

# ENDO PRO MAG

November/December 2024 ▪ Volume 9, Issue 8

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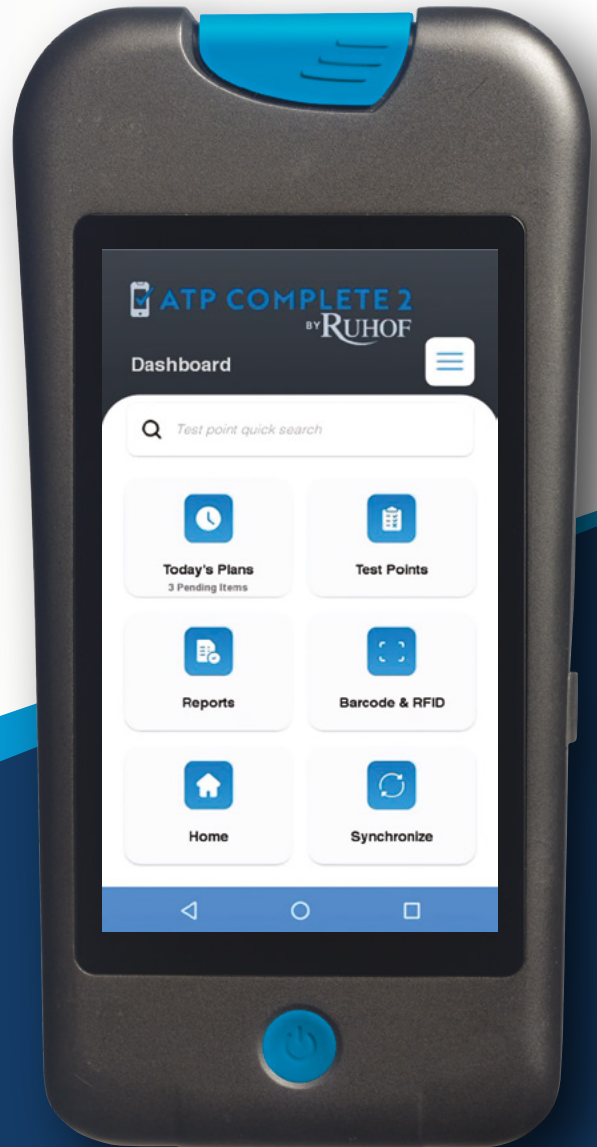
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AD-070 Rev0 122022

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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 8. 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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## A New Endoscopy Credentialing System Is It Time?

Would the endoscopy industry benefit from a new credentialing system? I'd never pondered this question. Never, that is, until I read a news release recently from the University of Nebraska Medical Center about a family-medicine resident who is helping create a national universal credentialing system for endoscopists.

The family medicine resident, Rubab Ali, M.D., is working with 11 national medical and surgical societies on this initiative, according to the news release. Dr. Ali recently presented three years of research on endoscopy guidelines and accreditation, regarding the creation of a universal accreditation protocol.

"Individually, all the different societies have their guidelines," Dr. Ali said. "You can see the framework that they follow in terms of credentialing, and obviously the goal is to provide high-quality patient care and safety. But all these societies have individual frameworks of how to credential the endoscopist. Our goal is to come up with universal guidelines for all the societies."

Ali's mentor and one of her collaborators is Dale Agner, M.D. The two have been working with the McGoogan Health Sciences Library and many team members. According to the news release, the collaborators have reviewed more than 500 papers each, to explore four key questions:

1. Should competency-based training programs; or procedural, volume-based requirements; or a combination of the two be used for training the next generation of gastrointestinal endoscopists?
2. Should credentialing in gastrointestinal endoscopy be based on completion of a competency-based training program and success in cognitive and skill-based examination, or in procedural, volume-based requirements, or in a combination of these principles?
3. After initial credentialing, should the decision for recredentialing be based on procedural, volume-based requirements, or procedure-related patient outcome data, or clinical performance assessment based on simulated exams?
4. For recredentialing in GI endoscopy, should shorter or longer recredentialing cycle intervals be used to optimize endoscopist performance measures and patient outcomes?

"It is a long process," Ali said. "It's a difficult task to bring all the societies together and share research with experts from all these societies."

Ali presented the framework of her project at the ResQ Committee (Patient Safety, Quality Improvement and Disparities Research Collaborative) meeting last spring. The next step is to extract data from the amassed papers, and to venture meta-analysis and systemic reviews.

"We have experts from this field who will be helping," Ali said. "Then we'll be discussing our next steps. Where do we go from here?"

*Michelle Beaver*

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## Her Place in the Sun

### Katty Hechevarria of Kendall Endoscopy & Surgery Center

By Lisa Hewitt, MA



In sunny Miami, Florida, Kendall Endoscopy & Surgery Center boasts a highly competent team. There is a rising star, however, at this freestanding ambulatory surgery center, and that star is Katty Hechevarria, RN, who is training to take the reins as nurse manager.

One of Hechevarria's strengths is in team bonding, according to Maria Tarrau, BSN, RN, CGRN. "Katty has a wonderful habit of arriving at work with a positive attitude and checking in with everyone," Tarrau said. "Her well-known phrase, 'How is it going?' not only reflects her genuine concern but also brightens everyone's day. Her cheerful approach and personal touch make a significant impact on the team's morale.

"Katty's attitude is truly exceptional and has always been a standout quality among her co-workers, physicians and patients," Tarrau added. "Her constant smile and eagerness to assist are just a few of the many reasons she is so highly regarded. She approaches her role with utmost seriousness and is committed to continual improvement and learning each day. Her colleagues describe her as always ready to lend a hand, whether it's covering a shift, handling a case, baking a cake, or organizing unit activities—whatever the need, Katty is there."

Hechevarria's philosophy reflects the understanding that while no team is perfect, a cohesive team is best composed by diverse individuals whose strengths complement one another. She recognizes the importance of fitting all the pieces together to create a well-functioning unit, and according to Tarrau, her ability to foster this sense of unity and collaboration is one of her greatest strengths.

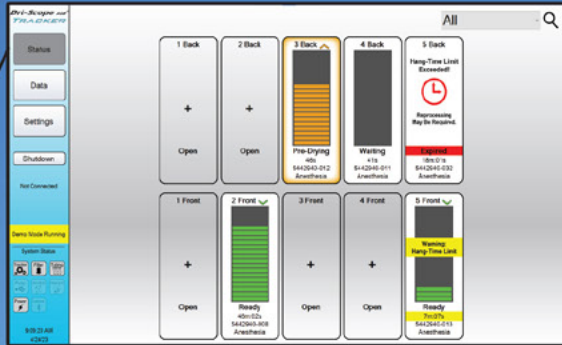
Hechevarria's journey with Kendall Endoscopy started in 2012, when she came on board as a GI





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technician. Since then, she's earned her nursing license and made a transition back into nursing.

"Her dedication was particularly notable during the COVID pandemic, when she played a crucial role as part of the elite team that kept our center operational during those challenging times," Tarrau said. Hechevarria is slated take

on the role of nurse manager in 2025, when the team's current manager plans to retire. "Her extensive experience, commitment, and leadership skills make her a natural fit for this position," Tarrau added.

Hechevarria is part of a fantastic team that includes almost four dozen physicians, and 18 registered nurses, eight

of whom are per diem. "Our per-diem staff take their roles very seriously and have demonstrated their commitment during the recent AHCA federal and state surveys," stated Tarrau. "They received commendations for their professional attitude and extensive knowledge, showcasing their dedication and expertise."

There are also five GI technicians, each of whom plays a key role in maintaining the highest standards of cleanliness by ensuring that all equipment, supplies and rooms are well-stocked and in top condition. Their meticulous attention to detail guarantees that everything is readily available and functioning optimally.

Six staffers compose the front office staff—what Tarrau refers to as the "first impressions team." "This team is essential in setting the foundation for the patient experience at our center. Their efforts are consistently recognized in our surveys for their outstanding contribution to maintaining high standards and ensuring a positive environment for our patients," she said.

Kendall Endoscopy provides colonoscopies, flexible sigmoidoscopies and upper endoscopies, as well as other gastrointestinal procedures. The center is accredited by the Accreditation Association for Ambulatory Health Care (AAAHC), and the Press Ganey patient experience survey revealed a 92% satisfaction rate among the center's patients. Talented team members, and leaders like Katty Hechevarria, are key to the success.


Retiring nurse manager Milly Garcia said, "Katty has been an absolute pleasure to work with. She is exceptionally bright and deeply engaged in both her work and the working environment. Her dedication and well-rounded approach make her an exemplary employee and a tremendous asset to our center. I am confident that Katty will continue to be a pivotal part of our center's future as I step down."

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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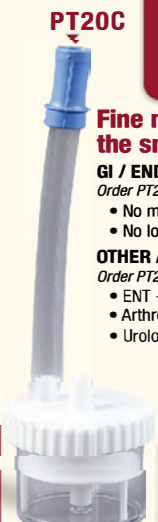
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## GI Endoscope Storage Cabinets

### Dispelling the Confusion

By Roberta Harbison, MBA, CHL, CER, CRCST

Since the publication of AAMI ST91:2021 National Standards for processing flexible and semi-rigid endoscopes, medical device processing experts continue to observe and address flexible endoscope storage cabinet challenges and confusion.

Common questions asked are, “What kind of endoscope storage cabinet are we supposed to have and where can the cabinet be positioned and why?” Several factors determine the type of endoscope storage cabinet needed. Healthcare facilities have different financial budgets and constraints.

The square footage and footprint of a facility often present challenges that make it nearly impossible to purchase the proper storage cabinet. Most flexible endoscope storage cabinets are large and require a healthy amount of space. Flexible endoscope devices vary in complexity, length and size, and they could change the height, width, depth and space necessary to meet the storage cabinet manufacturer’s specifications. Electrical, filtration, ventilation and compressed-air requirements could affect the cost and space.

With today’s economic challenges, healthcare facilities have tighter equipment capital and operational budgets. Healthcare facilities must creatively find ways to cut costs, work more efficiently by eliminating wasteful processes and unnecessary supplies, and mitigate staffing shortages, while reducing overtime and the excessive use of contracted employees—and this is the tip of the iceberg. Healthcare facilities focus on revenue-generating growth strategies, partnerships, acquisitions or mergers to support long-term success and provide medical services to their communities. Rising equipment costs present difficult budgetary limitations for most facilities now.

Choosing the right storage cabinet is challenging, so assessing and evaluating the current state to identify potential gaps or risks in the process can often support a more cost-effective solution and plan. Most importantly, when making the decision, the outcome should result in the greatest protection for the device and the best prevention for potential recontamination and ensure that every stored endoscope is patient-ready.

#### Endoscope Storage Considerations

Two types of storage cabinets are outlined in the AAMI ST91:2021 National Standards. According to AAMI, professional organizations have differing views on the best storage cabinet choice. However, published scientific studies

show using endoscope drying cabinets will reduce the risk of retained moisture and microbial contamination. Flexible endoscopes processed via liquid chemical sterilization (LCS) or high-level disinfection (HLD) should be stored in a cabinet that is tall enough to prevent the devices from touching the bottom of the cabinet, and has enough space (in width and depth) to allow the endoscopes to hang freely without touching each other or coiling. If using a horizontal scope cabinet, there should be enough space to store the endoscope without obstructing other stored devices.

#### Option 1: Endoscope Drying Cabinets

Designed to store flexible endoscopes, endoscope drying cabinets circulate HEPA-filtered or instrument air throughout the closed cabinet and through each endoscope channel at continuous positive pressure. The collective evidence shows that drying cabinets provide practical storage of flexible endoscopes to facilitate drying, decrease the potential for contamination, and provide protection from environmental contaminants (AORN, 2018 [367]).

Within the drying cabinet, the internal and external surfaces of the endoscope are intermittently or continuously dried, suppressing microbial growth. Studies related to the efficacy of drying cabinets compared with other methods of storage showed that drying cabinets effectively limited bacterial proliferation during storage of potentially incompletely dried endoscopes (Saliou, 2015 [284]; Perumpail, 2019 [254]).

Drying cabinets tend to be more costly than the conventional type. The cabinet may require routine disinfection or sterilization of the connection tubes and accessories. Compressed air is typically used to open the doors and for continuous air circulation. Reviewing and verifying that the facility can perform all the routine services and maintenance required is essential. Some cabinets have RFID badge access, keypad punch, or a swipe mechanism to open the cabinet, which is excellent for staff accountability and control.

A more popular feature seen with some drying cabinets is the built-in endoscope tracking system (AI technology or smart devices), automatic drying timers, and color-coding systems that visually indicate when an endoscope is completely dry or needs to be reprocessed (e.g., hang time). Although the up-front costs may be higher, there are advantages to using this type of cabinet, such as knowing the endoscopes are

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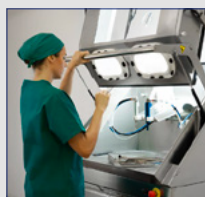
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stored dry and safe for use. Drying challenges related to endoscope processing and storage continues to be a hot topic and a critical element contributing to elevated infection transmission risks.

## Option 2: Conventional Drying Cabinets

Conventional cabinets are closed cabinets that enable the passive circulation of HEPA-filtered or instrument air through the cabinet or via continuous positive pressure. However, they do not include forced air through endoscope channels. When drying cabinets are not available, conventional cabinets may be used. Conventional cabinets should be cleaned following the manufacturer's instructions for use (IFU) at least weekly, and when visibly soiled. Conventional cabinets with HEPA filtration should be used to store flexible endoscopes.

When conventional cabinets are used, the facility should monitor for indications the endoscope channels are not being dried before placement in the cabinet (drip marks in the bottom of the cabinet, etc.). If indications are noted, additional efforts should be taken to ensure drying (such as a drying time longer than 10 minutes). Storage cabinets, unless modified to provide drying, or upgraded by a third-party drying manufacturer's IFU and approved by the storage cabinet manufacturer, do not meet the criteria to be a drying cabinet. If manual drying is used, verify the endoscope is dry. Develop and implement policies and procedures to perform quality assurance dryness checks.

Studies performed by reputable scientists and researchers cannot emphasize enough the importance of drying the endoscopes after they have been processed. The concern with conventional drying cabinets is that the air circulates and only touches the external parts of the endoscope, while the channels inside the endoscopes remain wet. If conventional drying cabinets are considered, the facility should also consider how to remove the water from endoscope channels before placing endoscopes into the cabinet.

Numerous studies have demonstrated endoscopes frequently harbor microbes after the endoscopes were high-level disinfected and revealed retained moisture after an alcohol purge followed by 10 minutes of forced air in an automatic endoscopic disinfectant (AER) cycle (Cori L. Ofstead et al. 2024). Fluid retention within endoscope channels poses risks for increased transmission of residual bacteria to patients.

According to AAMI, bacteria can double in population every 20 to 30 minutes. An inadequately dried endoscope contaminated with only one or two viable bacteria can end up contaminated with tens of thousands to millions of bacteria after only eight hours of storage, magnifying the risk of transmission of infectious organisms to the next patient (Alfa et al. [54]). The exterior surface and all interior channels of flexible endoscopes should be thoroughly dried before reuse or storage.

Drawbacks to conventional drying cabinets include added operational costs for supplies, testing materials, and addi-

tional equipment needed to dry endoscopes before storage. The potential for missed drying steps, errors and inconsistent processes is higher. Mechanical drying aids can be used, but these require frequent accessory and tubing changes. The drying aid needs routine service and verification checks, which adds more steps to the workflow and process. Another way to dry endoscopes after processing is with instrument-grade air. When reviewing both options, be sure to evaluate the cost for all required supplies, additional equipment, contract agreements and quality-assurance materials.

## Storage Area

Storage cabinets should be placed in an area designated as a clean space. Staffers need enough space to open cabinet doors, retrieve the scope, and place the scope in a clean transport container. Clean work rooms, a clean or sterile storage alcove or closet away from water sources or plumbing, or a clean area near or outside of the procedural room, is ideal. Storage cabinets should not be located inside the endoscopy procedural room (AORN, 2018e, IX.a [39]). The benefit of finding a low-traffic area that is secure and clean is that it helps protect endoscopes and prevents recontamination.

Storage cabinets should have doors and be located at least 3 feet from any sink. Ensuring storage cabinets have doors and are separated from sinks by at least 3 feet provides protection and reduces the potential for processed flexible endoscopes to be contaminated by water droplets (AORN, 2018e [39]). Cabinet doors should remain closed until endoscopes are needed. Staff will be responsible for routine cleaning and maintenance of the storage cabinet. A proper amount of space may be required for staff to clean the cabinet; service technicians need access; space is needed to change the filters periodically; and staff need the capability to process any attachments or accessories that come with the cabinet.

## Shop Around and Ask Questions

When shopping for a storage cabinet, it is vital to ask the vendor or manufacturer for specification documents for installation, the technical information report or published white paper of their cabinet (if applicable), the FDA 510K Clearance document, a copy of the user operational manual to review, and a price list of replacement parts or filters that may need periodic replacement. Most equipment companies honor a 1-year warranty for parts and services. After the year ends, the facility is on its own unless there is a service agreement in place for routine and preventative maintenance. For future cost avoidance and to safeguard against common oversights during the review process, the facility should:

1. Verify that the proposed price is within the national benchmark range to avoid inflated costs or price-gouging tactics.
2. Purchase cabinets from reputable vendors or manufacturers that can provide a copy of the FDA 510K premarket clearance for the cabinet.

3. Ask to see all service agreement options and the costs associated with those options. The end user needs to understand what service is offered if or when the cabinet malfunctions, gets damaged or is defective. Response time and vendor support should weigh heavily in the decision-making process.
4. The vendor should share the most reported issues and the average cost for those types of repairs and provide a general lead time for service (especially when parts need to be ordered before repairs or service can be performed).
5. If the vendor does not offer preventative maintenance or routine services, consider other options, e.g., third-party repair services. When considering third-party repair services, proceed with caution, as using a third-party service will often void the original manufacturer's warranty, liability and service guarantees. It is important to read all contracts and fine print.
6. Don't limit the search to one vendor; shop around.
7. Ask about the cabinet's average useful lifespan/end-of-life. Technology is ever-changing and advancing. Equipment will not last forever. Knowing how long the company will support the equipment with parts and services will help significantly with future budget planning. Once the cabinet becomes obsolete, the parts and services for the cabinet will be phased out and will no longer be available. Then the cabinet will need to be replaced or upgraded.
8. Find out whether the company offers future trade-ins for upgrades or obsolete equipment. All these proactive measures can prevent a lot of unforeseen costs and challenges in the future.
9. What do the other customers think about their cabinet? Ask the vendor to provide a customer reference list. Some vendors will offer a site visit to another facility to see how the cabinet is used and to connect with other process users.
10. Ask about the cabinet's capabilities, such as artificial intelligence (AI) or innovative smart capabilities, security features, necessary accessories or adapter hookups, and passive, forced-air or active airflow.

Using ventilated cabinets with continuous, HEPA-filtered, circulating airflow that promotes exterior and internal channel drying is a best practice. Facilities responsible for processing flexible endoscopes (regardless of the device's complexity) should evaluate and consider cabinets that provide the most ideal and effective way to reduce microbial contamination and biofilm buildup after the device is processed correctly.

Drying cabinets must support continuous air externally and inside the endoscope channels to ensure safe, ready-to-use, flexible endoscopes. Despite the industry inconsistencies regarding the exact type of storage cabinet required, the industry experts' consensus is when endoscopes are not

properly dried (or stored wet), they are most susceptible to microorganism growth and biofilm buildup, and risk transmission of infectious diseases to patients. Endoscope storage cabinets without a drying feature complicate the staff's processing steps.

New products on the market to test and verify drying effectiveness are available for purchase through various vendors and distributors. Facilities should develop quality assurance (QA) processes to ensure residual moisture inside the channels is absent. The QA process should be incorporated into the facility's policies and procedures, along with protocols for routine cleaning, inspection and maintenance of the storage cabinet, as well as its hoses, connectors and miscellaneous parts. Test results, cleaning and preventative maintenance should be tracked for trends and opportunities.

If the facility chooses not to purchase endoscope drying cabinets, the staff will need to thoroughly dry endoscopes before placing them in storage cabinets. Endoscopes must be purged with forced air for ten minutes at the correct pounds per square inch (psi) of pressure. This can be achieved using mechanical endoscope drying aids (with HEPA filtration) or with instrument-grade air, an air gun and a pressure regulator. Importantly, complex endoscopes (those with multi-channels, elevators and balloons, differing lengths, diameter of channels or ports) may take longer than ten minutes to dry with drying aids or compressed air. Always follow the endoscope manufacturer's IFU and evaluate the workday time challenges this may present.

When shopping for endoscope cabinets, facilities must consider how scope drying will delay operational workflow, increase the time it takes to turn over the endoscope for following procedures, and increase the labor needed.

Time is of the essence in high-volume endoscopy facilities. Wet endoscopes should never be stored, as this presents the highest risk for infectious disease transmission between patients caused by microorganism growth and waterborne pathogens; therefore, choosing the best storage cabinet also requires evaluating the operational workflow and impact(s) to current or future volume. Utilizing drying cabinets eliminates the hands-on, laborious, air-drying step and inconsistencies associated with human factors (errors and process step variations). Endoscope storage cabinets are meant to protect endoscopes from becoming contaminated or damaged until they are used. The type of cabinet purchased determines the effects, and the risks associated with the proliferation of organisms. Choose wisely.

For article references, visit [www.EndoProMag.com](http://www.EndoProMag.com).

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## Fiber

### I Know, I Know ... But It's Time to Revisit the Topic

By Patricia Raymond, M.D., FACP (retired)

The breeze from your eyes rolling is fluttering my bangs.

Fiber.

Fiber, fiber, fiber!

If you're at a certain age, those last three "fibers" bore a striking resemblance to the Brady Bunch litany, "Marsha, Marsha, Marsha!" I've just experienced another birthday, so it must be time to revisit fiber. Middle age is when you choose your cereal for the fiber, not the toy.

I know you don't believe that fiber makes for sexy reading. However, the fiber story has likely changed since you last visited it—enough so that it's well worth a reread, and then give your fiber intake some attention as a simple marker of improved gut flora and overall nutrition. And you can relax; this is not an arcane story about the anti-constipation value of fiber, cutting into what is an estimated \$80 billion "poop-ease" industry.

The story is that of our nation's pitiful Standard American Diet (SAD)—a "sweet-meat" diet high in animal proteins, saturated fats, processed foods and simple sugars—with a concomitant drop in whole foods and plant intake. That is—a drop in fiber. Animal proteins contain ZERO FIBER (a shocker to many citizens and a marker of failure of our high-school health classes), and the processing that processed foods undergo is generally the removal of fiber.

**People don't want to hear about your diet. Just shut up, eat your fiber, and be sad.**

The changes wrought from a suboptimal diet are rapid: It's been demonstrated that after just two days of adding animal protein intake and reducing fiber intake in a vegan's gut, their microbiome can shift to a bacteria population that produces triple the amounts of deoxycholic acid, a toxic secondary bile acid that promotes evil DNA change of the colon lining.

A healthy and diverse gut microbiome demands MACs, microbiota-accessible carbohydrates. MACs are the fiber found in whole-plant foods and resistant starch, mostly in beans, peas, lentils and whole grains. They cannot be digested by humans without the aid of your microbiota. If you don't consume adequate MACs, your gut flora will eat the mucus in your digestive tract, altering your immune system and leading to increases in allergies and autoimmune disorders.

Your gut demands a lot of fiber. But why should gastro-folk care?

You're endo pros! In a study looking at adenoma and advanced adenoma incidence with self-reported/recalled fiber intake, the median fiber intake of participants was a measly 23 grams daily. Yet there was a significant reduction in both adenoma and advanced adenoma rates in the highest group of fiber consumers.

The humans of yore in Paleolithic (think "stone tool") times ate a lot more fiber, even as we romanticized them as cave-man carnivores—about 100 grams daily, based on fecal fossil study. (Is there a more poop-y job than working in our field of gastroenterology? Apparently so.)

In the early 1970s, surgeon and identifier of Burkitt's lymphoma, Denis Burkitt, demonstrated based on population immigration studies a goal of at least 50 grams a day of fiber for colon cancer prevention. The main discussion now is whether it's the fiber and MACs themselves that do the trick, or the phytochemical-rich, plant-based diet and exclusion/replacement of saturated fats. And need we really tease out the correct answer, or just advocate a richer plant-fiber and unprocessed-food diet?

**Apparently, you need to eat healthy more than once to improve your health. This is cruel and unfair.**

What else can this magical fiber do?

Higher dietary fiber intake is associated with a reduced risk for diabetes, heart disease, certain cancers, weight gain and obesity, in addition to softer poops.

The lower risk of heart disease is quite significant, with a 9% lower risk for every additional 7 grams per day of total fiber consumed. Read that again: 7 grams of fiber is a half-cup of beans. Name something else with a 9% bang for your buck!

In the NHANES study, where the participants ate a measly average of 16 grams of fiber daily, high fiber intake was negatively correlated with inflammation, metabolic syndrome and obesity.

And where knee pain from osteoarthritis is concerned, dietary fiber reduces that too, hypothetically by reducing both weight and systemic inflammation.



---

Cancers with reduced risk via high fiber intake include the expected GI cancers (stomach, pancreas, colon polyps and colorectal), but also breast, endometrial and prostate cancer. Less strong evidence supports reduction of risks of esophageal, renal cell and ovarian cancer in a recent huge meta-analysis.

And every 20 grams of fiber a day was associated with a 15% drop in breast cancer risk.

Studies have demonstrated that your tummy and diet full of fiber isn't simply displacing "bad foods," but yielding mechanistic effects in the secretion, turnover or metabolism of insulin, glucose, adiponectin, interleukin-6, free fatty acids and triglycerides.

If you're like most in medicine, you can't confidently educate your patients (and yourself) on what your fiber targets should be.

The USDA's Dietary Guidelines for Americans (being pretty wimpy compared with Burkitt's daily 50-gram mandate, in my humble opinion) suggests that targets should be:

- 25–28 grams per day for women under 50
- 22 grams per day for women 51 and older
- 31–34 grams per day for men under 50
- 28 grams per day for men 51 and older

**Trying to eat more fiber, and almost cut my finger off chopping up my salad. All I could think was, "This never happens with cupcakes."**

So how much fiber are you chewing daily? Have you even calculated the numbers?

There are plenty of charts to help to calculate your fiber intake—perhaps take one for a spin. The Mayo Clinic offers a good one (although they hide beans down the list—don't ya'll eat beans?).

For a fun graphic, check out Simple Happy Kitchen's digital download that I myself printed up (with the aid of my local FedEx/Kinkos) and hung proudly in my kitchen to help guide my own dietary choices. (You'll find all these links in the references at [Endopromag.org](http://Endopromag.org).)

So your fearless author proactively launched a mission to ingest 50 grams of fiber in a day to demonstrate how simple it was to achieve. (This was during a vacation day visiting my 90-year-old mom, who is decidedly non-vegan.)

- Breakfast: Kashi cereal (3/4 cup = 8 grams fiber) with strawberries (1 cup = 3 grams fiber), almond milk (0 grams fiber)

- Lunch: cherry tomatoes (1/2 cup = 2 grams fiber), chop salad (kale, broccoli, cabbage = 5 grams fiber), hummus (1/2 cup = 7 grams fiber), peach (3 grams fiber)

- Dinner: chop salad (5 grams fiber), baked salmon (0 grams fiber)

- Total fiber intake—and I was trying, dang it—was 33 grams of fiber.

Hmm—33 grams is a third higher than USDA recommendations for a woman of my advanced years, but only 66% of Burkitt's 50 gram recommendations. And yes, I experienced socially unacceptable flatus from my cruciferous chop salad.

**My friend told me about a wonder food that contains protein, fiber and healthy fats. "That's nuts!" I exclaimed.**

I'm aware that pushing fiber is simplistic and reductionistic—like when we try to convince people to improve their health first by reducing sugar at the expense of higher fat intake, then vice versa, then high protein—however, the simple mandate may work well.

Choosing a higher-fiber diet means choosing foods that are less processed: more likely fruits, vegetables, legumes, nuts or seeds. Choosing a fiber goal and trying to eat it likely means you'll feel more satiated—and as a bonus, you will experience excellent, big, soft poops.

**You are more likely to hit a target if you aim at it.**

So, what's next for your health?

Look at what you've eaten/are planning to eat today and count the fiber grams. Are you achieving the USDA's low-to-mid 20 grams? Aiming high at Burkitt's 50 grams?

When offered dietary options, try choose the one with the highest fiber—there will be benefits beyond large, soft poops. Think of fiber not as fiber itself, but as a marker for wiser dietary choices.

Don't worry about which fiber you should eat. Just eat more of them all.

For article references, visit [www.EndoProMag.com](http://www.EndoProMag.com).

*Patricia Raymond, MD, FACG, is a retired gastroenterologist and educator savoring the third third of her life in coastal Virginia. She completed her gastroenterology fellowship at the Medical College of Virginia oh, so long ago, and after a 30-year GI practice in southeastern Virginia and thriving professional-speaking and broadcast career, is a popular provider of second opinions in gastroenterology for 2nd MD, now educating people one by one. You will likely find her in her greenhouse or gardens, either propagating fig trees or growing much of her vegan diet organically with donated rabbit poo.*



# Strike a Pose

## Best Practices in Patient Positioning

By Lisa Hewitt, MA

Thanks to the increasingly rapid pace of medical advancement, endoscopists are encroaching on what has often been thought of as surgical territory. Procedures such as peroral endoscopic myotomy (POEM) and endoscopic submucosal dissection (ESD) are exploring the limits of the endoscope and obviating the need for once traditional surgical interventions.

Surgeons already know that angling a patient's body during a procedure can greatly facilitate success. Laparoscopic procedures in particular often involve tilting the surgical bed, which can help avoid negative outcomes. Polise, et al., wrote, "It is useful to take into account the effect of gravity on lesion exposure, tumour traction during dissection, crushing by body weight, risk of sample drop, risk of damage to adjacent organs, and anatomical exposure for procedures with radiological support."

The problem is that often such surgical positioning isn't all that safe or comfortable for the patient, who sometimes has to lie on something hard or sharp or in a physically taxing position. According to the Association of periOperative Registered Nurses, or AORN, patient positioning goals include exposing the surgical site, maintaining the patient's comfort and privacy, ensuring equipment and IVs are safe and accessible, maintaining optimal patient ventilation, maintaining circulation, protecting the patient's organs, skin, muscles, joints, eyes, fingers and toes and genitalia, and stabilizing the patient to prevent shifting or motion.

**"There are well-established rules for [patient positioning] during surgical operations, and nurses and surgeons are well-versed in how to follow them. Unfortunately, endoscopic treatments do not have these criteria."**

Maggie Armstrong and Ross Moore observed in StatPearls that practitioners should consider several factors when positioning patients. Obviously the patient's age, weight and size are major considerations, but the team should also look at the patient's general health and medical history, including any issues with respiration or circulation.

Meeusen wrote, "There are well-established rules for [patient positioning] during surgical operations, and nurses and surgeons are well-versed in how to follow them. Unfortunately, endoscopic treatments do not have these criteria."

In the journal *Frontiers in Oncology*, Li-Jun Zhou and associates agreed. "Each position carries some degree of risk

which is maximized in the anaesthetized patient who cannot make others aware of compromised conditions," they wrote. "Patients may also be transferred and positioned on operating tables whilst they are unconscious. The maneuvering and the final positioning have an impact on potential injuries sustained under anesthesia as endotracheal tubes, intravascular lines, and urinary catheters should be free to move and adequately secured before any movement. This all adds to challenges encountered by both the endoscopist and anesthetist attempting changing patient position during the procedure."

To help clarify patient positioning in endoscopy, Meeusen and colleagues created guidelines in the journal *Gastroenterology Nursing* using an observational feasibility study. "Endoscopy units face new challenges arising from the increasing numbers of complex and prolonged advanced procedures on patients who have comorbidities and are obese," they wrote. "It would be beneficial for the latter if surgical positioning practice guidelines could be adopted during gastrointestinal endoscopic interventions."

### **Under Pressure**

Pressure injury in gastroenterology is no joke. In *International Wound Journal*, Jin et al., wrote, "[Intraoperative acquired pressure injuries, or IAPI,] intensify both the physiological and psychological burden on patients. As PI progresses, the incidence of postoperative complications goes up and the length of hospital stay is extended, thus adding difficulty to nursing and elevating the consumption of medical resources. Moreover, there is also an increase in the readmission and mortality rates of IAPI patients within 30 days after surgery."

In an article for *Research Outreach*, Dr. Vera Meeusen wrote that patients "can also experience overstretching or compressing nerves and squeezing skin tissue, which can result in temporary or permanent injuries/damage."

In addition, IAPI is one of the criteria examined by tertiary general hospitals when evaluating clinical care quality and quality improvement efforts.

While studies have examined anesthesia duration, skin temperature and total time of low diastolic blood pressure to help identify IAPI, the primary cause of injury is direct force of continuous pressure on the patient's skin.

Jin and associates found that "micromovement" for patients undergoing surgery in the supine position reduced the incidence of IAPI by five times over the control group. This movement—accomplished by tilting the surgical table

## **Cliff's Notes**

AORN's *Guidelines for Positioning the Patient* outlines the purposes of patient positioning, how to identify and use positioning equipment and devices, how to monitor for injuries, and much more.

And if you've ever wished you had a little checklist to tuck in a scrubs pocket, you're in luck. AORN has produced a set of patient positioning note cards to help with training and retention. You can find them at <https://bit.ly/AORNPocketcard>

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15 degrees to the left and then 15 degrees to the right, maintaining the tilt angle for five minutes and alternating every hour—also yielded reduced relative skin temperature differences in the region under pressure, as well as leading to increased job satisfaction in nurses.

Jared Bilski, the editor-in-chief of *Outpatient Surgery Magazine*, wrote, “A major part of proper positioning involves pressure ulcer prevention, which often comes down to paying close attention to problem areas inherent in the various positions and getting foam or gel rollers underneath the patient’s legs, hips or any other vulnerable areas.”

### **Assume the Position**

Patients generally are placed in one of three positions prior to a procedure: prone (face down, generally with the head turned to the side), lateral (lying on one side or the other), or supine (lying on the back). Each position has its challenges and advantages.

**The lateral position** is often used for endoscopic procedures. In addition, patients who can’t tolerate being placed in a prone position—such as those who are obese or pregnant—are placed in the lateral position. To prevent peripheral nerve damage, a nurse or technician will place a pillow between a patient’s knees. In right-handed physicians, Somchai Amornytin wrote in the *Journal of Clinical Anesthesia and Intensive Care*, “the left lateral position is usually used for

esophagogastroduodenoscopy and colonoscopy procedures.”

Zhou wrote that patient positioning was an important element during full-thickness resection of large gastric tumors when the patient is under general anesthesia. “Typically,” they wrote, “the patient is placed in left lateral position for the endoscopic therapy, and during the procedure, [the] patient’s position is changed to maintain the tumor above the gastric fluids to prevent gastric juices and tumor or tumor fragments from falling into the peritoneal cavity in the event of perforation.”

Preplanning, they wrote, is critical. Endoscopy combined with CT scans can help accurately pinpoint the location of the tumor so the clinician can then decide which position will create the most beneficial outcome. “The supine position (include anterior lateral) and left lateral position is convenient for most patients requiring endoscopic full-thickness resections. For patients where the tumor is located on the posterior wall and greater curvature of gastric body and fundus, the prone position or right lateral is best.” They added that water can be injected into the gastric cavity to ensure the placement will be best for the patient and procedure.

It is also possible to perform ERCP in the left lateral position; however, this is not recommended because it can cause pancreatic duct cannulation. On the other hand, the position can reduce the risk of aspiration. Clinicians weigh the pros and cons of each position and determine what is best for the patient.



**The prone position** can be a minefield of physiological changes. Increased intra-abdominal pressure. Labored respiration. Increased systemic vascular resistance and decreased venous return. The potential of hypoxia during sedation.

That said, the prone position is ideal for fluoroscopy and radiologic imaging. Using it, as is standard, for endoscopic retrograde cholangiopancreatography (ERCP) can mean a higher technical success rate, but also an increased rate of adverse events. In addition, it's a difficult position to change on the fly, which can be a real problem if resuscitation becomes necessary. "For this reason," Amornyotin wrote, "general anesthesia with tracheal intubation is used for ERCP in the morbidly obese patients."

**The supine position's** challenges include impaired respiration via upper airway obstruction, reduced tidal volumes and regurgitation. But supine is the position of choice for percutaneous endoscopic gastrostomy, and it's also potentially beneficial for airway management during ERCP. "Previous studies demonstrated that technical success of therapeutic ERCP in the supine patient positioning was high and no increased need to use needle-knife papillotomy," Amornyotin wrote. "However, ERCP performed with the patient in the supine position was often more difficult technically." They also observed that the supine position created a "higher risk of adverse events" in nonintubated patients than when patients were in the prone position.

Amornyotin wrote, "Particular care is needed for positioning anesthetized patients to avoid passive movements that would not normally be tolerated. Poor positioning can create pressure necrosis and peripheral nerve damage."

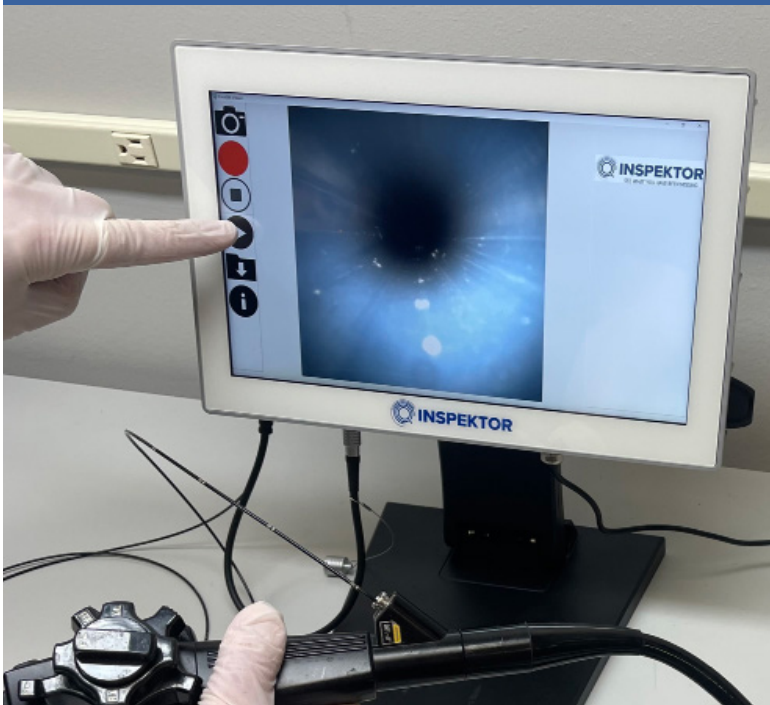
There are more positions, of course, which depend on surgical specialty and necessary requirements.

### But Will it Play in Peoria?

Just as every doctor has a slightly different way of doing things, each endoscopy department might, as well. A team in Peoria, Arizona might handle patient positioning completely differently than the way a team in Peoria, Illinois would. And this can create real problems for nurses and technicians, and—by extension—patients. AORN offers tips and keys to help departments standardize this process. This is no small challenge, especially as teams change and new hires come aboard. Bilski wrote, "Even the most seemingly insignificant variations in your positioning processes can cause major safety issues for your patients."

And it's definitely a team effort. Per AORN, the RN, anesthesiologist, surgeon and other nurses and techs should act as patient advocates. "Perioperative team members are responsible for maintaining the patient's autonomy, dignity, and privacy and for representing the patient's interests throughout the procedure. Some elements of patient positioning are core to anesthesia practice; therefore, the

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ability of the perioperative team to support the activities of the anesthesia professional is essential.”

Zhou, et al., agreed, emphasizing the importance of allowing the anesthetist to take charge of moving the patient once the patient is under general sedation. “If the patient position needs to be adjusted during endoscopy therapy, extra care must be taken to secure and tape the endotracheal tube to prevent dislodgement while the patient is left lateral or prone or during position changes. Placing an anesthetized patient in the prone position requires the coordination of the entire staff (endoscopist, anesthetist, nurses),” they wrote.

**A complication of improper position can include peripheral nerve injuries, which can be difficult to prevent.**

During the process, the anesthesiologist will maintain stabilization of the cervical spine and monitor the trach tube, which should be disconnected from the circuit before shifting the patient from a supine to prone position. “Which, and how many, lines and monitors are disconnected during the

shifting is up to the clinical judgment of the anesthesiologist. Ventilation and monitoring should be resumed as rapidly as possible,” Zhou wrote.

Educating staff on the aspects of proper positioning is critical to success. AORN stated that every team member should be responsible for understanding the nuances and potential pitfalls of shifting a patient. They wrote, “All perioperative team members involved in positioning activities are responsible for:

- understanding physiologic changes that occur during operative and other invasive procedures;
- evaluating the patient’s risk for injury based on an assessment of identified needs and the planned operative or invasive procedure;
- anticipating the surgeon’s requirements for surgical access;
- gathering positioning equipment and devices;
- using positioning equipment and devices correctly;
- verifying device and equipment integrity;
- monitoring the patient during the procedure;





- applying principles of body mechanics and ergonomics during patient positioning;
- respecting the patient's individual positioning limitations; and
- implementing interventions to provide for the patient's comfort and safety and to protect the patient's circulatory, respiratory, musculoskeletal, neurological, and integumentary structures."

Both patients and personnel risk injury if patient positioning is performed incorrectly. Patients are especially vulnerable when under sedation or anesthesia, as their reflexes are blunted and they can't tell you what their bodies are feeling.

A complication of improper position can include peripheral nerve injuries, which can be difficult to prevent. Such injuries are caused by a combination of

factors, including stretching, compression, ischemia, and transection, and individual systemic factors like inflammation or hypotension. A stretching injury can cause damage to the neck or spine. A compression injury, on the other hand, can cause edema, ischemia or necrosis.

Standardization, Bilski wrote, starts at the top. Protocols should be tattooed on everyone's eyeballs, and new hires

especially should have the freedom to ask questions or request help. The company culture should welcome questions to ensure everyone's on the same page.

Before surgery, interview the patient. Talk about issues with lower back, neck, hips or knees. Ask about prior drug reactions or interactions. Have they had any past surgeries? Review their medical history. Be thorough. Go over the



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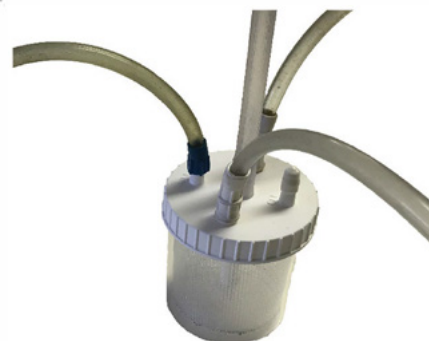


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prep process—fasting, meds and other necessary changes in their routine.

And be kind. Many patients may be afraid of an upcoming procedure but won't want to admit it. Give them as much information as you can without overwhelm. Ask what concerns they may have—whether before, during or after the procedure—and what you can do to help allay their worries. Be an advocate.

Organize positioning materials before you need them. And, Bilski wrote, "Focus on the fundamentals. A major part of proper positioning involves pressure ulcer prevention, which often comes down to paying close attention to problem areas inherent in the various positions and getting foam or gel rollers underneath the patient's legs, hips or any other vulnerable areas." Pay particular attention to heels, knees, elbows, fingers and toes. Also examine whether you have enough team members to help with positioning. Lisa Croke wrote in *AORN Journal*, "Good planning allows the perioperative team to ensure the equipment works correctly and helps to avoid last-minute problems." In other words, focusing on being proactive means your team will have to be less reactive.

Then bring the team together just before the procedure to cover details and coordinate care. This includes anesthesiologists, surgeons, nurses and techs. The briefing should include potential problems or issues such as cardiology challenges, respiratory conditions or obesity. Anything that came up in the patient interview should be shared with the team, including fears and concerns.

Patient positioning is a challenging aspect of patient care. However, the educational materials and resources available can help practitioners, nurses and technicians to avoid potential pitfalls that can cause injury, and empower them to provide each patient with the best possible care.

For article references, visit [www.EndoProMag.com](http://www.EndoProMag.com).

*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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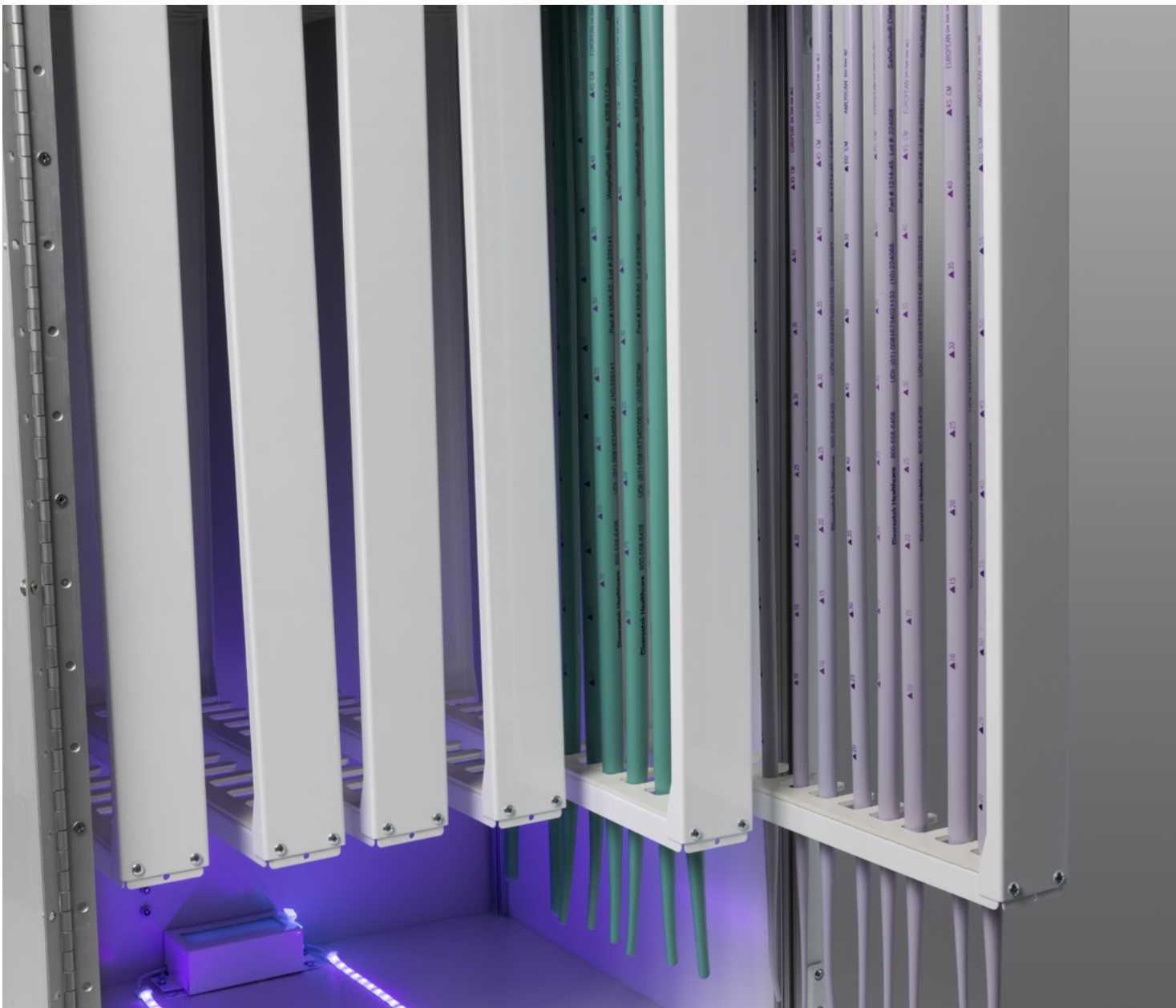
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# Infection Prevention to Device Maintenance

## Storage Strategies for Esophageal Dilators

By Ken Wolcott, BT, MS



Esophageal dilators are vital in treating esophageal strictures and related conditions, significantly improving patients' swallowing ability and overall quality of life. Ensuring these devices are correctly stored is crucial for maintaining their efficacy and patient safety. This article explores the critical role of esophageal dilator storage in infection control and optimal dilator performance, highlighting advanced storage solutions and best practices based on established infection control guidelines.

Esophageal dilators, such as bougies (Maloney and Hurst) over-the-wire (OTW) dilators, are used to widen narrowed areas of the esophagus. These devices help manage conditions such as achalasia, esophageal strictures, and Schatzki rings, improving patients' ability to swallow and overall quality of life. Given their critical role, these instruments must be pristine to prevent procedure complications.

#### **Importance of Proper Storage: Infection Control**

**Cross-Contamination Prevention:** Esophageal dilators, exposed to mucous membranes and bodily fluids, are susceptible to microbial contamination. Proper storage reduces the risk of cross-contamination between patients. The Centers for Disease Control and Prevention (CDC) emphasizes adherence to strict cleaning and storage protocols to prevent healthcare-associated infections (HAIs).

**Advanced Storage Solutions:** Incorporating high-efficiency particulate air (HEPA) filters and 405-nm LED disinfecting lights in storage solutions can significantly minimize microbial load. HEPA filters capture 99.97% of particles as small as 0.3 microns, ensuring

a clean storage environment. Studies show that 405-nm light effectively inactivates pathogens, enhancing infection control.

**Positive-Pressure Ventilation:** Maintaining positive-pressure ventilation in storage areas is crucial for preventing airborne contamination. Airborne particles outside the storage cart are directed outward, helping maintain clean conditions.

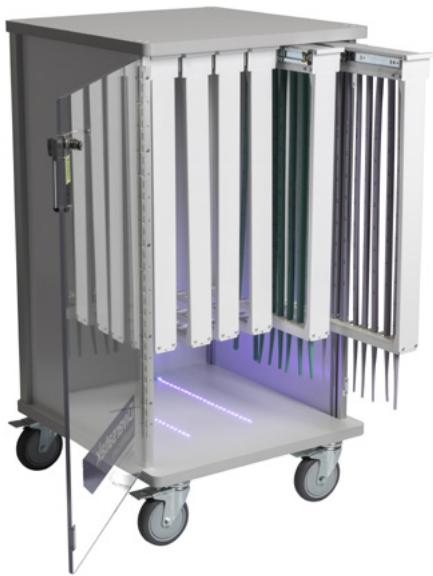
#### **Maintaining Device Integrity**

**Preventing Physical Damage:** Proper storage systems avoid physical damage to dilators, such as bending or kinking, which can compromise functionality. Vertical storage carts, for instance, keep OTW dilators hanging straight, promoting lumen straightness and proper drying.

**Organized Storage:** Storage carts and cabinets with designated slots or trays ensure that each dilator is stored separately. This organization prevents dilators from contacting one another, reducing the risk of damage and contamination.

#### **Drying**

Eliminating moisture is crucial following the processing of dilators, as leftover humidity creates an environment conducive to microbial growth while the devices are stored. If not properly dried, these instruments might become breeding grounds for waterborne illnesses, including *Pseudomonas aeruginosa*, enabling these germs to thrive and produce resistant layers known as biofilms. The best practice suggests wiping each instrument with a clean, lint-free cloth or a special wipe designed to prevent lint residue.



For guidewire lumens, forced-air drying techniques such as pressured, oil-free instrument air or air filtered through a HEPA system are recommended. Moreover, having a specific section or station within the facility to dry these instruments is best, keeping them ready for safe use or storage. Always consult and adhere to the drying instructions provided by the device manufacturer to ensure efficacy and safety.

### Comparative Analysis and Features of Advanced Storage Systems

When selecting storage solutions for esophageal dilators, factors such as capacity, mobility, ease of use, and the level of protection must be considered. Advanced storage systems, including vertical and horizontal storage carts and wall-mount storage cabinets, are designed to ensure infection control and maintain device integrity.

**Vertical Storage Carts:** These carts, which can hold up to 72 dilators, feature HEPA filtering systems, 405-nm disinfecting lights, and electronic keyless locking systems. They promote lumen straightness and proper drying, making them suitable for larger facilities with extensive equipment needs. A vital advantage of these mobile carts is their ease of movement, allowing them to be effortlessly transported in and out of procedure rooms and between different departments, facilitating workflow efficiency and adaptability to various clinical settings.

**Horizontal Storage Carts:** These carts can hold up to 72 dilators and incorporate similar advanced features. They use a unique tray system to separate dilators and promote cleanliness and organization. This design is ideal for silicone dilators that cannot be hung vertically. Like their vertical counterparts, horizontal storage carts are designed for mobility, quickly moving through the healthcare facility to provide accessible storage solutions wherever needed. However, they may require more space.

**Wall-Mount Cabinets:** With a capacity of up to 48 dilators, these cabinets offer a slim design with key locking systems, HEPA filters, and 405-nm disinfecting lights. While they provide

a space-saving solution that ensures secure and contaminant-free storage, wall-mounted cabinets lack the mobility of cart-based systems. Still, they are ideal for smaller settings or areas with limited space.

**Labeling and Organization:** Each dilator should be appropriately labeled and stored in an organized manner to facilitate easy identification and retrieval. Designated slots or trays can prevent physical damage and reduce the risk of cross contamination.

The benefits and drawbacks of each system must be weighed against the facility's requirements to ensure optimal performance and infection control.

### Best Practices for Infection Control in Esophageal Dilator Storage

To optimize infection control and ensure the longevity of esophageal dilators, healthcare facilities should adhere to the following best practices.

**Cleaning Protocols and Documentation:** Follow manufacturer instructions for cleaning storage units and dilators. Use hospital-grade disinfectants and ensure high-touch areas are cleaned regularly according to facility guidelines. Document all storage unit cleaning either on paper or digitally with a tracking system.

**HEPA Filter Replacement:** To maintain optimal air quality within the storage units, replace HEPA filters every six months or upon visible dirt accumulation.

### Proper Handling and Storage

**Storage Procedures:** Store dilators according to manufacturer guidelines to prevent damage. Ensure they are placed in designated slots or trays without touching other instruments.

**Locking Systems:** Use storage units' locking features to secure dilators and prevent unauthorized access, reducing the risk of contamination.

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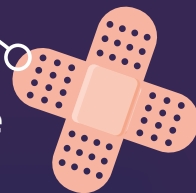
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## Education, Training and Inspections

**Staff Training:** Regularly train staff on proper handling, cleaning, and storage protocols for esophageal dilators. Emphasize the importance of infection control and device maintenance to prevent HAIs and ensure patient safety.

**Routine Inspections:** Conduct routine inspections of the storage area and equipment to ensure compliance with storage protocols and promptly address any issues. Any signs of wear, damage or contamination should be addressed immediately to maintain the efficacy of the dilators.

## Reprocessing of Dilators in Healthcare Facilities

The Association for the Advancement of Medical Instrumentation (AAMI) recently published a technical report (TIR99:2024) for correctly processing dilators in healthcare facilities. This report assists in making dilators safe and effective for use in patient care by providing precise and comprehensive information on the selection and use of cleaning, disinfection and sterilization systems cleared by the U.S. Food and Drug Administration (FDA) for use in hospitals and other healthcare facilities.

This technical report also emphasizes the importance of following the manufacturer's written instructions for use (IFU) and selecting the appropriate cleaning, disinfection and/or sterilization methods based on the types of procedures performed. The report classifies dilators based on infection risk: Critical devices must be sterile; semi-critical devices require high-level disinfection or sterilization; and non-critical devices should undergo low or intermediate-level disinfection. It also emphasizes the importance of proper transport and

storage to maintain cleanliness, the design of processing areas to prevent contamination, and the need for ongoing personnel education and competency verification to uphold safety and effectiveness in patient care.

Proper storage of esophageal dilators is essential for infection control and optimal performance. By incorporating advanced storage solutions with features like HEPA filters and 405-nm disinfecting lights, healthcare facilities can minimize contamination risks and maintain device integrity. Adhering to best practices in cleaning, maintenance and storage will enhance patient safety, reduce healthcare-associated infections and ensure the effective use of esophageal dilators in gastroenterological procedures. As we progress, continuous innovation and adherence to stringent protocols will be vital to advancing the standards of care in this critical aspect of healthcare.

For article references, visit [www.EndoProMag.com](http://www.EndoProMag.com).

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# SGNA 52nd Annual Course

## Education, Credits and Community

By Judy Currier, BSN, RN, CGRN



As we look forward to the Society of Gastroenterology Nurses and Associates 52nd Annual Course (June 1–3 in Pittsburgh), I'm thrilled to invite you to join us for what promises to be an inspiring and transformative event for all gastroenterology professionals. Whether you're a seasoned nurse or just starting in the field, this course offers incredible value—not just for advancing your own career, but also for strengthening and connecting with the broader GI community.

The healthcare landscape is evolving rapidly, and it is essential for us to stay informed and current with best practices and new technologies. The Annual Course is designed to help you do just that. With planning fully underway, we're hard at work curating a program filled with sessions that will provide you access to the latest advancements in gastroenterology care, from cutting-edge technologies to innovative techniques.

You'll have the chance to deepen your expertise, explore new perspectives, and learn about best practices that can be immediately applied in your work.

In addition to the educational opportunities, the annual course is a chance to earn valuable continuing-education credits, something we all need to maintain licensure and gastroenterology certification, and keep up with our profession's demands. You'll leave with practical takeaways that can help improve patient care in real-world settings.

The SGNA Annual Course is about more than just learning—it's about community.

One of the things I love most about this event is the sense of connection it fosters.

You'll have the opportunity to network with peers, mentors, and industry leaders who share your passion for GI. These are the people who understand your challenges, celebrate your successes, and inspire you to reach new heights.

The friendships and professional relationships I've built at past conferences have been invaluable to me, and I know you'll experience the same.

Whether during educational sessions, at our networking events, or while visiting the exhibit hall to explore the latest products and services, every moment is a chance to engage with your community.

I'm excited about what this coming year has in store, and I hope you'll join us in Pittsburgh, June 1-3, 2025, for an experience filled with learning, connection, growth and community. Together, we can continue to elevate the care we provide to our patients, and can stay at the forefront of an ever-changing healthcare landscape.

For more information about the SGNA 52nd Annual Course, please visit [annualcourse.sgna.org](http://annualcourse.sgna.org).

*Judy Currier, BSN, RN, CGRN, is president of the Society of Gastroenterology Nurses and Associates.*

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