-directed transgastric pancreatography, pancreatic tumors and ganglia ablation, endoscopic ultrasound-guided gastrojejunostomy, and gallbladder drainage.

Luminal stenting offers stenting procedures such as esophageal, gastroduodenal, and colon. Deep enteroscopy offers the double-balloon enteroscopy procedure. Hemostasis cares for conditions like ulcer bleeding and variceal bleeding, and offers procedures like glue injection, banding, cautery and clippings.

Stricture and fistula management handles procedures such as dilation, fistula, leak and luminal defects, steroid injection, suturing, and vacuum therapy. Tissue resection offers procedures like endoscopic mucosal resection, endoscopic submucosal dissection, and full thickness resection.

Endoscopy in inflammatory bowel disease offers procedures such as chromoendoscopy, management of strictures and fistulas, pouchoscopy and management of leaks. Finally, third space endoscopy offers procedures like gastric peroral endoscopic myotomy, submucosal tunneling endoscopic resection, peroral endoscopic myotomy and cares for patients with Zenker's diverticulum.

CARE is currently expanding its department, planning to have a total of six interventional procedure rooms and 30 endoscopy bays in the new unit to support more procedures. Construction of the new facility has faced numerous delays in the past few years, but the center is scheduled to be complete in 2024.

Expanding Endoscopy Understanding

CARE also works to expand endoscopic understanding across the country. The team conducts regular research and publishes it in national journals. While contributing to the international vision of endoscopy, the staff hosts visitors to help them in their research.

CARE also regularly conducts professional development. The team attends the annual Florida Live Endoscopy Symposium where they see live procedure demonstrations by internationally renowned experts where team members work alongside GI endoscopy experts. The symposium is a great way for the team to show their great skills and camaraderie and learn how to talk to patients about advanced endoscopy.

The team participates in year-round professional development through regular webinars that educate the staff on new procedures through demonstrations.

CARE's research is ultimately for the benefit of their patients. Office Coordinator Alisha Daughtery is proud of their work.

"What truly sets us apart is our unwavering dedication to patient-centered care, where we tailor treatments to meet the unique needs and preferences of each individual," Daughtery said. "We understand the importance of empathy and compassion, recognizing the emotional aspects of healthcare."

Madison Knutson is a student at Arizona State University, pursuing a bachelor's degree in journalism and mass communication. She works as a producer for the Alaska Teen Media Institute and is a deejay for Blaze Radio at ASU.

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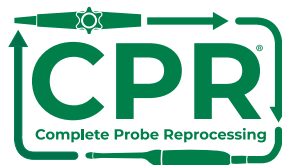
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Endoscope Processing

When Procedures Don't Meet Cleaning Standards

By Nancy Chobin, RN, CSPM, CFER

You are a nurse or a tech on a busy endoscopy unit and you hear, “Hurry up with that scope. The doctor is waiting. What is taking so long?” So how do we deal with this? At a recent meeting, it was reported that in a survey of endoscope processors, a majority of respondents indicated they did not always comply with the manufacturer’s instructions for use for cleaning of endoscopes because they felt pressured to process the scope within a specific time frame. What are the risks when we fail to meet the standards?

Processing of endoscopes starts with compliance with all manufacturers’ instructions for use (IFUs). Compliance should not be dependent upon available personnel, time or equipment. It is up to the facility to ensure that staff can comply with all IFUs before purchasing any endoscope or mechanical equipment.

According to the Emergency Care Research Institute (ECRI),¹ a safety institute which publishes the top 10 health hazards each year, endoscope reprocessing ranks second on the list for 2018. “Insufficient endoscope reprocessing remained in the number two spot this year after being listed in eight of the 10 previous editions of the report,” ERCI noted.

Additionally the Institute says that “healthcare facilities continue to struggle with consistently and effectively cleaning, disinfecting and sterilizing these instruments between uses.” In its report, the institute focused on two main areas of concern related to endoscope reprocessing, the first being the importance of proper cleaning.

“If biologic debris and other foreign material is not cleaned from the endoscope first, residual soil can harden, making subsequent disinfection ineffective,” according to the report.

ECRI also zeroed in on instrument storage after reprocessing, as “moisture trapped in the channels of an endoscope can promote the proliferation of any microbes not eradicated by reprocessing.”

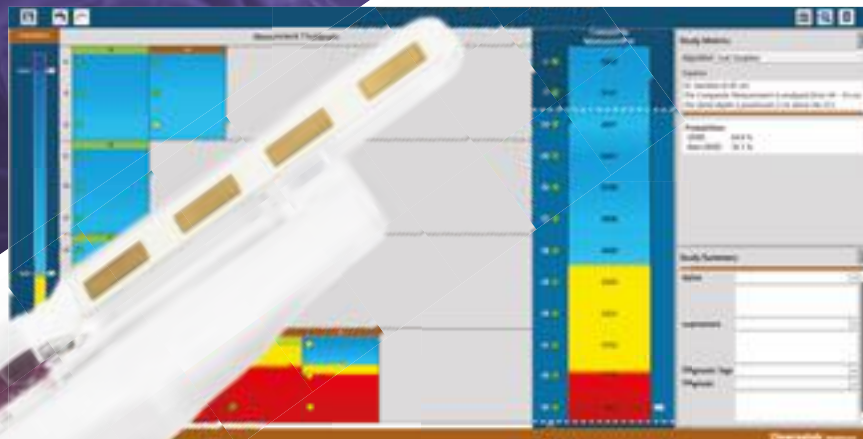
Bourdon² identified four major focus areas that contribute to inadequate processing of these scopes: challenges with reprocessing, design and use, lengthy complex reprocessing instructions, and education and training. This article will focus on all but the design and use of endoscopes.

Space: According to AAMI ST-91, “The needs of the facility should determine the size of the processing areas. Sufficient space should be provided for each function and include dedicated storage space.” The space requirements can vary significantly, depending on the size of the facility and the services being provided (especially if the facility is a multispecialty center). The addition of automated processing equipment also impacts spacing needs.³ The best practice is to have two separate processing areas — one for the leak testing and cleaning and the second for the high-level disinfection. Issues with cross-contamination of staff and equipment can be minimized with the two-room concept. Sufficient spacing is needed to permit leak testing equipment, cleaning products and implements, personal protective equipment (PPE), etc. An eyewash station is needed in each room and should be installed freestanding or on a clean sink (not a decontamination sink).

Sinks: “Sinks should be deep enough to allow complete immersion of the endoscope to minimize aerosolization. The size of the sink should be adequate (i.e., 16 inches x 30 inches) to ensure the endoscope can be positioned without tight coiling. If endoscopes are tightly coiled, it can damage the fiber optics.

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Sinks should not be so deep that personnel have to bend over to clean instruments. An ideal decontamination sink is approximately 36 inches (91 centimeters) from the floor and 8 to 10 inches (20 to 25 centimeters) deep, enabling a person of average size to work comfortably without undue strain on the back; foot stools should be readily available to accommodate shorter personnel.⁴ There should be at least two sinks, each of which should have two wells – one well for leak testing and cleaning and the other well for rinsing. When sinks are too small, endoscopes cannot be properly immersed for leak testing and cleaning. A separate handwashing sink is required.

Staffing: There must be sufficient staff to ensure endoscopes are processed immediately after precleaning or within one hour of same. Too often, endoscope support staff have multiple responsibilities and scope processing often is last to get done. This is unacceptable. I recommend that one support staff member be assigned to scope processing as their major responsibility to ensure the scopes are processed as soon as they leave the procedure room. If there is a lapse when no scopes are available for processing, then the staff member can assume other duties like restocking rooms. Remember, if endoscopes are not cleaned within one hour of precleaning, delayed processing protocols (as detailed by the endoscope manufacturer) may have to be implemented.

The average time to process a flexible endoscope is 76 minutes.⁵ Most facilities are not aware of the time required. While this is an average, the actual time could be much longer (e.g. if the process is totally manual). In addition, different manufacturers and models of endoscopes could have additional processing steps. The total number of steps can well exceed 100. Staffing must be addressed to ensure there is sufficient time to process all endoscopes completely according to the manufacturer's instructions.

Policies and procedures: There should be policies and procedures to direct all aspects of endoscope processing from precleaning in the procedure room to storage. Monitoring for staff compliance with stated policies is strongly recommended. Policies and procedures should be reviewed in accordance with facility policy as well as state and/or local regulations.

Staff education and competencies: The Association for the Advancement of Medical Instrumentation (AAMI) states, "It is recommended that all personnel performing processing of endoscopes be certified as a condition of employment. At a minimum, personnel should complete a certification exam."⁶ However the examination should concentrate on flexible endoscope processing, not sterile processing functions; knowledge, skills and competencies to process flexible endoscopes are very different. Training should be provided upon employment, at regular intervals and whenever there are changes in chemicals, procedures, endoscopes or processing equipment. During orientation, staff members should never be permitted to function alone until competencies have been verified. If you hire

a staff member who has previous experience processing endoscopes, perform a general competency exam to ensure the new hire is familiar with your facility's equipment and best practices.

Annual competencies are needed for the following:

- General endoscope procedures (eg., room set-up, etc.)
- Scope-specific competencies (competencies are needed for every make and model endoscope processed at the facility)
- Chemicals in use (detergents and high-level disinfectants)
- Leak-testing methods and equipment
- Manual cleaning and high-level disinfection
- Manual cleaning and mechanical high-level disinfection
- Inspection of endoscopes
- Drying, tagging and storage of endoscopes

Equipment: Mechanical cleaning and high-level disinfection equipment is strongly recommended because it eliminates the human factor where critical steps can be missed and standardizes the process. Every effort should be made to purchase automated endoscope reprocessors (AER) and automated flushing devices. However, always check with your endoscope manufacturer if their endoscopes have been validated to be processed in such equipment (Note: some endoscopes can only be processed in specific AERs). You also need to know which chemicals are recommended for use in the AER to ensure the scope is compatible with the chemical. Review the safety data sheet for the chemical to determine if special ventilation, personnel chemical monitoring or PPE is needed. The location of the AER should be determined by the AER manufacturer in conjunction with infection prevention and the GI nurse manager.

Summary: Noncompliance with manufacturer's instructions for use is neither optional nor acceptable. Processing failures attributed to noncompliance with IFUs presents legal issues for the facility and presents the potential for patient infection. In a court of law, the facility is expected to comply with "accepted standards of practice." AAMI is a standard setting organization that develops national standards, which are peer reviewed. Therefore, compliance with AAMI standards, as well as manufacturers' IFU.

Develop policies to comply with the standards, then implement them. Monitor for staff compliance with all stated policies and procedures.

Nancy Chobin, RN, AAS, ACSP, CSPM, CFER, is the president and CEO of Sterile Processing University, an online education and continuing education website. In addition, she owns Chobin and Associates Consulting, a subsidiary of Sterile Processing University.

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Helicobacter Pylori The Silent Killer Among Us

By Sue Ohme, RN, BSN

In the endoscopy suite, we often see the devastating effects of untreated disease. In this article, we will delve into one microscopic culprit, *Helicobacter pylori* (*H. pylori*) which emerges as a significant player in our digestive health. We'll also spotlight some interesting facts on why this stealthy intruder demands attention, and the role it plays in gastritis, peptic ulcer disease and gastric cancer.

Gut Feeling Leads to Nobel Prize

Prior to the discovery of *H. pylori* in 1982, it was a long-held belief by the medical community that ulcers were caused by stress or spicy foods. Dr. Robin Warren, a pathologist in Australia, observed in many stomach biopsies a small, curved bacterium that was almost always present in patients with gastric inflammation, a duodenal ulcer or a gastric ulcer. He believed this was the true culprit. He recruited a young medical intern, Dr. Barry Marshall, to help isolate and grow this bacterium. They named it *Helicobacter pylori*, for the spiral shaped bacteria found near the pyloric region of the stomach (Abbott, 2005).

Unfortunately, the medical community was entrenched in the belief that ulcers were caused by stress, and Warren and Marshall were unable to convince the world of the role *H. pylori* played in ulcer formation. To prove a conclusive link, in 1985 Marshall ingested a culture of the bacteria and promptly came down with gastritis. He underwent an endoscopy where stomach biopsy results showed the presence of *H. pylori*, thereby providing the evidence needed to prove *H. pylori* was the cause (Canadian Society of Intestinal Research, 2020).

In 2005, Warren and Marshall were awarded the Nobel Prize in Physiology or Medicine for their discovery of *H. pylori* and its role in gastritis and peptic ulcer disease (Watts, 2005).

H. pylori is a Class 1 Carcinogen

In 1994, the World Health Organization's International Agency for Research on Cancer classified *H. pylori* as a human carcinogen because of its role in causing stomach cancer. In 2021, the National Toxicology Program's 15th Report on Carcinogens added chronic infection with *H. pylori* to its list of substances known to cause cancer (National Cancer Institute, 2023).

Gastric cancer is the fifth-most-common cancer and the fourth leading cause of cancer-related deaths worldwide, killing approximately 769,000 people in 2020 (National Cancer Institute, 2023). For perspective, that is about half the population of Hawaii. *H. pylori* is the most infectious cause of cancer worldwide (De Martel et al., 2019). This is significant as eight out of 10 gastric cancers in adults globally are attributed to this infectious pathogen (Balas et al., 2022).

While *H. pylori* itself does not cause cancer, chronic infection with the bacterium causes long-lasting inflammation in the stomach lining, which can progress to atrophic gastritis, gastric adenocarcinoma and gastric mucosa-associated lymphoid tissue (MALT) lymphoma (National Cancer Institute, 2023).

Leading Cause of Peptic Ulcer Disease

Peptic ulcers are acid-induced lesions in the mucosa of the stomach or duodenum. *H. pylori* remains the most prevalent cause of peptic ulcer disease (PUD) worldwide. Globally, around 3,000,000 diagnoses of PUD per year are related to the infection. Ninety percent of patients with duodenal ulcers and between 70–90% of patients with gastric ulcers are infected with *H. pylori* (Malfertheiner et al., 2023).

Approximately 80% of individuals colonized with *H. pylori* will remain asymptomatic; however, histological gastritis develops in everyone with the infection and can lead to unpredictable outcomes (Malfertheiner et al., 2023). A variety of factors influence the course and severity of this disease. Environmental factors such as smoking, alcohol, NSAIDs and acid-blocking medications along with host factors, such as the body's immune response, play a role in how *H. pylori* infections evolve. If contributing factors cause low acid production in the stomach (hypochlorhydria), pangastritis is more likely to develop, leading to atrophic gastritis and gastric cancer. If the body maintains high acid production in the stomach, then gastritis is more likely to be localized, leading to peptic ulcer disease (Kusters et al., 2006).

Stealthy Infectious Spread Starting in Childhood

While not completely understood, scientists believe the most likely mode of transmission is directly from person to person, or indirectly from the environment to people. In developed countries, person-to-person transmission is most common. In developing countries, especially with poor hygienic conditions, food and waterborne transmission are more likely (Oztek in et al., 2021).

Infection is mainly acquired during childhood, typically before the age of 10, and continues throughout life unless treated. Intrafamilial transmission is the main route, with pathways including oral-oral, fecal-oral and gastro-oral routes (Malfertheiner et al., 2023).

There are approximately 4.4 billion people infected globally, which amounts to almost half the world's population (Oztek in et al., 2021).

Test Results are Not Always Accurate

There are both invasive and non-invasive tests utilized to detect *H. pylori* infection. Endoscopic biopsies can be tested for histology, rapid urease test and bacterial culture, while non-invasive tests include C-urea breath test, fecal antigen testing and serology (Bornschein & Pritchard, 2021). Most of these tests have shown high sensitivity and specificity in clinical trials, however multiple factors can influence them and lead to a false negative result.

Apart from serology testing, all other tests for *H. pylori* require the individual to be off acid-suppressing medication like proton pump inhibitors (PPIs) or bismuth-containing drugs for a minimum of at least two weeks. False negative results can also occur if the patient has recently been on antibiotics. Other factors that can lead to false negative results include hypochlorhydria, often associated with atrophic gastritis, or blood in the stomach (Bornschein & Pritchard, 2021).

Eradication Can be Tricky

Treatment is challenging, and eradication requires a complex treatment regimen. The standard protocol consists of a triple-therapy regimen involving antibiotics (typically clarithromycin and amoxicillin or metronidazole) and a PPI. However, with the emergence of antibiotic-resistant strains of *H. pylori*, the success rates with this regimen have declined. Recent studies have shown the most effective method is a quadruple-therapy regimen, which consists of a PPI, bismuth, metronidazole and tetracycline (Bornschein & Pritchard, 2021). Unfortunately, the quadruple-therapy regimen is more complicated for individuals to administer and there are more side effects, which can lead to loss of compliance and another rise in antibiotic-resistant strains.

H. Pylori Unveiled: From PUD and Cancer to Nobel Laureates

Warren and Marshall's discovery has led to a better understanding of the connection between chronic infection, peptic ulcer disease and cancer. It is evident that this seemingly inconspicuous bacterium carries profound implications for our digestive well-being. The significance of testing for and treating *H. pylori* infections cannot be overstated, as this is a crucial step in preventing and managing conditions that can lead to a host of devastating gastrointestinal disorders.

For references, visit www.EndoProMag.com.

Sue Ohme, RN, BSN, works at Swedish Medical Center, in Issaquah, Washington. She graduated from Pacific Lutheran University with her BSN in 2013. Immediately after nursing school, she worked in a community hospital's progressive care unit, which allowed her to hone her cardiac and respiratory skills. Ohme has worked at Swedish Medical Center since 2015—first as an emergency room RN, then switching to endoscopy in 2021. She's been cross-trained in ECT and PPACU and is an active member of her unit's shared-leadership committee. Prior to nursing, Ohme graduated with a BS in biology and worked as a chemist.





Greening the Endo Suite

Environmentalism in Healthcare

By Lisa Hewitt, MA

It's sometimes easy to ignore the climate crisis. It's like a slow-moving train wreck—by the time we're experiencing the full impact of the catastrophe, it's too late to put on the brakes. And the science supporting climate change is no longer under debate.

According to Sridhar Sundaram, M.D., DM, FISG, Homi Bhabha National Institute in Mumbai, India, “Climate change is a crisis that all of humanity is facing with its impact in various spheres including trade, economy, healthcare and geopolitics.” He shared this in an article, “Green Endoscopy: Championing Sustainability in the Endoscopy Suite” for the World Gastroenterology Organisation.

When healthcare teams spend their days doing good and saving lives, it’s easy to ignore or rationalize the carbon footprint left behind. But Amy Collins, M.D. and Shanda Demorest, DNP, RN, PHN, wrote in the AMA Journal of Ethics, “Despite the age-old, ethical code of medicine to ‘do no harm,’ the health sector, through its direct and indirect emissions and waste management practices, contributes to many conditions that clinicians ... aim to treat. Professionals and organizations have responsibilities to reconcile such ethical inconsistency and to better align their commitment to nonmaleficence with the consequences of their actions.”

When doctors, nurses and techs are in the throes of removing polyps or performing an esophageal biopsy, the last thing on everyone’s mind is the environment. This is understandable. The focus required for any endoscopy procedure is immense, and mistakes can have real-life, potentially catastrophic consequences.

Even when the procedures are over and medical staffers head home for the day, it’s easy to keep a mental firewall between the requirements of an efficient endoscopy suite and the impact of its energy use, emissions, water requirements, and all that disposable medical equipment going into carefully curated waste bins.

And that impact is enormous.

In the American Journal of Gastroenterology, Swapna Gayam, M.D., observed, “A procedure-dominant field, such as GI, by its very nature is bound to have a larger carbon footprint than some counterparts. To get an idea of how large the footprint might be, let us consider one field—endoscopy, particularly the associated plastic waste and energy consumption. ... One procedure generates 1.5 kg of plastic waste, of which only 0.3 kg is recyclable. A typical endoscopy suite is not equipped with recycling bins; therefore, the entire 1.5 kg becomes landfill. This problem would be compounded by the potential adoption of disposable scopes.”

Or as Madhav Desai, M.D., MPH, said in a presentation, “The total annual waste generated by a single, large academic endoscopy unit over two months could cover about two football fields.”

Based on 1.5 kg per procedure and an average of 40 procedures per day, Gayam calculated that on a national scale, “... endoscopy generates 13,500 tons of plastic waste, of which 10,800 tons are nonrecyclable. The GHGs produced by 18 million endoscopy procedures are equivalent to the emissions of nearly 88,108,062 miles driven by an average vehicle. The CO² emissions from these procedures are equivalent to more than 3,995,448 gallons of gasoline consumed or nearly

39,124,447 pounds of coal burned. To sequester the CO² produced by these procedures would take 46,371 acres of forests over one year!”

Desai observed that “the health care sector [is] one of the top contributors to plastic waste generation, landfills and water wastage. Endoscopies, with their numerous benefits, substantially increase waste generation through landfill waste and liquid consumption and waste through the cleaning of endoscopes. We have a responsibility to look into this topic.”

But the problem is not insurmountable. Robin Baddeley, et al., wrote in the journal Gastroenterology, “Gastrointestinal endoscopy is a resource-intensive specialty, and there are



Resources to Help You Green Your Suite

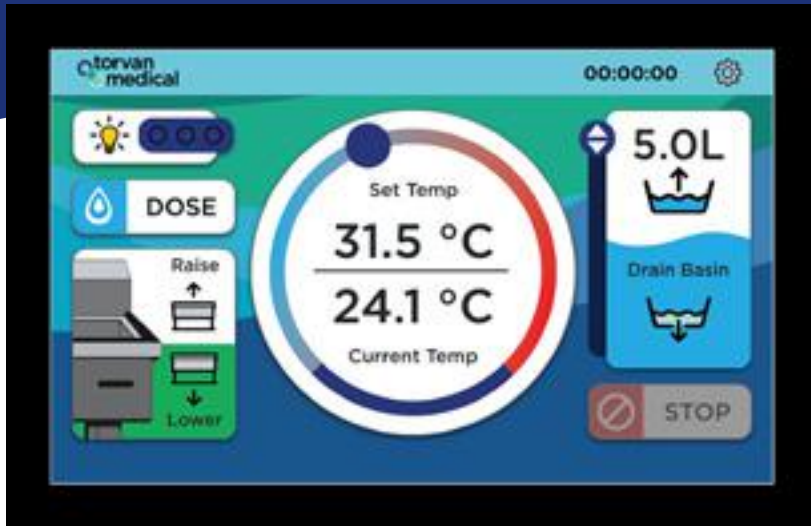
Resources abound for hospitals and endoscopy suites looking to reduce their carbon footprint. In October 2023, the ASGE introduced a webinar titled “Creating an Environmentally Sustainable Practice: Benefits for Patients, Practices and the Planet.” Check it out on their online public catalog or at <http://bit.ly/4bf19wr>

Practice Greenhealth is a thorough, meticulous and comprehensive source of information, encouragement and connection. Find out more at practicegreenhealth.org.

Another one to check out is Global Green and Healthy Hospitals, a program of Health Care Without Harm. From the website: “The Global Green and Healthy Hospitals network has over 1,900 members in more than 80 countries who are using innovation, ingenuity, and investment to transform the health sector and foster a healthy, sustainable future.” www.greenhospitals.org

For additional information, see the references for this story on www.endopromag.com.

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many reasons why it represents a significant contributor to a hospital's footprint: high throughput caseloads, repeated travel for patients and relatives, multiple nonrenewable waste streams, single-use consumables, and resource-heavy decontamination processes. In the effort to decarbonize health care, endoscopy therefore represents a high-yield mitigation opportunity. To its advantage, several structural features of an endoscopy department—an economically discrete, defined physical area, with its own facilities directorate responsible for its own supply chain—may afford it greater autonomy and control over its resource use than other areas of the hospital.”

Desai said in an interview, “One next step is getting help from GI societies to come together and have endoscopy units track their own performance. You need benchmarks so that you can determine how good an endoscopist you are with respect to waste.”

So What Exactly is “Green Endoscopy”?

Heiko Pohl, M.D., said in an interview in the Gastroenterology & Hepatology Journal that green endoscopy “affords a way of performing endoscopic procedures that is sustainable for the future.”

But we’re not just talking about disposable endoscopes. According to Pohl, sustainability also includes environment, patient empowerment, prevention, and lean services, which means reducing waste in how GI professionals organize and

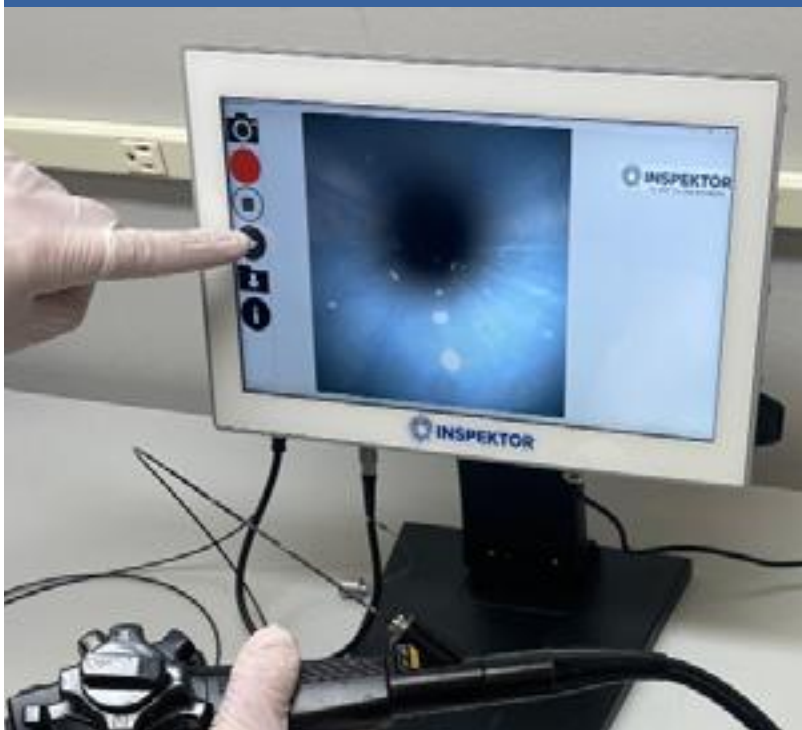
utilize the process of care. “When assessing gastroenterology care, or an intervention, we must consider not only how effective it is and how much it costs, but also how it affects society and the environment, which then includes aspects like access to care and inequalities, in addition to environmental concerns. For instance, empowering patients to take responsibility for their own health should be key and needs to start by promoting healthy living. In that sense, prevention should not start with the first colorectal cancer screening at age 45 years but should be integral to health maintenance early in life.”

It’s about looking at the whole person: ensuring their physical environment is safe and healthy, they have access to nutritious food and the ability for self-care, prioritizing emotional and spiritual wellness, education and opportunity, and a social structure that’s equitable for all. It sounds like a lot, but when we realize how much all the elements are interconnected, fixing the problem becomes easier.

What are the biggest challenges to ‘greening’ the endoscopy suite? What are the biggest offenders? Let’s start with what goes in the trash.

Desai’s research discovered that a major offender—a full third of waste generated—is biohazard waste. More than 5% is sharps. But 20% of what ends up in the landfill could potentially be recycled, something Desai considers an easy first step for endo groups wanting to reduce their footprint.

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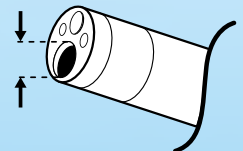


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And according to a prospective interventional study presented at Digestive Disease Week 2022 by lead researcher João A. Cunha Neves, M.D., gastroenterology resident at University Hospital Center of Algarve, Portimão in Portugal, these small actions can make a big difference. An analysis of waste patterns showed that much of the unit's waste was being treated as biohazard—even if it wasn't. Biohazard waste is pricier to dispose of and produces triple the amount of carbon emissions. Educating the staff and changing out some biohazard bins enabled the department to reduce not only its carbon emissions, but also cost.

Dr. Cunha Neves recommended selecting a single person to champion the program, but getting the entire staff involved is important. Sundaram wrote, "Changes at policy level remain critical in guiding units and individuals towards the adoption of best practices," which means achieving change means having leadership on board. Prioritize the use of recyclable and reusable items (without sacrificing patient safety), create recycling streams, and make sure to monitor the process to ensure compliance. Existing literature is an excellent source for ideas on waste sorting, reduction and recycling.

A white paper prepared by the American Society for Gastrointestinal Endoscopy (ASGE) Sustainable Endoscopy Task Force acknowledges the scope of the problem. "In particular, GI endoscopy is responsible for a large carbon footprint because of resource utilization and waste generation," they wrote. Recognizing that implementing the changes necessary to reduce an endoscopy center's carbon footprint may seem overwhelming, the authors recommend four principles to underpin the process: practical, impactful, balanced and scalable.

Practical

When trying to make any environmentally friendly conversion, it's easy to become overwhelmed. Instead of creating huge changes that might be frustrating or difficult to implement, start with steps that are feasible. Stay open to tips or tricks to make implementation straightforward and positive.

For example, don't dump the whole project on one person and expect miracles. Instead, treat it like a quality-improvement process. Assemble a team that includes relevant parties from across the hospital or endoscopy unit. ASGE suggests, "The composition of the green team will understandably vary from practice to practice. To start, it could include a core group of 4 to 6 dedicated individuals representing endoscopy nurses, endoscopy technicians, and endoscopists who meet on a regular basis to facilitate decision-making."

The team can also include administrators, purchasers, infection-control specialists, facilities management, and recycling experts. Once your team is in place, set regular meeting times and goals. ASGE recommends establishing a committee charter (see <https://bit.ly/GreenTeamCharter>).

Impactful

While we don't want to overwhelm the team, just agreeing to set out recycling bins isn't enough. The ASGE says steps

should "result in meaningful changes to carbon footprint, waste generation and other metrics."

Now that your team is assembled, you need to identify the problem. Start by collecting data. ASGE says, "Understanding your endoscopy unit's waste handling, energy use, and use of disposable supplies and identifying alternative practices that may offer improved environmental impact will be helpful to inform your green team's priorities and strategy."

Reviewing the ASGE Sustainable Endoscopy Task Force's article will help you create a framework for your team's approach. Interviewing endoscopy nurses, techs, doctors and fellows will get people involved, help you pinpoint problem areas, and keep staff informed. And that waste audit will give you a solid data set from which to start.

Remember: start small, but make sure your project has measurable results.

Balanced

No endoscopy unit should sacrifice patient safety for the sake of adopting more environmentally friendly processes. Ensure that the steps you take are "neutral or beneficial" when it comes to quality, high-value care, patient safety and cost.

You can do this by ensuring you have all relevant stakeholders on your team, including hospital leadership and infection-control or infectious-disease experts. Colleagues may hold differing opinions on the work. Some may object to potential cost factors (although implementing carbon-reduction changes often brings costs down). When it comes to barriers to change and team accomplishments, transparency and communication are key. Demonstrating how environmentally positive changes will benefit the organization may help defuse objections. The ASGE Task Force warns, "Some suggested practice alternatives may challenge current regulations or expert guidance statements and require support at the institutional level or societal guidance."

Scalable

The first project is just the beginning. Look ahead. Stay positive. Create changes that can be expanded within the unit and beyond the unit. And always search for ways to take your low-impact processes to the next level. Your team could make a presentation. Lead the way. Become the vanguard in your community for a new, more future-conscious way to bring quality healthcare into the 21st century.

Manufacturers Planting the Seed

It isn't just practices that are going green. Henry Schein, a solutions company for healthcare professionals, launched Practice Green in April of 2023. Practice Green, a "global initiative designed to encourage healthcare practitioners to become more eco-friendly," initially had a focus on the dental industry, but the company is now widening its focus to the medical industry by emphasizing four areas of improvement:

Disposable Scopes: Problems and Solutions

When the FDA issued its alarm about the infection issues with reusable endoscopes, disposable endoscopes became the magic bullet to solve the problem. After all, you don't worry about infection transmission if you're just going to toss the scope after the procedure, right?

While disposables seemed to solve one problem, their use raised a host of others. Aside from the cost factor (disposable scopes are prohibitively expensive to use on a daily basis), the negative environmental impact is substantial.

In a letter to the Gastrointestinal Endoscopy journal, Suprabhat Giri, MBBS, M.D., DM, and Sridhar Sundaram, MBBS, M.D., DM wrote, "Hernandez et al. conducted a life cycle assessment study comparing the 'cradle-to-grave' environmental effects of reusable duodenoscopes, reusable duodenoscopes with disposable caps, and single-use duodenoscopes (SUDs). The SUDs had the highest CO² production (20 times) compared with the other two. When the effects of SUDs on human health, ecosystems, and resource consumption were analyzed, they performed 18 to 65 times worse than the other two."

An additional study showed that disposable accessories and endoscopic devices could generate 38,000 metric tons of waste: about 117 soccer fields' worth. Adding single-use endoscopes to the mix increases the volume 40%.

According to nurse and educator Roberta Harbison, an EndoPro columnist, "It is very difficult to balance the disposable scopes with environmental impact until the raw materials used are more biodegradable and environmentally friendly." In addition, Harbison said that while some disposable scopes are

effective in other disciplines, among gastroenterologists the scopes are not universally popular. "GI scopes do not articulate well and the visual still seems to be grainy in comparison to the reusable scopes with HD imaging."

While single-use scopes have

their place—patients with severe immunodeficiency, for example—they're no panacea. Close attention to good sanitation practices and following manufacturers' IFU when processing used endoscopes can go a long way to reducing a hospital's waste stream.

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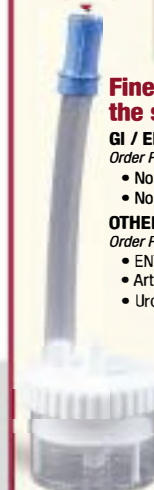
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Stanley M. Bergman, Henry Schein's chairman of the board and chief executive officer, stated in a press release, "Henry Schein has a unique opportunity to engage our customers in this work, and it is through our collective responsibility that we can help to quicken the transition to an equitable and prosperous green economy for all."

And the company is walking the talk. In a commitment to reach net-zero global emissions by 2050, Henry Schein signed on to the Business Ambition for 1.5°C Science Based Targets Initiative (SBTi). While that campaign is now closed, Science Based Targets is now offering its Corporate Net Zero Standard for companies that want to get involved.

Peer Review

Is green transformation happening in healthcare? According to Practice Greenhealth, the answer is yes.

An organization with a "mission to transform health care worldwide so that it reduces its environmental footprint and becomes an anchor for sustainability and a leader in the global movement for environmental health and justice," Practice Greenhealth is focused on sustainable change, identifying 12 areas to help create improvement: The Fundamentals, Buildings, Chemicals, Climate & Health, Energy, Engaged Leadership, Food, Greening the OR, Sustainable Procurement, Transportation, Waste, and Water.

Since the healthcare sector represents 18 percent of the U.S. economy, it wields substantial influence. Practice Greenhealth aims to use that influence to improve the health of communities worldwide. Simply put, its website states, "The health care sector is optimally situated to catalyze a purpose-driven societal transformation: to improve health at individual, community, and global levels. The converse is also true: such a transformation is impossible without the direct engagement of the health care sector."

Or to pull out an old chestnut: "With great power comes great responsibility." Practice Greenhealth has created tools and information to help encourage medical centers and hospitals to sign on. It isn't just about reducing a facility's carbon footprint; it's also about improving communities, creating resilience, and leading societal transformation.

Hospitals Are Answering the Call

Promoting Sustainability

New Awards Program Recognizes Healthcare Packaging

The company DuPont recently announced that it is launching an annual global awards program called the Tyvek Sustainable Healthcare Packaging Awards to recognize leaders across the healthcare industry who are driving sustainability throughout the packaging lifecycle.

The awards program will be open to any medical device and/or pharmaceutical manufacturer, sterile packaging manufacturer, healthcare facility, university, material recovery facility, or other healthcare company focused on sustainable packaging made with DuPont Tyvek material. Other criteria include that the initiative or solution be implemented within the last 18 months of the award application entry date and show significant sustainability-focused achievement and resulting metrics.

"Enabling the healthcare packaging industry to be more sustainable is a collaborative effort, and that's why we have developed this awards program to recognize the spectacular achievements in this space," said Kelly Reichert, global business director of DuPont, Tyvek and Typar Roll Goods. "We're proud of the essential innovations we deliver to improve patient safety and help people live long and healthy lives, and we're pleased to shine a light on the advancements in sustainability being made across the healthcare industry."

Interested companies should visit www.Tyvek.com/HCAwards to review more information about the categories and criteria and complete an award application online. The awards application process will be open February 1 through June 28, 2024. Following the judging process from a panel of sustainability, healthcare and packaging experts and industry thought leaders, including representatives inside and outside of DuPont.

This awards program complements the Tyvek Healthcare Packaging team's goal to advance DuPont's global strategy of working with global supply chains to reduce Scope 3 emissions. DuPont has already achieved a 35 percent reduction of Scopes 1 and 2 greenhouse gas (GHG) relative to 2019 baseline, surpassing its 2030 goal eight years ahead of schedule.

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In 2007, The Cleveland Clinic created a sustainability team to measure the clinic's environmental impact, develop a sustainability strategy, and collaborate with fellow caregivers to increase its impact. The team's goal to achieve carbon neutrality by 2027 is just the beginning. Other goals include reducing energy and water use, diverting nonhazardous waste from the local landfill, and locally source the clinic's

food needs. As of 2021, the clinic has reduced its carbon footprint by 26%, reduced energy use by 18% and water by 11%, and diverted 27% of its waste. Forty-three percent of the clinic's food is sourced locally, and the clinic has made a commitment to sustainable procurement and creating healthy buildings.

In 2023, Hackensack University

Medical Center was awarded the Performance Excellence in Electricity Renewal (PEER) Gold certification by Green Business Certification Inc. (GBCI), the first such gold-level certification by a medical center in the country. The award recognizes businesses that are improving efficiency, daily reliability, and overall resiliency—especially in the face of disaster. Hackensack University Medical Center did this by creating a state-of-the-art central utility plant. Since its completion, the plant has achieved a 50% reduction in chilled water pumping costs and a 75% reduction in cooling tower costs. The objective? Slashing emissions in half by 2030 and achieving net-zero emissions by 2050.

In 2023, more than 100 hospitals signed the Coolfood Pledge, which aims to reduce emissions from food by 25% by 2030. "We are thrilled to support hospitals throughout their journey," said John Stoddard, associate director of food and climate strategy at Practice Greenhealth. "Hospitals are implementing various tactics to promote plant-based diets, like offering more plant-based options, reducing meat in existing dishes, and using marketing strategies such as renaming dishes and creating appealing descriptions to encourage diners to choose plant-based meals."

Meal composition is important because its impact stretches far beyond patient health. Making local food choices supports the community, not only by supporting farmers, but also by encouraging a vibrant local food network. The food we raise—



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and how we raise it—affects the soil. Done right, supporting local food producers can ensure healthy and safe conditions for food workers, reducing injury and disease.

According to Practice Greenhealth, “Supporting communities in shaping their food environment with culturally relevant, nourishing foods, improves health and wellbeing, ensures food sovereignty, and builds resilience to withstand and recover from economic and environmental disruptions.” By promoting and ensuring transparency, communities can also help create racial equity in food systems. A great example is Hudson Hospital in Hudson, Wisconsin, which distributes “veggie prescriptions,” providing healthy food for those who lack access.

Harborview Medical Center in Seattle boasts an extensive on-site rooftop solar array that helps the hospital reduce carbon emissions, cut energy costs and provide reliable backup power in the event of an emergency.

Believe it or not, anesthetic gases can—yes—contribute to a facility’s carbon footprint. Abraham Lincoln Memorial Hospital in Lincoln, Illinois, reduced its anesthetic gas purchases by 80% in just one year, saving not only money, but impact.

In 2023, Providence Oregon’s hospitals received 19 awards from Practice Greenhealth, including props to Providence St. Vincent Medical Center for Greening the OR, and its other hospitals for partnering for change. In all, 29 hospitals and the Providence system earned a total of

53 awards for 2023. Unsurprisingly, Providence was recognized with the System for Change award, which goes to “health systems that are working cohesively to set system-wide sustainability goals, track performance data, benchmark, and support intra-organizational learning and implementation within their institutions.”

To a smaller institution with fewer

resources, such ambition might seem daunting. But with the resources available and hospitals leading the way, any healthcare group can find a way to green the endoscopy suite. Even if it starts with just one recycling bin.

Lisa Hewitt, MA, senior editor at EndoPro Magazine, has had a long career as an editor, writer and designer, with an emphasis on medical content.



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Gut-Directed Hypnotherapy

Promising Therapy for IBS

By Dédé Wilson

When someone is experiencing IBS symptoms, their first thought is often, “What did I eat?” It’s logical that someone experiencing digestive upset would first think about possible food culprits, (food triggers are certainly a large part of IBS symptoms), but sufferers should also investigate non-food triggers.

Poor sleep and hormones have impact, of course, but we are seeing more and more people complaining about stress and anxiety, and studies support that anxiety is on the rise. It is our job as health professionals to help people understand that there are non-food triggers, and most importantly, non-food-focused approaches to minimizing their gut reactions.

Enter gut-directed hypnosis (GDH). The first time I heard about GDH was when one of our Success Team dietitians, Erica Ilton, RD, CDN, brought it to our attention and wrote an article on the topic. What first caught our eye was the fact that GDH had been clinically proven to be as effective as the low-FODMAP diet. This is especially helpful when you have a patient who is not able to comply with the diet’s needs, or perhaps is not suitable for an elimination diet, such as those with a history of eating disorders.

Subsequently, we were introduced to the founders of the Nerva app (<https://bit.ly/fodmapeveryday>), a self-directed, app-based, GDH program. For six weeks, one takes 15 minutes a day to go through what is essentially a guided-imagery meditation.

Having IBS myself, I decided to go through the program before we published our article. I am fairly tightly wound. I have never been able to meditate, and in fact, the idea of doing so adds to my anxiety. The thought of having to sit still is unsettling to me.

But to my surprise, I enjoyed my very first Nerva session. A soothing voice led me through a story filled with suggested visuals for me to picture in my mind, and the 15 minutes went by quickly. I looked forward to my sessions every day. I missed only one session during the six weeks—and I experienced zero breakthrough IBS symptoms during that time. I became a believer.

After the initial six weeks, the program offers a way to maintain and improve your results long-term with customizable IBS support and flare-up management. Statistics show that nine



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out of 10 Nerva users report improved IBS management after completing six weeks of the program.

Our advisory board includes medical doctors from Monash University, The American Psychological Association, Baylor University, and Harvard Medical School. We are firm believers that—just as IBS symptoms are unique to every patient—their treatment plan should be as well. The beauty of GDH is that it can be used in conjunction with whatever else is being suggested by the medical team.

Hypnosis Now: Not What it Used to Be

Many of us are familiar with hypnosis only through old movies. You know—the ones that depict a nefarious doctor casting a spell on an unsuspecting patient to make them do something they would not ordinarily do. Suffice to say, this is a complete misrepresentation of a safe and effective therapy that is accepted by reputable organizations around the world.

Among those is the American Psychological Association, which defines hypnosis as “a therapeutic technique in which clinicians make suggestions to individuals who have undergone a procedure designed to relax them and focus their minds.”

Suggestions, Not Instructions

Before we get too far along in this discussion, it is important to reiterate that the suggestions central to hypnotherapy's efficacy do not cause individuals to lose control of their own behavior.

Despite those screen depictions of characters doing dangerous, silly, or destructive things when in a hypnotic state, real-life people remain aware of who they are, where they are, and what happened during hypnosis. The exception is when amnesia has been used (which is highly improbable). In short, hypnosis simply makes it easier for a patient to experience a clinician's suggestions; it does not compel the patient to experience or enact these suggestions.

Yes, You Can Be Hypnotized

Everyone can be hypnotized, according to Dr. Simone Peters, founder of Mind + Gut (www.mindgutclinic.com.au), an Australian clinic specializing in gut-directed hypnotherapy. The clinic staff includes several psychologists trained in the use of GDH, as well as dietitians who utilize the low-FODMAP diet, among other nutritional interventions. Peters added that while everyone can be hypnotized, individuals differ in the level of depth they can achieve, or what's called their overall “hypnotizability.”

Despite this, Dr. Peters said, the depth of the hypnotic state you achieve does not correlate with the clinical outcome of the therapy. This is a good takeaway message for those who may have tried hypnosis and abandoned it too soon after a disappointing first session.

Gut-Directed Hypnotherapy

The general principles of hypnotherapy remain the same whether the condition being addressed is digestive in nature or not. In GDH, the process is specifically targeted to disorders of the gastrointestinal tract.

GDH has been shown to be exceptionally efficacious in reducing gut symptoms in those with functional GI disorders such as irritable bowel syndrome (IBS). This, Dr. Peters said, is likely due to the interconnection between the brain and the gut, often referred to as the brain-gut axis.

Gut-Directed Hypnotherapy & IBS

As many of you are acutely aware, IBS is not a one-size-fits-all pain in the butt! Rather, it's a collection of symptoms (that's why it's called a syndrome) that include abdominal pain/discomfort plus diarrhea and/or constipation.

Other symptoms, such as bloating, distention, nausea, and excess gassiness, may also be present. These symptoms tend to wax and wane, cropping up in various combinations and to varying degrees.

According to Dr. Peters, in a number of clinical trials and observational studies GDH was shown to significantly improve overall and individual gut symptoms of pain, stool consistency, bloating, distension, gassiness, and nausea.

Furthermore, it appears to alleviate these symptoms equally (with the exception of nausea, which responds to GDH more variably) and you don't have to schedule individual sessions for each symptom; they can all be addressed in the same session.

A major clinical study examining the effects of gut-directed hypnotherapy on IBS has been completed by Monash University, with results so positive that even the researchers were surprised. Hypnotherapy, directed specifically at the gut, reduced gut symptoms such as abdominal pain, bloating and nausea by up to 72%. You can find the article at: https://bit.ly/hypnotherapy_help

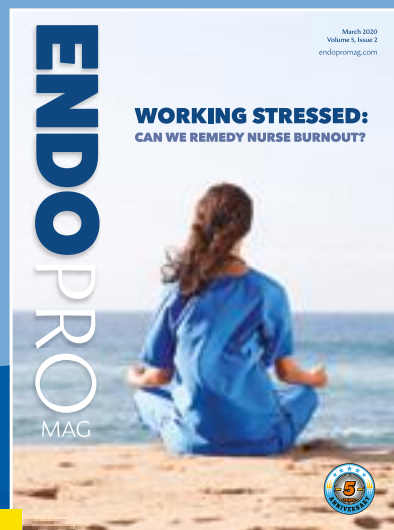
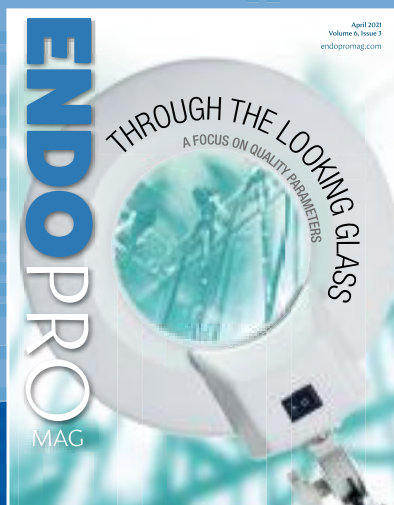
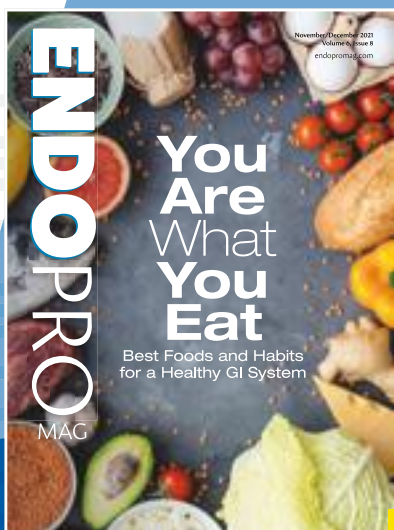
Symptom Reduction

Typically, patients experience an alleviation of symptoms with four to six sessions of GDH. If no benefit has been seen after six sessions, the individual is deemed a “non-responder,” said Dr. Peters, who added that this occurs in about 20% of patients.

If you're in that 20% population, it's important to remember that there are several other interventions that have been shown to be highly effective for digestive conditions. This includes the low-FODMAP diet.

In fact, GDH and the low-FODMAP diet have similar rates of efficacy and response when it comes to IBS: Both reduce overall and individual symptoms by about 75% in the majority (75%–80%) of patients. By contrast, medications used for IBS have a more varied response rate and generally treat only one symptom. The good news is, a multidisciplinary approach that

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utilizes combinations of GDH, diet, and drugs is common, acceptable and frequently beneficial.

There's an App for That

In addition to in-person sessions at the Mind + Gut clinic, telehealth appointments are also available (unfortunately, not in the U.S. and Canada). If you live outside the Mind + Gut service area, you may find qualified practitioners in the ROME foundation's free GastroPsych directory or on IBShypnosis.com.

To overcome the limitations of geography, Dr. Peters collaborated with Chris and Alex Naoumidis, the founders of Nerva, because she understood that a well-designed, science-based app would be the ideal way to make GDH accessible to more people. Peters said that early research indicates that app-delivered GDH improves symptoms of IBS with similar efficacy as face-to-face sessions with a trained hypnotherapist.

As an EndoPro reader, you can try Nerva for free and get 20% off after the seven-day free trial by visiting: <https://bit.ly/nerva>

Tell Us Your Experience

If you know about GDH, we would love to hear about how you are implementing it. If it is new to you, please let us know if this is something you are planning to add to your practice. We've included some sample questions below. Please reach out at dede@dedewilson.com with your answers, if you'd like.

- What made you try GDH?
- Did you see a hypnotherapist, use an app, listen to tapes, or engage in GDH in some other way?
- How many sessions did it take for you to experience an improvement in your symptoms?
- How did it compare to other treatments you may have tried?
- Do you have any suggestions for a GDH newbie—maybe something you wish someone had told you when you were starting your GDH journey?
- What else would you like to tell us about GDH?

Hypnotherapy is no longer relegated to the fringes of healthcare. Thanks to compelling research and effective results, GDH is taking its place as the newest tool in a gastroenterologist's arsenal of cures.

For article references, please visit www.EndoProMag.com.

Dédé Wilson is a journalist who lives with IBS, founded FODMAP Everyday, is Monash University dietitian trained, and FODMAP Friendly Accredited as a FODMAP educator.



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