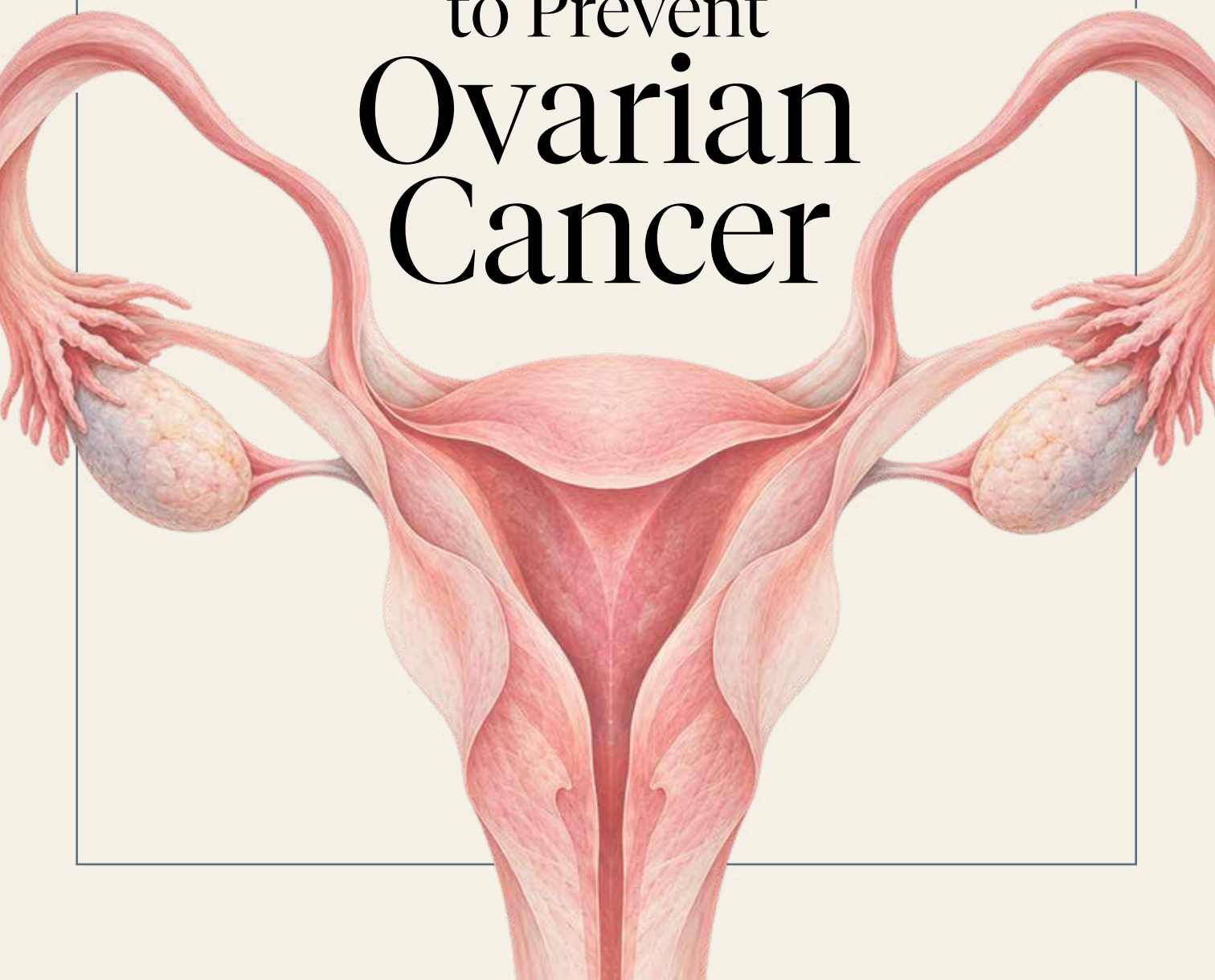
OCTOBER/NOVEMBER 2026 / VOLUME 111 / NUMBER 9

ACS Bulletin

AMERICAN COLLEGE OF SURGEONS

An Opportunity to Prevent Ovarian Cancer

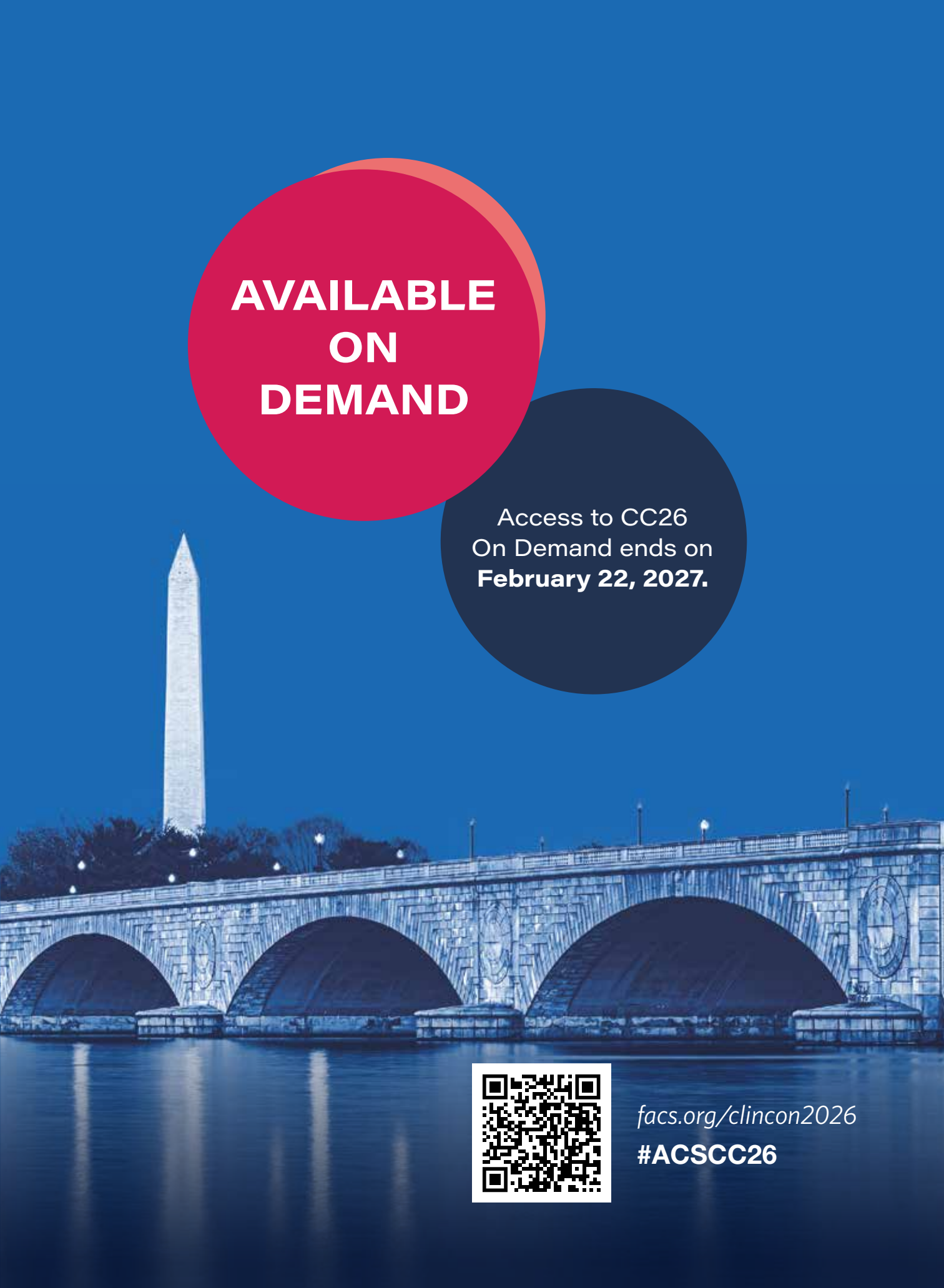


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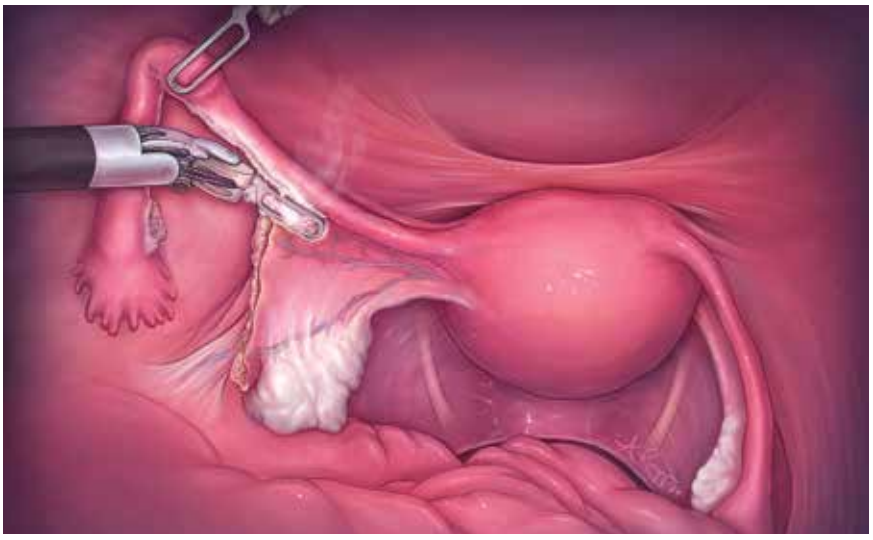


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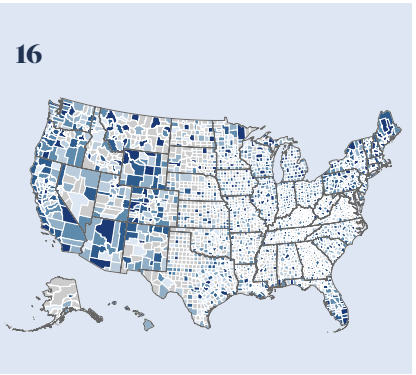
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Bulletin of the American College of Surgeons (ISSN 0002-8045) is published 10 times a year by the American College of Surgeons, 633 N. Saint Clair St., Chicago, IL 60611-3295. It is distributed electronically, without charge, to all ACS members. Dues-paying members can request a complimentary print subscription. Nondues-paying members and nonmembers can purchase an annual print subscription ($50 within the US and Canada; $75 for all others). Contact bulletin@facs.org.

Periodicals postage paid at Chicago, IL, and additional mailing offices. POSTMASTER: Send address changes to *Bulletin of the American College of Surgeons,* 633 N. Saint Clair St., Chicago, IL 60611-3295. The American College of Surgeons headquarters is located at 633 N. Saint Clair St., Suite 2400, Chicago, IL 60611-3295; tel. 312-202-5000; toll-free: 800-621-4111; email: postmaster@facs.org; website: facs.org. The Washington Office is located at 20 F Street NW, Suite 1000, Washington, DC 20001-6701; tel. 202-337-2701.

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Printed in the USA.

ACS Clinical Congress: Something for Everyone

Patricia L. Turner, MD, MBA, FACS
executivedirector@facs.org



ONE OF THE most revealing moments of Clinical Congress 2026 came during a conversation about professional autonomy. I moderated the Special Session, "How to Gain Control of Our Professional Lives and Reclaim Our Autonomy," which grew from questions ACS leaders and I heard while visiting chapters and speaking with surgeons across the country.

As more surgeons become employees of hospitals and health systems, many are asking how they can retain a meaningful voice in their working conditions, protect their professional autonomy, and create sustainable environments in which to care for patients.

The conversation explored unionization, specialty-specific workplace standards, organizational resources, and other tools surgeons may use to strengthen their working lives. The audience's engagement made clear that these concerns are not limited to one specialty, one career stage, or one type of practice. They extend across The House of Surgery®.

That standing-room-only session captured something important about Clinical Congress 2026.

Surgeons came to Washington, DC, for the clinical science, technical education, research, and hands-on learning that have defined Clinical Congress for generations. They also came to consider the larger forces shaping the profession: changing employment models, workforce shortages, access to surgical care, artificial intelligence, professional autonomy, and the relationship between innovation and human judgment.

Clinical Congress offers something for everyone.

As we designed this year's meeting, we were intentional about creating an experience that speaks directly to surgeons across specialties, career stages, geographic locations, and practice settings. We wanted to create opportunities to step outside familiar areas and consider ideas and challenges that affect the profession. One of those challenges is the surgical workforce.

A new initiative launched at Clinical Congress made the workforce conversation more concrete: the ACS Surgical Workforce Mapping Tool.

Developed with the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill,

the tool maps the distribution of surgeons across 12 specialties and every US county. The study underlying it identified 1,180 counties, home to 15.1 million people, with no identified general surgeon, and 951 counties, representing 9.6 million people, with no identified surgeon in any of the specialties examined.

A map alone cannot tell us whether every community has the surgical care it needs. It does not measure operative capacity, patients' travel time, local disease burden, or the services an individual surgeon provides. But it gives us a stronger evidence base from which to ask the right questions.

This is advocacy as well as research. These data can guide investments in surgical training and support for surgeons in underserved communities, with the goal of improving patients' access to care.

That same combination of practical application and forward thinking extended to innovation.

In the Martin Memorial Lecture, Ralph V. Clayman, MD, FACS, used his experience helping to perform the first laparoscopic nephrectomy to explore curiosity, creativity, collaboration, and innovation.

He reminded us that creativity begins with the willingness to ask why and sometimes why not. Innovation requires more than a good idea; it requires people with complementary talents who can develop and implement it. In his words, innovation is a team sport.

His reflections on artificial intelligence (AI) were equally timely. AI can absorb extraordinary quantities of information and help us move faster, but it cannot wonder. It does not possess human experience, empathy, or curiosity. Dr. Clayman encouraged us to treat AI as an adjunct rather than an adversary. AI can be a powerful collaborator that extends human creativity rather than replaces it.

We saw the same breadth in our invited speakers. US Supreme Court Justice Ketanji Brown Jackson brought a perspective from outside surgery. She reflected on mentorship, perseverance, and the discipline required to navigate disagreement without becoming disagreeable. Martin A. Makary, MD, MPH, FACS, former commissioner of the US Food and Drug Administration, examined the healthcare landscape, low-value care, and the root causes of illness. Monica M. Bertagnolli, MD, FACS, president of the National Academy of Medicine and former director of the National Institutes of Health, considered how geography, health data, artificial intelligence, and trust influence whether scientific progress reaches every patient and community.

At the same time, Clinical Congress remains rooted in the relationships and traditions that have sustained the House of Surgery for generations. We welcomed 2,118 new Fellows from 88 countries.

Colleagues reconnected with mentors, met future collaborators, exchanged ideas across specialties, and welcomed new generations into the profession. More than 300 sessions provided clinical education, scientific research, skills training, multidisciplinary discussion, and professional development.

Clinical Congress is older than the ACS itself. In 1910, Franklin H. Martin, MD, invited physicians to Chicago to learn from leading surgeons. He expected perhaps 200 attendees; approximately 1,300 came. That remarkable response helped lead to the founding of the ACS 3 years later.

That history reminds us that tradition and evolution are not opposites. Clinical Congress has endured precisely because it has continued to change while preserving its essential purpose.

We are already applying what we learned in Washington as we prepare for Clinical Congress 2027 in San Diego, California. We will continue to make the experience more interactive, more responsive to emerging needs, and more connected before, during, and after the meeting.

The value of Clinical Congress extends well beyond the days we spend together. Registrants can continue learning through the online Meeting Platform, revisiting sessions they attended and exploring selected presentations, posters, and videos they may have missed through February 22, 2027.

I hope you will use that opportunity to return to an idea that challenged you, discover something new, or find a resource that strengthens your practice. Please join us in San Diego, when the House of Surgery will come together again to learn from one another, strengthen our community, and help shape what comes next.

Dr. Patricia Turner *is the Executive Director & CEO of the American College of Surgeons. Contact her at* executivedirector@facs.org.

General Surgeons Can Help Prevent Ovarian Cancer

M. Sophia Newman, MPH

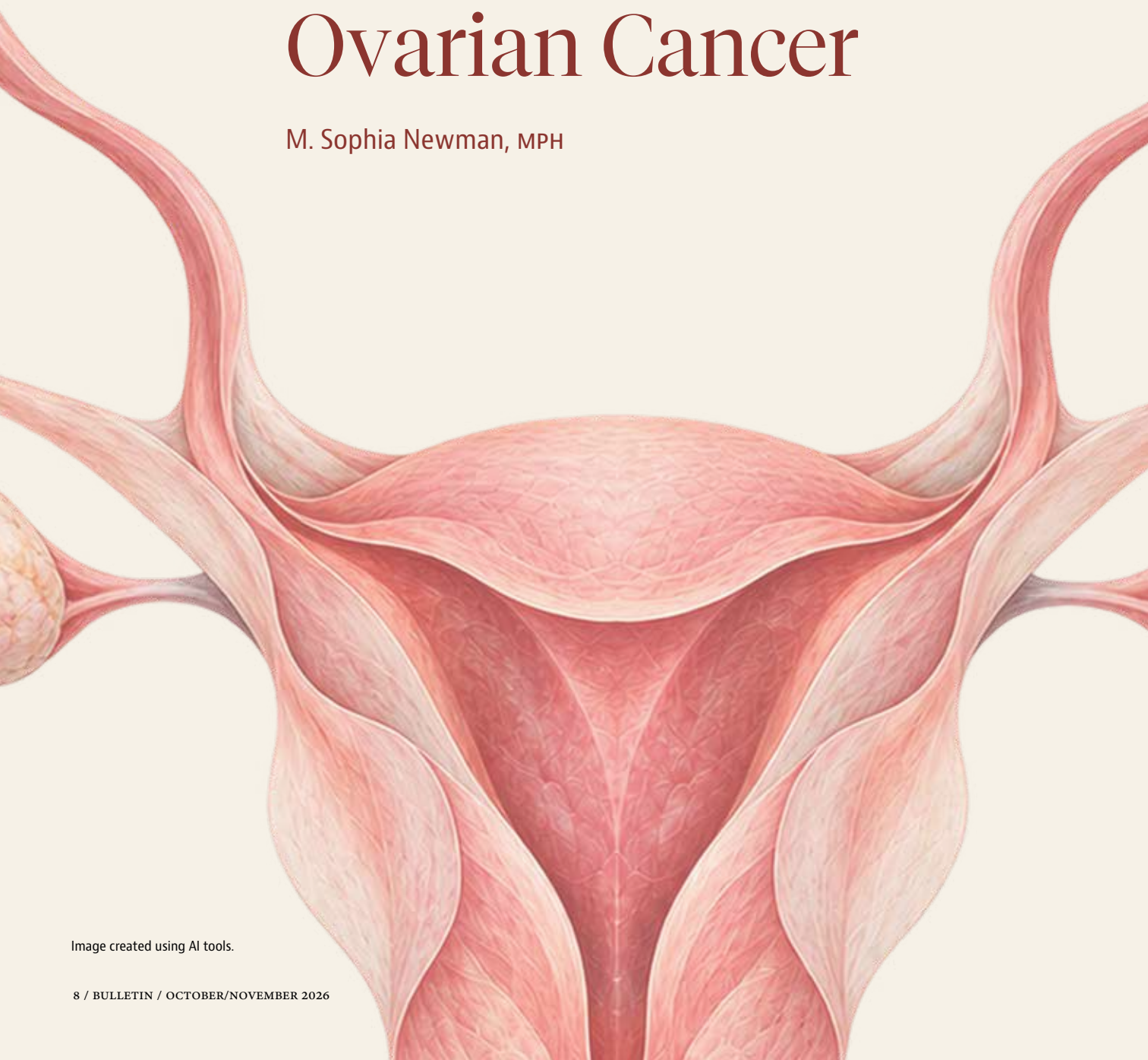


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More than 21,000 US women are expected to receive a diagnosis of ovarian cancer this year, and approximately 12,450 will die from the disease.[1]

WITH NO RECOMMENDED screening test for women at average risk, ovarian cancer often is diagnosed after it has advanced, making it one of the deadliest gynecological cancers.

"I hate this disease and what it does to people," said Rebecca Stone, MD, MS, FACS, the director of gynecologic oncology at Johns Hopkins Medicine in Baltimore, Maryland, who cares exclusively for women with ovarian cancer.

"Ovarian cancer is one of the most common diseases that spread through the abdominal cavity and causes carcinomatosis. As a surgical oncologist with an interest in peritoneal carcinomatosis, I have dealt with ovarian cancer patients for many years," explained Robert P. Sticca, MD, FACS, Professor Emeritus at the University of North Dakota in Fargo and the Second Vice President of the ACS. "Unfortunately, no matter what we do, once the cancer has started to spread through the abdominal cavity, the prognosis is poor and these unfortunate women suffer tremendously, with the majority eventually succumbing to the disease."

But in the face of this grim situation, there is an opportunity for prevention—a method that most general surgeons can use to help prevent ovarian tumors from ever developing in most women.

Over time, careful research has shown that many ovarian cancers, especially high-grade serous carcinoma (HGSC), originate in the fallopian tube, particularly the fimbriae, or the tendrils on its flower-shaped distal end.[2] This discovery has been important for understanding HGSC, which makes up approximately 75% of ovarian cancers and is the most lethal subtype.

"I've never had a research project get derailed by so many people changing their practice once they actually saw what the guideline recommendations were."

Dr. Jamie Bakkum-Gamez

Access related video content online.

Because the disease originates in this single site, removing the relevant tissue, the fallopian tubes, can greatly reduce lifetime disease risk. Stated another way, opportunistic bilateral salpingectomy (OBS), or removal of both fallopian tubes while a patient is undergoing abdominal or pelvic surgery for an unrelated reason, could substantially reduce ovarian cancer risk at the population level.

Per one study, if OBS was performed by gynecological, general, and other surgeons during many routine abdominal and pelvic operations, it could save as many as 5,800 lives in the US each year.[3]

Remarkable Degree of Protection

The story of OBS starts with gynecological clinicians and scientists. According to Gillian Hanley, PhD, a researcher with the Ovarian Cancer Research Centre (OVCARE) within the Vancouver Coastal Health Research Institute at the University of British Columbia in Canada, the idea began with then-head (and now associate professor emerita) of the Division of Gynecologic Oncology, Dianne Miller, MD.

Around 2010, Dr. Hanley explained, "Dianne looked through some of our data registry that we have here for ovarian cancer patients, just to see what proportion of patients had previously had a hysterectomy or permanent contraception via tubal ligation. She found that a considerable number of those HGSC patients had previously had one of those two surgeries."

This finding suggested a cost-effective way to reduce women's chances of developing ovarian cancer later by using the occasion of their surgery to remove the fallopian tubes, either in addition to a hysterectomy or in place of a tubal ligation.

By the time Dr. Miller hit on this idea, evidence was mounting that many of these cancers began in the fallopian tubes.

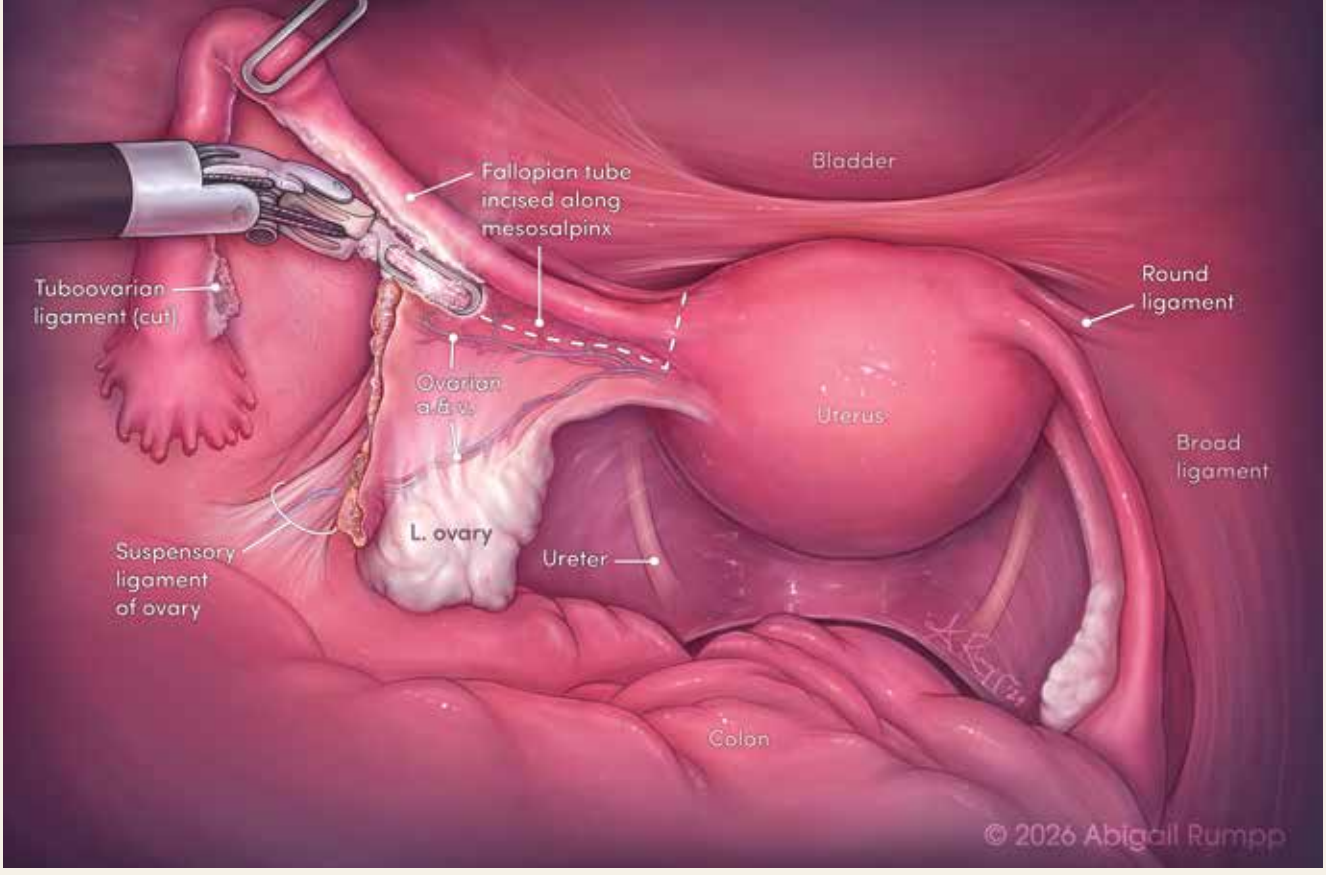
Between 2001 and 2007, several researchers examined excised ovarian and fallopian tissue from carriers of *BRCA1* and *BRCA2* variants.[2] They discovered that many had serous tubal intraepithelial carcinoma lesions, the precursors to HGSC, in the fimbriated end of the fallopian tube, "and not on the ovarian surface epithelium, as was previously believed," Dr. Hanley said.

A combination of the lesions' small sizes and the complex anatomy of fimbriae had blocked earlier recognition of this site as the origin of ovarian cancer. Understanding the oversight, pathologists launched the Sectioning and Extensively Examining the Fimbria protocol in 2005,[4] which has since trained many pathologists to find these lesions. Over time, research into this approach confirmed that many ovarian cancers, particularly HGSC, originate in the fallopian tubes.[4]

As a result, the idea of fallopian tube removal was understood as a viable option for reducing ovarian cancer risk in women who had completed childbearing. "Dianne had the idea that maybe we could prevent many of these cancers by removing fallopian tubes at the time of hysterectomy, or for people who were looking for tubal permanent contraception," Dr. Hanley said.

Researchers elsewhere were exploring the same concept. In 2015, Swedish researchers published the first national registry study on ovarian cancer risk after salpingectomy. Their data, collected between 1973 and 2009, included 251,465 women who had undergone sterilization, salpingectomy (unilateral or bilateral), hysterectomy, or hysterectomy with concomitant bilateral salpingo-oophorectomy, and 5.4 million who had had none of these procedures. The study found that bilateral salpingectomy reduced the likelihood of developing ovarian cancer by 65% (hazard ratio, 0.35 [95% confidence interval (CI), 0.17-0.73]).[5] (The other procedures also reduced risk by varying amounts.)

Around the same time, OVCARE researchers initiated a population-level study in British Columbia based on electronic health records. They included



Anatomical image courtesy of Abigail Rumpp at Johns Hopkins Medicine.

25,889 people who had had OBS and 32,080 women who had had a hysterectomy or tubal ligation without salpingectomy between 2008 and 2017.[6] At the outset, they calculated the exact number of HGSC cases they expected to find in the OBS group before the study concluded: 5.27.

By the end of the study, they had found zero cases.[6]

This was notable because the population that received OBS differed from the controls in ways that predisposed them to ovarian cancer. Compared with controls, the OBS group had an older mean age, a higher rate of endometriosis, fewer pregnancies, and fewer live births. Researchers confirmed that this group was not less vulnerable to cancer generally, with breast and colorectal cancer (diseases not affected by salpingectomy) seen at the expected rates.[6]

A second study carried out in British Columbia asked pathologists to submit data when they found cases of ovarian cancer in patients without fallopian tubes. Of the 26 cases found, six were HGSC, or 23.1%, which compared favorably with the 68.1% with this disease in a historical comparison group. This suggested OBS substantially reduced HGSC risk. The same study recalculated the hazard ratio for ovarian cancer in OBS patients versus controls and found it to be 0.22 (95% CI, 0.05-0.95)—a protective factor even stronger than that of the previous Swedish study, which found a hazard ratio of 0.35.[7]

In sum, these studies established that OBS could provide substantial population-level protection.

OVCARE and other clinicians and researchers have promoted the concept to all surgeons, not just specialists in obstetrics and gynecology. Initially, they suggested that OBS be performed alongside hysterectomies without oophorectomies and in place of tubal ligation.

Today, Dr. Hanley said, there are 24 countries with official recommendations for OBS along these lines, including the US.

"Our major societies in gynecological surgery have come out with guidance…and this has been present for over a decade," noted Jamie Bakkum-Gamez, MD, FACS, a gynecological surgeon at the Mayo Clinic in Rochester, Minnesota, referring to 2013 guidance from the Society of Gynecologic Oncology[8] and a 2019 statement from the American College of Obstetricians and Gynecologists (ACOG)[9] and 2026 ACOG Clinical Consensus guidance supporting broader use of salpingectomy for ovarian cancer prevention.[10]

"In the practice of OB-GYN, this is a pretty accepted standard of care," said Dr. Bakkum-Gamez.

In fact, she explained, obstetrician-gynecologists have been eager to embrace this procedure: "My own personal experience is leading a study, now years ago, at our own institution. I've never had a research project get derailed by so many people changing their practice once they actually saw what the guideline recommendations were. So, we weren't able to actually do the study, because everybody said, 'Oh, wow, we should just be doing this.' So, it's a very straightforward adaptation and practice change."

Opportunistic Bilateral Salpingectomy



Number of women who will receive a diagnosis of ovarian cancer in their lifetimes:

1 in 91

Available methods of screening for ovarian cancer:

0

Number of high-grade serous carcinoma cases expected in a cohort of nearly 26,000 women who had OBS:[6]

5.27

Number of high-grade serous carcinoma cases found in that cohort:[6]

0

Estimated reduction in ovarian cancer risk associated with OBS in observational studies:[5,7]

65%–78%

Number of deaths that could be prevented every year if 60% of eligible women received OBS:[3]

3,600 to 5,800

Approximate additional OR time necessary to complete an OBS:[2]

3.5 to 13 minutes

Why Nongynecological Surgeons Should Perform Salpingectomies

Despite this progress, OBS is not yet protecting as many women as it could be.

The reason is simple: it is rarely performed outside of the procedures for which it was first proposed. A study using US data from 2016 to 2020 found that just 735 inpatient bilateral salpingectomies, or 0.05% of the total performed nationwide in that period, occurred during nongynecological surgery.[2]

This poses a problem because hysterectomies and tubal ligations are declining for several reasons.[11] As a result of expanding long-term contraception options, tubal ligations have fallen substantially.[12] But even expanding OBS to every hysterectomy and tubal ligation performed would still be insufficient to protect a large segment of the population, as many women never undergo either.

"If you really want to impact the health of women and prevent ovarian cancer, it can't just be the gynecologists that are performing these procedures," said Joseph V. Sakran, MD, MPH, MPA, FACS, who is executive vice chair of surgery at Johns Hopkins Medicine in Baltimore, Maryland, and a trauma and general surgeon with training in public health.

In other words, population-level prevention requires that OBS be considered during nongynecologic abdominal and pelvic procedures.

As Kristin Tischer, MD, an obstetrician-gynecologist at the Mayo Clinic in Rochester, Minnesota, explained about her own research,[13] this would open a significantly larger pool of patients: "In our study of 605 patients who ultimately developed HGSC, we found that 56% actually did have a prior surgical opportunity, on average 28 years before their ovarian cancer diagnosis."

In addition to gynecological surgeons, many surgeons practicing in general, bariatric, colorectal, hepatopancreatobiliary, vascular, and urological surgery could provide OBS to any appropriately selected, consenting patients with no intentions for future childbearing.

"Cholecystectomy seems to be an opportunity. Appendectomy seems to be an opportunity. Patients undergoing colorectal surgery or abdominal hernia repairs—all of those seem to be opportunities in which a surgeon is in that space," Dr. Bakkum-Gamez said.

"If you really want to impact the health of women and prevent ovarian cancer, it can't just be the gynecologists that are performing these procedures."

Dr. Joseph Sakran

"Millions of eligible operations happen in general surgery every year, and we look at those as missed opportunities," Dr. Sakran said.

Helping Surgeons Perform OBS

Drs. Sakran and Stone are leaders in Outsmart Ovarian Cancer, a national campaign that aims to make OBS standard practice among surgeons operating in the abdomen and pelvis.

Their work stems from the recognition that additional support is needed to help nongynecological surgeons use this technique.

"The gaps are in awareness, training, and areas of reimbursement," Dr. Sakran said. "We're trying to raise awareness, we're trying to make sure people understand their options, and we also want to make sure there's proper training and informed consent."

"What I proposed was to take all the implementation tools from OB-GYN that we use to bring this to hysterectomy and permanent contraception and just use them to expand more broadly across the house of surgery. But… there was no pathway forward," Dr. Stone explained. "There was no billing code for the procedure. There were no CPT codes."

Recognizing reimbursement as a potential barrier to widespread implementation, Dr. Stone and others at Outsmart Ovarian Cancer have worked to improve coding and insurance coverage for OBS. In October 2025, a dedicated ICD-10-CM code, Z40.82, took effect for prophylactic removal of the fallopian tubes in patients without known genetic or familial risk factors, including opportunistic salpingectomy.

For appropriate reimbursement, an ICD-10-CM code, identifying the reason for the procedure, must be matched with a Current Procedural Terminology (CPT) code specifying the procedure performed. Dr. Stone and colleagues are working to secure one, and to ensure it is used fully: "You have to get that code written into health plans," she noted.

Her own research has shown only a minority of health plans currently include OBS. As a result, insurance coverage is variable.

Dr. Sticca, who has practiced in North Dakota, explained, "The payment situation is pretty much entirely dependent on your location and the insurance. I know in our state, they will pay for it. In South Dakota, they are in the process. So, it just depends on where you are and what the local and regional insurance payors will cover."

Outsmart Ovarian Cancer has also contributed to surgeon education. Its website offers educational resources for surgeons, including 2D and 3D images of OBS and self-guided courses. They complement education provided by OVCARE and individual surgeons, such as Dr. Sticca, who has presented on OBS to surgeon audiences.

Likewise, the ACS has mounted educational efforts at Clinical Congress, where Dr. Sakran presented in a Panel Session and press conference on OBS, and Dr. Bakkum-Gamez led a Meet the Experts session in 2025.

Additional research is ongoing. While substantial evidence supports the safety and effectiveness of OBS during gynecologic surgery, additional studies are examining training, feasibility, and safety when it is added to nongynecological procedures. Johns Hopkins and other US healthcare centers are now engaged in a large-scale trial on OBS in nongynecological patients.

Similarly, OVCARE has mounted a clinical trial in British Columbia to engage colorectal surgeons in OBS. Dr. Hanley noted it has yielded an operative success rate of 89%, with all failures related to the presence of pelvic adhesions. OVCARE also has engaged general surgeons and urologists and is now opening a trial of OBS during laparoscopic cholecystectomy.



Dr. Robert Sticca presents on opportunistic bilateral salpingectomy.

Addressing Barriers to Broader Use

Most remaining common questions are straightforward to address.

"Often, when we're talking to surgeons about starting to do opportunistic salpingectomy, they will wonder if they need to do some kind of complicated risk calculation for their patients," Dr. Hanley said. "The answer is no. It has nothing to do with that. It really is just about taking advantage of the fact that you're already doing another surgery in the pelvis or abdomen."

Similarly, some surgeons wonder if partial removal is worthwhile when full bilateral salpingectomy is impeded. "It's a dose-response relationship," Dr. Stone said, explaining that partial removal generates benefit aligned with the percentage of total tissue excised.[4] "Even removing one tube—say you can't get the other one out because of adhesions—we know mathematically from population-level data that you reduce someone's risk by half as much. But still, it's better than nothing."

"Two concerns were expressed in the presentations that I've given and by the people I've talked to," Dr. Sticca said. "Number one is privileging at their hospital, because technically this is a gynecologic procedure. But most surgeons who operate in the pelvis have had occasion to take out an ovary for a variety of reasons, and it is considered to be within the spectrum of general surgical procedures. The second concern was, 'Am I going to make my OB-GYN colleagues mad?' My advice would be to speak to your OB-GYN colleagues. Most of them are not really concerned and realize the potential benefits of OBS in preventing ovarian cancer."

Indeed, the new guidance from ACOG acknowledges the importance of "cross-specialty collaboration to expand the availability of salpingectomy"[10] to achieve risk reduction and therefore advises a supportive stance, stating, "Obstetrician–gynecologists should support other surgical specialists in offering salpingectomy at the time of nongynecologic surgery by providing counseling and technical assistance as needed."[10]

Dr. Sakran noted that the additional time to complete OBS is brief. It has been measured at 3.5 to 13 minutes,[2] depending on details of the surgery to which it is added. He also said OBS can easily be done during open, laparoscopic, or robotic procedures: "It doesn't really make a difference. It's relatively simple to do either way."

He noted, however, that OBS belongs in planned operations, not emergencies. "This is never something we add on in the middle of the night or in an emergency case," he said. "It's a conversation that happens in clinic, well before surgery."

The procedure also has been found to be cost-effective. One article pressing for universal insurance coverage calculated savings in the US of up to $445 million annually via the prevention of cancers that require complex oncologic care and shorten lives.[14]

"I promised my patients that I would continue to work on this until I myself take my last breath."

Dr. Rebecca Stone

One final issue is more vexing. Drs. Hanley and Stone noted concerns about patient trust, rooted in traumatic histories of forced sterilization of historically marginalized populations in the US and Canada.

"We want to make sure that we do this in a way that is sensitive to our past and honors surgical safety," Dr. Stone said, describing appropriate credentialing, performance metrics, and ongoing discussion as critical tools to ensure patient autonomy is respected.

Dr. Sakran added that equity must be built in from the start: "We have to make sure this option isn't available only to the women who happen to know to ask for it."

Looking Toward Broader Adoption

That said, all the interviewees for this article are enthusiastic about the potential for OBS to reduce ovarian cancer risk.

"I promised my patients that I would continue to work on this until I myself take my last breath," Dr. Stone said of her quest to see OBS adopted widely. "This is one of the most important discoveries of our lifetime."

For Dr. Sticca, OBS raises similarly strong feelings: "I'm very excited about this, because as somebody who's treated advanced ovarian cancer patients for almost my entire career, it would be very gratifying for me to see this initiative really get popular for actually preventing ovarian cancer, rather than treating it after it's already diagnosed and much more difficult to cure."

For others, the drive is about the opportunity to see a powerful tool used for good. Dr. Sakran said, "We now have found a way to outsmart a disease that has eluded us for generations. We have the science, we have the technique, and now we need to make sure that women know the options that exist. That's why we've been doing this work."

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References

1. American Cancer Society. Key Statistics for Ovarian Cancer. Published January 13, 2026. https://www.cancer.org/cancer/types/ovarian-cancer/key-statistics.html. Accessed September 22, 2026.
2. Fisch C, Gelderblom ME, Hermens RPMG, et al. Ovarian cancer risk reduction by salpingectomy during non-gynaecological surgery: Scoping review. *BJS Open*. 2025;9(1):zrae161.
3. Cathcart AM, Harrison R, Luccarelli J. Opportunistic salpingectomy during non-gynaecological surgery in the United States: A population-based retrospective study. *Br J Surg*. 2023;110(9):1215–1217.
4. Samimi G, Trabert B, Duggan MA, et al. Processing of fallopian tube, ovary, and endometrial surgical pathology specimens: A Survey of U.S. laboratory practices. *Gynecol Oncol*. 2018;148(3):515–520.
5. Falconer H, Yin L, Grönberg H, Altman D. Ovarian cancer risk after salpingectomy: A nationwide population-based study. *J Natl Cancer Inst*. 2015;107(2):dju410.
6. Hanley GE, Pearce CL, Talhouk A, et al. Outcomes from opportunistic salpingectomy for ovarian cancer prevention. *JAMA Netw Open*. 2022;5(2):e2147343.
7. Sowamber R, Mei AJ, Kaur P, et al. Serous ovarian cancer following opportunistic bilateral salpingectomy. *JAMA Netw Open*. 2026;9(2):e2557267.
8. Society for Gynecological Oncology. SGO Clinical Practice Statement: Salpingectomy for Ovarian Cancer Prevention (SGO, November 2013). Published November 1, 2013. https://www.sgo.org/resources/sgo-clinical-practice-statement-salpingectomy-for-ovarian-cancer-prevention. Accessed October 1, 2026.
9. American College of Obstetricians and Gynecologists. Opportunistic Salpingectomy as a Strategy for Epithelial Ovarian Cancer Prevention, Committee Opinion Number 774. Published April 2019. https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2019/04/opportunistic-salpingectomy-as-a-strategy-for-epithelial-ovarian-cancer-prevention. Accessed September 22, 2026.
10. American College of Obstetricians & Gynecologists Committee on Clinical Consensus—Gynecology. Salpingectomy for the Prevention of Epithelial Ovarian Cancer. *Obstet & Gynecol*. Published online August 25, 2026.
11. Simms KT, Yuill S, Killen J, et al. Historical and projected hysterectomy rates in the USA: Implications for future observed cervical cancer rates and evaluating prevention interventions. *Gynecol Oncol*. 2020;158(3):710-718.
12. Fang NZ, Westhoff CL. Update on incidence of inpatient tubal ligation and long-acting reversible contraception in the United States. *Am J Obstet Gynecol*. 2022;227(3):477.e1-477.e7.
13. Tischer KM, Islam NS, McGree ME, et al. Quantifying opportunities to reduce high grade serous ovarian cancer via opportunistic salpingectomy. *Gynecol Oncol*. 2025;203:165-170.
14. Naumann WR, Hughes BN, Brown J, Drury LK, Herzog TJ. The impact of opportunistic salpingectomy on ovarian cancer mortality and healthcare costs: A call for universal insurance coverage. *Am J Obstet Gynecol*. 2021;225(4):397.e1-397.e6.


ACS Surgical Workforce
Mapping Tool
ACS

A New Look at Where Surgeons Practice

Jennifer Bagley, MA

More than 200,000 surgeons practice across the US, but their distribution tells a more complicated story about the nation's surgical workforce.

NEARLY ONE-THIRD of US counties have no identified surgeon in any of 12 surgical specialties, according to a new national analysis published in the *Journal of the American College of Surgeons (JACS)*. More than one-third have no identified general surgeon.

Those findings illustrate a challenge that cannot be captured by national workforce numbers alone; where surgeons practice can be as important as how many are practicing.

A new interactive tool from the ACS is designed to make those geographic differences visible. Developed in collaboration with the Program on Health Workforce Research and Policy at the Cecil G. Sheps Center for Health Services Research at The University of North Carolina (UNC) at Chapel Hill, the ACS Surgical Workforce Mapping Tool allows surgeons, policymakers, health systems, researchers, and the public to examine the distribution of surgeons by specialty and geography.

"For a patient, the question is not how many surgeons the country has; it is whether there is one available where they live," said Thomas C. Tsai, MD, MPH, FACS, Medical Director for Health Policy Research in the ACS Division of Advocacy and Health Policy and a coauthor of the *JACS* study. "National averages can obscure substantial differences from one community to another. This study highlights a need to assess whether our national health workforce and reimbursement policies are supporting the ability of patients to access the right care at the right time and the right place."

National Numbers Can Mask Local Differences

Concerns about the size and distribution of the surgical workforce have grown as an aging population increases demand for surgical care and rural and underserved communities continue to face challenges recruiting and retaining surgeons.

National projections provide one perspective on that challenge. A separate national analysis presented at Clinical Congress 2026 projected a shortfall of 27,940 surgeons by 2038, with gaps between supply and demand expected to be greater in rural areas. The study, which examined 10 surgical specialties, had not yet been peer reviewed at the time of presentation.

The ACS Surgical Workforce Mapping Tool shows where surgeons practice across the US, with views by specialty and geographic area.

But national estimates cannot show whether surgeons are practicing in the communities where they are needed.

Previous workforce studies also have frequently examined individual specialties, relied on different data sources, or reported workforce numbers primarily at the national or state level, making direct comparisons among specialties and communities difficult.

The new *JACS* analysis sought to create a more consistent picture.

Researchers used April 2025 data from the National Plan and Provider Enumeration System to identify 201,394 surgeons across 12 surgical specialties. The specialties were classified using definitions developed by the ACS with input from representatives of more than a dozen surgical societies.

The researchers then examined surgeon distribution across several geographic units, including counties, Hospital Referral Regions, and Core-Based Statistical Areas.

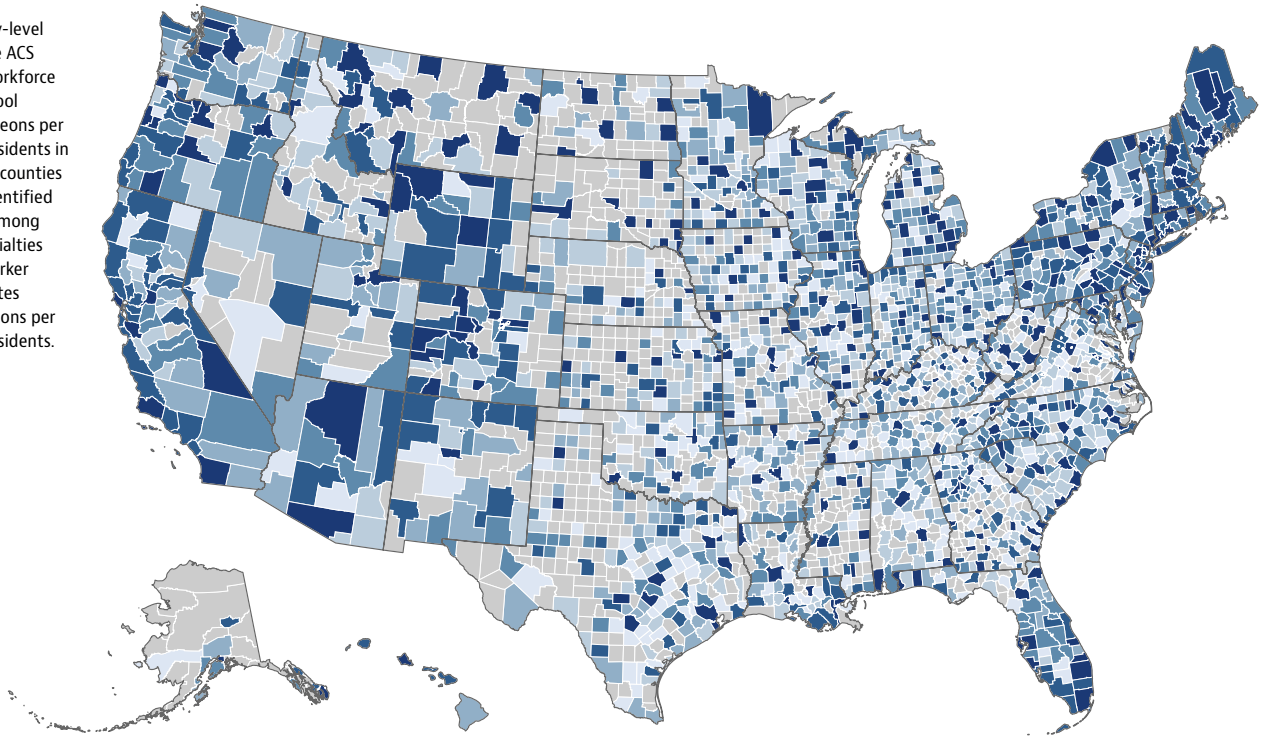
Nationally, they identified 59.2 surgeons per 100,000 people. Obstetrics and gynecology, general surgery, and orthopaedic surgery were the three largest specialty groups, together accounting for nearly 57% of the surgeons included in the analysis.

The geographic analysis, however, revealed a different dimension of the workforce.

Of 3,144 US counties, 951, or 30%, had no identified surgeon in any of the 12 specialties. Those counties are home to 9.6 million people.

For general surgery alone, 1,180 counties, or 38%, had no identified general surgeon. Approximately 15.1 million people live in those counties.

This county-level view of the ACS Surgical Workforce Mapping Tool shows surgeons per 100,000 residents in 2025. Gray counties have no identified surgeons among the 12 specialties studied; darker blue indicates more surgeons per 100,000 residents.



All Surgeons per 100,000 Population by County, 2025

N = 201,394 individuals | Rate: 59.2 per 100,000





Some specialties closely followed the geographic distribution of the US population, while others were considerably more concentrated.

"The Surgical Workforce Mapping Tool gives policymakers, health systems, and communities a practical tool to understand their local surgical workforce and identify gaps in access to care," said Erin P. Fraher, PhD, MPP, director of the Carolina Health Workforce Research Center at the UNC Sheps Center and lead author of the study.

Geographic Scale Matters

The analysis also demonstrates why defining a surgical workforce shortage can be complicated.

While 1,180 counties had no identified general surgeon, every one of the country's 306 Hospital Referral Regions had at least one.

Hospital Referral Regions are larger geographic areas that represent where patients generally travel for major surgical and cardiovascular procedures. A region can therefore contain multiple counties, including rural communities located considerable distances from the surgeons practicing elsewhere within the region.

As a result, measuring the workforce at the Hospital Referral Region level could suggest surgical care is available across the country, while county-level data reveal communities where no surgeon is locally identified.

The overall rate of surgeons also varied approximately 12-fold among Hospital Referral Regions. Harlingen, Texas, had 20.8 surgeons per 100,000 people, compared with 250.4 per 100,000 in Rochester, Minnesota.

Those differences have potential implications as policymakers consider how surgical shortage areas should be defined.

The Ensuring Access to General Surgery Act of 2026 (HR 7198), for example, would direct the Health Resources and Services Administration to develop a methodology for identifying general surgery shortage areas that considers surgeon supply, surgeon-to-population ratios, and geographic service areas.

The new analysis demonstrates that the geographic boundaries used in such a methodology could significantly affect which communities are identified as having limited surgeon availability.

Distribution Differs by Specialty

The appropriate distribution of surgeons is unlikely to look the same across every specialty.

Some specialties closely followed the geographic distribution of the US population, while others were considerably more concentrated.

Transplant surgery was among the clearest examples. With 882 surgeons identified nationally, transplant surgery had a rate of 0.3 surgeons per 100,000 people and was absent from 179 of the country's 306 Hospital Referral Regions.

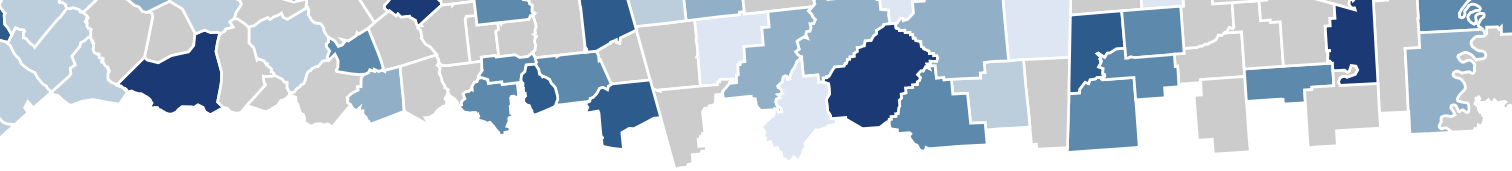
But geographic concentration alone should not be interpreted as evidence of a workforce problem. Highly specialized services such as transplantation often are intentionally regionalized to concentrate expertise, infrastructure, and sufficient patient volume. The researchers noted that future workforce benchmarks will need to account for population needs and the potential benefits and risks of regionalization rather than apply the same geographic standard to every surgical specialty.

Rural Facilities Highlight Another Workforce Question

Overlaying surgeon locations with hospitals and ambulatory surgical centers identified another potential concern.

Researchers found 475 healthcare facilities in counties with no identified surgeon in the study. Nearly all were hospitals, and 434 were Critical Access Hospitals.

The finding does not mean that surgical care is unavailable at those facilities. Surgeons may provide services through staffing arrangements that are not fully captured by the data, including locum tenens coverage, or may be recorded at practice locations in other counties.



"Mapping the surgical workforce is a starting point for strengthening it."

Dr. Patricia Turner

But the findings raise questions about how surgical needs are being met in communities that depend on these facilities and where additional workforce research may be needed.

The issue is particularly relevant for rural communities, where the loss or departure of a small number of surgeons can substantially affect local surgical capacity and the broader healthcare infrastructure. The findings also raise questions the map itself cannot answer: How far are patients traveling for surgical care? Is care being delayed or deferred? What burdens do those patterns place on patients and health systems?

Mapping Surgeons Who Practice in Multiple Communities

Another distinguishing feature of the analysis is how it accounts for surgeons with multiple practice locations.

Approximately 17% of surgeons in the study reported more than one location. Assigning those surgeons entirely to their primary location could overestimate the workforce available in one community while overlooking care they provide elsewhere.

To account for that issue, researchers used North Carolina physician licensure data on practice hours to develop a weighting approach. A surgeon's primary practice location was assigned 60% of the clinician's count, with the remaining 40% divided among secondary locations.

That methodology allows the map to represent surgeons practicing across multiple communities without counting one clinician as multiple surgeons.

Putting the Data to Work

The resulting ACS Surgical Workforce Mapping Tool makes the data available through an interactive national map.

Users can select individual surgical specialties and view the number and rate of surgeons per 100,000 people by county, Hospital Referral Region, or metropolitan and micropolitan area. Selecting or hovering over an area provides information about its population and surgical workforce.

Users also can overlay hospital and ambulatory surgical center locations and download custom maps for reports, presentations, policy discussions, and other uses. In addition to the customizable interactive map, a series of more than 2,000 pre-rendered static maps—with or without hospital and ASC overlays—are available for download on *facs.org*.

Potential applications extend beyond identifying areas with relatively few surgeons. Health systems, training programs, specialty societies, researchers, and policymakers could use the data when considering where to expand graduate medical education, establish rural training rotations, support loan-repayment or other recruitment programs, or expand telehealth options for perioperative care.

The data also may help communities compare their workforce with surrounding areas and examine which specialties are locally available.

"Mapping the surgical workforce is a starting point for strengthening it," said Patricia L. Turner, MD, MBA, FACS, Executive Director and CEO of the ACS. "These data can help guide investments in surgical training and support for surgeons in underserved communities, with the goal of improving patients' access to care."

A Starting Point, Not a Definition of Access

The researchers caution that the map should not be interpreted as a definitive measure of whether a community has adequate surgical care.

The underlying National Plan and Provider Enumeration System is maintained for billing purposes rather than workforce measurement. Specialty and practice-location information is self-reported and may not always reflect where a surgeon actually provides care.

The data also cannot measure operative volume, surgical capacity, case mix, board certification, the ability to provide urgent services, patient travel time,

population health needs, or whether an individual surgeon practices at a particular hospital.

Those limitations mean the absence of an identified surgeon in a county does not necessarily mean residents have no access to surgical care, just as the presence of a surgeon does not establish that a community's surgical needs are being fully met.

Instead, the map provides a common national framework for asking more targeted questions.

For communities seeking to understand their surgical workforce, policymakers considering where to direct resources, and researchers studying access to care, seeing where surgeons practice is an important place to start.

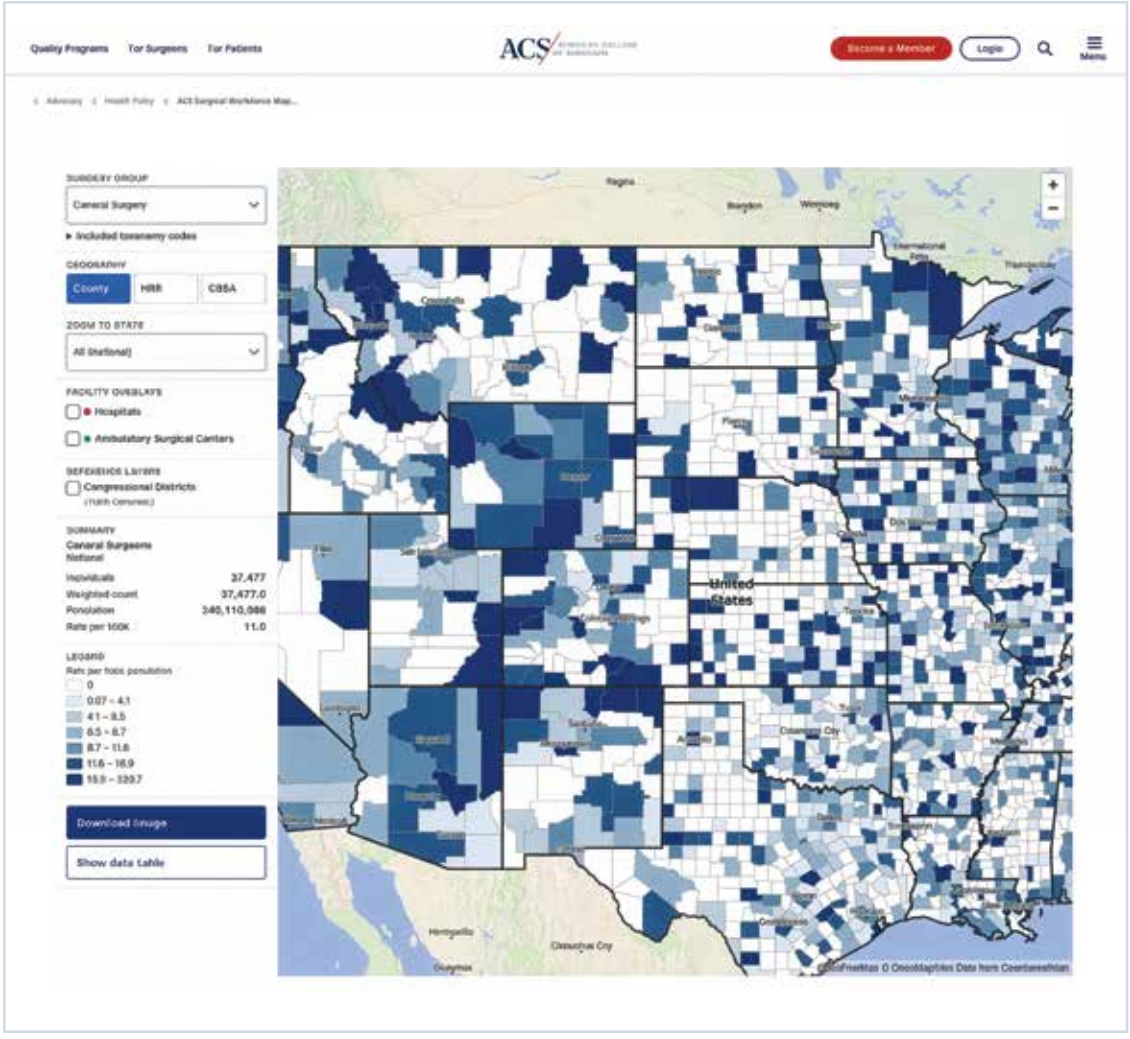
And as workforce pressures continue to evolve, a more detailed picture of those geographic differences could help ensure that discussions about the nation's supply of surgeons focus not only on how many surgeons the US has, but where patients can find them.

For more information, visit the ACS Surgical Workforce Mapping Tool section on *facs.org*.

Jennifer Bagley *is Editor-in-Chief of the* Bulletin *and Senior Manager in the ACS Division of Strategic Marketing & Communications in Chicago, IL.*

Bibliography

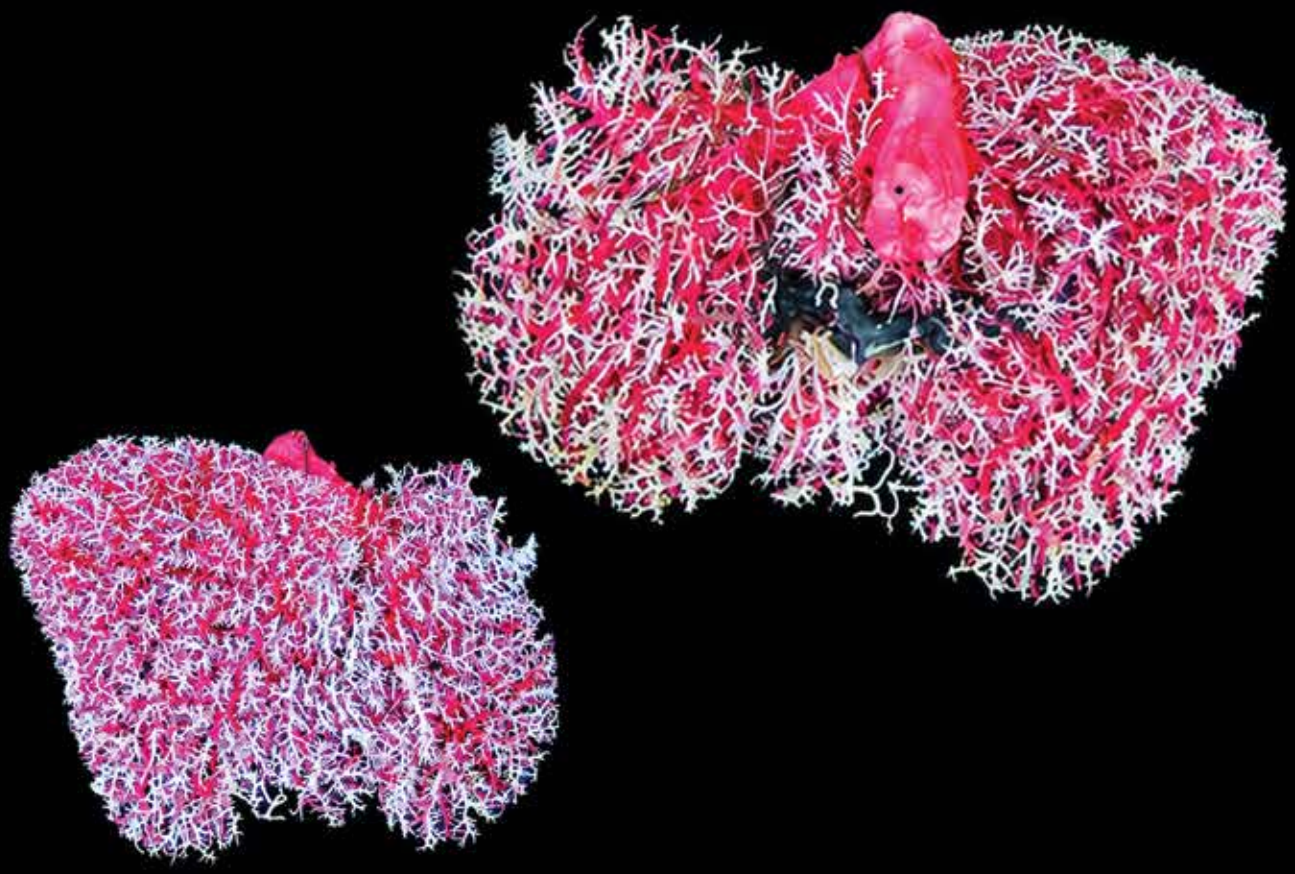
Fraher E, Galloway E, Ricketts T, et al. National atlas of surgeon supply across specialty and geographic area. *J Am Coll Surg.* Published online September 28, 2026.



With general surgery selected, the interactive map lets users switch geographic views, add hospital locations, and download maps for further analysis.

Claude Couinaud Helped Change How Surgeons Operate on the Liver

Brendan P. Lovasik, MD
Aaron Delman, MD



Corrosion casts from the Couinaud-Rapp Collection in Montpellier.

"The liver, because of its unforgiving and extraordinarily difficult surgical anatomy and complex physiology, will remain the Mount Everest of organs for surgeons. It is no place for the fainthearted, perhaps, but it will continue to challenge the bright and the bold."
—James H. Foster, MD, FACS, *Archives of Surgery*, 1991

FROM THE hepatocentrism of ancient Mesopotamia to the Greek myth of Prometheus to Christian iconography, the liver has held a venerated role in mythology and medicine for millennia. Despite the integral role of the liver in human health and disease, it was only in the 20th century that physicians and anatomists began to fully understand its intricate anatomy. This historical retrospective traces the understanding of liver anatomy from ancient times to the present, with particular attention to the contributions of Hugo Rex, James Cantlie, and Claude Couinaud.

Classical Anatomists: Early Studies of the Liver

Among the earliest surviving anatomical models of the liver are Babylonian clay models of the trilobar sheep liver used to teach divination and hepatoscopy. The earliest descriptions of the human liver come from Galen of Pergamum (129–216 CE), whose studies in animals proposed that the liver is "of a good size [...] Where it is applied to the diaphragm, it is arched and smooth. Below, toward the cavity and vena cava, it is concave and irregular."

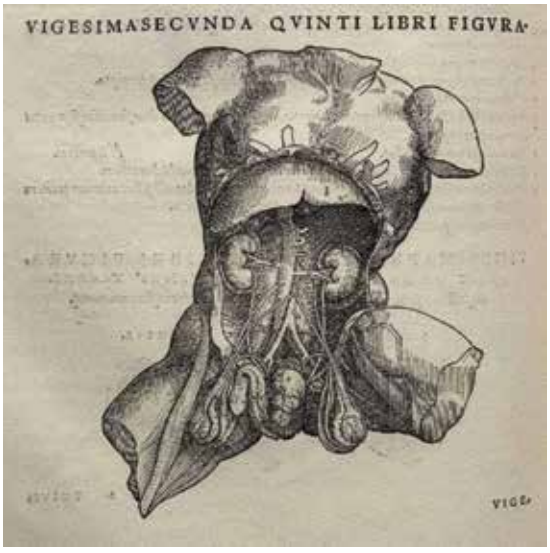
Galen also described the liver as the "source of the veins and the principal instrument of blood production" and as sharing with the heart and brain "in the triple control of the natural, animal and vital souls" (De Hippocratis et Platonis Decretis, 2nd century CE). Galen's contemporary Aretaeus of Cappadocia proposed that the vena cava originated from the liver, and thus "the roots of all the veins unite to form the liver," which contributed to the belief that "the formation of the blood is in the liver, and hence the distribution of it over the whole system."

Even Renaissance anatomist Andreas Vesalius presented the liver as erroneously having five lobes in his Tabulae Anatomicae Sex (1538), though this was corrected to a bilobar liver in his pioneering anatomy textbook *De Humani Corporis Fabrica* (1543). William Harvey, the English anatomist who described the circulatory system in 1628, believed that a five-lobed liver was the origin of all veins.

In 1654, English anatomist Francis Glisson (1597–1677) published *Anatomia Hepatis*, the first book devoted exclusively to liver anatomy. This textbook contained an early detailed description of the liver capsule (Glisson's capsule), blood supply, and biliary anatomy. Anatomy textbooks as late as the mid-19th century continued to refer to the lobes using external landmarks, namely the falciform ligament, as the plane of division. Swiss anatomist Albrecht von Haller later divided the liver into four lobes: right, left, quadrate, and caudate.

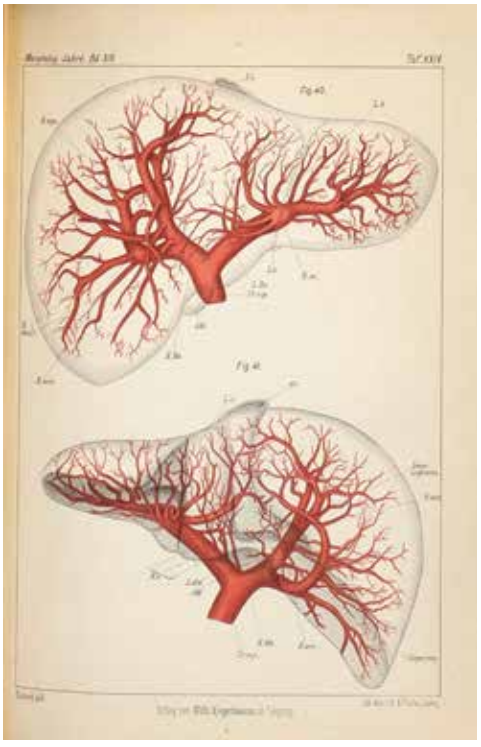
Although Dr. Couinaud is among the best-known liver anatomists, his work built on generations of research on the internal anatomy of the liver using corrosion casting. In corrosion casting, a substance is injected into the internal structures of the liver, including the portal venous, hepatic arterial, hepatic venous, and biliary systems. Once the resin hardens, the liver parenchyma is dissolved, leaving a cast that preserves the deep internal structures of the liver in their original three-dimensional framework.

Hugo Rex (1861–1936) was one of the most important early liver anatomists, and his pioneering studies influenced subsequent liver anatomy research. Working at the German University in Prague (Deutsche Universität Prag), Rex was among the first



This 1543 anatomical illustration of the liver by Andreas Vesalius appeared in *De humani corporis fabrica*, a landmark work that advanced the understanding of human anatomy.





Left:
Dr. James Cantlie

Right:
These detailed illustrations by anatomist Hugo Rex, published in *Beiträge zur Morphologie der Säugerleber* (1888), depict the branching patterns of blood vessels within the liver, contributing to early understanding of hepatic vascular anatomy.

to comprehensively study the internal anatomy of the liver. Using corrosion casts, Rex demonstrated that the portal vein divided into right and left branches supplying distinct portions of the liver. His use of internal anatomy to define the portal division of the liver was a departure from previous descriptions based primarily on external anatomy and the falciform ligament.

Rex published his findings in "Beiträge zur Morphologie der Säugerleber" (Contributions to the Morphology of the Mammalian Liver) in 1888. Despite the limitations of early corrosion-casting methods, Rex described second-order portal divisions that helped establish the concept of segmental liver anatomy. Rex is remembered today in the eponymous Rex recess, the space between segments 3 and 4 that contains an intrahepatic portion of the left portal vein and can be targeted in meso-Rex shunting procedures for extrahepatic portal vein obstruction.

"The Surgery of the Liver Will Be Advanced a Step": James Cantlie

James Cantlie (1851–1926) was a Scottish surgeon whose clinical observations fundamentally changed the study of liver anatomy. He completed his medical studies at Aberdeen and his surgical training at London's Charing Cross Hospital in 1877. He started his career at Charing Cross but soon turned his research and clinical interests toward tropical diseases.

In 1887, Dr. Cantlie moved to Hong Kong, where he made an observation that would influence the study of the liver. During an autopsy, he observed that the right side of the liver was reduced to a mass of fibrotic tissue, whereas the "almost elephantine" left side showed marked hypertrophy. He hypothesized that destruction of the right side had resulted in compensatory hypertrophy of the contralateral liver. Importantly, this included the quadrate lobe (segment 4), which conventionally was considered a right-sided structure according to external anatomy.

Dr. Cantlie published these findings in the Proceedings of the Anatomical Society of Great Britain and Ireland in 1897. Dr. Cantlie wrote, "The hypertrophy of the left side joined with the atrophied right side, at a line drawn through the fundus of the gallbladder to the center of the inferior vena cava at the back of the liver." His contributions are reflected in Cantlie's Line, a theorized plane extending from the gallbladder fossa to the inferior vena cava that defines the functional division between the right and left sides of the liver.

Dr. Cantlie corroborated his clinical observations by injecting the divisions of the portal vein with colored dyes, showing that the injected areas met along his proposed line. He stated, "It is theoretically possible to tie the vessels of one side at the gate of the liver, supplying an abnormal growth in one or other of the liver lobes, leaving the other side to do the work," anticipating principles that underpin modern hepatic surgery and assessment of the future liver remnant.

Dr. Cantlie continued, "I commend this subject to all those who are working at the surgery of the liver; and I believe that if, in the hands of future observers, the statements I have made receive closer investigation, the surgery of the liver will be advanced a step." Dr. Cantlie returned to London in 1897 and became a founder of the London School of Tropical Medicine.

Following Dr. Cantlie's clinical observations, several important anatomical studies contributed to the understanding of liver anatomy. Sir Archibald H. McIndoe, MB ChB, FACS, and Virgil S. Counseller, MD, two surgeons working at Mayo Clinic in Rochester, Minnesota, used cellulose nitrate (celloidin) corrosion casts in their landmark 1927 study, "The Bilaterality of the Liver," published in *Archives of Surgery*.

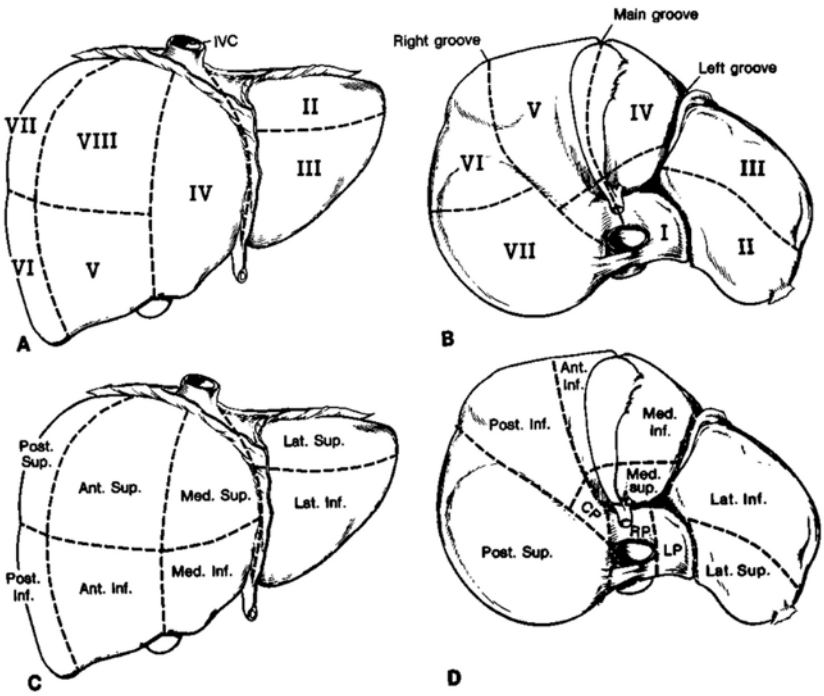
Drs. McIndoe and Counseller observed a "striking and constant result," with the left and right branches of the portal vein, hepatic artery, and bile duct consistently demonstrating a line of division extending through the gallbladder fossa, confirming Dr. Cantlie's earlier experiments. They wrote, "Our experiments clearly show that the liver of man is constantly and regularly divided into halves, according to distribution of the portal vein, by a plane passing through the fossa for the gallbladder and the entrance of the hepatic veins into the inferior vena cava […] the falciform ligament is of secondary importance."

In 1951, Carl-Herman Hjortsjö of Sweden proposed a segmental classification based on biliary anatomy using a combination of corrosion specimens and cholangiograms. Hjortsjö concluded that the bile duct and portal vein accompanied each other, which served as a prelude to Dr. Couinaud's later studies. However, Hjortsjö's model largely fell out of favor because of its irregular boundaries and limited practicality for clinical use.

In 1953, John E. Healey Jr., MD, and Paul C. Schroy at Jefferson Medical College in Philadelphia proposed what was then the most comprehensive nomenclature. Based on vinyl acetate corrosion casts, they proposed a model of the liver with four "segments": the left lobe with medial and lateral segments, and the right lobe with anterior and posterior segments, largely based on biliary anatomy. Each segment was then divided into superior and inferior areas, for a total of eight areas plus three additional areas in the caudate lobe. In a subsequent publication, Healey noted that limited understanding of the intrahepatic vascular and biliary anatomy had hindered advances in liver resection.

"Although radical operations upon the liver were performed as early as 1886, little advancement has been made in the surgical technic of such resections. This is due mainly to the fact that surgeons (and anatomists) have been totally unaware of the intrahepatic course and distribution of the larger vascular, and biliary channels and that, therefore, incisions through the hepatic parenchyma have been largely performed somewhat blindly. It is not surprising, therefore, that the present day mortality rate for partial hepatectomies is little changed from the mortality rate for similar procedures in 1897," he said.

In 1957, Neal A. Goldsmith, MD, and Russell T. Woodburne, PhD, at the University of Michigan, published a portal venous-based model with four segments, each having two subsegments. They proposed that "in major hepatic resections, relative freedom from morbidity and mortality is dependent to a considerable extent upon adherence to sound surgical principles and anatomic facts." The Goldsmith-Woodburne model closely resembles the Couinaud classification and appears to have been developed nearly concurrently and in parallel with Dr. Couinaud's work in France.



The Couinaud classification system



Dr. Claude Couinaud stands in front of his liver casts.

Claude Couinaud: Finding Order in Disorder

Claude Couinaud (1922–2008) was a French surgeon-anatomist whose extensive studies of segmental liver anatomy laid the foundation for the eponymous nomenclature system that remains widely used today.

Dr. Couinaud was born in Argentan, France, in 1922. He completed his medical education at the École de Médecine in Paris in 1946 and his surgical training in Paris in 1951. Following his training, he undertook research in the anatomy laboratory of André Delmas in Paris. Delmas charged Dr. Couinaud with investigating arterial cross-perfusion in the hepatic hilum and suggested corrosion casting as an alternative to dissection alone. Dr. Couinaud developed a technique using vinyl chloride acetate resins dissolved in acetone. The material was sufficiently fluid to fill small intrahepatic structures while producing durable casts.

Dr. Couinaud answered his initial research question by demonstrating intrahepatic arterial anastomoses in the hilum. During this investigation, however, he also observed a regular pattern of hepatic pedicle segmentation that would shape the future course of his research.

Dr. Couinaud began full-time surgical practice in Paris, dividing his days between morning clinics and operations with Henri Mondor and afternoon research in the laboratory.

During this period, he created more than 100 corrosion casts of the liver and observed a regular vascular-biliary segmentation pattern that was consistent from one liver to another. He classified the liver into eight functionally independent segments based on portal venous anatomy.

Each segment has its own portal inflow and biliary drainage, while hepatic veins run along intersegmental boundaries. In 1952, he published "Hépatectomies gauches lobaires et segmentaires," detailing the segmental anatomy of the left liver, followed in 1953 by "Les hépato-cholangiostomies digestives," which presented the segmental anatomy of the entire liver. He also proposed a sectoral classification based on second-order branching of the portal vein, with hepatic veins between the sectors. His landmark treatise on liver anatomy, Le Foie: Études anatomiques et chirurgicales, was published in 1957, with a foreword by Delmas.

Perhaps most influential was Dr. Couinaud's ability to apply his anatomic knowledge to surgery. Following the report of a modern anatomic hepatectomy by Jean-Louis Lortat-Jacob in 1952, Dr. Couinaud performed a "controlled" hepatectomy by controlling and ligating Glissonian sheaths as a single unit during resection of segments 2 and 3 in 1953. He followed this with a formal left hepatectomy in 1956. Dr. Couinaud's work in biliary bypass similarly reflected his applied anatomical knowledge.

His 1953 publication "Les hépato-cholangiostomies digestives" outlined the anatomic basis of biliary bypass

procedures above the left-right biliary confluence. He described a case series using a technique for accessing the intrahepatic left bile duct at the base of segment 4, now known as the eponymous Hepp-Couinaud procedure, in a 1956 paper with Jacques Hepp. He also described a distal segment 3 biliary bypass in a 1957 paper with Robert Soupault.

In an era of disparate liver anatomy classifications, Dr. Couinaud's segmental nomenclature became the dominant system and remains widely used. The system was simple and consistent, using readily defined anatomic boundaries and numeric 1–8 nomenclature. It also provided surgical guidance for segmental resections based on portal inflow and hepatic venous outflow. French surgeons who led the development of hepatobiliary surgery in the mid-20th century applied Dr. Couinaud's anatomical descriptions to surgical resection and imaging, including computed tomography.

Dr. Couinaud's nomenclature informed the International Hepato-Pancreato-Biliary Association's Brisbane 2000 Terminology of Liver Anatomy and Resections, developed under the leadership of Steven M. Strasberg, MD, FACS, of Washington University in St. Louis, Missouri. The Brisbane terminology uses Dr. Couinaud's classification for segmental anatomy while standardizing terminology for larger anatomic divisions of the liver.

Dr. Couinaud donated his remaining collection of 116 liver casts to the Université de Paris' Delmas-Orfila-Rouvière anatomy museum. In 2015, the collection was moved to the Conservatoire d'Anatomie at the Université de Montpellier, where it was combined with Paul E. Rapp's collection of 134 liver casts to form a unique collection of 250 casts.

The studies of liver anatomy by Rex, Dr. Cantlie, Dr. Couinaud, and others helped lay the foundation for modern liver surgery. Hepatobiliary surgeon Jean-Nicolas Vauthey, MD, FACS, dedicated his 2012 Americas Hepato-Pancreato-Biliary Association Presidential Address to Dr. Couinaud and "the seven virtues of hepato-pancreato-biliary surgery."

A deeper understanding of liver anatomy and compensatory hypertrophy has supported the development of therapies including preoperative portal vein embolization and associating liver partition and portal vein ligation for staged hepatectomy. After generations of study, surgeons are closer to summiting the "Mount Everest" of organs, yet the liver continues to challenge the bright and the bold. B

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Bibliography

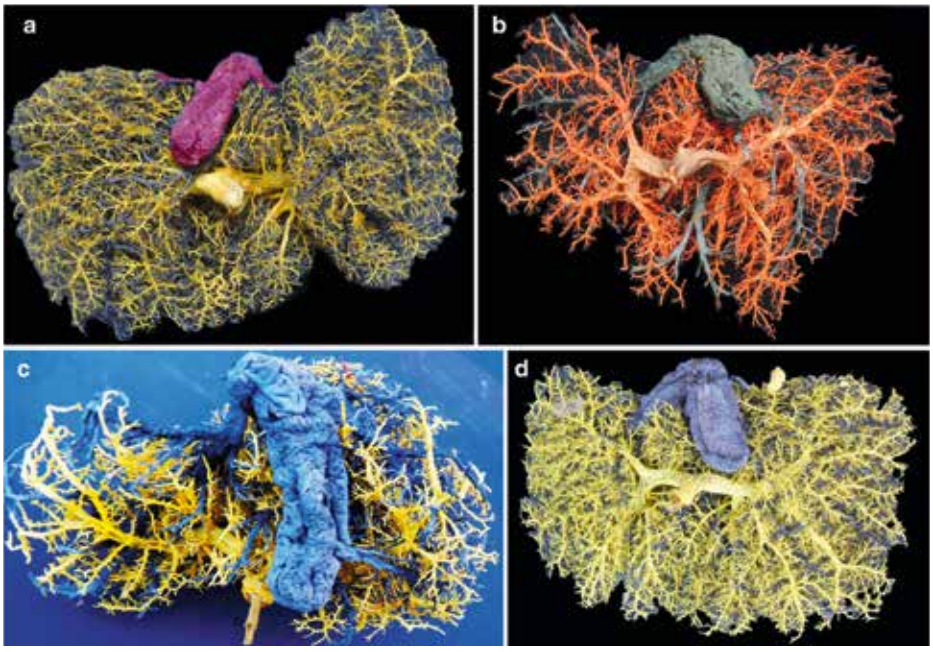
Bonnel F, Duparc F. Historical anatomy of hepatic segmentation: About 250 liver corrosions by Rapp (1953) and Couinaud (1953) in the Conservatory of Anatomy in Montpellier. *Surg Radiol Anat.* 2020;42(12):1407-1420.

Helling TS, Azoulay D. *Historical Foundations of Liver Surgery*. Springer; 2020.

McClusky DA III, Skandalakis LJ, Colborn GL, Skandalakis JE. Hepatic surgery and hepatic surgical anatomy: Historical partners in progress. *World J Surg.* 1997;21(3):330-342.

Sutherland F, Harris J. Claude Couinaud: A passion for the liver. *Arch Surg.* 2002;137(11):1305-1310.

Vauthey JN, Zimmitti G, Shindoh J. From Couinaud to molecular biology: The seven virtues of hepato-pancreato-biliary surgery. *HPB (Oxford).* 2012;14(8):493-499.



Anatomical casts reveal variations in the liver's portal venous branching patterns, highlighting the complexity of hepatic vascular anatomy and its importance in surgical planning. (Courtesy of the E. Rapp Collection)



What Surgery Can Learn from Global Experience with EPAs

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ENTRUSTABLE professional activities (EPAs) are discrete, directly observable tasks used to assess the level of autonomy with which a learner can be trusted to perform an activity.[1,2]

In July 2023, the American Board of Surgery (ABS) launched 18 EPAs for general surgery residency programs in the US.[3] The ABS subsequently introduced EPAs for additional surgical specialties. Beginning with the 2028 General Surgery Qualifying Examination, applicants will be required to submit a composite profile of their EPA assessments.[3]

Although EPAs are relatively new to US surgical training, the concept originated in graduate medical education in the Netherlands more than 20 years ago and was later adopted by pediatric training programs in Canada and the US.[2] Experience in these settings offers lessons about the benefits and challenges of integrating EPAs into competency-based medical education (CBME).

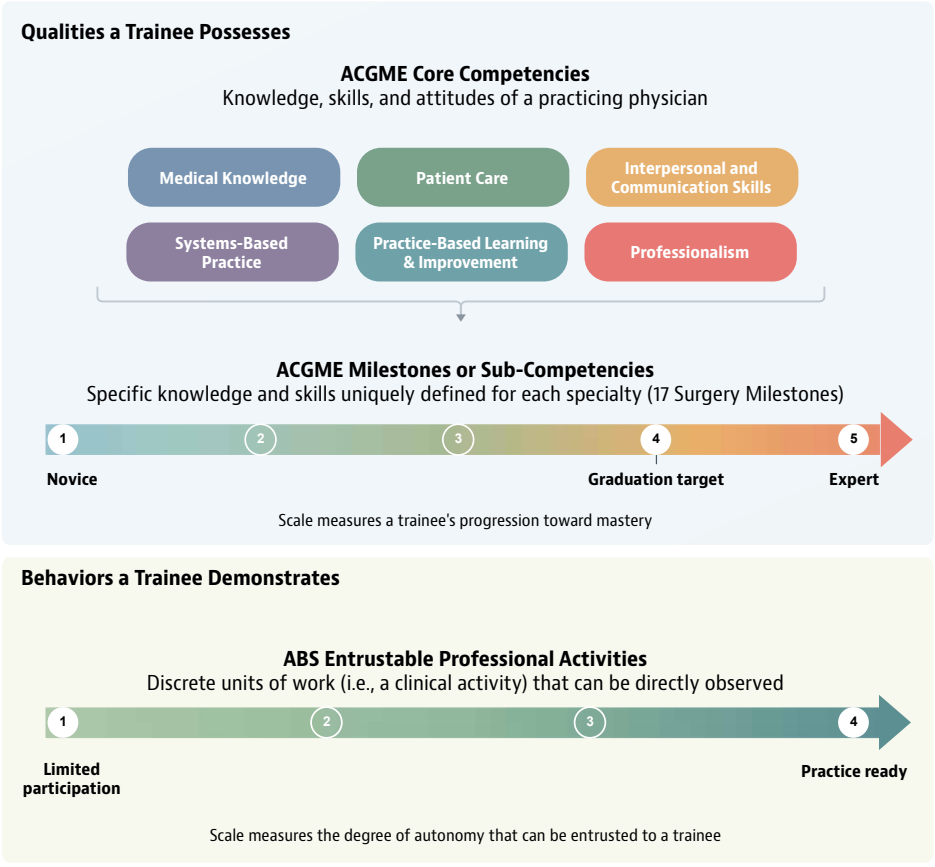
Competency-Based Medical Education Evolves in the US

Concerns about patient safety and resident supervision intensified after the 1984 death of college student Libby Zion in New York City and, more broadly, after the 1999 Institute of Medicine report "To Err Is Human."[1]

These developments contributed to increased scrutiny of resident duty hours, supervision, and graduated autonomy. At the same time, medical educators increasingly questioned whether completing a prescribed number of rotations and procedures was sufficient to demonstrate readiness for independent practice.

CBME grew from the recognition that learners acquire skills and knowledge at different rates and may require varying levels of experience to achieve mastery. Rather than emphasizing

Assessment Models for US Surgical Trainees and Their Grading Scales



a prescribed educational process, CBME focuses on defined outcomes, allowing trainees the time and experience needed to demonstrate competency.[1]

In 1999, the Accreditation Council for Graduate Medical Education (ACGME) introduced a new CBME framework for graduate medical education comprising six core competencies: patient care, medical knowledge, interpersonal and communication skills, systems-based practice, practice-based learning and improvement, and professionalism.[1]

While an important first step, the competencies lacked specificity and standardized grading rubrics to help programs assess trainee performance. Without that standardization, meaningful changes to the existing evaluation structure were difficult to achieve.

The ACGME addressed these limitations by launching the Next Accreditation System and implementing specialty-specific Milestones in 2014. Nested within the six core competencies, the Milestones define the knowledge, skills, and attitudes expected within each specialty across five performance levels, from novice to expert.[1]

Even with subsequent revisions, however, educators may find it difficult to map residents' day-to-day clinical work to broad competency scales.[1] The ABS therefore sought an assessment approach that could provide residents with more frequent formative feedback and clinical competency committees (CCCs) with additional data for evaluating progress.

The Netherlands Puts EPAs into Practice

In 2005, Olle ten Cate, a professor of medical education at the University Medical Center Utrecht, introduced EPAs as a way to translate broad competency frameworks into observable professional work.[1]

Over the next several years, multiple specialties developed EPAs for GME, although implementation remained limited.[4] One challenge was reaching agreement on the activities trainees needed to master before graduation.[4]

After national budget cuts to GME in 2014, the Dutch Association of Medical Specialists and the national government spearheaded a large-scale curricular reform centered on EPAs.[5] The reforms sought to reduce the average length and cost of training, supported by legislation that allowed greater flexibility in graduation timing.[4]

In this model, residents collect EPA assessments in electronic portfolios. When they believe they have achieved

competence in a domain, they apply to a CCC for a summative entrustment decision.

The committees meet four times per year and award certificates for individual EPAs. Once trainees receive all EPA certificates required for their specialty, they can register as independent specialists and complete training.[4] Since implementation, average training time has decreased by 5 to 7 months in 6-year surgical specialties.[4]

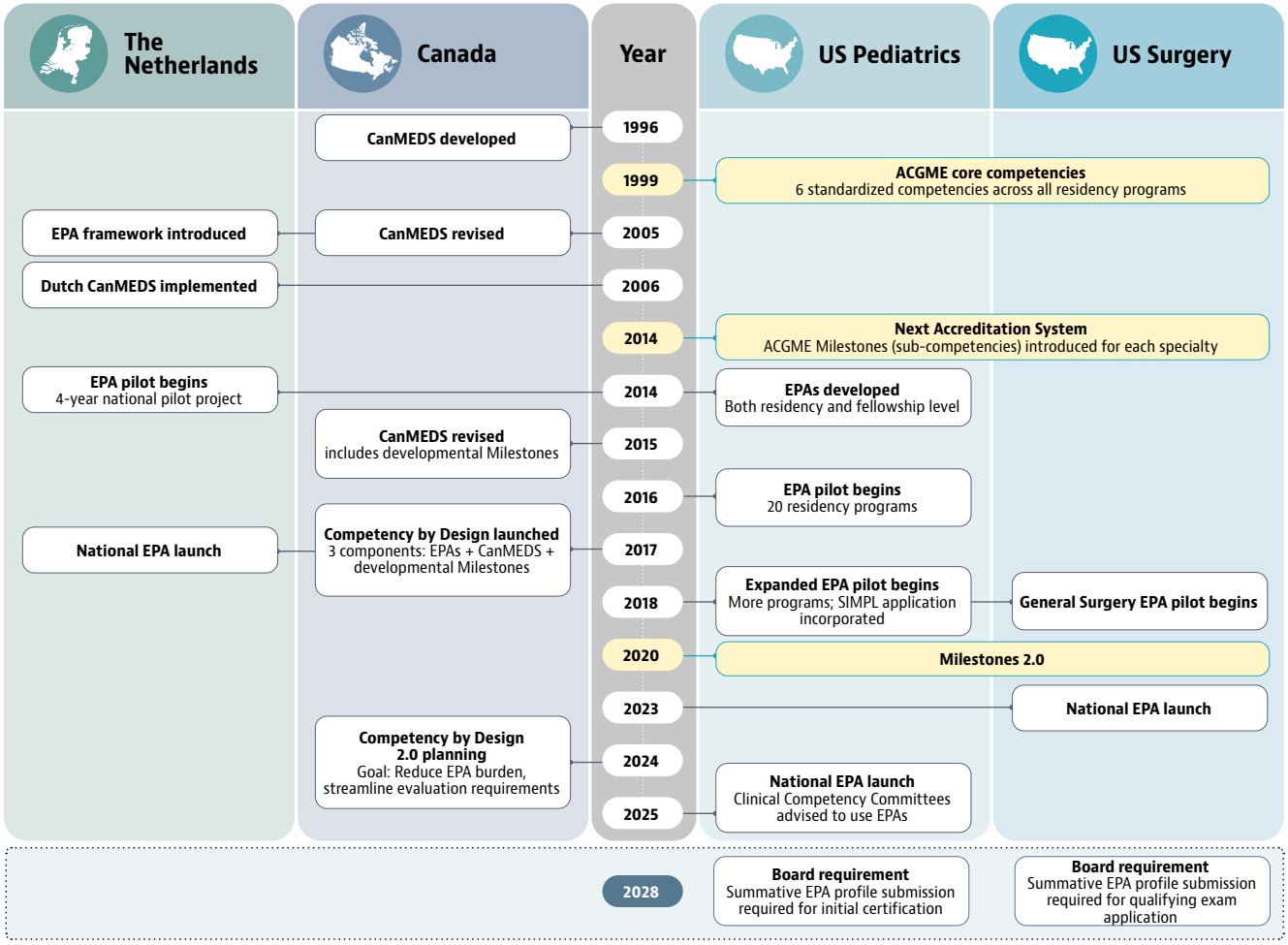
With this model, the Netherlands became one of the first countries to transition to a truly time-variable, competency-based GME system. Several structural features support this approach. Medical students graduate at multiple points during the year, residency positions are listed year-round, and residents may train part time.[4]

An online system helps address continuity of care by tracking residents' clinical responsibilities and identifying other clinicians who can assume those tasks when a resident graduates.[4] The Dutch system also is considerably smaller than the US GME system, with approximately 10,000 residents across 35 teaching hospitals, compared with more than 167,000 residents and fellows in ACGME-accredited programs in the US.[4]

Canada Develops the CanMEDS Framework

As the US developed its core competencies, Canada introduced

Timeline of Competency-Based Medical Education Across Four Settings



CBME seeks to strengthen medical education by focusing assessment on whether trainees can perform the work required for safe, effective patient care.

the CanMEDS (Canadian Medical Education Directives for Specialists) framework in 1996. It describes seven physician roles: medical expert, communicator, collaborator, manager, health advocate, scholar, and professional.[5] The framework has been adopted internationally and was revised in Canada in 2005 and 2015; the 2015 framework renamed the manager role as leader.

Canada Reassesses Competence by Design

In 2017, the Royal College of Physicians and Surgeons of Canada launched Competence by Design, incorporating EPAs into specialty training to add specificity to CanMEDS. Surgical specialties have developed numerous EPAs spanning simple and complex activities to support progressive responsibility during training.[5] The system also uses stage-specific expectations to guide advancement, an approach that differs from the ACGME Milestones framework.

Nearly a decade after implementation began, the Royal College has acknowledged challenges with Competence by Design and is adapting the model.[6]

Concerns include the administrative burden of EPA documentation, overreliance on EPA observation forms relative to other assessments, variation in how programs make progression decisions, and faculty engagement.[6]

The Royal College is now in the process of reducing assessment burden and giving programs and competence committees more flexibility in how they collect evidence and make decisions, while maintaining specialty-specific expectations for progression.[6] Canada's experience illustrates the need to balance standardized assessment with feasibility in day-to-day training.

Competence by Design also shows how difficult it can be to make training truly time-variable. Funding, licensing, accreditation, and examination cycles remain tied largely to fixed training structures. Although competence committees can use richer assessment data to identify residents who need additional support, accelerating progression remains difficult. The US GME system has similar structural constraints and may face many of the same challenges, particularly if new assessments are added without replacing existing requirements.

US Pediatrics Offers Another Model

Pediatrics was among the first US specialties to develop EPAs for GME. The American Board of Pediatrics (ABP) initially developed 17 EPAs for general pediatric residents and additional EPAs for fellowship subspecialties.[7]

Pilot and longitudinal studies subsequently examined their use across residency and fellowship programs.[8] These studies found a strong correlation between EPA and Milestone ratings among pediatric cardiology fellows and good reliability when multiple EPAs were used to inform readiness-for-practice decisions among general pediatrics residents.[8] In 2026, the ABP revised and consolidated the general pediatrics framework to 12 EPAs as it prepares to incorporate EPA-based readiness into initial certification.

Beginning in 2028, the ABP plans to require program directors to attest that graduates are practice ready in the essential activities defined by its EPAs as part of initial certification.[7] Programs therefore are working to integrate EPAs more consistently into training. Implementation challenges remain, including faculty time, faculty development, and consistent interpretation of entrustment levels.[9] Earlier research using the original 17-activity framework also found gaps between expected and observed entrustment ratings.[10]

These findings may reflect limitations in implementation or differences between EPA ratings and other judgments of readiness for practice. US programs also must navigate assessment requirements from both specialty boards and the ACGME, adding complexity to the evaluation system.

What Global Experience Means for Surgery

The ABS designed EPAs to supplement the ACGME Milestones in several ways.[3] They can provide residents with frequent formative feedback and give CCCs additional data to inform judgments about progression.

Digital platforms, including the ABS EPA app powered by the Society for Improving Medical Professional Learning, are intended to make brief workplace-based assessments easier to complete and aggregate.[3] The general surgery EPAs span multiple phases of care and encompass activities beyond the operating room, such as providing surgical consultations and caring for critically ill patients.

The framework also has limitations that will need continued attention. EPAs depend on direct faculty observation, which can be constrained by time and may be influenced by differences among assessors. Programs also need enough observations across settings and phases of care to build a meaningful picture of a resident's performance. The ABS initially emphasized EPAs as formative assessments designed to support learning and feedback.[3]

Beginning in 2028, however, applicants to the General Surgery Qualifying Examination must submit a composite EPA profile. The ABS has not yet established specific minimum numbers or entrustment levels for the 2028 application; standard setting is expected to inform future requirements.[3]

That evolution makes clarity about how formative EPA data will contribute to higher-stakes decisions particularly important for trainees and programs. Experience in Canada and pediatrics suggests that successful implementation will depend not only on the assessment tool itself but also on faculty engagement, manageable documentation, clear expectations, and integration with existing evaluation systems.

CBME seeks to strengthen medical education by focusing assessment on whether trainees can perform the work required for safe, effective patient care. Decades after competency frameworks were introduced in the US, educators continue to refine how readiness for practice is assessed.

As EPAs become more consequential in surgical training and certification, lessons from other countries and specialties can help programs preserve their value as feedback tools while building an assessment system that is rigorous, practical, and trusted. B

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References

1. Lindeman B, Sarosi GA. Competency-based resident education: The United States perspective. *Surgery*. 2020;167(5):777–781.
2. O'Dowd E, Lydon S, O'Connor P, et al. A systematic review of 7 years of research on entrustable professional activities in graduate medical education, 2011–2018. *Med Educ*. 2019;53(3):234–249.
3. American Board of Surgery. EPAs for general surgery. Available at: https://www.absurgery.org/get-certified/epas/general-surgery/. Accessed October 1, 2026.
4. de Graaf J, Bolk M, Dijkstra A, et al. The implementation of entrustable professional activities in postgraduate medical education in the Netherlands: Rationale, process, and current status. *Acad Med*. 2021;96(7 suppl):S29–S35.
5. Karpinski J, Frank JR. The role of EPAs in creating a national system of time-variable competency-based medical education. *Acad Med*. 2021;96(7 suppl):S36–S41.
6. Royal College of Physicians and Surgeons of Canada. Competence by Design Adaptations Plan. Available at: https://www.royalcollege.ca/content/dam/document/newsroom/CBD%20Adaptations%20Plan.pdf. Accessed October 1, 2026.
7. American Board of Pediatrics. Implementation expectations and ABP requirements. Available at: https://www.abp.org/content/implementation-expectations-and-abp-requirements. Accessed October 1, 2026.
8. Schumacher DJ, Sklansky DJ, Rissmiller B, et al. Use of entrustable professional activities for reliable overall entrustment decisions. *Acad Med*. 2026;101(1):79–85.
9. Langhan ML, Boyer DL, Hsu D, et al. Implementing entrustable professional activities in pediatric fellowships: Facilitating the process. *Pediatrics*. 2024;153(6):e2023065024.
10. Schumacher DJ, West DC, Schwartz A, et al. Longitudinal assessment of resident performance using entrustable professional activities. *JAMA Netw Open*. 2020;3(1):e1919316.



Dr. Ronen Elefant

What Aviation Taught Me About Becoming a Better Surgeon

Ronen Elefant, MD, MBA, MSENG, FACS

Every instrument approach begins with an assumption: you are probably not going to land.

THAT STATEMENT sounds almost backward. After all, the entire purpose of the approach is to arrive safely on the runway. Yet one of the best flight instructors I ever had insisted that I think about it differently. As you descend through the clouds toward minimum altitude, you should expect to execute the missed approach. The runway appearing should come as a surprise. Landing should be the unexpected outcome.

At first, I thought he was simply teaching me how to fly instruments.

It took another decade, thousands of hours in the cockpit, and thousands more in the operating room before I realized he was teaching me something much more valuable. He was teaching me how to think.

The distinction matters because judgment is one of those words we use constantly without ever stopping to define it. We often confuse it with experience, confidence, or intuition. I have gradually come to believe it is none of those things. Judgment is the ability to recognize when reality no longer matches the model you have built in your mind, then having the discipline to abandon that model before your patient or your airplane forces the decision for you.

That is exactly what the missed approach represents. Pilots do not go missed because they lack confidence. They go missed because they refuse to let hope replace reality. Continuing below published minimums without the required visual references because you are convinced the runway must appear another hundred feet lower can be deadly. The missed approach is not a failure of flying. It is disciplined decision-making under uncertainty.

It took me years to realize how closely that philosophy mirrors surgery.

One of the biggest misconceptions about instrument flying is that once the autopilot is engaged, the work is essentially over. In reality, that is when the real work begins.

The airplane is perfectly capable of maintaining altitude, tracking a course, and even flying an instrument approach with remarkable precision. My hands are doing very little. My mind, however, is doing considerably more.

Every few seconds I am scanning engine instruments, fuel flow, weather, terrain, traffic, navigation, air traffic control instructions, aircraft performance, and the instrument approach itself. I am constantly comparing each piece of information with the mental model I have built of the flight. I am not asking whether the airplane is flying. The autopilot can do that remarkably well. I am asking a much different question.

Does everything I am seeing still make sense?

One of the most fascinating aspects of instrument flying is that many of its greatest hazards are invisible. You cannot see the mountain hidden inside the clouds off your left wing. You cannot see the weather deteriorating fifty miles ahead. You cannot see the thin layer of ice that has just begun changing the airplane's performance. Safe instrument flying depends upon building an accurate mental model of a world you cannot fully see.

The longer I practiced surgery, the more familiar that way of thinking became. Patient deterioration is not always heralded by the one thing everyone notices. Complications usually begin quietly. The physiology no longer matches the diagnosis. A handoff leaves out one important detail. A member of the team notices that something feels wrong but hesitates to speak because the attending appears certain.

Those are our mountains. We simply cannot see them yet.

One of aviation's greatest contributions to safety was recognizing that technical skill alone does not eliminate human error. Airlines did not develop Crew Resource Management because pilots lacked stick-and-rudder ability. They developed it after discovering that highly skilled crews continued making serious, sometimes fatal, errors. Communication failed. Assumptions went unchallenged. Hierarchy silenced team members who possessed the information that might have prevented disaster.

The solution was not simply to train better pilots.

It was to build better systems.

That realization fundamentally changed the way I think about every operating room I enter.

Not long ago, I was performing what should have been a routine laparoscopic appendectomy. As I positioned the stapler across the base of the appendix, my scrub tech, Michael, hesitated. The anatomy was a little less straightforward than either of us would have liked, and he asked a simple question that made me stop before committing to the staple line.

Nothing dramatic happened afterward, and that is exactly why the moment mattered. I paused, looked again, confirmed the anatomy, adjusted my staple line, and completed the operation uneventfully. The patient recovered exactly as expected. Nobody outside that operating room will ever know anything important happened, but I have come to believe those are the moments that define high-performing teams. Success is often measured not by the complications we manage, but by those we quietly prevent from ever occurring.

Afterward, I joked with Michael that he was no longer allowed to speak during my cases since he was slowing me down. We both laughed because he knew I meant exactly the opposite.

I do not want an operating room where everyone waits for the surgeon to have every answer.

I want a cockpit.

The same flight instructor who taught me to expect the missed approach also happened to be an engineer. Looking back, I don't think that was a coincidence. He rarely answered my questions by telling me what procedure to follow. Instead, he explained why the airplane behaved the way it did. We talked about aerodynamics, systems, and physics. He explained why a wing stalls, why structural limitations exist, why an instrument approach is designed the way it is, and why the airplane communicates information to the pilot in a particular sequence.

That way of thinking resonated with me because it was how I had always approached problems. Even in medicine, I found myself asking why long before I asked what. Once I understood the underlying principles, the countless facts of medicine stopped feeling like isolated pieces of information and became the logical consequence of understanding how the system worked.

Over time, judgment becomes less about finding the right answer and more about recognizing, without ego, when it is time to let go of the wrong one.

Early in practice, I relied on algorithms, guidelines, and protocols, just as every young surgeon should. They provide a safe framework within which experience develops. Over time, however, patients stop reading the textbook. The physiology no longer matches the imaging. Laboratory values fail to fit the clinical picture. Operations that once seemed inevitable become unnecessary, while patients who appeared reassuring only hours earlier suddenly require immediate intervention.

Those are the moments when algorithms reach their limits. Medicine has become increasingly protocol-driven, and I think that has helped make patient care safer.

But no protocol can anticipate every clinical circumstance. Eventually every surgeon encounters a patient who refuses to follow the textbook, and in those moments the surgeon must rely on an understanding of the system itself. Looking back, I think that is where engineering influenced me most. It taught me that when the recipe no longer fits the patient, understanding the system matters more than memorizing the recipe.

There is one more lesson aviation taught me, and in many ways, it has become the most important one.

A few years ago, I found myself navigating one of the darkest periods of my life. Professionally, everything appeared exactly as it always had. I was taking trauma call, operating, seeing patients, flying, and carrying the responsibilities that come with being a surgeon. From the outside, I doubt many people noticed anything different. I convinced myself that whatever was happening outside the hospital could remain there because my patients deserved nothing less than my complete attention.

Looking back, I no longer believe that is entirely possible.

The realization did not come because I suddenly forgot how to operate or because I began making reckless decisions. It came because I eventually recognized something much more subtle. My thinking had changed. Decisions that had once felt clear required more deliberate effort. I became more anchored to my first impressions and less naturally curious than I had always been. The change happened so gradually that I never recognized it while I was living through it.

There is one patient from that period whom I still think about. I made a decision that, looking back, I believe was influenced by where I was mentally rather than by the level of judgment I had come to expect from myself. I cannot change that decision, and I cannot know with certainty whether the outcome would have been different.

What I do know is that it still haunts me. Not because I lacked the technical ability to care for that patient, but because I had failed to recognize that I was part of the system making the decision.

Only later did I appreciate what aviation had been teaching me all along. In aviation, the pilot is never viewed as standing outside the system. Fatigue, stress, illness, distraction, and emotional burden are all recognized as operational realities because they directly influence judgment. Somehow, despite believing so deeply in systems thinking, I had spent years evaluating every variable surrounding my patient while assuming that I was not one of those variables.

I was wrong. The surgeon is part of the system.

For years, I thought wisdom simply came from experience. I no longer believe that. Experience, by itself, teaches very little. Wisdom comes from continually refining the mental models through which we interpret the world.

I see that every time my trauma pager goes off. Before I ever walk into the trauma bay, I begin constructing a picture in my mind from the mechanism of injury, the prehospital report, the vital signs, and a few brief lines of text on a pager. Sometimes that picture is remarkably accurate.



Sometimes it is completely wrong. Either way, it serves an important purpose. It gives me a starting point from which to recognize, as quickly as possible, when reality is trying to tell me something different.

Instrument flying demands exactly the same discipline. Long before reaching the runway, I have already built a mental picture of where the airplane should be, what I expect the instruments to show, and what should happen next. The safest pilots are not the ones whose predictions are always correct. They are the ones who recognize earliest when those predictions no longer fit reality.

I have come to view wisdom as nothing less than that process repeated over thousands of flights and thousands of patients. We build a mental model, compare it with reality, refine it, and begin again. Over time, judgment becomes less about finding the right answer and more about recognizing, without ego, when it is time to let go of the wrong one.

Looking back, I no longer believe the most valuable lessons aviation taught me were about flying airplanes. They were lessons about judgment, humility, and the discipline to continually question my own assumptions. Those lessons have shaped the surgeon I have become far more than any textbook, operation, or technical achievement ever could.

For years I thought my instructor was teaching me how to fly.

Only much later did I realize he was teaching me how to become a better surgeon.

Disclaimer

The thoughts and opinions expressed in this article are solely those of the author and do not necessarily reflect those of the ACS.

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Bibliography

Federal Aviation Administration. *Instrument Flying Handbook.* FAA-H-8083-15B. Washington, DC: U.S. Department of Transportation, Federal Aviation Administration; 2021.

Gawande A. *The Checklist Manifesto: How to Get Things Right.* New York, NY: Metropolitan Books; 2009.

Helmreich RL, Merritt AC. *Culture at Work in Aviation and Medicine: National, Organizational and Professional Influences.* Aldershot, UK: Ashgate Publishing; 1998.

Klein G. *Sources of Power: How People Make Decisions.* Cambridge, MA: MIT Press; 1998.

Reason J. *Human Error.* Cambridge, UK: Cambridge University Press; 1990.



Dr. Anthony Douglas



Dr. Amber Hannah

Advocacy Training Prepares Surgeons to Influence Policy and Health

Anthony Douglas II, MD, MPH
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THE CONSEQUENCES of society's most far-reaching decisions often arrive first at the doors of our hospitals and clinics. Infectious disease outbreaks, widening health inequities, a polarized political environment, and shifts away from policies grounded in science have underscored the importance of surgeons' voices. Health and public policy are closely linked, yet surgeons are not always prepared to engage in advocacy early in their careers.[1,2]

Many surgeons have responded to this need with little preparation beyond a desire to address morbidity and mortality.[3] However, effective surgical advocacy requires skills and experience not widely included in medical education or postgraduate surgical training. Traditional promotion pathways in academic surgery also have not consistently recognized advocacy work.[4] More recently, frameworks have been proposed for measuring the impact of surgeon advocates.[5]

Advocacy is a growing priority for the ACS, with opportunities for engagement through initiatives such as the Leadership & Advocacy Summit and SurgeonsPAC. While avenues for participation exist, there remains a need for structured approaches to prepare surgeons to engage in advocacy early in their careers and address societal issues that influence patient outcomes.

The question is how surgeons can be equipped to participate effectively within the structure of surgical training.

The University of Chicago Medical Center in Illinois piloted a surgical advocacy fellowship that was later replicated at Emory University in Atlanta, Georgia.[1] These two non-Accreditation Council for Graduate Medical Education-accredited, institutionally recognized graduate medical education fellowship programs were designed to provide aspiring surgeon advocates in their professional development years with skills to engage at the community, state, and national levels.

The experiences begin after the first 2 to 3 years of surgical training, when residents have substantial exposure to patient care and to factors that affect community health, access to surgical care, and outcomes. The framework has three pillars: (1) knowledge and skill building, (2) evidence-based advocacy projects, and (3) community engagement.[1]

Knowledge and Skill Building

Effective surgical advocacy requires an understanding of population health, public health research, the political process, and the US healthcare system. Formal graduate education, such as a master of public health or master of public policy degree program, or structured didactics can help build that foundation.

Externships with institutional government affairs personnel also can provide practical experience. These professionals engage with policymakers and advocate on behalf of medical institutions at the local, state, and federal levels. Shadowing them can give trainees opportunities to observe advocacy in practice and understand how policy issues may affect surgical care.

Communicating effectively with lawmakers and the public is a skill developed through experience and practice. Faculty development programs also may offer training in executive communication, media interactions, and editorial writing. The annual ACS Leadership & Advocacy Summit provides this type of training as well as opportunities to meet with lawmakers on Capitol Hill.

Evidence-Based Advocacy Projects

The framework pairs knowledge and skill development with practical application. Residents and mentors identify issues affecting community health that may benefit from surgical advocacy, such as screening access, prescription affordability, rural surgical access, or organ allocation.

Guided by existing data or resident-initiated public health research, trainees develop or participate in local, state, or national policy interventions. For example, a resident might develop a local literacy intervention informed by research linking childhood educational outcomes with later community violence, or collaborate with civic organizations on existing policy proposals.

Community Engagement

As residents learn the tenets of surgical advocacy, relationships and partnerships with the community become essential. The people and communities affected by these issues often have substantial experience and investment in potential solutions.

Surgeon advocates therefore should build social capital and trust with community members and organizations as partners rather than approaching them solely as experts. In practice, this may include participating in community health fairs and panels, joining health-related community organizations, and speaking publicly about relevant health issues.

Community engagement can extend the impact of surgical care beyond the operating room and into the environments where recovery and prevention occur.[6]

Amber Hannah, MD (PGY-3), Emory University in Atlanta, Georgia

Dr. Hannah's advocacy has centered on interrupting the cycle of violence through community- and hospital-based approaches. Through her work with the Interrupting Violence in Youth and Young Adults program in Atlanta, Georgia, she partnered with frontline violence intervention workers to understand the social and structural drivers of violent injury and identify opportunities to prevent recurrent harm and advance advocacy efforts.[6]

She also contributed to regional violence prevention initiatives across the southeastern US. Her work included testifying on firearm injury legislation and helping develop a community resilience learning program for urban high school students. These experiences demonstrate how surgeons can engage with community partners and medical students outside the clinical setting.

Anthony Douglas II, MD, MPH (PGY-3), The University of Chicago in Illinois

During his surgical advocacy experience, Dr. Douglas co-developed a proposal introduced in the Illinois General Assembly that would require firearm manufacturers to contribute to the public costs associated with firearm injuries based on their products' involvement in shootings.[7]

Supporters describe the proposal as a public health approach intended to create financial incentives for manufacturers to invest in safety, distribution practices, and violence prevention. The proposal has drawn attention in Illinois and from advocates interested in similar approaches elsewhere.[7]

Preparing Surgeons for Advocacy

Preparing surgeons to engage in advocacy requires more than clinical expertise. Trainees need an understanding of the US healthcare system, the

Left:
Dr. Amber Hannah speaks at the Georgia Capitol in support of a proposed bill to relieve gun violence survivors from their leases after injury.



Right:
During a US Senate Judiciary Committee Hearing in fall 2024, Dr. Anthony Douglas discusses the impact of high-cost prescription drugs on patients.



Preparing surgeons to engage in advocacy requires more than clinical expertise.

relationship between policy and health, and the political process. They also need opportunities to use data and research to inform interventions or public policy and to build relationships with the communities they serve.

The surgical advocacy programs at The University of Chicago and Emory University offer one model for providing motivated residents with structured training and experience in this work.

Acknowledgements
The authors gratefully acknowledge Grady Memorial Hospital and Morehouse School of Medicine for their contributions to the development and advancement of the Emory Trauma and Surgery Advocacy Fellowship.

Disclaimer
The thoughts and opinions expressed in this article are solely those of the authors and do not necessarily reflect those of the ACS.

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References

1. Douglas AD, Dorsey C, Benjamin A, et al. Preparing surgeons for advocacy: A framework for trainees. *Surgery*. 2025;188:109675.
2. Dorsey C, Ogunnowo S, Douglas A, et al. Surgeon as advocate: A widening lane. *Surgery*. 2025;185:109515.
3. Smith RN, Ward C, Hink A, et al. Violence prevention advocacy in surgery: Strategies across the socioecological spectrum. Surgery. 2026 Feb;190:109842.
4. Douglas AD, Benjamin A, Donington J, et al. Surgical advocacy as an academic career path: A guide for promotion discussions. *Surgery*. 2025;187:109650.
5. Castater C, Hart L, Metchik A, et al. Characteristics of a three-pronged continuum of care model for hospital-based violence intervention. *Trauma Surg Acute Care Open*. 2025 Nov 27;10(4):e001869.
6. Hannah A, Russo K, Ward C, et al. Coalition building for regional violence prevention advocacy: Unique perspectives from the Southeast. *Surgery*. 2026 Feb;190:109826.
7. Brownlee C. A Chicago trauma doctor has a plan to shift the cost of gun violence. *The Trace*. Published September 16, 2025. Available at: https://www.thetrace.org/2025/09/gun-industry-victims-fund-rifl-illinois/. Accessed October 1, 2026.



Dr. Matthew Neal

A Surgeon-Scientist Reflects on Nearly a Decade of Innovation

Matthew D. Neal, MD, FACS

EDITOR'S NOTE: Nearly a decade after receiving the Jacobson Promising Investigator Award, Dr. Matthew Neal reflects on discovery, translation, entrepreneurship, and the mentors who shaped his career.

My path to becoming a Jacobson Promising Investigator was anything but intentional.

I ARRIVED at the University of Pittsburgh School of Medicine in 2002 with the goal of becoming a small-town pediatrician. Fundamental science research had been an enjoyable part of my college experience, but I expected it would end there, and I had no intention of becoming an investigator.

Within weeks of starting medical school, the first pivot came: I fell in love with surgery.

I felt somewhat lost by the unexpected change after a long-standing commitment to pediatrics, so I sought guidance. I would like to claim that I deliberately sought out an exceptional mentor, but I simply combined "pediatrics" and "surgery" and requested a meeting with Henri R. Ford, MD, MHA, FACS, then chief of pediatric surgery at Children's Hospital of Pittsburgh in Pennsylvania.

I had no idea who Dr. Ford was or how my life would change after that meeting. The impression was profound. I still remember nearly every word he spoke during that hour.

When I asked how I could get involved, Dr. Ford told me that his job was "to be the gardener and to plant the seeds." He walked me down the hall to meet a promising new surgeon-scientist who had just started his laboratory and was eager to mentor students.

That day began more than a decade of research with David J. Hackam, MD, PhD, spanning medical school and residency. I was astounded as I listened to Dr. Hackam talk about his mission to cure necrotizing enterocolitis, and I was immediately hooked. His intellect, energy, passion, and

exceptional mentorship drew me to discovery.

Drs. Ford and Hackam were the first of many extraordinary surgeon-scientists I would work with at the University of Pittsburgh, where I found a culture that made training surgeon-scientists mission critical.

Near the end of a productive 3-year postdoctoral fellowship with Dr. Hackam, I reached another pivot point.

While taking trauma call, I witnessed an extraordinary operative save by my chair, Timothy R. Billiar, MD, FACS, in a patient dying from hemorrhage after multiple gunshot wounds.

Although we stopped the massive hemorrhage, the injuries and resuscitation left the patient critically ill and coagulopathic. I watched him progress to organ failure and bleed profusely while simultaneously clotting a dialysis circuit and developing a pulmonary embolus in the ICU.

I asked a trusted senior intensivist why this was happening, and he replied, "We just see this."

That night, despite physical exhaustion, I could not sleep. I was deeply troubled by the mystery of what was happening. I decided that "we just see this" was an unacceptable answer and resolved to devote my career to understanding and treating trauma-induced coagulopathy.[1]

With the leadership and mentorship of Dr. Billiar, Andrew Peitzman, MD, and chair emeritus Richard L. Simmons, MD, I established a laboratory as a senior resident and applied what I had learned about innate immune signaling from Dr. Hackam to the study of platelet dysfunction after trauma.

Our early collaborative work identified unique roles for the innate immune receptor toll-like receptor 4 (TLR4) and the danger signal high-mobility group box 1 (HMGB1) on platelets.[2,3] This early launch of my career as a surgeon-scientist was possible because of exceptional mentorship and a department committed to that mission.

In 2017, I was honored to receive the ACS Jacobson Promising Investigator Award. At that point in my career, I was an early stage surgeon-scientist seeking to understand the mechanisms of platelet dysfunction after injury and hemorrhagic shock.

The award recognized a body of work focused on platelet biology, innate immunity, and trauma-induced coagulopathy, but perhaps more importantly, it represented an endorsement of a future vision.

Looking back nearly a decade later, I realize that the most important impact of the Jacobson Award was the inspiration to pursue what seemed improbable by transforming discoveries made in the laboratory into therapies capable of changing outcomes for injured patients like the one whose critical illness and coagulopathy inspired my career choice.

The legacy Julius H. Jacobson II, MD, FACS, and his wife Joan created through this award reflects the belief that surgeons should lead innovation in care and safety. The Promising Investigator Award recognizes surgeons at the "tipping point" of their research careers.[4]

After receiving this honor, I faced the new and uncertain challenge of how to direct the momentum of innovation after crossing that threshold. While our fundamental discovery science in platelet biology continued, I became increasingly motivated to apply what we had learned about platelets to technologies designed to control life-threatening bleeding.

From Platelet Biology to Synthetic Platelets

The central scientific focus of my laboratory has been platelet function after trauma and hemorrhage.

Over the last decade, our work and that of many collaborators has helped establish that platelets have important roles in inflammation, immune regulation, endothelial biology, and organ injury in addition to hemostasis.

As these studies progressed, we began to think more about donated platelet transfusion and the unmet need to optimize this aspect of resuscitation. Donated platelets can be lifesaving in hemorrhagic shock,[5] but platelet transfusion may offer limited benefit or cause harm in some other forms of bleeding.[6,7]

Even when transfusion is indicated, donated platelets are constrained by short shelf life, limited availability, storage requirements, donor dependence, and logistical barriers that are particularly challenging in austere environments, rural settings, and military operations.[8] These limitations have left much of the world in what colleagues and I have called a "platelet desert."[9] The idea that such an important tool for injured patients could be limited or unavailable represented another opportunity to challenge accepted practice.

The answer to this challenge required another pivot, this time leveraging our study of biology as part of an engineering solution.

Working with an interdisciplinary team alongside a remarkable and innovative partner, Anirban Sen Gupta, PhD, we helped advance the development of a synthetic platelet nanotechnology designed to mimic key platelet adhesion and aggregation functions.

Dr. Sen Gupta and his team developed an ambitious concept to create a biologically inspired nanoparticle capable of recognizing vascular injury, localizing to sites of bleeding, and amplifying clot formation without the limitations associated with donor-derived platelets.[8]

What began as a promising laboratory concept evolved through years of iterative experimentation, animal studies, manufacturing development, regulatory planning, and translational research. Along the way, our team demonstrated improved hemostasis and survival in multiple preclinical models of traumatic hemorrhage.[10-13]

These studies provided proof of principle that synthetic platelets could function as a novel hemostatic therapeutic. The next challenge was translating a project into a product.

Building a Company Around a Clinical Problem

As the synthetic platelet technology matured, it became clear that traditional academic pathways alone would be insufficient to bring the technology to patients. For some translational technologies, commercialization becomes necessary to continue that journey.

This realization led to the formation of Haima Therapeutics, a biotechnology company established to advance synthetic platelet technology and related hemorrhage-control therapeutics toward clinical application.

I have had the privilege of serving as chief medical officer, helping guide clinical strategy, translational development, regulatory planning, and interactions among academic investigators, industry partners, investors, and federal agencies.

For many surgeon-scientists, industry remains unfamiliar territory, and commercialization may sit outside traditional academic pathways. Yet many therapies require engagement with industry to move from promising research toward clinical use. Helping to develop and lead clinical strategy for Haima Therapeutics reinforced the importance of assembling teams that extend far beyond the laboratory.

Scientists, engineers, clinicians, regulatory experts, investors, manufacturers, and entrepreneurs all contribute expertise necessary for successful translation. No individual investigator can navigate this pathway alone. Perhaps the most gratifying aspect of this effort has been watching a technology move steadily toward clinical reality.

What began as a concept inspired by platelet biology is approaching first-in-human clinical evaluation in 2027. The synthetic platelet technology is nearing a milestone that once seemed distant and aspirational.

Innovation Multiplies Through People

Another defining lesson since the Jacobson Award has been that scientific impact is amplified through people. In writing about social epidemics, Malcolm Gladwell describes how ideas spread and reach a tipping point.[14]

Early in my career, I largely defined success through grants, publications, and laboratory discoveries. Over time, I came to appreciate that greater impact can come from creating environments where other investigators can advance and spread new ideas. Although the Jacobson Award recognizes an individual investigator at a tipping point, progress in science depends on the people and environments that allow discoveries to grow.

This realization influenced many of my leadership roles, including the creation of the Trauma and Transfusion Medicine Research Center at the University of Pittsburgh.

The opportunity to recruit faculty, build collaborative programs, develop mentorship structures, and create strategic frameworks capable of accelerating innovation across multiple domains of investigation brought new energy.

The concept I increasingly embraced was force multiplication. A single laboratory can generate important discoveries while a community of investigators can transform an entire field.

Over the last decade, our programs have expanded to include basic scientists, translational investigators, clinical trialists, engineers, data scientists, and surgeon-scientists working across diverse disciplines.

Equally important has been the opportunity to mentor trainees and junior faculty. Watching and helping early career investigators obtain career development awards, launch independent laboratories, secure federal funding, and emerge as national leaders has become one of the most rewarding aspects of academic surgery.

Innovation Still Starts with the Patient

As I reflect on the years since receiving the Jacobson Promising Investigator Award, I am struck by how much my definition of innovation has evolved. Initially, innovation meant discovering new biological mechanisms and answering previously unexplored scientific questions.

Today, it means something broader. It encompasses discovery, translation, entrepreneurship, leadership, and system building.

It requires not only generating ideas but also creating pathways that allow those ideas to reach patients. One principle remains unchanged. The questions we ask and the innovations we pursue should remain anchored in the patient care problems that keep us awake at night.

The Jacobson Award was established to recognize promising investigators. In retrospect, its greatest value may be the culture of innovation it promotes and the community of academic surgeons it helps create.

Looking across prior award recipients reveals another theme: a commitment to mentorship and to the growth of people and programs. The greatest privilege of my career has been the opportunity to pay forward the extraordinary efforts of my mentors.

I look forward to the next decade of innovation generated by our trainees and team and, above all, inspired by our patients.

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References

1. Moore EE, Moore HB, Kornblith LZ, et al. Trauma-induced coagulopathy. *Nat Rev Dis Primers*. 2021 Apr 29;7(1):30.
2. Ding N, Chen G, Hoffman R, et al. Toll-like receptor 4 regulates platelet function and contributes to coagulation abnormality and organ injury in hemorrhagic shock and resuscitation. *Circ Cardiovasc Genet*. 2014;7(5):615–624.
3. Vogel S, Bodenstein R, Chen Q, et al. Platelet-derived HMGB1 is a critical mediator of thrombosis. *J Clin Invest*. 2015;125(12):4638–4654.
4. Emamaullee J, Lian T, Moroz S, et al. Defining the "tipping point" to success as a surgeon-scientist: An analysis of applicants and awardees of the American College of Surgeons Jacobson Promising Investigator Award. *Ann Surg*. 2022;275(5):e678–e682.
5. Cardenas JC, Zhang X, Fox EE, et al. Platelet transfusions improve hemostasis and survival in a substudy of the prospective, randomized PROPPR trial. *Blood Adv*. 2018;2(14):1696–1704.
6. Alvikas J, Myers SP, Wessel CB, et al. A systematic review and meta-analysis of traumatic intracranial hemorrhage in patients taking prehospital antiplatelet therapy: Is there a role for platelet transfusions? *J Trauma Acute Care Surg*. 2020 Jun;88(6):847–854.
7. Baharoglu MI, Cordonnier C, Al-Shahi Salman R, et al. Platelet transfusion versus standard care after acute stroke due to spontaneous cerebral haemorrhage associated with antiplatelet therapy (PATCH): A randomised, open-label, phase 3 trial. *Lancet*. 2016;387(10038):2605–2613.
8. Luc NF, Rohner N, Girish A, et al. Bioinspired artificial platelets: Past, present and future. *Platelets*. 2022;33(1):35–47.
9. Neal MD, Spinella PC, Kornblith LZ. An oasis in the platelet desert? *JAMA*. 2026;335(7):583–584.
10. Dyer MR, Hickman D, Luc N, et al. Intravenous administration of synthetic platelets (SynthoPlate) in a mouse liver injury model of uncontrolled hemorrhage improves hemostasis. *J Trauma Acute Care Surg*. 2018;84(6):917–923.
11. Sekhon UDS, Swingle K, Girish A, et al. Platelet-mimicking procoagulant nanoparticles augment hemostasis in animal models of bleeding. *Sci Transl Med*. 2022;14(629):eabb8975.
12. Liu Z, Abdullah A, Secunda ZA, et al. Intraosseous administration of lyophilized synthetic platelets renders hemostatic efficacy in rat model of traumatic hemorrhage. *J Thromb Haemost*. 2026;24(3):877–889.
13. Sekhon UDS, Disharoon D, Desai SS, et al. Lyophilized synthetic platelets: In vitro characterization and in vivo evaluation in mouse thrombocytopenia model. *Adv Sci* (Weinh). 2026;13(38):e00002.
14. Gladwell M. *The Tipping Point: How Little Things Can Make a Big Difference*. New York, NY: Little, Brown and Company; 2000.

A Frozen Patient Defies the Odds

Tyler G. Hughes, MD, FACS

A ground blizzard occurs when strong winds lift previously fallen snow, creating whiteout conditions even when no new snow is falling.

FROM THE WINDOWS of the Historic Park Inn in Mason City, Iowa, it can look like ordinary blowing snow. On a snowmobile traveling 20 mph, however, the swirling snow can become a wall of white that limits visibility to just a few feet. Those were the conditions in northern Iowa in 1993, when Daniel J. Waters, DO, MA, FACS, was a cardiovascular surgeon in Mason City.

Dr. Waters arrived in northern Iowa after a winding path that began in New Jersey. His uncle, Rudolph C. Camishion, MD, was a surgeon who trained under John H. Gibbon Jr., MD, and later became chair of surgery at Cooper Hospital in Camden, New Jersey. Dr. Camishion's connection to the early development of cardiopulmonary bypass made him an influential figure in his nephew's life.

In Dr. Waters' large Catholic Italian family, his uncle was both a heroic figure and an inspiration. Dr. Waters' mother nurtured the idea that her son might become a physician. One of the books she routinely read to him as a child was Doctor Dan the Bandage Man, a Little Golden Book.

By high school, those seeds had sprouted, and Dr. Waters was determined to become a physician. At the time, however, New Jersey had no osteopathic medical school, and neighboring states largely favored in-state applicants.

Dr. Waters' family was far from wealthy, so medical school seemed like an unattainable dream. Then a new osteopathic medical school opened in his home state. Although he was too young to join its inaugural class, he was accepted into the second class of 28 students.

Because the school was new, its students shared some laboratory experiences with allopathic medical students at Rutgers University in New Brunswick, New Jersey. The experience reinforced Dr. Waters' confidence that he could compete with peers pursuing an MD. He went on to complete an osteopathic general surgery residency in Des Moines, Iowa, including a pediatric surgery rotation in Oklahoma. There he met David W. Tuggle, MD, FACS, who later became known for his response to the 1995 Oklahoma City bombing.

Dr. Waters excelled during the rotation and considered pediatric surgery, but after returning to Des Moines, he rotated on the cardiovascular service, where several attending surgeons had trained at Cleveland Clinic. He was drawn to the precision,

daring, and drama of heart surgery and ultimately completed cardiovascular surgery training at Cleveland Clinic.

Training was rigorous. Dr. Waters remembers falling asleep at the dinner table and once at a red light on the way home after a 36-hour call shift. His 2 years at Cleveland Clinic were exhausting and thrilling. He returned to Des Moines to join his mentors' practice, then within a few years helped bring heart surgery to northern Iowa. In Mason City, he built a dedicated team and embraced the autonomy of practicing in a smaller community, referring to himself as a "blue-collar" surgeon.

On the day of the blizzard, three men set out on snowmobiles near Mason City. One rider, 31-year-old Ward Krenz, became separated from the others in the driving snow. Unable to see the open water ahead, he rode onto Clear Lake and plunged through the ice into the 32°F water.

Krenz called for help before losing consciousness as ice began to reform over the water. His friends soon realized they had lost sight of him, but the blinding storm made it difficult to know where to search.

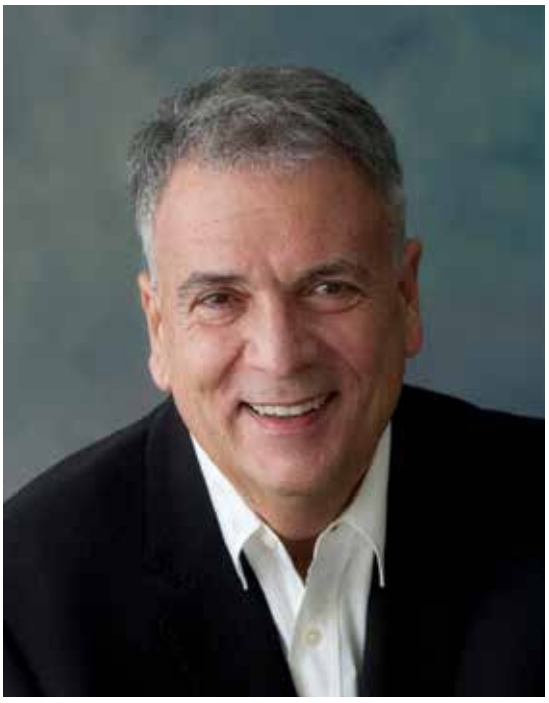
Battling the storm, the group reached a nearby bar and called 911. Rescue efforts began, and Krenz eventually was pulled from the lake and transported to the hospital, where his condition appeared dire.

The familiar maxim that a hypothermic patient is "not dead until warm and dead" reflects the potential for recovery after profound hypothermia, but in 1993 such resuscitation remained uncommon outside major centers. Dr. Waters knew the literature. In the emergency department, Krenz was in cardiac arrest with a core temperature of 23°C. Nearby was a portable heart-lung machine. Doing nothing offered no chance of survival, so Dr. Waters and the team attempted aggressive rewarming and resuscitation.

Dr. Waters cannulated the femoral artery and vein and initiated portable cardiopulmonary bypass to rewarm, oxygenate, and reperfuse Krenz. The published case report documented at least 78 minutes of cardiac asystole before bypass was established. As rewarming continued, Krenz's cardiac rhythm returned, and he ultimately recovered without neurologic impairment. He later recalled waking and asking where his snowmobile was.

Dr. Waters and colleagues reported the case in *The Annals of Thoracic Surgery* in 1994. Years later, the remarkable recovery was featured by National Geographic and ABC News as an example of survival after prolonged ice-water submersion and cardiac arrest.

As the saying goes, still waters run deep, and the phrase suits Dr. Waters.



Over a career spanning 4 decades, he became known not only for cardiovascular surgery but also for his interest in narrative medicine and writing. He has written about medicine and surgery and authored a series of murder mysteries drawing on his knowledge of the Jersey Shore. Through surgery and storytelling, Dr. Waters has remained committed to serving others with skill and trust. B

Disclaimer

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Dr. Tyler Hughes *is a retired rural surgeon who spent most of his career in McPherson, Kansas. In retirement, Dr. Hughes travels in search of stories about surgeons and the experiences that shaped their lives.*

Note from Dr. Hughes: Talking about the "average" surgeon is like referring to an "average" astronaut. Every story is unique; there is no average. In this article series, I will feature surgeons of different specialties, backgrounds, ages, and practice types. Some of the surgeons you may know well, while others have worked in near obscurity. As surgeons, they serve all with skill and trust. If you are an ACS member and would like to meet with me to share your experiences, contact bulletin@facs.org.

ACS, STS Collaboration Advances Lymph Node Assessment in Lung Cancer

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In keeping with its mission to improve the quality of surgical care of patients with cancer, the ACS Cancer Research Program (CRP) published Volume 1 of the *Operative Standards for Cancer Surgery* in 2015.

STARTING IN 2021, the ACS Commission on Cancer (CoC) added operative standards into CoC accreditation standards and included them as a part of program accreditation, ensuring that accredited centers were performing high-quality cancer operations and were documenting this care through synoptic operative reporting and/or synoptic pathology reporting based on the standard.

Standard 5.8 focuses on lung cancer and requires patients undergoing curative resection for non-small cell lung cancer (NSCLC) to have at least 3 mediastinal (N2) lymph node stations and at least 1 hilar (N1) lymph node station assessed.[1] For a site to be compliant, 80% of curative resections must meet this standard.

Previously, lymph node assessment in lung cancer surgery was tracked as a quality measure of assessing more than 10 lymph nodes, rather than as a standard used in accreditation. The inclusion of lymph node assessment during pulmonary resection as an accreditation standard reflects the continual, iterative review of research on the importance of nodal assessment and its impact on cancer-specific outcomes.

This focus on ongoing inquiry and evaluation of cancer care based on new knowledge and emerging research is at the heart of the ACS CRP. The ACS CRP Standards Investigation and Validation Committee is tasked with assessing current standards and conducting research that underpins ongoing standard evaluations and modifications.

Specialty Society Collaboration

Assessing national adherence and outcomes associated with Standard 5.8 via the National Cancer Database is challenging, as it does not capture the granular station-specific data needed to assess standard adherence.

However, since 2021, The Society of Thoracic Surgeons General Thoracic Surgery Database (STS-GTSD) has collected detailed data on lymph node stations, along with validated, risk-adjusted short-term outcomes. Building on the strengths of both organizations, a collaboration between the ACS CRP and STS led to three podium presentations at the STS 62nd Annual Meeting in January 2026.

National Assessment of Standard 5.8

The primary focus of the research was Standard 5.8 with respect to both national uptake and outcomes.[2] We assessed the uptake of the standard at three levels:

1. **The resection level:** How many actual resections met the standard and how did that change over time?
2. **The surgeon level:** What percentage of surgeons, in any given year, had at least 80% of their resections meet the standard?
3. **The institution level:** How many STS institutions, in any given year, had at least 80% of the resections performed meet the standard?

We found that adherence improved significantly over the study period (2021-2024) across all three metrics.

Overall, 66% of resections met the standard, improving from 54% in 2021 to nearly 75% by 2024.

A primary factor associated with meeting the standard was the extent of resection. Patients who had an anatomic lung resection (i.e., lobectomy or segmentectomy) were more likely to have a resection that met the standard than patients who underwent a wedge resection.

At the surgeon and institution levels, adherence was low but improved significantly over the study period. In 2021, only 19% of institutions and 23% of surgeons would have met the current compliance threshold under the current standard. This improved to 43% of institutions and 44% of surgeons by 2024. This is an improvement, but it still falls well short of where we need to be.

As the primary benefit of lymph node assessment in lung cancer resection is improved pathologic staging, we assessed the oncologic impact of the Standard by measuring the rate of pathologic nodal upstaging.

Resections that met Standard 5.8, compared with those that did not, were associated with a 19% increase in nodal upstaging and had significantly more lymph nodes sampled (13.7 versus 8.5). There was no increase in operative morbidity or mortality overall, or in specific complications that would be directly associated with lymphadenectomy, such as chylothorax and recurrent laryngeal nerve injury.

The STS-GTSD also tracks several quality metrics and quality surrogates, notably surgeon volume and center observed-to-expected (O:E) operative mortality. Resections that met the standard were more likely to be performed by the highest volume surgeons and at centers that had the best O:E mortality ratio, showing a strong correlation between higher quality surgery and increased adherence to Standard 5.8.

This study is one of the first to validate the impact of Standard 5.8 using national-level data and further supports earlier studies highlighting the importance of standards in lung cancer surgery and adequate lymph node assessment in general.

Evaluating Nodal Assessment Strategies

The second study to come out of this collaboration expanded the analysis to three additional assessment standards.[3] Two of the standards were lobe-specific (modified existing standards), and one was a hypothetical "2+1" strategy of only two mediastinal and one hilar lymph node stations.

We found that upstaging was broadly similar across the guidelines at around 11%, including the less rigorous "2+1" guideline, but that for resections that met none of the guidelines, the nodal upstaging rate was only 7.6%. This work further highlights the importance of having a nodal assessment standard to help ensure high-quality cancer surgery.

The papers presented represent the end product of months of discussion and collaboration between the primary investigators, all of whom were surgeons, and the biostatistical team at the STS Data Analytics Center.

Born out of those discussions was the question of whether we could use the granularity and power of the database to work backward. In other words, instead of looking at established guidelines and assessing their outcomes, could we look at the outcomes (i.e., nodal upstaging) and identify the strategy that optimized that outcome? This question, perhaps the most impactful, led to the third paper and was presented at the plenary session.[4]

Using the STS-GTSD, we analyzed approximately 50,000 clinically node-negative patients who underwent resection for NSCLC. We assessed the rate of nodal upstaging, stratified by the extent of N1 and N2 lymph node assessment, and found that the majority of upstaging was driven by an increase in N1 stations, rather than N2 stations, assessed and that the optimal strategy to maximize upstaging and minimize morbidity was one that increased the number of N1 stations examined.

For example, within this cohort of clinical N0 patients, resections that met Standard 5.8, but had only a single N1 station assessed, had an upstaging rate of 7.3%. For patients who had three N2 stations assessed and at least three N1 stations assessed, the upstaging rate more than doubled to 15.5%.

This study also assessed the impact on survival through linkage with the National Death Index and Medicare inpatient records. Among patients

Taken together, this work strengthens the data supporting the use of standards in lung cancer surgery and lymph node assessment in particular.

with pathologic node-negative disease, increasing N1 lymph node station assessment, and in particular intrapulmonary nodal station assessment, was associated with significantly improved survival.

Patients who had at least three N1 stations sampled had a 37% lower risk of death compared with patients who had no N1 lymph nodes assessed, a notable difference, especially considering median follow-up was less than 2 years.

Where Do We Go from Here?

Taken together, this work strengthens the data supporting the use of standards in lung cancer surgery and lymph node assessment in particular.

Standard 5.8, the only lung cancer standard tied to program accreditation, was associated with improved nodal upstaging, correlated with other surgical quality surrogates, and was not associated with any operative morbidity or mortality.

This work also highlights the power of collaboration between societies and paves the way for ongoing work to improve our standards through such collaboration. Just as the prior quality improvement measure of assessing at least 10 lymph nodes gave way to Standard 5.8, iterative processes to review and adapt our current standards will invariably lead to continuous improvement and adoption of standards that improve the care of patients with cancer.

These findings suggest that further improvements in the surgical care of patients with lung cancer may depend on more comprehensive N1 lymph node assessment in order to optimize staging and guide the delivery of ever-evolving systemic therapies.

The work of the ACS CRP and the Standards Investigation and Validation Committee is focused on helping investigators in this process and will continue to facilitate efforts and collaborations such as this, with the ultimate goal of providing the best care possible for patients with cancer.

Dr. Seth Krantz *is chief of thoracic surgery at Endeavor Health in Evanston, Illinois, and a clinical associate professor of surgery at The University of Chicago. He is a member of the ACS CRP Standards Investigation and Validation Committee. His research focuses on quality outcomes in lung cancer surgery and on better understanding genetic risk in lung cancer.*

References

1. Nissen AP, Vreeland TJ, Teshome M, et al. American College of Surgeons Commission on Cancer standard for curative-intent pulmonary resection. *Ann Thorac Surg.* 2022;113(1):5–8.
2. Krantz SB, et al. National assessment of adherence to Commission on Cancer Standard 5.8 and its impact on nodal upstaging rates and operative morbidity. *Ann Thorac Surg.* Published online September 10, 2026.
3. Potter AL, Wang D, Bonnell L, et al. Comparing nodal upstaging rates and morbidity and mortality of common nodal sampling guidelines in the STS General Thoracic Surgery Database. *Ann Thorac Surg.* 2026;121(6):1309–1317.
4. Seder CW, et al. Association between N1 nodal assessment, upstaging, and survival in resected non-small cell lung cancer. *Ann Thorac Surg.* Published online September 18, 2026.

Clinical Congress 2026 Highlights



During the Convocation Ceremony at Clinical Congress 2026, 2,118 surgeons from 88 countries were initiated into ACS Fellowship.



An attendee captures a moment during the Convocation Ceremony at Clinical Congress.

CLINICAL CONGRESS 2026, held September 26–29 in Washington, DC, offered surgeons, residents, medical students, and other healthcare professionals from around the world opportunities to advance their surgical skills and knowledge while connecting with peers, ACS leaders, and staff.

More than 10,100 individuals participated, with 9,330 in-person registrants and 856 virtual registrants.

Registered participants can access on-demand content and claim continuing medical education (CME) credit through February 22, 2027. Virtual registration remains available.

Highlights of the meeting follow.

Convocation

This year, 2,118 surgeons from 88 countries—1,255 from the US and Canada and 863 from other countries—were initiated into ACS Fellowship following a procession of ACS leaders and invited guests. ACS Secretary Sherry M. Wren, MD, FACS, presented the Great Mace.

During the hourlong program, Honorary Fellowship was conferred on eight international surgeons, and several awards were presented. The 2025–2026 ACS President, Anton N. Sidawy, MD, MPH, FACS, led the installation of new officers, including Timothy J. Eberlein, MD, FACS, as President, Sharon M. Henry, MD, FACS, as First Vice-President, and Robert P. Sticca, MD, FACS, as Second Vice-President.

The 2026 Honorary Fellows were:

- Jorge Daes, MD, FACS (Bogota, Colombia)
- Paolo De Coppi, MD, PhD, FMedSci, FRCS (Hon) (London, United Kingdom)
- Christian Gerber, MD, PhD, FRCSEd(Hon) (Zürich, Switzerland)
- Rosa Maria Jorba Martín, MD, PhD (Tarragona, Spain)
- Abhay Rane, OBE, MBBS, MS, FRCSGlasg (Urol) (Surrey, United Kingdom)
- Jean-Baptiste Ricco, MD, PhD, FEBVS (Poitiers, France)
- Norbert Senninger, MD, PhD, FACS, FRCS (Münster, Germany)
- Han-Kwang Yang, MD, PhD, FACS (Seoul, Korea)

Charles Mabry, MD, FACS, received the 2026 Distinguished Service Award for more than 45 years of service to the ACS and a career dedicated to advancing trauma care, surgical advocacy, and education. Dr. Mabry helped develop the first trauma service at the University of Arkansas for Medical Sciences, served as an Advanced Trauma Life Support (ATLS®) instructor for 12 years, and held leadership roles with the ACS Committee on Trauma and Arkansas trauma organizations.

The 2026 Owen H. Wangensteen Scientific Forum Award was presented to Timothy R. Billiar, MD, FACS, for his distinguished career in surgical research and mentorship. A trauma surgeon and surgeon-scientist at the University of Pittsburgh in Pennsylvania, Dr. Billiar has advanced understanding of organ injury and immune dysfunction in trauma, shock, and sepsis, including pioneering research on nitric oxide as a signaling molecule.

Jo Buyske, MD, FACS, received the 2026 Dr. Mary Edwards Walker Inspiring Women in Surgery Award for her significant contributions to advancing women in surgery. As executive director and first woman CEO of the American Board of Surgery (ABS), Dr. Buyske has helped modernize board certification,



Educational sessions drew large audiences throughout Clinical Congress 2026, with packed rooms reflecting strong interest in the meeting's wide range of topics.

advance competency-based surgical education, and introduce greater flexibility into surgical training.

A recording of Convocation, which includes the awards presentations and ACS Presidential Address, is available on the Meeting Platform.

Named Lectures

Clinical Congress Named Lectures brought leading voices from surgery and beyond to the stage to offer fresh perspectives on innovation, leadership, collaboration, and the future of surgical care.

Ralph V. Clayman, MD, FACS, delivered the Martin Memorial Lecture, "Curiosity and Innovation: The Promise of Wonder." He drew on his pioneering career in minimally invasive urology, including performing the first laparoscopic nephrectomy, to examine the curiosity and creativity that drive surgical innovation.

Reflecting on the questions that can drive innovation, he said, "Answering that seminal question, 'Why are we doing something?' Why are we still making big open incisions to take out kidneys in 1990 when there's a laparoscope? It requires imagination and creativity."

Dr. Clayman encouraged surgeons to question established practices, remain comfortable with uncertainty, learn from failure, and collaborate across disciplines. He also considered artificial intelligence (AI) as a potentially powerful partner in innovation while emphasizing the importance of human imagination and creativity.

Justice Ketanji Brown Jackson of the Supreme Court of the United States joined ACS Executive Director and CEO Patricia L. Turner, MD, MBA, FACS, for the Olga M. Jonasson Lecture, offering reflections on leadership, resilience, mentorship, and working productively across differences.

Justice Jackson discussed experiences that shaped her path to becoming the first Black woman to serve on the Supreme Court, including the importance of role models and mentors and the resilience she developed while navigating professional environments in which few people shared her background. She also provided insight into relationships among the nine Supreme Court Justices, explaining how they deliberate, disagree, and continue working together despite strongly held differences.

Her observations offered parallels for surgeons who collaborate with colleagues holding different perspectives and expertise. Listening and mutual respect remain essential to effective decision-making and leadership.

"Working closely with people who have different views is a wonderful model for our country," Justice Jackson said.

Clinical Congress Named Lectures brought leading voices from surgery and beyond.

Trauma surgeon Michael F. Rotondo, MD, FACS, delivered the Scudder Oration on Trauma, "The Last Preventable Death: Will Digital Transformation Change Injury Care Forever?" Dr. Rotondo traced the evolution of organized trauma care from the landmark 1966 Accidental Death and Disability report through the development of trauma centers and systems, ATLS, risk-adjusted outcomes measurement, and contemporary quality improvement programs.

Despite that progress, he argued that fragmented information continues to impede the goal of eliminating preventable injury deaths. Dr. Rotondo envisioned a digitally connected trauma system that uses continuous data, analytics, artificial intelligence, and automation to identify deterioration earlier and support better decisions from the scene of injury through hospitalization and recovery. Technology, however, would complement rather than supplant the expertise and judgment of trauma professionals.

"We need to integrate continuous data and analytics across a patient's entire journey," Dr. Rotondo said.

Awards and Honors

Surgeons, residents, and medical students were recognized for their achievements in surgical science, volunteerism, and leadership. See *Clinical Congress News* for a complete list of this year's awards, honors, and dedications.

Annual Business Meeting

The Annual Business Meeting of Members was held on September 29, with Dr. Eberlein presiding. Following reports from the Board of Regents (BoR), Board of Governors (BoG), ACS Foundation, and the ACS Professional Association Political Action Committee, new ACS Officers and other officials were elected for 2026–2027.

Regenerative medicine pioneer Anthony Atala, MD, FACS, was elected 2026–2027 ACS President-Elect. A practicing urologist, Dr. Atala is director of the Wake Forest Institute for Regenerative Medicine in Winston-Salem, North Carolina, where he leads research into engineered tissues and organs, including 3D bioprinting technologies. He also brings more than 25 years of ACS leadership experience, including service on the BoG and 9 years on the BoR, which he chaired from 2023 to 2024.

Steven D. Wexner, MD, FACS, system chief of colorectal surgery for MedStar Health in Washington, DC, was elected First Vice-President-Elect. A colorectal surgeon and longtime ACS leader, Dr. Wexner helped develop the ACS National Accreditation Program for Rectal Cancer and serves as its Immediate Past Chair. Steven M. Roser, DMD, MD, FACS, DeLos Hill Professor of Oral Surgery and chief at Emory University School of Medicine in Atlanta, Georgia, was elected Second Vice-President-Elect. An oral and maxillofacial surgeon, Dr. Roser has served as Chair of the ACS Advisory Councils and received the 2026 ACS/Pfizer International Surgical Volunteerism Award.

Diana L. Farmer, MD, FACS, was named Chair of the BoR, succeeding Lena M. Napolitano, MD, FACS. An internationally recognized fetal and neonatal surgeon and chair of the University of California (UC) Davis Department of Surgery, Dr. Farmer is known for advancing prenatal treatment of myelomeningocele and previously served as Chair of the ACS BoG.



During the Annual Business Meeting of Members at Clinical Congress 2026, Dr. Timothy Eberlein presents Dr. Anton Sidawy with his presidential portrait.

Scientific and educational programming anchored the conference, providing surgeons with an opportunity to share their insights across a wide range of clinical and professional topics.

Access related video content online.

Kenneth W. Sharp, MD, FACS, professor of surgery at Vanderbilt University School of Medicine in Nashville, Tennessee, was named Vice-Chair. A Regent since 2018, Dr. Sharp has held numerous ACS leadership positions, including roles with the BoG, advisory councils, Program Committee, and ACS Foundation.

Christopher R. McHenry, MD, FACS, was named ACS Secretary. A general and endocrine surgeon and professor of surgery at Case Western Reserve University School of Medicine in Cleveland, Ohio, Dr. McHenry has been active in the ACS for more than 30 years, including service on the BoG and Advisory Council for General Surgery. His broader surgical leadership has included serving as a director of the ABS and president of several organizations, including the American Association of Endocrine Surgeons.

Two surgeons were elected to initial terms on the BoR:

- David Tom Cooke, MD, FACS, physician-in-chief at the UC Davis Comprehensive Cancer Center in Sacramento (3-year term)
- Ross F. Goldberg, MD, FACS, chief of perioperative services at Jackson Health System in Miami, Florida (3-year term)

The following BoG Officers were elected:

- Chair–Robert D. Winfield, MD, FACS, division chief of acute care surgery at the University of Kansas Medical Center, Kansas City
- Vice-Chair and Member Services Pillar Lead–Alisha D. Reiss, MD, FACS, a general surgeon at Wayne Healthcare in Greenville, OH
- Secretary–Cynthia Talley, MD, FACS, professor of surgery at the Medical University of South Carolina, Charleston

The following surgeons were elected to the BoG Executive Committee for a 1-year term:

- **Quality Pillar Lead**–Alan Dardik, MD, PhD, FACS, vice chair of research for the department of surgery at the Icahn School of Medicine at Mount Sinai, New York, NY
- **Education Pillar Lead**–Donald T. Hess Jr., MD, FACS, system chief of bariatric, minimally invasive, and general surgery at the Boston Medical Center Health System, MA
- **Advocacy Pillar Lead**–Jacob Moalem, MD, FACS, professor of surgery and oncology, and professor of endocrine/metabolism at the University of Rochester Medicine, NY
- **Inclusive Excellence Collaborative Co-Lead**–Maheswari (Magi) Senthil, MBBS, FACS, chief in the division of surgical oncology, University of California, Irvine
- **Communications Pillar Lead**–Jeffrey S. Upperman, MD, FACS, surgeon-in-chief of the Monroe Carell Jr. Children's Hospital at Vanderbilt, Nashville, TN

Diverse Academic Programming

Scientific and educational programming anchored the conference, providing surgeons with an opportunity to share their insights across a wide range of clinical and professional topics.

Latest in Clinical and Professional Programming

Clinical Congress 2026 provided attendees with access to 92 expert-led Panel Sessions.

- General surgery sessions, such as the popular "10 Hot Topics in General Surgery," covered controversies in ventral hernia surgery, evolving approaches to diverticulitis and appendicitis, and management of common bile duct stones and cholangitis.
- Specialty-focused sessions addressed moral dilemmas in pediatric trauma, perioperative management of urinary retention after surgery, and more.
- Rural surgery sessions addressed complex transfers to urban hospitals and management of trauma in resource-limited settings.
- Multidisciplinary sessions explored surgical site infection and antimicrobial resistance, laser surgery across luminal systems, and advances in telesurgery.



Pediatric trauma surgeon Dr. Edward Barksdale encouraged surgeons to look beyond treating injuries and consider how surgical leadership and community engagement can help patients and communities emerge stronger from adversity.

Sessions on professional practice examined locum tenens work and surgical workforce shortages, environmental and economic sustainability in surgery, and grassroots advocacy.

New Best of Grand Rounds and Clinical Informatics Sessions

Two new session formats were created based on surgeon feedback.

The three-session Best of Grand Rounds series featured thought-provoking presentations nominated by ACS members.

Trauma surgeon Joseph V. Sakran, MD, MPH, MPA, FACS, delivered "Leading Beyond the Bedside: The Power of Personal Narratives in Medicine," drawing on his experience surviving a gunshot wound as a teenager and his subsequent career in trauma surgery and firearm injury prevention advocacy. Dr. Sakran emphasized how personal experiences shape surgeons' judgment, resilience, and leadership, and how sharing those experiences can build trust, influence public policy, and inspire meaningful change. "Data persuade the analytical mind, and stories persuade the whole person," he said.

Pediatric trauma surgeon Edward Barksdale Jr., MD, FACS, FAAP, presented "Antifragility: The New Architecture of Healing: Transforming Despair into Hope through Surgical Leadership and Social Innovation." Dr. Barksdale challenged surgeons to look beyond treating immediate injuries and consider how they can help patients and communities emerge stronger from adversity. He highlighted his Anti-Fragility Initiative, which supports pediatric trauma patients affected by violence, as an example of how surgical leadership and community engagement can create opportunities for healing.

Trauma surgeon Tovy H. Kamine, MD, MBA, FACS, explored the future of surgical care beyond Earth in "Surgery in Space." His presentation examined the formidable logistical and clinical challenges of operating during spaceflight, including limited equipment, confined environments, communication delays, and the potential role of robotic surgery. Dr. Kamine also highlighted lessons relevant to surgeons practicing in rural, military, and other resource-limited environments, describing spaceflight as "the most austere surgery you can probably get."

Eight Clinical Informatics and AI Sessions addressed applications of AI to clinical care, surgical video, robotics, ambulatory surgery centers, and policy. Together, they examined how surgeons are using AI today and how its role in surgical practice and the profession may continue to evolve.

Special Sessions Examine Challenges Facing Surgery

Three Special Sessions examined issues affecting surgical practice.

"How to Gain Control of Our Professional Lives and Reclaim Our Autonomy" examined surgeon unionization, workplace standards, and ACS efforts to support surgeons in increasingly complex employment environments. Dr. Turner outlined the College's work in this area, while ACS Regents Philip Wolinsky, MD, FACS, and Douglas Wood, MD, FACS, FRCSEd, considered the benefits and limitations of unionization and described a new ACS framework for specialty-specific workplace standards addressing call coverage, OR access, fatigue mitigation, and other concerns. Representatives from colorectal surgery and orthopaedic trauma shared efforts to develop standards tailored to their specialties.

Former US Food and Drug Administration Commissioner Martin A. Makary, MD, MPH, FACS, discussed four major challenges facing American healthcare during the Special Session, "The Future of Healthcare." Drawing on his experience as a surgeon, researcher, and federal health official, Dr. Makary highlighted administrative waste, failures in healthcare pricing, low-value medical care, and insufficient attention to the root causes of disease.



The Exhibit Hall offered attendees opportunities to engage with industry representatives and see the latest advances in surgical equipment and technology.

He argued that excessive administrative costs divert resources from patient care, while opaque pricing undermines public trust. He also described how greater transparency around clinical practice patterns can reduce unnecessary procedures and spending. Finally, he urged physicians to question established medical assumptions and scrutinize the evidence underlying clinical recommendations, citing examples of guidance that he said had unintended consequences.

Monica M. Bertagnolli, MD, FACS, president of the National Academy of Medicine, addressed geographic disparities in American healthcare during the Special Session, "The Geography of Health." Despite advances in medical research and treatment, Dr. Bertagnolli noted that geography continues to influence patient outcomes, including cancer mortality. She emphasized the importance of understanding the environmental, social, and economic conditions affecting individual communities alongside advances in precision medicine.

Dr. Bertagnolli also highlighted the potential of AI and learning health systems to improve care, while cautioning that incomplete or unrepresentative data could exacerbate existing inequities. She stressed that technology must support, rather than replace, the clinician-patient relationship.

In combination with the other session types and programs offered onsite, including Didactic and Skills Postgraduate Courses, the Surgery Resident Series and Medical Student Program, and Meet-the-Expert Sessions, Clinical Congress 2026 featured more than 2,400 total presentations and nearly 1,800 faculty and presenters.

On-Demand Access

Registered participants can access many Named Lectures, Panel Sessions, Special Sessions, Best of Grand Rounds presentations, and Clinical Informatics and AI sessions through the on-demand Meeting Platform. More than 500 posters and 100 videos also are available to view.

New Tools and Activities in the Exhibit Hall

The Exhibit Hall featured more than 135 companies showcasing the newest surgical tools, services, and technologies, along with new ACS resources and activities.

Attendees had an opportunity to explore the new ACS Surgical Workforce Mapping Tool, an interactive resource that provides a detailed look at where surgeons practice across the US and where potential gaps in access to surgical care exist. The tool was featured in the Education Hub at ACS Central in the Exhibit Hall, where visitors could explore the geographic distribution of surgeons across 12 surgical specialties, examine workforce patterns at the county and regional levels, and overlay the locations of hospitals and ambulatory surgical centers. Read more about the tool in this month's issue.

The ACS Postural Stabilization and Stretch Lab offered surgeons hands-on instruction in exercises designed to address the physical demands of surgical practice, drawn from the ACS Surgical Ergonomics Recommendations.

Other activities included Networking Coffee with Your Specialty, which gave plastic, pediatric, colon and rectal, and vascular surgeons opportunities to connect informally; a "Pause for Paws" event with adoptable puppies from a local shelter; and a blood drive.

Clinical Congress 2027

Clinical Congress 2027 will take place October 16–19, 2027, in San Diego, California. Abstract submission is expected to begin in mid-December.

ACS Clinical Congress 2026

BY THE NUMBERS



1,792
Total Speakers



445
Scientific Forum Abstracts Presented



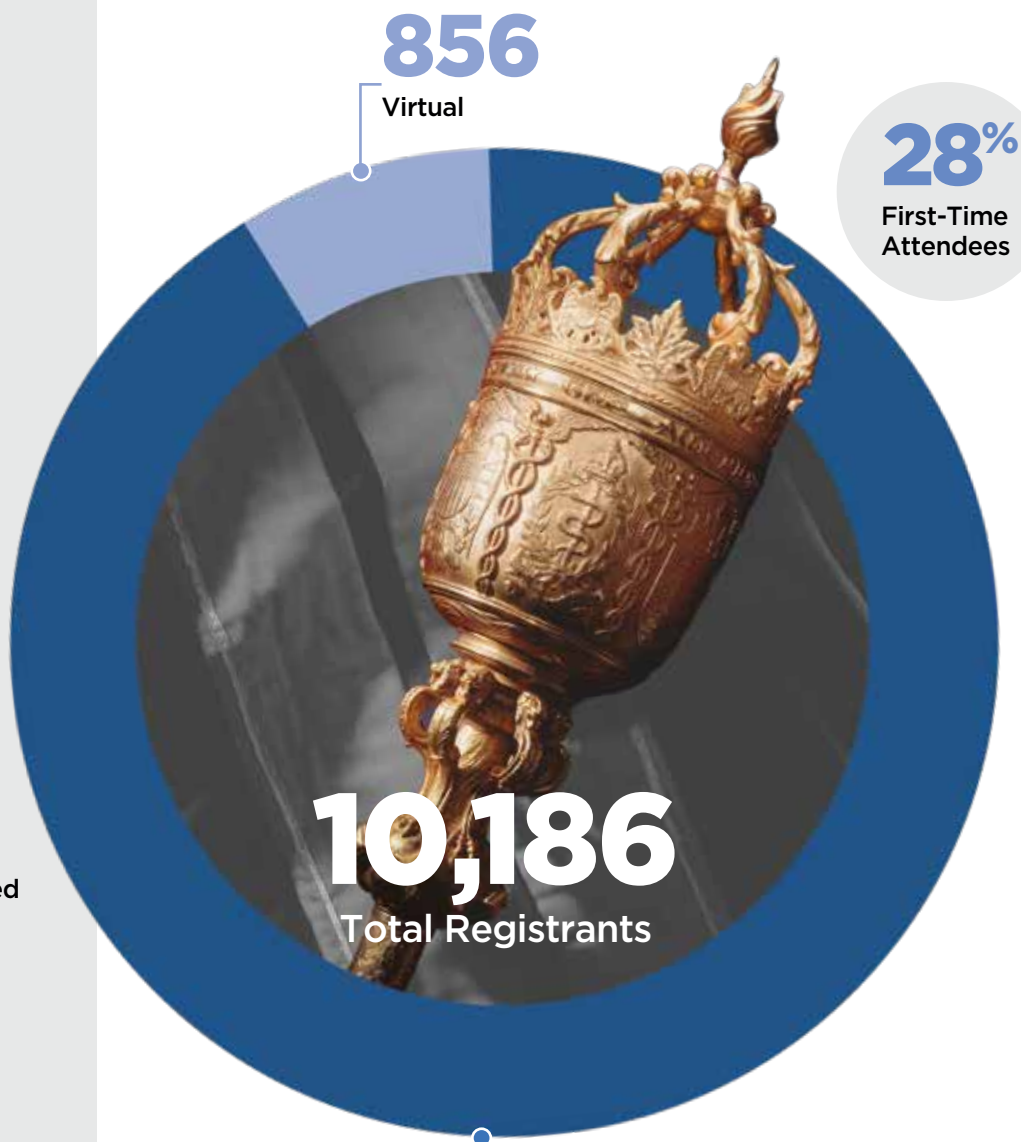
457
Scientific Forum Quick-Shots Presented



134
Videos Presented



185
CME Credits Available for In-Person Attendees



2,118 Initiates From 88 Countries















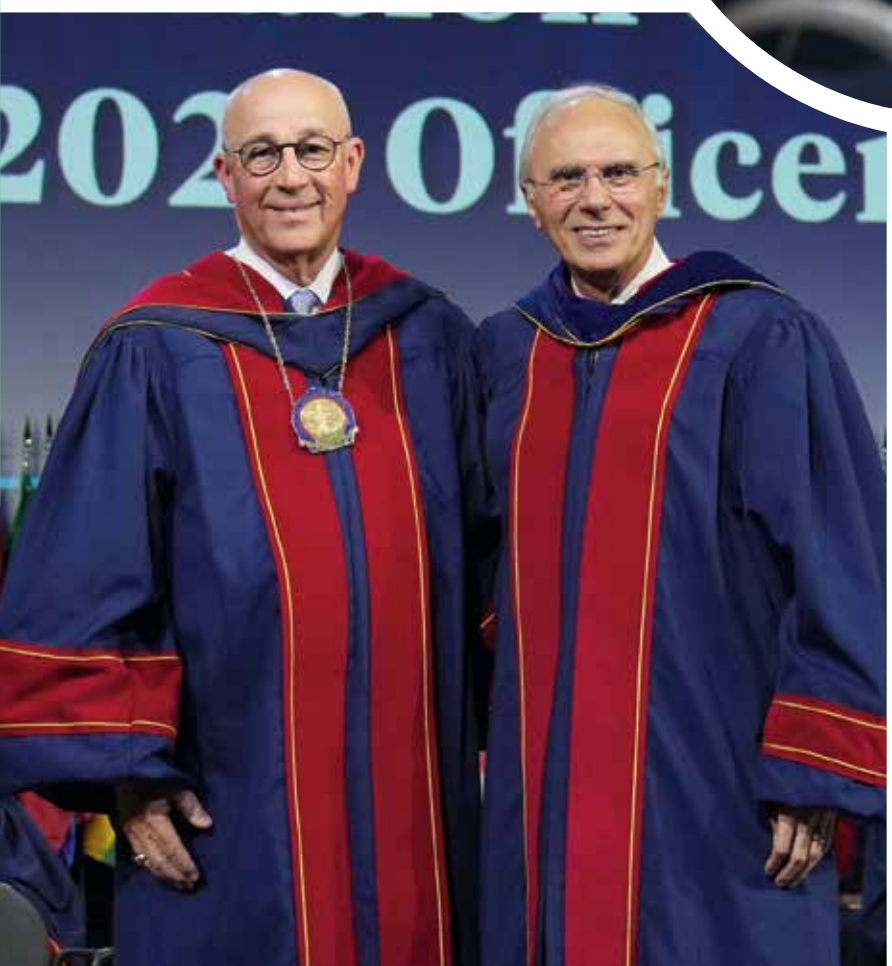







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Dr. Timothy Eberlein Is Installed as 107th ACS President

Access introductory video about ACS President Dr. Timothy Eberlein.

RENOWNED SURGICAL oncologist Timothy J. Eberlein, MD, FACS, was installed as the 2026–2027 ACS President at Convocation during Clinical Congress 2026 in Washington, DC, succeeding Anton N. Sidawy, MD, MPH, FACS. Dr. Eberlein is the 107th President of the ACS.

During the ceremony, Dr. Eberlein delivered his Presidential Address, centered on the theme of his presidential year, "The House of Surgery—Stronger Together." The theme reflects a vision of collaboration across specialties, generations, and experiences as surgery navigates rapid changes in policy, technology, and clinical care.

Background and Career Highlights

After earning his medical degree at the University of Pittsburgh School of Medicine in Pennsylvania, Dr. Eberlein completed an internship and residency at Brigham and Women's Hospital in Boston, Massachusetts, as well as two research fellowships at the National Institutes of Health in Bethesda, Maryland.

Dr. Eberlein then began practicing surgical oncology at Harvard Medical School in Boston, Massachusetts. Over time, he rose to become the Richard E. Wilson Professor of Surgery, chief of the Division of Surgical Oncology, and vice-chair for

research in the Department of Surgery at Brigham and Women's Hospital.

He later became the founding director of the Alvin J. Siteman Cancer Center at Washington University School of Medicine in St. Louis, Missouri, where he was also the Bixby Professor and chair of the Department of Surgery.

Dr. Eberlein is the Spencer T. and Ann W. Olin Distinguished Professor, director of the Alvin J. Siteman Cancer Center, and senior associate dean for cancer programs at Washington University School of Medicine and Barnes-Jewish Hospital. Under his leadership, Siteman Cancer Center has grown into one of the largest National Cancer Institute-designated cancer centers in the country.

ACS Leadership and Achievements

Dr. Eberlein has been active within the ACS for more than 30 years. He served as Editor-in-Chief of *JACS* from 2004 to 2025. His improvements to the journal included adding rigorous biostatistical reviews for all manuscripts and affiliating the journal with regional surgical societies nationwide, as well as the Excelsior Surgical Society.

Dr. Eberlein also has held numerous leadership roles within the College. He was a member of the Board of Governors and served as Chair of the Board of Regents. His committee service included chairing the Committee on Research and Education and serving as Vice-Chair of the Surgical Forum Committee.

Among his honors are the Rodney E. and Thomas G. Sheen Award from the New Jersey Chapter, recognizing his service, and the Owen H. Wangensteen Scientific Forum Award, honoring his contributions to science.

An introductory video with more information about Dr. Eberlein is available at facs.org.

Vice-Presidents

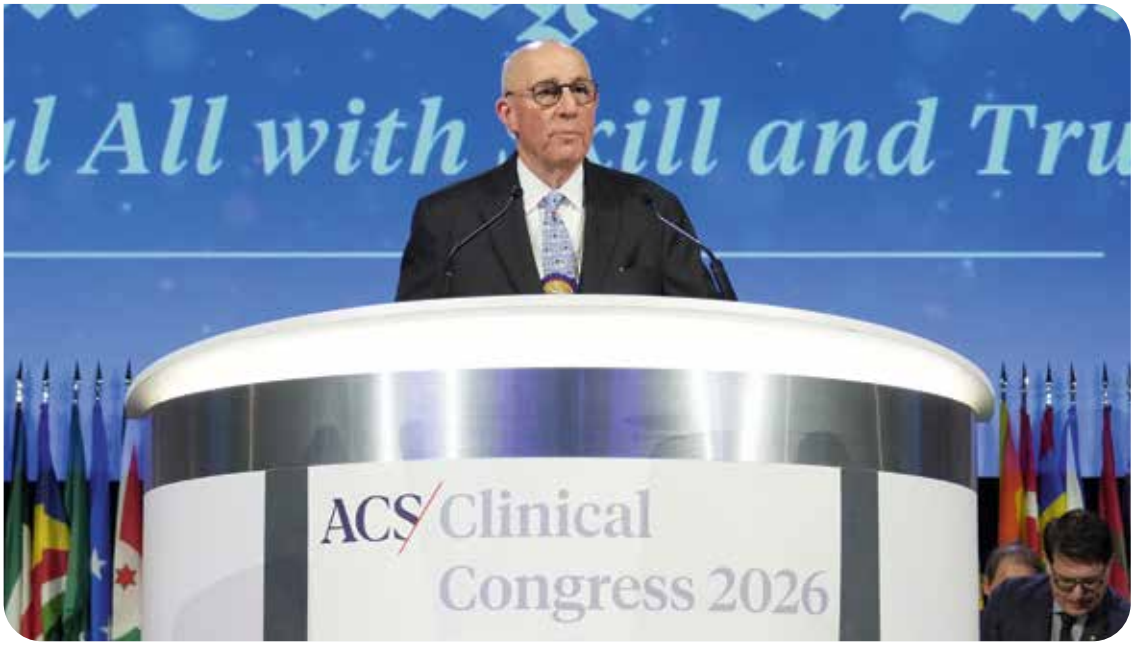
First Vice-President Sharon M. Henry, MD, FACS, and Second Vice-President Robert P. Sticca, MD, FACS, also were installed during Convocation.

A trauma surgeon, Dr. Henry is the Anne Scalea Professor of Trauma Surgery at the University of Maryland School of Medicine in Baltimore. Within the ACS, her service includes more than 20 years with the Committee on Trauma (COT). She has been a course director for Advanced Trauma Life Support® (ATLS®) for many years, helping introduce the course in Slovenia, Iraq, Haiti, and Bangladesh and serving on the steering committee for the 11th edition (released in 2025). For this work, she received the COT Meritorious Service Award in 2009.

Dr. Sticca is an emeritus professor of surgery at the University of North Dakota School of Medicine in Grand Forks, where he helped develop and lead the only surgical residency program in the state. The program helps meet the need for surgical care in the Great Plains and serves as a model for rural care nationally. A past member of the ACS Board of Governors and Advisory Council for Rural Surgery, Dr. Sticca also contributed to the Commission on Cancer and the ATLS program. A surgical oncologist and general surgeon by training, he has championed the use of opportunistic bilateral salpingectomy to prevent ovarian cancer. B







ACS President Highlights Strength Through Transformation

NEWLY INSTALLED ACS President Timothy J. Eberlein, MD, FACS, highlighted the power of scientific, clinical, and organizational transformation to strengthen the surgical profession during his Presidential Address at Clinical Congress 2026 in Washington, DC.

Dr. Eberlein opened his address on a personal note, sharing his gratitude for the many people who helped shape him. He noted that he was raised by parents who had neither university-level education nor wealth, but who nonetheless "provided me with the support to follow my passion, and gave me the values of integrity, hard work, and respect for others."

He then described the support of numerous mentors and sponsors in an introduction that also traced his education and career. He started with Larry Carey, MD, a general surgeon he encountered during his undergraduate years who "was responsible for my receiving a full-ride scholarship to the University of Pittsburgh School of Medicine, without which I would not have been able to attend medical school."

After earning his medical degree, Dr. Eberlein completed an internship and residency at Brigham and Women's Hospital in Boston, Massachusetts, where he was mentored by surgical pioneer Francis D. Moore Sr., MD, FACS, vascular surgeon John A. Mannick, MD, FACS, and general surgeon Richard E. Wilson, MD, FACS. He called Dr. Wilson a "larger-than-life surgeon whose patients worshipped him because of his surgical outcomes and his accessibility."

Dr. Wilson was the namesake of the Harvard Medical School Richard E. Wilson Professor of Surgery in the Field of Surgical Oncology; Dr. Eberlein was the first person to hold that position.

Dr. Eberlein, who served as the Bixby Professor and chair of the Department of Surgery at Washington University in St. Louis, Missouri, for many years, is now the Spencer T. and Ann W. Olin Distinguished

Professor, director of the Alvin J. Siteman Cancer Center, and senior associate dean for cancer programs at Washington University School of Medicine and Barnes-Jewish Hospital in St. Louis.

In conveying his thanks to leaders who had influenced and supported him, Dr. Eberlein also mentioned two cherished colleagues who preceded him as Presidents of the ACS. The first was Henry T. Bahnson, MD, FACS, who served from 1983 to 1984 and was "one of the most technically gifted surgeons I have ever had the pleasure of assisting," Dr. Eberlein said.

The other Past President was L. D. Britt, MD, MPH, FACS, who served from 2010 to 2011. "He has worked to improve access for surgical patients," Dr. Eberlein said, "and epitomizes our motto, 'to Heal All with Skill and Trust.'"

Dr. Eberlein then shifted to the theme of his presidential year, "The House of Surgery: Stronger Together."

His key messages included why "this may be the best time to enter surgery" illustrated by "a few examples that make me excited about the future," as well as why the ACS is positioned to lead surgeons into that future.

Those examples included advances in AI-assisted phenotyping in ophthalmology, which are enabling early detection of disease and precision treatments in patients with type 2 diabetes; minimally invasive laser treatment in neurology, to treat brain tumors and epilepsy and trigger the release of biomarkers for diagnosis in lieu of brain biopsy; and steps forward in regenerative medicine, including kidney cell regeneration that could eliminate the need for dialysis.

He also cited advances in personalized cancer vaccines in his own field, surgical oncology, as well as updates to neoadjuvant chemotherapy and chemoimmunotherapy regimens for various cancers.

"These are incredible advancements across the House of Surgery, which have led to better patient care and less morbidity," he said. "Each of these examples has been led by surgeons and involve many specialties, which demonstrates that we can learn from each other and make the House of Surgery stronger together."

Dr. Eberlein highlighted ongoing efforts at the ACS to develop a new approach to clinical data. Drawing on his own institution, Washington University in St. Louis, he explained that improved access to data dashboards had improved performance and outcomes.

Similarly, the ACS is implementing an enterprise-wide data transformation. "This will result in a shift from static reports to actionable real-time feedback with advanced analytics that is AI-driven," he explained, including "predictive models and new solutions for quality and safety. The House of Surgery will have a unified customer experience."

Finally, Dr. Eberlein highlighted ACS efforts to support surgeons through advocacy. He listed several notable achievements, including favorable budget appropriations that funded hospital preparedness programs, emergency medical services for children, and injury care.



He also noted ongoing priorities, such as protecting physician payments, sustaining merit-based peer-reviewed funding, and promoting Medicare payment reform legislation. "Members of Congress from both parties look to the ACS for leadership and guidance on physician payment and workplace enhancements to better serve all of our Fellows," he said.

Dr. Eberlein noted that surgical care is changing, and the ACS is transforming itself to meet the challenges of the future and help all surgeons thrive.

"Your College is doubling down on its efforts to be the best home for the entire House of Surgery, creating programs to benefit every specialty," he said. "Whether educational programs, Quality Programs, the new digital strategy, or advocacy, the American College of Surgeons has reinvented itself."

The full Convocation ceremony is available at *facs.org/convocation*.



Dr. Anthony Atala Is the 2026–2027 ACS President-Elect

RENOWNED UROLOGIST and regenerative medicine pioneer Anthony Atala, MD, FACS, was elected President-Elect of the ACS during the Annual Business Meeting of Members at Clinical Congress 2026 in Washington, DC. Joining him as First and Second Vice-Presidents-Elect, respectively, are Steven D. Wexner, MD, FACS, and Steven M. Roser, DMD, MD, FACS.

President-Elect

Dr. Atala is the G. Link Professor and Director of the Wake Forest Institute for Regenerative Medicine (WFIRM) and the W. H. Boyce Professor of Urology at Wake Forest School of Medicine in Winston-Salem, North Carolina.

Born in Lima, Peru, and raised in Coral Gables, Florida, Dr. Atala earned his medical degree and completed his urology residency at the University of Louisville in Kentucky. He later completed a clinical and research fellowship at Boston Children's Hospital in Massachusetts.

A practicing pediatric urologist, Dr. Atala is internationally recognized for his work in regenerative medicine. At WFIRM, he leads a team of hundreds of researchers working to develop regenerative medicine technologies, including engineered tissues and organs. His research has contributed to more than 15 technologies that have been used clinically, including applications involving muscle, urethral, and skin tissues.

Dr. Atala also has helped advance 3D bioprinting technologies for engineering tissues. His work has earned numerous honors, including election to the Institute of Medicine of the National Academies of Sciences in 2011 and the ACS Jacobson Innovation Award in 2022.

A practicing pediatric urologist, Dr. Atala is internationally recognized for his work in regenerative medicine.

Dr. Atala has served in ACS leadership roles for more than 25 years, beginning with the Advisory Council for Urology in 2001. He served 6 years on the Board of Governors and 9 years on the Board of Regents (BoR), including as Chair from 2023 to 2024. His ACS service also has included work in health policy, finance, research, and member services.

Vice-Presidents-Elect

Dr. Wexner, physician executive director and system chair for colorectal surgery at MedStar Health and professor of surgery at Georgetown University School of Medicine in Washington, DC, is the First Vice-President-Elect.

Dr. Wexner has served in ACS leadership roles for nearly 3 decades, including on the Advisory Council for Colon and Rectal Surgery, Board of Governors, and BoR. He was Vice-Chair of the BoR from 2020 to 2021. Dr. Wexner also played a significant role in the development of the ACS National Accreditation Program for Rectal Cancer and currently serves as its Immediate Past-Chair.

Before joining MedStar Health, Dr. Wexner was director of the Ellen Leifer Shulman and Steven Shulman Digestive Disease Center at Cleveland Clinic Florida in Weston and was chair for more than 30 years of the Department of Colorectal Surgery. He remains emeritus chair.

Dr. Roser, an oral and maxillofacial surgeon, is the Second Vice-President-Elect. He is the Delos Hill Professor of Oral and Maxillofacial Surgery, a professor of surgery, and residency program director for oral and maxillofacial surgery at Emory University in Atlanta, Georgia.

Dr. Roser has a long-standing commitment to global surgical care and has participated in humanitarian surgical programs that provide procedures such as cleft palate repair. His work has included affiliations with the Missions Abroad Program of Healing the Children Northeast in Central and South America and the Emory Haiti Alliance in Haiti's Central Plateau.

Dr. Roser received the 2026 International Surgical Volunteerism Award as part of the ACS/Pfizer Surgical Volunteerism and Humanitarian Awards.

His ACS leadership roles have included Chair of the Advisory Council for Oral and Maxillofacial Surgery and Chair of the Advisory Council Chairs. Dr. Roser currently is a member of the Committee on Global Engagement through ACS H.O.P.E. (Health Outreach Program for Equity in Global Surgery). B





Eight Distinguished Surgeons Receive Honorary ACS Fellowship

Honorary Fellowship in the ACS was conferred on eight prominent surgeons from around the world at Convocation during Clinical Congress 2026 in Washington, DC.

The granting of Honorary Fellowship is one of the highest honors bestowed by the ACS. Brief summaries of the 2026 recipients' careers follow.





Jorge Daes, MD, FACS

Bogotá, Colombia

Dr. Jorge Daes is a general surgeon who is globally recognized for achievements in laparoscopic, bariatric, and hernia surgery. He is the academic director of the Minimally Invasive Surgery Department at Clinicas Portoazul and Iberoamerica, in Barranquilla, Colombia.

Dr. Daes has contributed to improved perioperative pain and symptom control by developing autonomic neural blockade for minimally invasive surgery, particularly in bariatric and upper gastrointestinal procedures. He is also the originator of the enhanced-view totally extraperitoneal (eTEP) approach for hernia repair. He has contributed to the standardization of minimally invasive inguinal hernia repair.

While leading the ACS Colombia Chapter, he launched a program helping high-performing surgical residents in Colombia attend Clinical Congress at no cost. He has also served as a member of the ACS Board of Governors and ACS International Relations Committee, as well as a leader of several other surgical organizations.

Dr. Daes has received awards from the American Hernia Society, Society of American Gastrointestinal and Endoscopic Surgery, and other organizations.



Paolo De Coppi, MD, PhD, FMedSci

London, United Kingdom

Dr. Paolo De Coppi is an internationally renowned leader in pediatric surgery, tissue engineering, and regenerative medicine.

Dr. De Coppi is the National Institute for Health and Care Research (NIHR) Professor and Nuffield Chair of Paediatric Surgery at the University College London (UCL) Institute of Child Health, as well as head of the Surgery Unit in the Stem Cells and Regenerative Medicine Section of the Developmental Biology and Cancer Programme at the UCL Great Ormond Institute of Child Health in London, England.

Dr. De Coppi's translational research has included a landmark discovery of stem cells in amniotic fluid, which has facilitated research in regenerative medicine for severe congenital anomalies. His research has also broken new ground in tissue engineering and organ decellularization. He pioneered the use of minimally invasive surgery for congenital diaphragmatic hernia and esophageal atresia and helped perform the first successful transplant of a tissue-engineered trachea in a child.

Dr. De Coppi was named to the 2024 TIME100 Health List, was the first pediatric surgeon named a Fellow of the Academy of Medical Sciences, and has received many other awards.



Christian Gerber, MD, PhD, Zürich

Zürich, Switzerland

Dr. Christian Gerber is a leader in orthopaedic surgery and expert in musculoskeletal medicine.

Dr. Gerber is a former professor, former chair, and current chair emeritus of the Department of Orthopaedics at the University of Zürich, as well as the former medical director of Balgrist University Hospital in Zürich, Switzerland.

Dr. Gerber's contributions have focused on the shoulder. These include establishing tendon transfer surgery for rotator cuff disease, understanding subscapularis tears and muscle fatty infiltration after tendon tears, and clarifying the etiology of and introducing new treatment methods for shoulder osteoarthritis and instability, including locked shoulder dislocations.

He is a founder of the private foundation ResOrtho and helped establish Balgrist Campus, a private musculoskeletal research center in Zürich with more than 200 researchers that has received Swiss governmental recognition. ResOrtho's outputs include funding for orthopaedic fellowships and chairs, the Harvard-Balgrist Intercontinental Shoulder Fellowship, and the Meyer Award for Discovery, Innovation, and Disruption in Orthopaedics.

Dr. Gerber is a highly cited researcher, a prominent past leader of several healthcare societies, and the recipient of numerous awards.



Rosa Maria Jorba Martín, MD, PhD

Tarragona, Spain

Dr. Rosa Maria Jorba Martín is a renowned academic gastrointestinal surgeon and surgeon-leader. She is the clinical director of the Surgery Department at Joan XXIII University Hospital and an associate professor at Rovira i Virgili University, both in Tarragona, Spain.

Dr. Jorba Martín has developed Joan XXIII University Hospital as a center for robotically assisted pancreatic and biliary surgery, complex gastrointestinal surgery, and general surgery with a focus on advancing minimally invasive technologies. Additionally, her expertise in laparoscopic choledocholithiasis has made the hospital a national benchmark in Spain.

Her prolific research career has included participation in 53 trials; she has been principal investigator for eight. Dr. Jorba Martín is also a member of the Infection and Immunity (INIM) Research Group and the MoBioFood Research Group and head of the Research in General and Digestive Surgery group at the Biomedical Research Institute of Catalonia South, among other positions.

Dr. Jorba Martín has championed the inclusion of women in surgery in Spain. Among her many leadership achievements, she was the first female president of the Catalan Society of Surgery.



Abhay Rane, OBE, MBBS, MS, FRCSGlasg(Urol)

Surrey, United Kingdom

Dr. Abhay Rane is a urologist known for his pioneering work in laparoscopic surgery.

A consultant urological surgeon and professor of surgery at East Surrey Hospital in Redhill, England, Dr. Rane is a prolific researcher. He also led the team performing the first single-port nephrectomy, which led to development of the single-port robotic surgery platforms used widely today.

Dr. Rane has a long-standing affiliation with the Royal College of Physicians and Surgeons of Glasgow (RCPSG). He currently serves as Registrar and previously served as surgical vice president and international associate director. He presided over the first meeting of the RCPSG in the US.

Dr. Rane helped found the Southern Laparoscopic Urology Group (SLUG), an English organization that provides laparoscopic and robotic training to urological surgeons. A US-based version, SLUGFEST, has enjoyed popularity at the American Urological Association annual meeting.

Dr. Rane has won many awards. For his services to laparoscopic surgery, he is one of very few urologists to be made an Officer of the Most Excellent Order of the British Empire.



Jean-Baptiste Ricco, MD, PhD, FEBVS

Poitiers, France

Dr. Jean-Baptiste Ricco is a prominent emeritus professor of vascular surgery with notable achievements in humanitarian surgery.

Dr. Ricco spent his career at the University of Poitiers in Poitiers, France, where he became a tenured professor and chief of the Department of Surgery, then emeritus professor of vascular surgery and chair of educational affairs.

A prolific researcher, he is also a former editor-in-chief of the *European Journal of Vascular and*

Endovascular Surgery (EJVES) and *EJVES-Cases,* which he cofounded, and a current member of the National Jury for Research Grants of the French Ministry of Health.

Dr. Ricco has delivered humanitarian clinical care in Africa and Ukraine. He founded an academic exchange between the University of Poitiers and Vietnam National University in Ho Chi Minh City, providing 2-year fellowships in France for Vietnamese residents to train in vascular surgery.

Dr. Ricco has received several awards, including being made a Commander in the Legion of Honor of the French Republic for his humanitarian contributions.



Norbert Senninger, MD, PhD, FACS, FRCS

Münster, Germany

Dr. Norbert Senninger is an innovator in transplantation and complex gastrointestinal oncological surgery.

While serving as a surgeon at Heidelberg University Hospital in Heidelberg, Germany, Dr. Senninger performed the first pancreas transplant in that city.

As director and chair of the University Clinic for General and Visceral Surgery at the University of Münster in Münster, Germany, he established a center that completes transplants of the pancreas, small bowel, liver (including split and domino transplants), and kidneys (including single, double, and live-donor transplants). It was also one of the most active centers in esophageal surgery in Germany, and contributed to safety through the early adoption of endovac sponge therapy for esophageal anastomotic leaks.

In Münster, Dr. Senninger trained more than 200 surgeons, of whom 26 are now chief surgeons throughout Germany.

As a leader, he has served as a member of the ACS International Relations Committee and a leader of the ACS Germany Chapter, as well as president of multiple surgical organizations. For his work, he has received numerous awards, including becoming a Fellow of the Royal College of Surgeons of England.



Han-Kwang Yang, MD, PhD, FACS

Seoul, Korea

Dr. Han-Kwang Yang is an acclaimed gastric cancer surgeon and global leader in the management of cancers of the stomach.

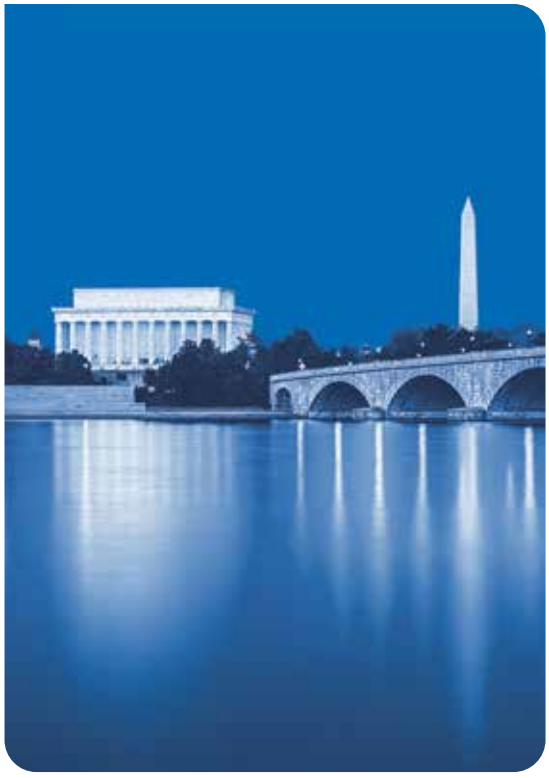
Dr. Yang has held various leadership roles at Seoul National University in Seoul, South Korea, for more than 30 years, including serving as chair of the Department of Surgery and Cancer Research Institute, director of the Gastric Cancer Center, and general director of the Seoul National University Cancer Hospital. Under his leadership, the center completed 1,000 gastric cancer procedures per year, of which Dr. Yang performed 250 himself.

A prolific surgeon-scientist, Dr. Yang has led several national and international randomized clinical trials, published more than 400 research articles, presented more than 420 lectures, and led several prominent conferences.

He is the president of the National Cancer Center of Korea and the secretary general of the International Gastric Cancer Association and the Asian Oncology Society. He also has served as president of the Korean Society of Surgical Oncology and on the editorial boards of six academic journals, including the *Annals of Surgery*.

For his work, Dr. Yang has been recognized with honorary fellowships from the American Surgical Association and European Surgical Association, as well as the Boryung Award for Cancer Research.

View the full citations and sponsors for the Honorary Fellows, plus the list of all Fellows inducted during Clinical Congress, in the 2026 Convocation program at facs.org/convocation. B





Drs. Roger Foster and Baiba Grube Are Honored as Distinguished Philanthropists

ROGER S. FOSTER, MD, FACS, and Baiba Grube, MD, FACS, are the 2026 recipients of the ACS Foundation Distinguished Philanthropist Award, which recognizes individuals for exemplary investment in the mission of the ACS and surgical care worldwide.

The married couple received the award during Clinical Congress 2026 in Washington, DC. For Drs. Foster and Grube, the recognition caps long and productive surgical careers and reflects their commitment to supporting the institutions and organizations that have shaped their lives.

A Special Connection to the ACS

Dr. Foster enjoyed a career as a leader in surgical oncology.

He earned his medical degree at Case Western Reserve University in Cleveland, Ohio, then completed surgical residency at University Hospitals of Cleveland and a fellowship at Roswell Park Memorial Institute (now Roswell Park Comprehensive Cancer Center) in Buffalo, New York. During medical school, he conducted research in pituitary and adrenal gland transplants.

"That started my interest in endocrinology and later oncology and surgery," Dr. Foster said.

His growing interest in those fields brought him to the University of Vermont in Burlington, where he began surgical practice as an assistant professor and participated in oncology research.

As his career gained recognition, "I began to get called on to sit on various committees at the National Cancer Institute," he said. In total, he participated in 11 such committees and chaired the Cancer Clinical Investigations Review Committee.

Dr. Foster later became the Wadley R. Glenn Professor of Surgery at Emory University and chief of surgical services at Emory's Crawford Long Hospital (now Emory University Hospital Midtown) in Atlanta, Georgia. He also is a past president of the New England Surgical Society.

His leadership included significant contributions to the ACS. Dr. Foster first served as secretary of the Vermont Chapter and later participated in nearly a dozen ACS committees, chairing about half. He

also served on the Board of Governors, including two terms on its Executive Committee, and was a member of the Board of Regents for 9 years. His service also included more than a decade with the ACS Commission on Cancer.

Dr. Foster also holds a rare distinction within the College through his connection by marriage to an ACS founder.

While completing his residency in Cleveland, Dr. Foster met George W. Crile Jr., MD, FACS (1907–1992), a son of George W. Crile, MD, FACS (1864–1943), one of the founders of both the Cleveland Clinic and the ACS.

When Dr. Foster's friend and fellow surgeon Caldwell Esselstyn Jr., MD, FACS, invited him skiing, he brought along the younger Dr. Crile's daughters. Dr. Foster began a relationship with Joan, while Dr. Esselstyn partnered with Ann. Both couples were married for decades, making Drs. Foster and Esselstyn grandsons-in-law of ACS founder Dr. Crile.

A Surgical Career in Two Disciplines

After his wife's death in 2000, Dr. Foster married Dr. Grube. The two had first met at the University of Vermont in Burlington.

A native of Albany, New York, Dr. Grube attended medical school at the University of Utah in Salt Lake City and completed surgical residency at the University of Vermont. There, Dr. Foster was among her research mentors, along with trauma surgeon Richard Gamelli, MD, FACS (1949–2022).

The two mentors represented Dr. Grube's key areas of interest.

"When it came time for me to take my next step, I was really caught between two passions, surgical oncology and burns and trauma," she explained.

She ultimately completed a fellowship in trauma and burn care at Harborview Medical Center in Seattle, Washington, where she remained for 5 years.

Dr. Grube later took a leave to conduct basic science research at the Scripps Research Institute in La Jolla, California, before retraining in surgical oncology at the City of Hope in Duarte, California. She completed supplemental education in breast oncology at the John Wayne Cancer Institute in Santa Monica, California.

"I focused the rest of my career on breast diseases, mostly as a breast oncologist," she said.

Dr. Grube retired from surgery at Yale University in New Haven, Connecticut, in 2011. She later reconnected with Dr. Foster, with whom she now lives outside Burlington.

"The Legacy Should Be the College"

Drs. Foster and Grube have focused their philanthropy on organizations that have shaped their lives, careers, and interests.

The child of immigrants from Latvia, Dr. Grube has donated to Latvian social and cultural organizations. She also has supported the Association of Women Surgeons and, as a music fan, organizations supporting music and the arts.

Dr. Foster has largely focused his giving on the institutions that influenced his life: Haverford College in Pennsylvania, where he earned his undergraduate degree, Case Western Reserve University, and the University of Vermont. He and Dr. Grube have contributed to each institution, including establishing the Foster Family Scholarship Fund at Haverford College to help alleviate undergraduate students' financial need.



Drs. Roger Foster and Baiba Grube accept the 2026 ACS Foundation Distinguished Philanthropist Award.

The ACS holds particular significance for both.

"I lived all my life as a participant in the field of surgery, and those hours were greater than hours spent with family or with friends. So, it's important to give back to our professional family, just like you support your children or you support your parents or relatives," Dr. Grube explained.

Their gifts to the ACS Foundation have been unrestricted, giving the College flexibility to use the funds where they are needed most.

"I want a strong organization to be able to go the way they need to go," Dr. Foster said.

Asked how they view their own legacies, both shifted the focus to future generations of the ACS.

"It's the future generations of the College to impact and support them in the best way possible," Dr. Foster said.

"The legacy should be the College," Dr. Grube concurred.

Report on ACS/ACSPA Activities, September 2026

Cherisse D. Berry, MD, FACS

THE BOARD OF DIRECTORS of the ACS Board of Regents (BoR) and ACS Professional Association (ACSPA) met on September 25 at the Marriott Marquis Washington, DC.

Key presentations focused on updates on the ACS Clinical Data Strategy Initiative, the ACS Health Outreach Program for Equity in Global Surgery (ACS H.O.P.E.), the Division of Advocacy and Health Policy, the Military Health System Strategic Partnership with the American College of Surgeons (MHSSPACS), and the Patient-Reported Outcomes (PRO) Task Force.

The following is a summary of the discussions, current as of the meeting date.

ACSPA

The ACSPA, a 501(c)(6) organization, allows for a broader range of activities and services that benefit surgeons and patients, including expanded legislative advocacy and political programming, such as the ACSPA-Political Action Committee (SurgeonsPAC).

ACS Strategic Plan

The key performance indicators for the Strategic Plan were reviewed. The fiscal year 2027 plan has 15 objectives and 116 initiatives across the Pillars, with results reported twice a year. New programs must be tied to the Strategic Plan.

Advocacy and Health Policy

Christian Shalgian, Senior Vice President of the ACS Division of Advocacy and Health Policy, provided an update on the proposed legislation for Medicare physician payment, the calendar year 2027 Medicare Physician Fee Schedule Proposed Rule, and the Surgical Coalition.

Information Technology

Jed Cusimano, Associate Vice President, ACS Data Strategy, and Genevieve Melton-Meaux, MD, PhD, FACS, FACMI, ACS Chief Health Informatics Officer, provided an update on the ACS Clinical Data Strategy Initiative, which is expected to reduce hospital expenses, increase value, and lay the foundation for innovation and new products. The strategy maintains the rigor and trusted standards of ACS Quality Programs, seeks to unlock greater value from data, reduces reliance on manual abstraction, provides timely insights, and offers new opportunities for quality improvement and research.

Member Services

The BoR accepted the resignations of 27 Fellows and changed the status of 185 Fellows from Active or Senior to Retired.

ACS Health Outreach Program for Equity in Global Surgery

Girma Tefera, MD, FACS, Medical Director, ACS H.O.P.E., provided an update on its strategic priorities. ACS H.O.P.E. provides surgeons with opportunities to teach, learn, collaborate, and serve communities in need. Through domestic and international volunteer engagement, education, and community-based partnerships, ACS H.O.P.E. works to expand access to safe, high-quality surgical care and strengthen surgical capacity in medically underserved communities.

ACS H.O.P.E. focuses on four priorities:

- Building surgical workforce capacity through education, training, and mentorship
- Developing sustainable, measurable, locally led programs that address community needs

- Improving access to safe, high-quality surgical care
- Strengthening partnerships among surgical societies, institutions, and communities

Topics discussed included:
- Considering expansion beyond sub-Saharan Africa into Asia
- Increasing education on the value of volunteering, including ways to address preventable barriers to volunteering
- Exploring ways to better prepare volunteers, such as expanding the ACS H.O.P.E. Global Health in Surgery Certificate Program

Military Health System Strategic Partnership with the American College of Surgeons

Brian Eastridge, MD, FACS, Medical Director of MHSSPACS, provided an update on its strategic priorities. In 2014, the ACS and the US Department of Defense Military Health System (MHS) formed MHSSPACS to improve educational opportunities, systems-based practices, and research capabilities in surgery. The strategic partnership facilitates collaboration and information exchange between the ACS and the MHS to advance high-quality, cost-effective care for surgical patients. The partnership focuses on the following areas:
- Education and Training
- Excelsior Surgical Society
- Quality
- Research
- Trauma Systems

Topics discussed included:
- National surgical readiness, particularly the role of the ACS and MHSSPACS
- Opportunities to leverage the educational reach of programs for both military and civilian surgeons
- Excelsior Surgical Society
  - Opportunities to better leverage military surgical expertise and leadership
  - Increased sharing of skills and expertise among the ACS membership

Research and Optimal Patient Care

Liane S. Feldman, MD, CM, FACS, FRCS, lead of the BoR Patient-Reported Outcomes Task Force, and Clifford Y. Ko, MD, MS, MSHS, FACS, FASCRS, Senior Vice President of the ACS Division of Research and Optimal Patient Care, presented an update on PRO efforts. Recent activities include conducting a survey to elicit perspectives on the operations and applications of PROs within surgical societies, which revealed widespread endorsement but limited operational capacity. Future activities and discussions include drafting an informational article for the *ACS Bulletin*, establishing a more formal governance structure, and increasing advocacy and policy work to support future applications.

ACS Foundation

H. Randolph Bailey, MD, FACS, Chair, ACS Foundation, provided an update.

The mission of the ACS Foundation, a separate 501(c)(3) organization, is to secure financial support for initiatives in surgical research, education, rural surgery, trauma, and more, ultimately promoting better patient outcomes. The Foundation offers a wide spectrum of funding opportunities for ACS Fellows and supporters to ensure the highest level of surgical care and education. Recent activities include:
- Expanding the Foundation's scope to include scholarship administration and an industry relations program
- Growing the Mayne Heritage Society, the College's Planned Giving Program, by two new members for a total of 86
- Implementing a competitive selection process to provide more opportunities for younger donors and those making smaller gifts
- Increasing the number of donors and Chapter Funds for the Chapter Programs
- Receiving 32 new gifts of $10,000 or more, a 700% increase over FY2025
- Securing $2,736,807 in revenue in FY2026, including $568,617 for the Greatest Needs Fund and $2,168,190 in restricted funds

Additional Activity

In addition to these presentations, the Regents heard updates from the Bylaws Committee, the Finance Committee, and the Resident and Associate Society. They also reviewed several informational reports and approved revisions to the Statement on Surgical Technology Training and Certification and the following documents from the Committee on Trauma:
- *Best Practices Guidelines for Transfusion in Trauma*
- *Regional Medical Operations Coordination Centers Standards*
- *Resources for Optimal Care of the Injured Patient (2026 Standards)* B

Dr. Cherisse D. Berry *is the Immediate Past-Chair of the ACS Board of Governors and vice chair of academic affairs and professor of surgery at Rutgers Health, New Jersey Medical School in Newark.*

New CoC Accreditation Category Addresses Gaps in Rural Cancer Care

Surgeons caring for patients with cancer in rural communities often practice with fewer specialists, limited local services, and long travel distances separating patients from comprehensive cancer care.

A NEW COMMISSION ON CANCER (CoC) accreditation category aims to help rural hospitals strengthen that infrastructure while enabling more patients to receive high-quality cancer care closer to home.

The ACS CoC introduced the rural accreditation category in 2026, creating a pathway that accounts for staffing and resource limitations common in rural hospitals while maintaining standards designed to improve cancer care quality.

"Research shows that CoC accreditation improves access to high-quality care and enhances outcomes, reducing complications and death," said Ronald J. Weigel, MD, PhD, FACS, Medical Director of ACS Cancer Programs. "Previously, some rural hospitals could not pursue accreditation due to resource constraints. The new category makes accreditation, and the benefits that accompany it, more attainable by tailoring the standards to the needs and resources of rural hospitals."

Addressing Gaps in Rural Cancer Care

Approximately 1 in 5 Americans lives in a rural area. Although cancer incidence is similar in rural and urban communities, cancer death rates are about 15% higher in rural areas, and the disparity is widening.

Limited access to the surgical and oncology workforce is one factor. An estimated 60% of rural counties lack an active general surgeon,

and 66% have no oncologist. Patients also may face long travel distances for screening, specialty consultations, chemotherapy, radiation therapy, and survivorship services. As a result, rural patients are less likely to receive guideline-recommended cancer treatment.

For surgeons and other members of the cancer care team, CoC accreditation provides a framework for coordinating care across the cancer continuum, from screening and diagnosis through treatment and survivorship.

"CoC accreditation is unique in addressing the full continuum of cancer care and providing a roadmap for delivering coordinated, high-quality healthcare from screening through diagnosis and survivorship," said Ingrid Lizarraga, MBBS, FACS, CoC State Chair of Iowa and a breast surgical oncologist with University of Iowa Hospitals & Clinics in Iowa City.

More than 1,400 US hospitals are CoC accredited, but fewer than 20% are in rural areas. Developed with input from rural hospitals and practitioners, the new category modifies certain staffing and patient service requirements that can present barriers for smaller hospitals while retaining a focus on standards associated with quality cancer care.

"This new category will expand access to accreditation and provide rural hospitals with a practical, evidence-based framework to strengthen their cancer programs," Dr. Lizarraga said.

Using Accreditation to Improve Local Care

Experience at rural hospitals illustrates how stronger local cancer programs can affect both access and outcomes.

Outer Banks Health, a 19-bed hospital in Nags Head, North Carolina, increased its rate of screen-detected breast cancer from 44% to 63% after receiving accreditation from the CoC and the National Accreditation Program for Breast Centers. The proportion of cancer patients treated locally increased from approximately 10% to 20% before accreditation to more than 70%.

Research also suggests that accreditation can help improve access to evidence-based treatment for vulnerable patients. A 2025 *Journal of the American College of Surgeons* study found that patients with colon and rectal cancer and high social vulnerability were 95% more likely to receive guideline-recommended care and had an approximately 9% lower risk of death when treated at a CoC-accredited hospital compared with a nonaccredited hospital.

Accreditation also gives cancer teams access to data that can support quality improvement. CoC-accredited hospitals submit data to the National Cancer Database, which captures nearly 75% of US cancer cases. Hospitals receive performance reports that can be used to benchmark care, evaluate outcomes, and identify opportunities to improve cancer services.

In Iowa, Dr. Lizarraga helped implement the Iowa Cancer Affiliate Network, modeled after the Markey Cancer Center Affiliate Network at the University of Kentucky in Lexington, to help rural hospitals expand services and achieve CoC accreditation.

"Accreditation also signals to the community that high-quality cancer care is available close to home," she said.

Hospitals in counties designated Rural-Urban Continuum Codes 4–9 are eligible for the new accreditation category. Hospitals can begin implementing the standards immediately and request a site visit after 1 calendar year of compliance.

Additional information about the rural accreditation category, including eligibility and standards, is available at *facs.org/coc-rural*. Details about rural cancer care and how the ACS is working to improve the delivery of care in these communities are available at *facs.org/ruralcancer*.

Dr. Frank Davis Receives Jacobson Award for Aortic Aneurysm Research



FRANK M. DAVIS, MD, FACS, a vascular surgeon and assistant professor of surgery at the University of Michigan in Ann Arbor, is the 2026 recipient of the ACS Joan L. and Julius H. Jacobson II Promising Investigator Award. Dr. Davis's research aims to explain why abdominal aortic aneurysms grow and translate those findings into treatments that could prevent rupture.

Although surgeons can repair an aneurysm once it reaches a size or risk threshold, no medication has been shown to stop a smaller aneurysm from enlarging. The Davis Lab, led by Dr. Davis, is investigating changes within the aortic wall that might offer another way to intervene.

Finding a Target in Aneurysm Inflammation

One line of Dr. Davis's research examines macrophages, immune cells that can contribute to inflammation in an aneurysmal aorta.

In a study published in the *Journal of Experimental Medicine*, he and his colleagues used single-cell RNA sequencing to examine human aortic tissue and identify changes that might be missed when cells are studied together. They found increased activity of JMJD3, an enzyme that influences how genes are expressed, in macrophages from aneurysm tissue.

The team then tested the finding in mouse models. Inhibiting JMJD3 reduced macrophage-driven inflammation and limited aneurysm expansion, identifying

Across these projects, Dr. Davis is identifying biological changes that worsen vascular disease and finding ways to interrupt them.

a potential treatment target. Dr. Davis's longer-term goal is to develop ways to deliver such therapies to the cells involved in disease progression. While that approach remains experimental, it points toward a possible medical treatment for patients whose aneurysms are being monitored.

The Davis Lab also studies vascular smooth muscle cells, which help maintain the strength and structure of the aortic wall.

In a 2025 *JCI Insight* study, Dr. Davis and colleagues found that a cellular stress pathway was more active in smooth muscle cells from human aneurysm tissue. Experiments in mice linked that pathway to smooth muscle cell death and aneurysm development.

The researchers tested 4-phenylbutyrate, a compound approved for other uses that can reduce this type of cellular stress. In two mouse models, treatment reduced aortic enlargement and helped preserve the vessel wall. The findings provide a starting point for further study, though they do not establish the compound as a treatment for patients with aneurysms.

Moving Discoveries Toward Patients

Dr. Davis completed an integrated vascular surgery residency at the University of Michigan and joined its faculty as an assistant professor. His training included a Sarnoff Cardiovascular Foundation Fellowship, a National Institutes of Health postdoctoral fellowship, and an ACS Resident Research Scholarship. His current research is supported by a Department of Veterans Affairs Career Development Award and the American Heart Association.

Across these projects, Dr. Davis is identifying biological changes that worsen vascular disease and finding ways to interrupt them. His work extends to related questions in hypertension and wound healing, while abdominal aortic aneurysm remains a central focus.

As he works toward independent research funding, his goal is to move promising findings from human tissue and laboratory models toward therapies that could give surgeons and patients another medical treatment option before repair becomes necessary.

The Joan L. and Julius H. Jacobson II Promising Investigator Award recognizes early career surgeons whose research shows promise for advancing surgical care and patient safety.

Member News

Edwards Takes Helm at Atrium Health Wake Forest Baptist



Matthew Edwards, MD, MBA, MS, FACS, is area president and chief executive officer of Atrium Health Wake Forest Baptist, part of Advocate Health, in Winston-Salem, North Carolina. Dr. Edwards also serves as executive vice president for clinical health affairs at Wake Forest University. A vascular and endovascular surgeon, Dr. Edwards joined Atrium Health Wake Forest Baptist more than 30 years ago. Most recently, he served as chief physician executive for the Atrium Health Wake Forest Baptist area. He also is a professor of vascular and endovascular surgery at Wake Forest University School of Medicine.

Hawkins Leads Colorectal Surgery at Duke



Alexander Hawkins, MD, MPH, FACS, is the new chief of the Division of Colorectal Surgery in the Department of Surgery at Duke University School of Medicine in Durham, North Carolina. Dr. Hawkins previously was an associate professor, vice chair of the Section of Clinical Research, and director of the Colorectal Research Center, which he founded, in the Section of Surgical Sciences at Vanderbilt University Medical Center in Nashville, Tennessee. His health services research focuses primarily on diverticulitis, and he has served as principal investigator on multiple National Institutes of Health grants.

Have you or an ACS member you know achieved a notable career highlight recently? If so, send potential contributions to Jennifer Bagley, MA, *Bulletin* Editor-in-Chief, at jbagley@facs.org. Submissions will be printed based on content type and available space.

Additional Member News items are available on *facs.org*.

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Hear from Kyla Terhune, MD, MBA, FACS, ACS Senior Vice President of Education, and SESAP authors about the value of SESAP.



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