

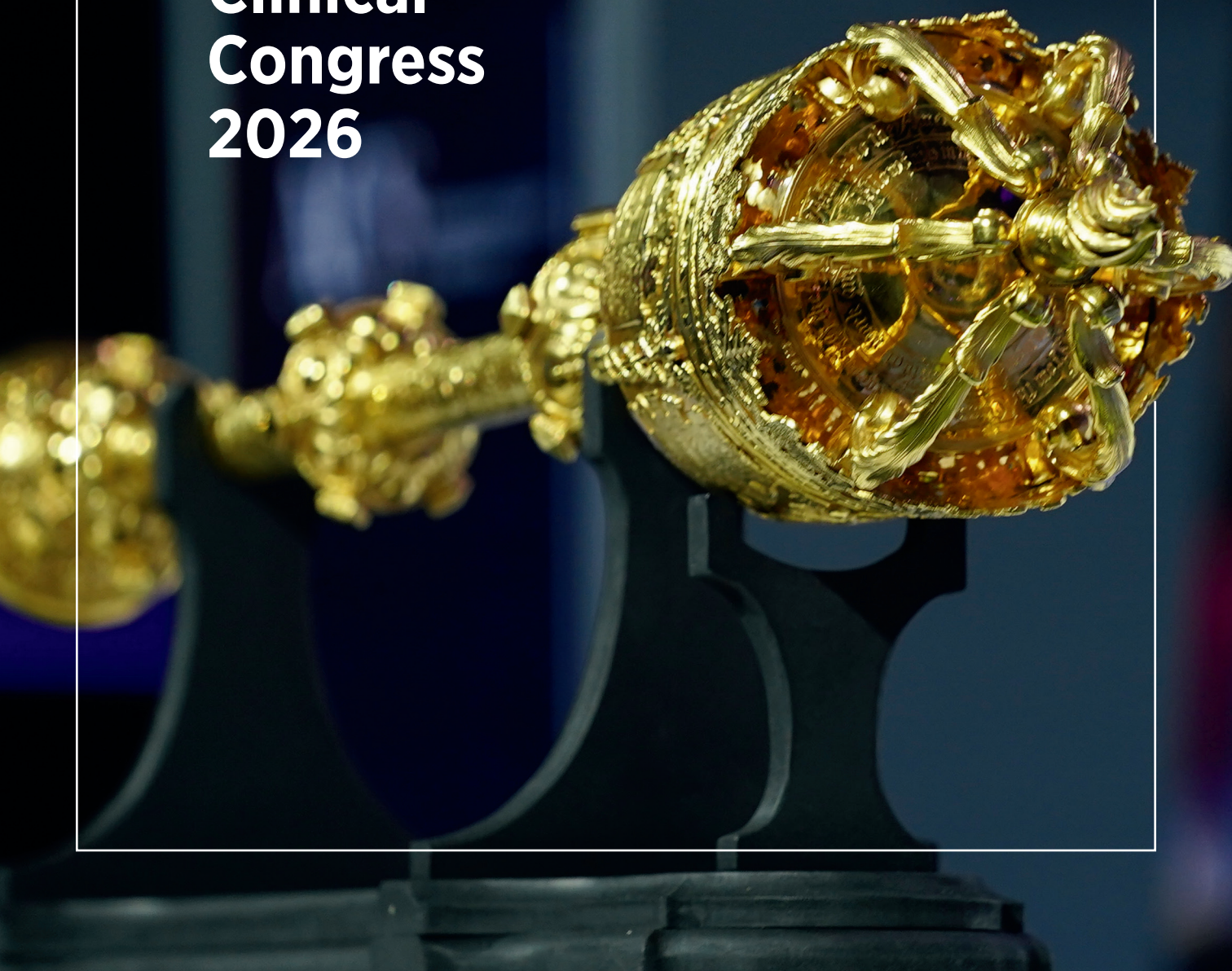
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ACS/Bulletin

AMERICAN COLLEGE OF SURGEONS

Education, Innovation,
and Connection for
Every Surgeon at

**Clinical
Congress
2026**



ACS/Clinical Congress 2026

September 26–29
Washington, DC





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Cover Story

8

Clinical Congress 2026 Offers Education, Innovation, and Connection for Every Surgeon

Matthew Fox, MSHC



Features

16

GLP-1 Era Arrives in the OR

M. Sophia Newman, MPH

22

Innovations in Space-Grown Human Tissue Boosted by ACS Award

Tony Peregrin

30

The Churchill “Rectangular” Residency Program Transformed Surgical Education

Aaron Delman, MD, and Brendan P. Lovasik, MD

38

How the ACS Mobilized American Surgery for WWI—and Why It Matters Today

Jeremy W. Cannon, MD, SM, FACS, and Emma Zimmerman

Commentary

6

Executive Director's Update:
Building the Future at Clinical
Congress

Patricia L. Turner, MD, MBA, FACS

46

Viewpoint: As AI Advances,
What Defines a Surgeon?

Geoffrey P. Dunn, MD, FACS

50

Viewpoint: Greater Reciprocity
in Global Surgery Partnerships
Is Possible

Cassandra Anderson, MD, Kaiser O'Sahil
Sadiq, MBBS, Temilolaoluwa Daramola, MD,
MSC, MSN, Tarek Y. Elgendy, MD, Passant
Ezz Abdelrahman, MBA, MBBCH, MSC, and
Omar Mahmoud

Reports

56

Navigate Coding for Peritoneal,
Mesenteric, and Retroperitoneal
Tumor Excision

Megan McNally, MD, FACS

60

NAPRC Accreditation Is
Associated with Improvements in
Care Quality, Increases in Patient
Volume

Samantha Hendren, MD, MPH, FACS,
Fergal J. Fleming, MD, MPH, FACS, and
Ingrid Lizarraga, MBBS, FACS

News

64

Dr. A. Brent Eastman, ACS
Past-President and Trauma
System Innovator, Passes Away

66

ACS Mourns the Passing
of Surgeon Philanthropist
Dr. Pon Satitpunwaycha

68

Shark Tank Helps Shape Next
Generation of Trauma Leaders
Tony Peregrin

70

Report on ACS/ACSPA
Activities, June 2026

Cherisse D. Berry, MD, FACS

72

Transplant Pioneer Is Honored
with Jacobson Innovation Award

76

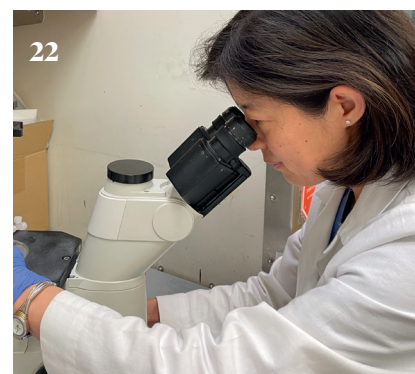
Faculty Research Fellows
Are Announced

77

Residents Receive Research
Scholarships

78

Member News





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Building the Future at Clinical Congress

Patricia L. Turner, MD, MBA, FACS

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EACH YEAR, Clinical Congress brings together thousands of surgeons to learn from one another, strengthen our profession, and improve the care we provide patients. As preparations for the meeting near completion, this month's issue of the *ACS Bulletin* offers a preview of what attendees can expect when we gather in my hometown, Washington, DC, September 26–29.

Clinical Congress remains one of the few meetings where

surgeons from every specialty, practice setting, career stage, and geographic region come together to learn from one another and address the issues that affect us all.

As surgery continues to evolve, so must our flagship educational meeting. Over the past several years, we have steadily improved Clinical Congress by shifting to a Saturday-through-Tuesday schedule, focusing more acutely on innovation and forward-thinking offerings, enhancing attendee safety and security, improving the overall meeting experience, and strengthening the welcome we extend to surgeons' families at Convocation.

This year, we are taking another important step forward.

What's Changing

As part of our broader effort to modernize ACS education, we have substantially redesigned Clinical Congress programming.

We have redoubled our efforts to enhance the qualities that define Clinical Congress. The meeting continues to offer

educational sessions that unite surgeons around shared clinical, scientific, professional, and societal challenges. Bringing together surgeons with diverse backgrounds and perspectives remains one of the meeting's greatest strengths. Often, these are sessions that cannot be found anywhere else.

At the same time, we have made it easier than ever for every attendee to identify the sessions most relevant to their own practice and professional goals, to ensure each surgeon receives the maximum possible benefit of attending the meeting.

New Educational Opportunities

Among this year's additions is the new Best of Grand Rounds series, featuring outstanding speakers nominated by their surgical colleagues for delivering exceptional lectures. These sessions will reprise these well-received talks so all attendees can enjoy them. **Joseph V. Sakran**, MD, MPH, MPA, FACS,

will speak on the power of personal narratives; **Edward M. Barksdale Jr., MD, FACS**, who is the 2025–2026 Second Vice President of the ACS, will share strategies for building resilience; and **Tovy H. Kamine, MD, MBA, FACS**, will describe surgery in space.

We are also honored to welcome many speakers, including:

- **Ketanji Brown Jackson**, Justice, Supreme Court of the United States
- **Martin A. Makary, MD, MPH, FACS**, former commissioner of the US Food and Drug Administration
- **Monica M. Bertagnolli, MD, FACS**, president of the National Academy of Medicine

Artificial intelligence (AI) is rapidly reshaping surgical care, and Clinical Congress is evolving alongside it. Reflecting our commitment to bring the best and most up-to-date information, and in response to strong interest from previous meetings, we are offering AI sessions cosponsored with the American Medical Informatics Association at Clinical Congress 2026. The sessions will examine the impact of AI on clinical informatics, robotic surgery, healthcare policy, and other areas of surgical practice.

These additions support a broader goal: ensuring that every surgeon, regardless of specialty, career stage, or practice setting, can find education that is immediately relevant while also being exposed to ideas that shape the future of our profession.

To that end, the program features numerous cross-disciplinary sessions addressing issues relevant to every surgeon. Topics include advocacy, ethics, perioperative care, education,

global surgery, and insights into locum tenens practice.

I also look forward to moderating a session on Sunday, September 27, “How to Gain Control of Our Lives and Reclaim Our Autonomy.” The session will feature Board of Regents Vice Chair **Douglas E. Wood, MD, FACS, FRCSEd**, and Regent **Phil Wolinsky, MD, FACS**, as well as representatives from colorectal surgery and orthopaedic trauma, for a discussion of the ACS Board’s important work on workforce challenges affecting current and future surgical practice.

For more details, please see the cover story in this issue.

Traditions That Endure

Even as we advance in fresh and exciting ways, the meeting remains grounded in the educational excellence that has defined Clinical Congress for more than a century.

Attendees will find scientific sessions covering both emerging advances and practical techniques in areas ranging from hernia repair to laser surgery to neoadjuvant therapy. As always, the conference will cover a wide range of surgical disciplines, from trauma care to surgical oncology, urology, rural surgery, and beyond.

We also continue the longstanding traditions of Convocation, Named Lectures, and award presentations. These touchstones recognize excellence in surgery and celebrate the individuals whose work has advanced our profession.

Finally, as always, we provide important opportunities to strengthen the professional relationships that sustain us throughout our careers. This year, we have added a Networking Coffee pilot program that will

offer dedicated times and places for colorectal, pediatric, vascular, and plastic surgeons to connect with members of their own specialties. I also highly encourage attendees to engage with career-stage groups, including the Medical Student Society, Resident and Associate Society, Young Fellows Association, and Senior Fellows Society, which will each offer specific events and resources. These opportunities for camaraderie and networking will enrich surgical careers at every step.

Looking Ahead

Clinical Congress has always been larger than any individual element. The meeting exists to help each surgeon pursue individual excellence while advancing surgery collectively.

As our profession faces rapid scientific, technological, and workforce changes, the need to learn from one another has never been greater. Clinical Congress provides a forum to explore new ideas, evaluate emerging technologies, and discuss the challenges that will shape the future of surgical care.

See you in DC in September!

Register Now

Program details, travel information, and registration are available now. Early bird rates end on **August 10**, so register today at facs.org/clincon2026. 

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

Clinical Congress 2026

Offers Education, Innovation, and
Connection for Every Surgeon

Matthew Fox, MSHC

No two surgical careers look alike, and neither should your experience at ACS Clinical Congress 2026.



WHETHER YOU'RE A RESIDENT or fellow in training and navigating your first job search, a rural surgeon problem-solving in your community, a specialist chasing the latest clinical advances, or a surgical leader wrestling with artificial intelligence (AI) and workforce pressures, this year's meeting was built with you in mind.

Clinical Congress, September 26–29, will be held in Washington, DC, for the first time in a decade. The meeting will bring together surgeons from every career stage and specialty to explore the ideas, innovations, and challenges shaping the future of surgery. Clinical education, emerging technologies, leadership development, healthcare policy, advocacy, and networking opportunities rarely found in a single event will all be available, and the Saturday-through-Tuesday schedule is designed to help you make the most of your time while minimizing days away from practice.

Grand Rounds and AI Sessions Are Timely and Surgeon Driven

Clinical Congress has always been dedicated to helping surgeons and their care teams address longstanding questions and challenges across the spectrum of surgery, including the optimal approaches to appendicitis, how best to mentor and train the next generation, and the transformative role of technology in the OR.

Beyond those ever-evolving core topics, two new program elements will anchor the most timely, forward-looking conversations at the meeting: the Best of Grand Rounds Series and the Clinical Informatics and AI Sessions.

The Best of Grand Rounds Series is a new three-session lecture series featuring speakers who delivered some of the most inspiring and thought-provoking grand rounds presentations of the past year, as nominated by ACS members through an open selection process. These lectures will challenge

Clinical Informatics and AI Sessions

Monday, September 28

- The Regulatory Future of AI in Surgery
- Artificial Intelligence Policy and Surgery: Balancing Innovation, Risk, and Regulation
- Surgical Video Recording: Industry Landscape & Competitive Positioning
- Next: Ambulatory Surgery Centers and Artificial Intelligence (AI)

Tuesday, September 29

- Surgery Informatics and Artificial Intelligence (AI) 101
- Ignite Talks in Surgery Informatics and Artificial Intelligence
- Clinical Informatics Open Discussion
- Augmented Dexterity in Robotics

The above sessions are non-CME.

how surgeons think about leadership, resilience, innovation, and the future of medicine, and they span a range of topics, both clinical and nonclinical:

- “Leading Beyond the Bedside: The Power of Personal Narratives in Medicine” with Joseph V. Sakran, MD, MPH, MPA, FACS
- “Antifragility: The New Architecture of Healing: Transforming Despair into Hope Through Surgical Leadership and Social Innovation” with Edward M. Barksdale Jr., MD, FACS, FAAP
- “Surgery in Space” with Tovy H. Kamine, MD, MBA, FACS, FASMA

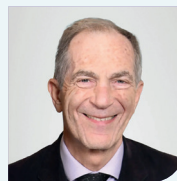
“How many of us have had those moments in our lives that we’ve been to a talk, a grand rounds, and it knocked us out of our seat? This year at Clinical Congress, we’re highlighting some of the best of the best,” said Douglas E. Wood, MD, FACS, FRCSED, Vice-Chair of the ACS Board of Regents.

While the Grand Rounds sessions span a broad range of topics, the Clinical Informatics and AI Sessions will focus specifically on how advances in data collection and analytics are rapidly reshaping surgery. Eight sessions over 2 days (see sidebar) will provide a deep dive into AI regulation and policy and offer plenty of room for open discussion among attendees.

Inspiring Perspectives from a Supreme Court Justice, NAM President, and Others

Globally renowned surgeons and figures in healthcare will headline the annual slate of Named Lectures, one of the most popular features of Clinical Congress. From the evolution of combat neuro-trauma to the impact of AI on surgeon performance

2026 Named Lectures



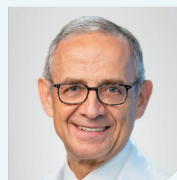
Martin Memorial Lecture
Curiosity and Innovation: The Promise of Wonder
Ralph V. Clayman, MD, FACS



Olga M. Jonasson Lecture—Special Event
A Moderated Conversation
Ketanji Brown Jackson, Justice, Supreme Court of the United States



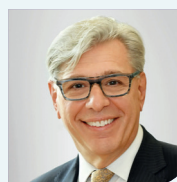
Charles G. Drake History Of Surgery Lecture
Evolution of Combat Neuro-Trauma from Cushing to Ukraine
Rocco A. Armonda, MD



Herand Abcarian Lecture
The Changing Landscape of Colorectal Oncology: Refining and Redefining the Surgeon's Role
Julio E. Garcia-Aguilar, MD, PhD, FACS



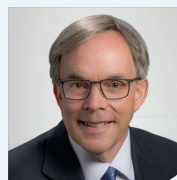
John H. Gibbon Jr., Lecture
Beyond the Summit—Performance, Leadership, and Artificial Intelligence in Surgery
Thomas K. Varghese Jr., MD, MS, MBA, FACS



Scudder Oration on Trauma
The Last Preventable Death: Will the Digital Transformation Change Injury Care Forever?
Michael F. Rotondo, MD, FACS



Distinguished Lecture of the International Society of Surgery
Advanced Flexible Endoscopic Surgery in GI Tract: From ESD, POEM, Third Space Endoscopy, and EFTR
Haruhiro Inoue, MD, PhD



John J. Conley Ethics and Philosophy Lecture
Responding to Patients Who Have Been Harmed by Their Healthcare: Implementing the Modern Ethical Paradigm
Thomas H. Gallagher, MD, MACP

and leadership, these sessions bring vaunted subject-matter experts to the podium to share perspectives you won't find anywhere else.

The Olga M. Jonasson Lecture will be delivered by Justice Ketanji Brown Jackson of the Supreme Court of the United States. Justice Jackson has served on the Court since 2022, previously serving as a judge on the US District Court for the District of Columbia and as a federal public defender. The lecture will be presented Sunday, September 27 at 10:00 am.

The Martin Memorial Lecture, delivered immediately after the Opening Ceremony on Sunday, will be presented by Ralph V. Clayman, MD, FACS, dean emeritus of the University of California, Irvine, School of Medicine. An internationally renowned urologist who pioneered minimally invasive surgical techniques that have revolutionized treatment for diseases of the kidney and urinary tract, Dr. Clayman will deliver a lecture titled "Curiosity and Innovation: The Promise of Wonder."

Another event not to miss is a Special Session with Monica M. Bertagnolli, MD, FACS, president of the National Academy of Medicine (NAM). A surgical oncologist who served as the 17th director of the National Institutes of Health and the 16th director of the National Cancer Institute, Dr. Bertagnolli has championed the intentional inclusion of rural populations in clinical studies and led efforts to transform data infrastructure in support of clinical research and improved patient care.

Martin (Marty) A. Makary, MD, MPH, FACS, who led the US Food and Drug Administration as its 27th commissioner, also will present a Special Session titled "The Future of Healthcare" on Monday, September 28 at 7:00 am. Prior to serving in government, Dr. Makary, a surgical oncologist, was a professor at the Johns Hopkins University School of Medicine and Johns Hopkins Business School in Baltimore, Maryland.

Find Education Relevant to Your Practice

"As a urologist, I get most of my specialty-specific education at our national meeting, but there are so many great things that come only at Clinical Congress—topics I call 'surgery in general,' as opposed to 'general surgery,'" said ACS Regent Joshua A. Broghammer, MD, FACS. "Perioperative management, what's new in antibiotics, what surgeons are doing for postoperative care, and perspectives on surgical education. Those are things the specialty meetings don't focus on as much, but that we do find at Clinical Congress, which is why this meeting is so important for all surgeons."

That breadth is by design. Whether you practice trauma surgery, cardiothoracic surgery, orthopaedic surgery, urology, pediatric surgery, vascular surgery, plastic surgery, surgical oncology, or general surgery, the Clinical Congress program includes specialty-specific content alongside multidisciplinary sessions designed to broaden perspectives across the profession.



Among those shared-interest sessions, attendees will find content focusing on areas of clinical overlap and topics applicable across practice areas, including:

- Surgical Site Infections and Antimicrobial Resistance: Are We Losing the Fight?
- Managing the Difficult Patient: Communication, Compassion, and Professionalism Under Pressure
- Telesurgery: The Next Frontier Is Here
- “An Exercise in Futility”: Strategies for Responding to Requests for Non-Beneficial Treatment
- Non-Choice Surgical Decision-Making: When Surgery Feels Inevitable

Beyond the OR: Sessions Every Surgeon Needs

Surgery demands more than technical mastery; it requires resilience, leadership, advocacy, and the ability to navigate systems that don't always work in patients' or surgeons' favor. The nonclinical sessions at Clinical Congress will focus on the personal and professional lives of surgeons, addressing challenges that extend across every specialty. The sessions include:

How to Gain Control of Our Professional Lives and Reclaim Our Autonomy

Moderated by Patricia L. Turner, MD, MBA, FACS, ACS Executive Director and CEO, this Special Session will feature ACS Regent Philip R. Wolinsky, MD, FACS, and Dr. Wood discussing efforts to address

the challenges of demanding clinical workloads, administrative complexity, and evolving employment models, including the development of workplace standards and new unionization resources designed to support surgeons in today's healthcare environment.

Locum Tenens as a Growing Practice Niche: Solution or Signal?

Moderated by Thomas C. Tsai, MD, MPH, FACS, ACS Medical Director, Health Policy Research, and Christopher D. Carey, MD, FACS, this Panel Session will examine locum tenens and its role in addressing workforce maldistribution in surgery.

Sustainability in the Operating Room

Moderated by Larissa K. Temple, MD, FACS, and Benjamin T. Miller, MD, FACS, this Panel Session will cover the ACS sustainability position statement, the ACS SUSTAIN collaborative (Surgical Sustainability Team for Action and Innovation), strategies for optimizing surgical procedure cards, and the intersection of quality care, sustainability, and lowering healthcare costs.

Getting Your Message Out: Surgical Advocacy at the Grassroots Level

Moderated by Alisha Reiss, MD, FACS, ACS Board of Governors Advocacy Pillar Lead, and Brian Gavitt, MD, MPH, FACS, this session will examine





how surgeons can advocate to change the systems around them, including the pros and pitfalls of participating in advocacy and tools for working with the media.

Other sessions will cover fertility preservation for surgeons, transitioning to retirement, and addressing burnout, among other timely topics.

Built for the General Surgeon

Some of the most well-attended sessions each year focus on the latest developments in core general surgery procedures. This year's program includes:

- Diverticulitis in Transition: Modernizing Management from Acute Flares to Chronic Care
- Current Controversies in Ventral Hernia Surgery
- Contemporary Management of Common Duct Stones and Cholangitis
- Common Anorectal Pathology for the General Surgeon

A perennial conference favorite, the “Ten Hot Topics in General Surgery” session, will feature content that general and specialized surgeons alike won't want to miss. Moderated by Benjamin K. Poulouse, MD, MPH, FACS, and Nancy D. Perrier,

MD, FACS, the session will cover axillary deescalation in breast surgery, hernia prevention in abdominal wall closure, and gastroesophageal reflux disease management.

Meeting Surgeons Where They Are

The meeting's reach extends well beyond academic medical centers. The ACS has long championed the interests of rural surgeons, who provide care for the nearly 50 million Americans living in rural and small communities, and Clinical Congress 2026 reflects that commitment more fully than ever.

“This year's Congress has a special emphasis on rural surgery, with more than 35 sessions that are pertinent to rural surgeons and the unique challenges they face,” said Robert P. Sticca, MD, FACS, ACS Second Vice-President-Elect and a general surgeon involved in rural surgery infrastructure.

Sessions will address managing complex general surgery cases, determining when and how to refer patients to tertiary referral centers, addressing massive hemorrhage in rural settings, navigating the transition into practice, and building referral relationships with regional centers. “All of these things make this a very exciting and almost mandatory meeting for rural surgeons to attend,” he said.



Access related video content online.





From Medical Students to Established Researchers: The Scientific Forum

The robust Scientific Forum will offer the latest high-quality, in-progress scientific and academic surgery reports. From full research presentations to Quick-Shot Presentations (the renamed ePoster presentations), the Scientific Forum will provide a platform for medical students, residents, fellows, early career investigators, and established researchers to share promising results with engaged colleagues.

A standout at Clinical Congress 2026 is the returning High-Impact Clinical Trials and Studies session, which will focus on potentially practice-changing publications. Scientific Forum sessions will take place Sunday through Tuesday and are arranged in a discipline-specific format.

Video-Based Education Sessions will showcase detailed surgical procedures in action, while Meet-the-Expert Sessions will offer more informal learning experiences and direct access to surgeon leaders. Special Interest Sessions will round out the program with novel education and experiences for both broad audiences and specific cohorts, including dedicated programs for residents and medical students and the History of Surgery e-Posters Session.

New Fellows

A high point of Clinical Congress is the Convocation Ceremony, which confers Fellowship upon surgeons who have successfully met the ACS's requirements and standards and who are committed to its mission and values.

The ceremony will take place on Saturday evening and will include recognition of Honorary Fellows, presentation of the Distinguished Service Award, installation of ACS Officers and Officers-Elect, and the Presidential Address from Timothy J. Eberlein, MD, FACS. The Convocation Ceremony also will be livestreamed for those unable to attend in person.

Note that registration is required for all guests this year, and guests of Initiates qualify for complimentary Saturday-only registration. Following Convocation, all attendees are invited to the Capital Welcome Reception, with cuisine that highlights Washington, DC's global influences and regional traditions, along with a celebration of The House of Surgery®.

Visit the Exhibit Hall

The Exhibit Hall, available Sunday through Tuesday, is where the scope of Clinical Congress will come into full view. Visit ACS Central to learn about the latest College programs and services, engage in presentations at the Innovation Theater, and connect with more than 150 companies displaying their products, innovations, and services.

New this year is an interactive surgeon workforce map, a visual representation of where surgeons are practicing across the US. Designed to show where surgeons are concentrated and where unmet need exists, the map can inform career decisions, research directions, and policy discussions.

From the landscape of the workforce to the demands of the OR, the Exhibit Hall also will debut a new feature focused on surgeon well-being: the ACS Postural Stabilization and Stretch Lab. Coaches will guide surgeons through stretching and stabilization exercises derived from the ACS Surgical Ergonomics Recommendations—movements that can be applied in the OR, between cases, or at home. Space is limited; secure your free registration at facs.org/clincon2026.

Build Connections with Your Specialty Colleagues

With thousands of surgeon colleagues at your side, there will be no shortage of opportunities for networking between sessions, at receptions, and in the Exhibit Hall. Clinical Congress 2026 is adding



CME Information

- For in-person registrants, up to 184.0 AMA PRA Category 1 Credits™ are available for attending live and on-demand sessions by February 22, 2027.
- For virtual registrants, up to 141.0 AMA PRA Category 1 Credits™ are available for viewing on-demand sessions by February 22, 2027.
- More than 80 sessions will offer Continuing Education (CE) Credits.
- More than 90 sessions are designated as Credit to Address State Regulatory Mandates.
- More than 120 sessions are designated as Credit to Address Accreditation/Verification Requirements.
- 15 ticketed sessions (Didactic and Skills Courses) offer Self-Assessment Credit.

a new pilot program, Networking Coffee with Your Specialty, that takes those connections a step further.

The dedicated Networking Coffee times and spaces will feature a limited number of specialties: colon and rectal surgeons and pediatric surgeons on Monday, and vascular surgeons and plastic surgeons on Tuesday. Each group will enjoy exclusive access to a dedicated space for a leisurely networking coffee experience.

“Having a focused time when we can meet up with our specialty colleagues gives us a chance to get together, network, just know who else is at the meeting in a way beyond what we would normally be doing by running into one another in the hallway,” Dr. Wood said.

Attend Networking Coffee with Your Specialty to reconnect with mentors, exchange ideas, identify potential collaborators, meet future leaders, and strengthen your professional network.

Plan Your Clinical Congress, Register Today

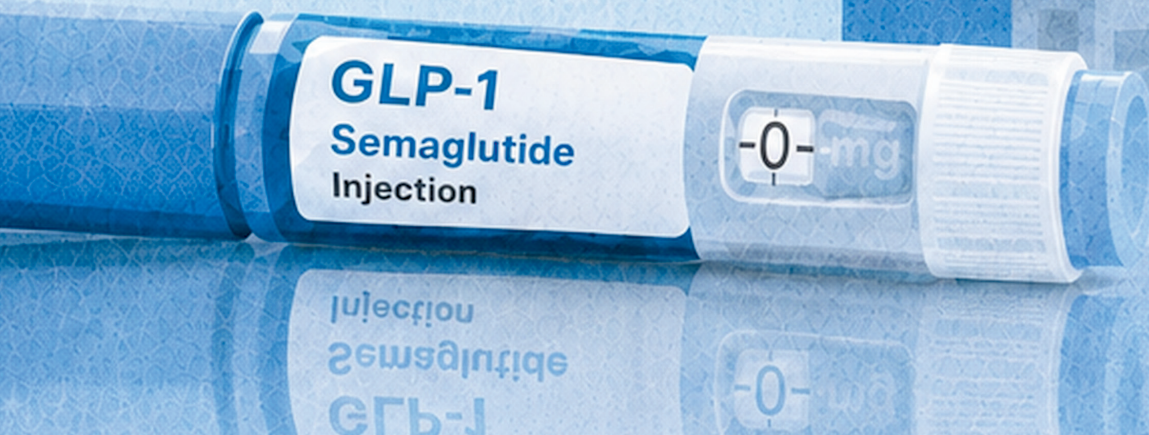
The online, interactive Clinical Congress Meeting Platform is available now to help you begin building your personalized schedule, and the mobile app will launch this fall. The ACS will provide regular updates via email and through the *Clinical Congress News* e-newsletter. Select content also will be available in a virtual, on-demand format through February 22, 2027.

Registration is now open for Clinical Congress 2026, with special savings and free registration opportunities available through **August 10**. Learn more and register today at facs.org/clincon2026. **B**

Matthew Fox is the Digital Managing Editor in the ACS Division of Integrated Communications in Chicago, IL.

GLP-1 Era Arrives in the OR

M. Sophia Newman, MPH



Today, approximately 1 in every 8 US adults take glucagon-like peptide-1 receptor agonist (GLP-1RA) drugs, and half of all Americans may benefit from doing so.



Image was created using AI.

MANY SURGEONS now encounter these patients in daily practice, even if their surgical specialty is not directly related to obesity.

This reality leads to important questions: How can GLP-IRA drugs help patients prepare for safer, more effective surgery? What information will surgeons need to optimize outcomes for patients taking these drugs?

An Ongoing Conversation

Although GLP-IRA drugs are highly popular and frequently prescribed, their use has been widespread for only a few years. In that time, a wide range of benefits has emerged, ranging from the expected weight loss and glycemic control to improvements in cardiovascular and kidney health, reductions in inflammation and related autoimmune disease, positive shifts in mood and anxiety disorders, and even remission of addiction symptoms. This panoply has helped drive the drugs' popularity.

"In many ways, this is the golden era for the treatment of chronic disease," said Thomas C. Tsai, MD, MPH, FACS, a bariatric surgeon and Medical Director for Health Policy Research in the ACS Division of Advocacy and Health Policy, at an ACS press conference in October 2025, urging wider access to and use of GLP-IRA drugs in patients with obesity.

However, perhaps by the very fact of their wide-ranging outcomes, much about GLP-IRAs remains unknown. Scientific literature on GLP-IRA drugs is rapidly accumulating, but the duration of use is insufficient to clarify the full scope of these benefits, as well as any drawbacks the drugs may pose.

Consequently, the ongoing conversation on how surgeons can best help GLP-IRA users prepare for surgery remains a priority.

"It's important for us as physicians, and surgeons in particular, to be aware of the prevalence of their use, as well as the potential implications in terms of perioperative management, risk mitigation, and preparation for surgery," added Vivek N. Prachand, MD, FACS, a professor of surgery at The University of Chicago in Illinois.

Preventing Gastric Content Aspiration

Ann M. Rogers, MD, FACS, the immediate past president of the American Society for Metabolic and Bariatric Surgery (ASMBS) and a professor emerita of bariatric surgery at Penn State Health in Hershey, Pennsylvania, explained the most frequent scenario in which surgeons encounter patients taking GLP-IRA drugs.

"It's very common now for patients to be on them prior to surgery, not necessarily because it was started as a specific way to make the surgery

Beyond preventing complications, many surgeons are embracing the opportunity to improve patient outcomes with GLP-1RA drugs.

safer, but just because they were already on it,” said Dr. Rogers.

As a result, a top concern for many surgeons, including those who are not involved in bariatric surgery, is avoiding a specific risk that may be intensified by GLP-1RA usage: gastric content aspiration.

It is rare that anesthetized patients aspirate gastric contents, and even rarer that such aspiration causes pneumonia. Nonetheless, the complication is serious enough to warrant fasting prior to most surgeries. The challenge with GLP-1RA drugs is that they depress appetite in part by slowing gastric emptying, and therefore standard fasting times may not eliminate gastric contents.

In response to these concerns, surgical societies have updated protocols aimed at mitigating the risk of aspiration. In 2023, the American Society of Anesthesiologists advised holding all GLP-1RA drugs for a day (if taken daily) or a week (if taken weekly) before surgery. In contrast, 2024 guidance from the American Gastroenterological Association suggested most patients using GLP-1RA drugs could continue them safely before surgery.¹

More recently, multisociety guidance endorsed by both organizations has advised that most patients can continue GLP-1RAs before surgery.² Data now suggest that suspending intake may sacrifice glycemic control and fail to eliminate residual gastric contents,³ but those using GLP-1RA drugs continuously do not experience elevated aspiration pneumonia risk.³

Thomas K. Varghese Jr., MD, MS, MBA, FACS, chief of general thoracic surgery at the University of Utah in Salt Lake City, offered a more cautious perspective: “It’s still too early right now, I think, for us to really know what the true incidence rate is around adverse events with GLP-1 receptor agonists.”

But per current guidelines, it appears limiting GLP-1RA intake before surgery could be unnecessary, easing concerns about balancing efficient surgery with patient safety.

Lowering Body Mass

Beyond preventing complications, many surgeons are embracing the opportunity to improve patient outcomes with GLP-1RA drugs. Because obesity plays a role in the outcomes of many surgical procedures, the most intuitive focus for many surgeons is lowering body mass index (BMI) with preoperative GLP-1RA use.

“We do a lot of abdominal wall reconstruction and foregut and esophageal procedures, many of which benefit from having patients be at a lower BMI range so that the long-term outcomes of the procedures are better in terms of reduced risk of recurrence, reduced reflux, and so forth. There are similar strategies used, for example at our institution, with transplant patients and orthopaedic patients who need to lose weight,” said Dr. Prachand, whose practice focuses on minimally invasive surgery.

The ASMBS and other organizations offer no official guidance on which patients should engage in GLP-1RA therapy before bariatric or other types of surgery, and some research has found, rather counterintuitively, that BMI and postoperative risk are not clearly associated.⁴

However, prescribing GLP-1RAs to lower BMI before surgery aligns with emerging evidence that this approach can help patients reduce weight and lower postsurgical risks.⁵ For example, a 2025 study of 70 patients undergoing elective hernia repair after GLP-1RA usage found a 30-day morbidity rate of 9.1%,⁵ a rate lower than typical.

Research results are more definitive for those patients with unusually high or low BMIs. For example, a study presented at the 2025 annual meeting of the ASMBS using ACS Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program data found the overall occurrence of mortality and morbidity rose from 2.77% in those with BMIs of 30 to 34.9, to 3.99% in those with BMIs greater than 70, with a marked increase in all BMI levels greater than 50.⁶

Potential Benefits and Risks of Perioperative GLP-1RA Use

Benefits

Lower body mass index before operating

Preoperative weight loss can improve surgical safety.

Reduced inflammatory burden

Because adipose tissue is an inflammatory organ, weight loss may help reduce inflammation, thus supporting healing.

Possible reductions in wound complications

While consensus among studies is lacking, some research has associated perioperative GLP-1RA use with lower rates of wound dehiscence, hematoma, and surgical site infection.

Concerns

Delayed gastric emptying

The slower rate of gastric emptying in GLP-1RA users means that standard preoperative fasting protocols may not eliminate residual gastric contents.

Aspiration risk

While guidelines now suggest that most patients using GLP-1RA drugs do not need to cease intake before surgery, patients with specific risk factors may need additional precautions.

Nutritional depletion

Rapid weight loss with GLP-1RAs relies on lowered food intake, which can also cause deficiencies in protein and micronutrients, including vitamin D and iron, thereby complicating surgical safety and postoperative healing.

Dr. Rogers explained how her surgical practice would use GLP-1RA drugs in response to that risk level. “If somebody came in, particularly with a BMI in the 60s or 70s, we would get a little concerned about the patient being at an increased risk for anesthetic and other complications related to the surgery. So, we might ask them to do a 5% or 10% weight reduction prior to having surgery, and that is a patient scenario where you could consider these GLP-1RA medications, which would get such a patient to where we thought it would be safer for them to have an operation.”

Nutritional Status

Lowering BMI before surgery is one kind of prehabilitation, a collection of practices meant to optimize patient health before surgery.

To help surgical teams put a range of approaches into practice, Dr. Varghese and colleagues developed Strong for Surgery with the ACS. The program offers a series of preoperative checklists designed to help surgical teams comprehensively assess prehabilitation needs and direct patients toward evidence-based practice from the first point of contact in the system.

The program is now active at 340 clinical sites and three state collaboratives in the US.

“When we first started Strong for Surgery, up to 30% to 40% of malnourished patients had no interventions done prior to going for elective surgery. It was eye-opening beyond belief,” said Dr. Varghese.

Issues related to malnourishment are undoubtedly present among GLP-1RA users. A range of nutritional issues, including vitamin D, iron, and protein deficiencies and muscle loss have been established as frequent outcomes for this patient group,^{8,9} thought to arise from reduced caloric intake and weight loss. However, unlike bariatric surgery, which generates the same results, no formal monitoring protocols have yet been established for GLP-1RAs.⁹

This gap in guidance includes Strong for Surgery. Its nutrition checklist currently includes the query, “Has the patient had a poor appetite—eating less than half of meals or fewer than two meals per day?” It makes no distinction between patients experiencing health problems and those using GLP-1RA drugs, a detail Dr. Varghese acknowledged is imperfect.

Formal changes to monitoring protocols are pending. “It’s got to rise to a certain level of

evidence, including multiple randomized clinical trials and meta-analyses of clinical trials, before it gets incorporated into a framework like Strong for Surgery,” Dr. Varghese explained. “We’re waiting on the evidence right now.”

Nonetheless, the checklist’s general advice for “referral to registered dietitian for evaluation of malnutrition” may be appropriate for clinicians concerned about nutritional issues in GLP-1RA users preparing for surgery.

Because GLP-1RA use can cause both anti-inflammatory healing benefits and adverse nutritional depletion, the association of GLP-1RA usage with surgical complications remains under investigation.

Wound Healing, Surgical Site Infections, and Other Complications

Intriguingly, some evidence suggests GLP-1RA usage may improve surgical complications, such as surgical site infections and wound healing. This may stand to reason, as improved glycemic control can reduce infections and improve healing in diabetic patients, and reducing the amount of inflammatory adipose tissue in the body could ease chronic inflammation and therefore facilitate healing. On the other hand, poor nutritional status and sarcopenia, which are commonly induced by GLP-1RA intake, may slow postoperative recovery.

Because GLP-1RA use can cause both anti-inflammatory healing benefits and adverse nutritional depletion, the association of GLP-1RA usage with

surgical complications remains under investigation.

Some research has shown clear benefits to preoperative GLP-1RA use. One retrospective observational study of nearly 22,000 surgical patients with type 1 or 2 diabetes found that those taking GLP-1RA medications had significantly reduced risks of postoperative wound dehiscence (relative risk, 0.71). This cohort’s risk of postoperative hematoma also dropped by more than half (relative risk, 0.44).¹⁰

Another study of diabetic and nondiabetic GLP-1RA users compared with nonusers found that the users had a significantly lower composite wound complication rate (9.0% versus 17.1%), including reduced surgical site infections (4.1% versus 8.1%) and wound dehiscence (3.8% versus 7.8%), with much of that benefit occurring in nondiabetic patients.¹¹

A third study, a 2025 meta-analysis of more than 97,000 patients that defined a single outcome of overall complications, described existing data as heterogeneous and low in quality. But it also found that preoperative GLP-1RA usage offered an appreciable protective effect against overall surgical complications (odds ratio, 0.78 [95% CI: 0.59–1.05] relative to nonusers).¹²

However, other studies have shown no such benefits. A meta-analysis of more than 27,000 spinal surgery patients found no difference between GLP-1RA users and nonusers on surgical complications such as pseudoarthrosis, surgical site infections, and deep vein thrombosis.¹³

Another study examined data on approximately 139,000 patients who had undergone major surgery and found GLP-1RA exposure and surgical complications such as sepsis, surgical site infections, thromboembolism, and cardiopulmonary failure were not associated, including in those with recent versus more distant GLP-1RA usage.¹⁴

The combination of these findings can be framed positively: GLP-1RAs either help reduce surgical complications, or at least do nothing to increase complications.



Pursuing Guidance, Seeking Serendipity

One thing is certain: Anti-obesity medications will continue to attract many patients.

“I think the use is going to continue,” Dr. Rogers said—perhaps confounding surgical teams, but eventually, time, attention, and more data will lead to improved patient health and better surgical outcomes. **B**

M. Sophia Newman is the Medical Writer and Speechwriter in the ACS Division of Integrated Communications in Chicago, IL.

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Imagine walking in the Sonoran Desert, the arid region of the southwestern US and northwestern Mexico. Low to the sandy ground, in the dappled shade of a dry shrub or cactus, may lie a one-pound lizard with a thick tail and skin camouflaged in black and orange.

Improbably, a drug derived from this creature's venom now impacts the practices of many surgeons.

In the 1990s, Veterans Affairs-associated physicians John Eng, MD, and Jean-Pierre Raufman, MD, found a compound in the venom of this lizard, the Gila monster (*Heloderma suspectum*). Dubbing the peptide exendin-4, they found it stimulated insulin production and slowed digestion. But unlike the closely related GLP-1, exendin-4 was long-lasting. (This solved the mystery of why Gila monsters can survive in the desert on just a few meals per year.)

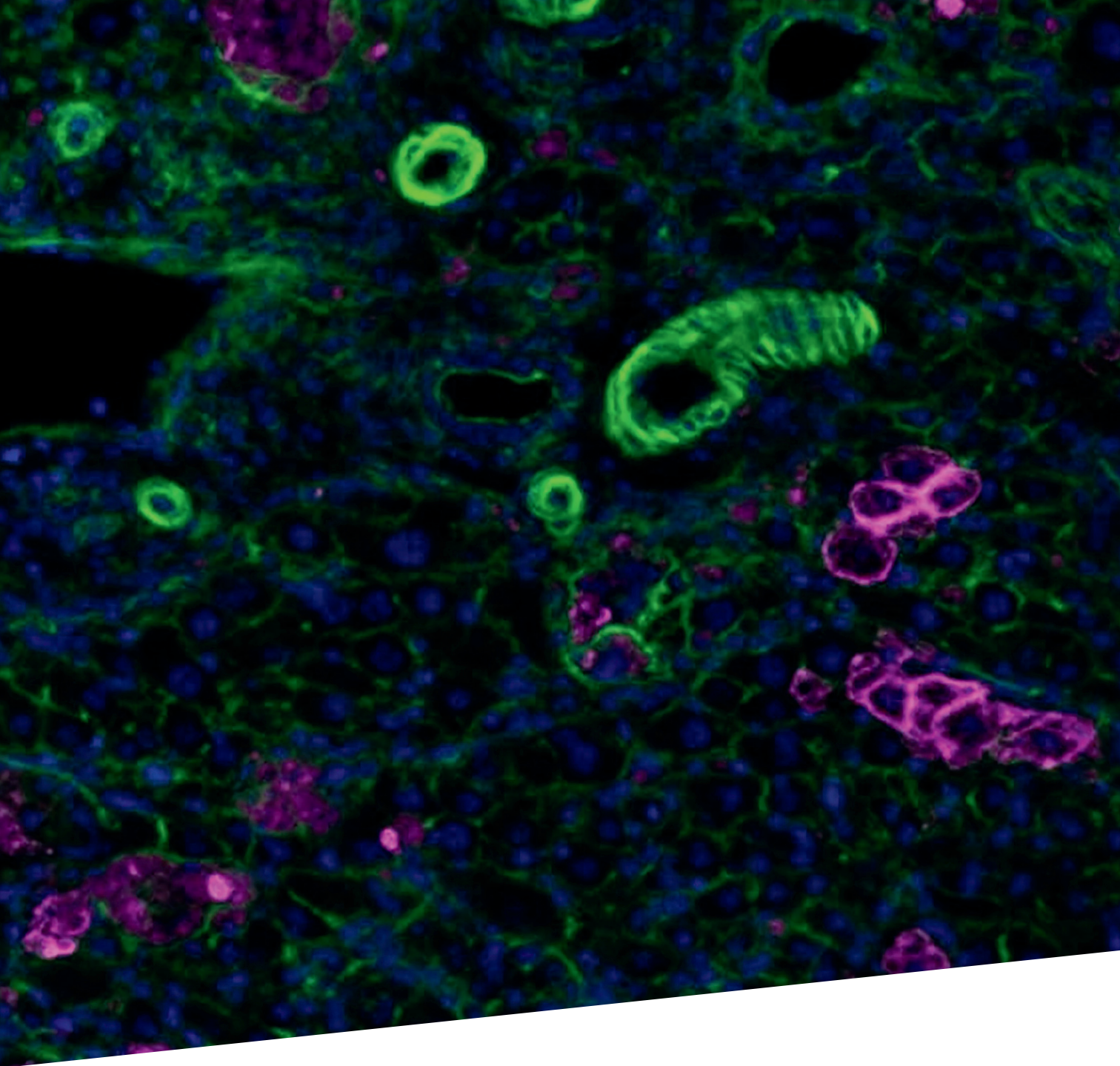
By 2005, this discovery resulted in the development of the first-ever GLP-1 drug, exenatide, which primarily treats diabetes. When it was found to also cause weight loss, other pharmaceutical companies took notice. Between 2014 and 2021, GLP-1RA drugs that mimic the same effect, including semaglutide and tirzepatide, began to emerge—eventually triggering a still-unfolding wave of change in medical practice.¹⁵

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Innovations in Space-Grown Human Tissue Boosted by ACS Award

Tony Peregrin

Implanted liver cells
developed in the
Tissue Orb



Tammy T. Chang, MD, PhD, FACS, isn't simply reaching for the stars by conducting research aboard the International Space Station; she's hoping to revolutionize the future of liver transplantation by growing tissue in microgravity.



Dr. Chang performs an open total colectomy on a patient with medically refractory colonic pseudo-obstruction on the acute care surgery service.

A PAST RECIPIENT of the George H. A. Clowes Jr., MD, FACS Memorial Research Career Development Award, Dr. Chang intends to use the condition of weightlessness within low Earth orbit (approximately 1,200 miles above the Earth's surface) to engineer the self-assembly of human liver tissues in order to provide an alternative to traditional liver transplants.

"It was extremely gratifying to learn that I was a recipient of the Clowes Award in 2016," said Dr. Chang, a professor of surgery at the University of California, San Francisco (UCSF), and director of the Chang Laboratory for Liver Tissue Engineering, which is a basic and translational research lab dedicated to liver tissue engineering. "As a researcher, it is very validating to learn that your peers have recognized the importance and significance of your work and collectively decided to support it."

The clinical problem that Dr. Chang and her team are working to address is centered around the fact that while transplantation is a very effective treatment for patients with liver dysfunction or severe liver disease, there are not enough donor organs available to treat every patient.

Although a record number of liver transplants (12,344) were performed in the US in 2025, which was an uptick of 8% from the previous year, more than 9,000 Americans currently are on the liver transplant waiting list, a number that continues to grow daily.^{1,2}

Investigators at the Chang Lab are focusing on the liver beyond the demonstrated clinical need for more available organs: namely, the liver's significant capability to regenerate in response to injury and metabolic demand.

"The main and long-term goal of the lab is to develop a

tissue-based therapy developed from stem cells that can take on liver function and then be implanted into patients as a tissue replacement treatment. This is the work that the Clowes Award has supported," Dr. Chang explained.

Dr. Chang was recruited to UCSF as a faculty member in 2011, the same year she launched the laboratory.

"The Clowes Award came at a time when I was starting to transition professionally and really grow my lab. The value of the Clowes is that it's a long-term award—5 years. This long-term structure provides the necessary stability for strategic planning and extended research horizons," she said.

During the Clowes Award period, Dr. Chang received additional funding from the

“The College and the ACS Foundation have been there from the beginning to support my research to conduct liver tissue engineering in space.”

Dr. Tammy Chang

National Institutes of Health in the form of an R01. Her project, “The Role of Matrix Rigidity and Hepatocyte Mechanotransduction in Fibrotic Liver Disease” investigated how the stiffening liver extracellular matrix influences hepatocyte dysfunction.³

Dr. Chang also received grants from two federal funders of research in 2018 to study the effects of microgravity on biological systems—the NASA Space Biology Program and the National Science Foundation (NSF) in collaboration with the Center for the Advancement of Science in Space.

“The College and the ACS Foundation have been there from the beginning to support my research to conduct liver tissue

engineering in space,” added Dr. Chang, referring to the ACS Resident Research Scholarship (2006–2008) that supported 2 years of full-time research between her third and fourth years of general surgery residency training at UCSF.

“That early funding helped propel my career trajectory and enabled me to seek grant funding from NASA and NSF. The path to success for obtaining grants begins with receiving one grant, which then leads to additional success with obtaining other grants,” revealed Dr. Chang. “The fact that I could put on my biosketch or my CV that I had received support from the ACS at this level indicates to the people reviewing my

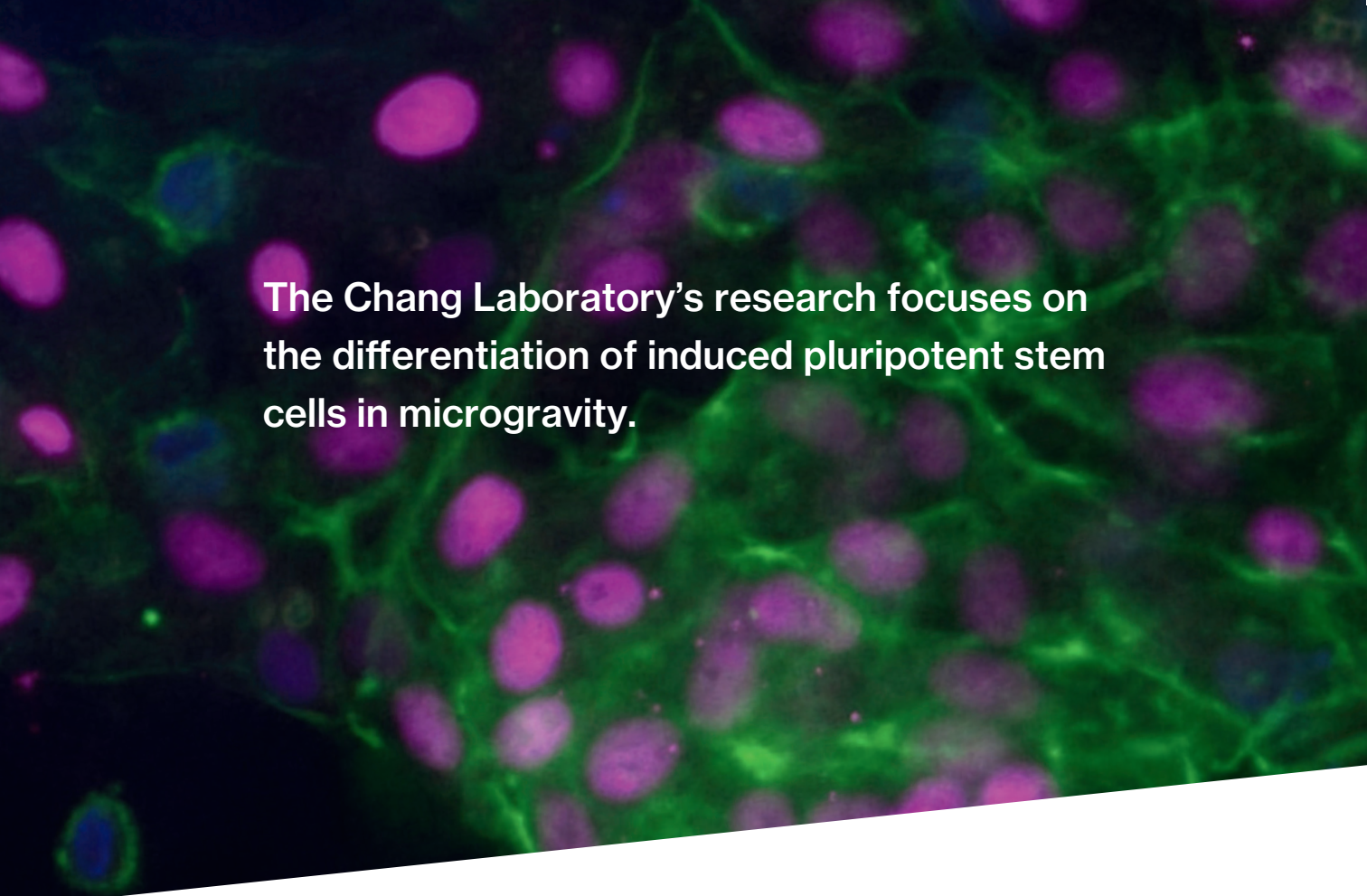


grants that I’ve already received recognition and approval from my professional society, and that says a lot.”

Beyond the financial boost, this type of validation helps reinforce an investigator’s reputation for excellence.

“The fact that the ACS Foundation and the College support surgeons conducting

Dr. Chang stands in front of the vehicle assembly building at the Kennedy Space Center, where rockets and space vehicles are assembled vertically for launch.



The Chang Laboratory's research focuses on the differentiation of induced pluripotent stem cells in microgravity.



Access related video content online.



research really facilitates surgeons in obtaining broader research support from the medical research community, not just because of the financial sponsorship, but because it represents an endorsement from your peers and members of your society,” she said.

Gravity of the Situation

While it is possible to simulate microgravity in an Earth-bound laboratory using rotating bioreactors, Dr. Chang and colleagues suggest that liver organoids sustained in actual microgravity have the potential to become larger and could even grow blood vessels. In other words, something that can be accomplished up there cannot happen down here.

The Chang Laboratory's research focuses on the differentiation of induced

pluripotent stem cells in microgravity. Developed from normal adult human cells, these initial cells are reprogrammed to act like embryonic stem cells, according to Dr. Chang.

These stem cells are, in turn, built into liver tissues in microgravity that function like a smaller, simpler liver.⁴ Unlike Earth-bound tissue engineering methods that “rely on exogenous matrices or culture plates, microgravity allows cells to float freely and organize naturally, resulting in more physiologically accurate tissues.”⁴

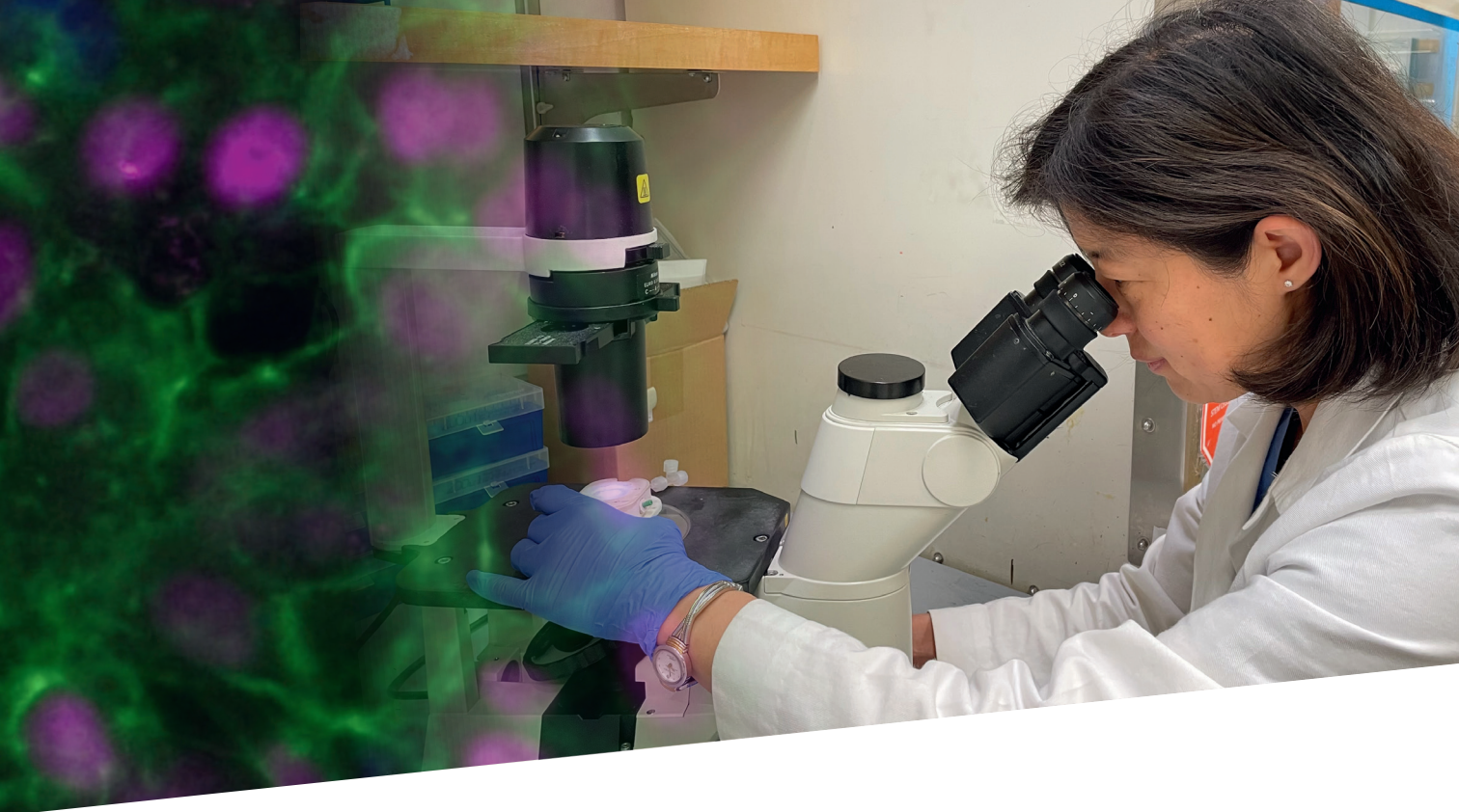
“We have found that if you place these cells in a suspension culture with very low-shear stress, similar to weightlessness in space or microgravity, the cells will self-organize and self-assemble and—compared to conditions that are gravity-restricted or grown in conditions under Earth's gravity—these

cells become better liver cells and function better compared to other methods,” she said.

The cornerstone of this experiment is a bespoke bioreactor known as the “Tissue Orb.”

“My lab designed the Tissue Orb, which is patented by our university as an idealized bioreactor that would facilitate and promote tissue self-assembly and self-organization,” explained Dr. Chang. “This bioreactor will be flown to the International Space Station to test our hypothesis. Hopefully, this will be done this fall. Currently, we are in the midst of what's called a ‘payload verification test’ where we are charged with demonstrating that the hardware is working and that it is possible to get results on the ground as a trial run. And if we get positive results there, we may be approved to fly in mid-October.”

Advancing novel tissue engineering in space could



represent a life-changing future for liver patients on Earth. This progress starts with one, notable “glimmer” of space-based tissue growth.

“I think the hardest part is getting that first signal, that first positive spark that demonstrates this is possible. And a lot must happen and has to go right in order to do that,” said Dr. Chang. “We’ve achieved some of those signals in the lab. Now, to achieve that signal in space has been challenging. It has taken us years to build a concept, build the hardware, and collaborate with the International Space Station National Lab and implementation partners to get what is necessary up into orbit.”

Dr. Chang said that if they obtain strong, rigorous data showing their hypothesis is possible, then they are well on their way to overcoming the scientific challenges in creating these liver tissues that could stand in for whole liver organ transplants.

“While there might be scientific, technical, and regulatory issues to solve, we are pushing forward with the work. I think our most near-term application from what we’re developing is in children with inborn errors of metabolism. These are hereditary metabolic diseases that affect liver function. And we have been talking to patients and patients’ families, and they don’t want to wait. They want something to resolve what’s happening now. So, the onus is on us to develop something as efficiently and as safely as possible.”

In order to facilitate the safe return of engineered tissues to Earth, Dr. Chang’s lab also is developing state-of-the-art cryopreservation technology involving isochoric supercooling, a preservation method that maintains tissues below freezing without damaging them. “Our goal is to bring functional tissues generated in the unique environment of space back to Earth in a viable state, where they can be used for a range

of biomedical applications, including disease modeling, drug testing, and ultimately, therapeutic implantation,” Dr. Chang explained.

In an article published in 2023, Dr. Chang and colleagues described an organ preservation model that sustained supercooling in pig liver tissue for 24 to 48 hours without ice nucleation, though conclusive evidence that the preserved organs can be successfully transplanted is still pending.⁵

Translating Bedside Impact into Research Purpose

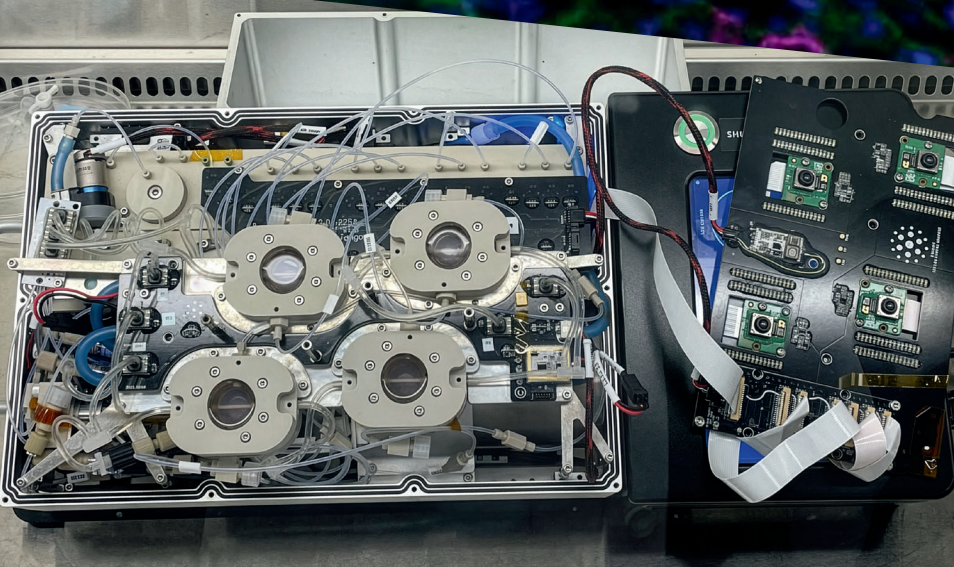
For many surgeons, the most inspiring moments in practice are not born from clinical success alone, but from the human connections formed along the way. Dr. Chang described how the lived experience of treating individual patients has become a powerful driver of her research.

“I’ve been a general surgeon with a primary clinical practice in acute care surgery for the last 15 years,” she said. “As surgeons,

Dr. Chang examines liver organoids within the Tissue Orb under a microscope.

“Surgeons have such a unique perspective on human disease that other physicians or clinicians may not have access to....”

Dr. Tammy Chang



Four Tissue Orbs were installed into spaceflight hardware.

we are privileged to connect with a patient who is at a critical point in their life—and that connection is powerful. That human connection from clinical experience motivates the research aspect of my work, although it is a longer road. What you do every day in the lab, analyzing the data and so on, may not have that direct patient impact, but the research that we are pursuing has the

goal of greater impact for larger populations of people.”

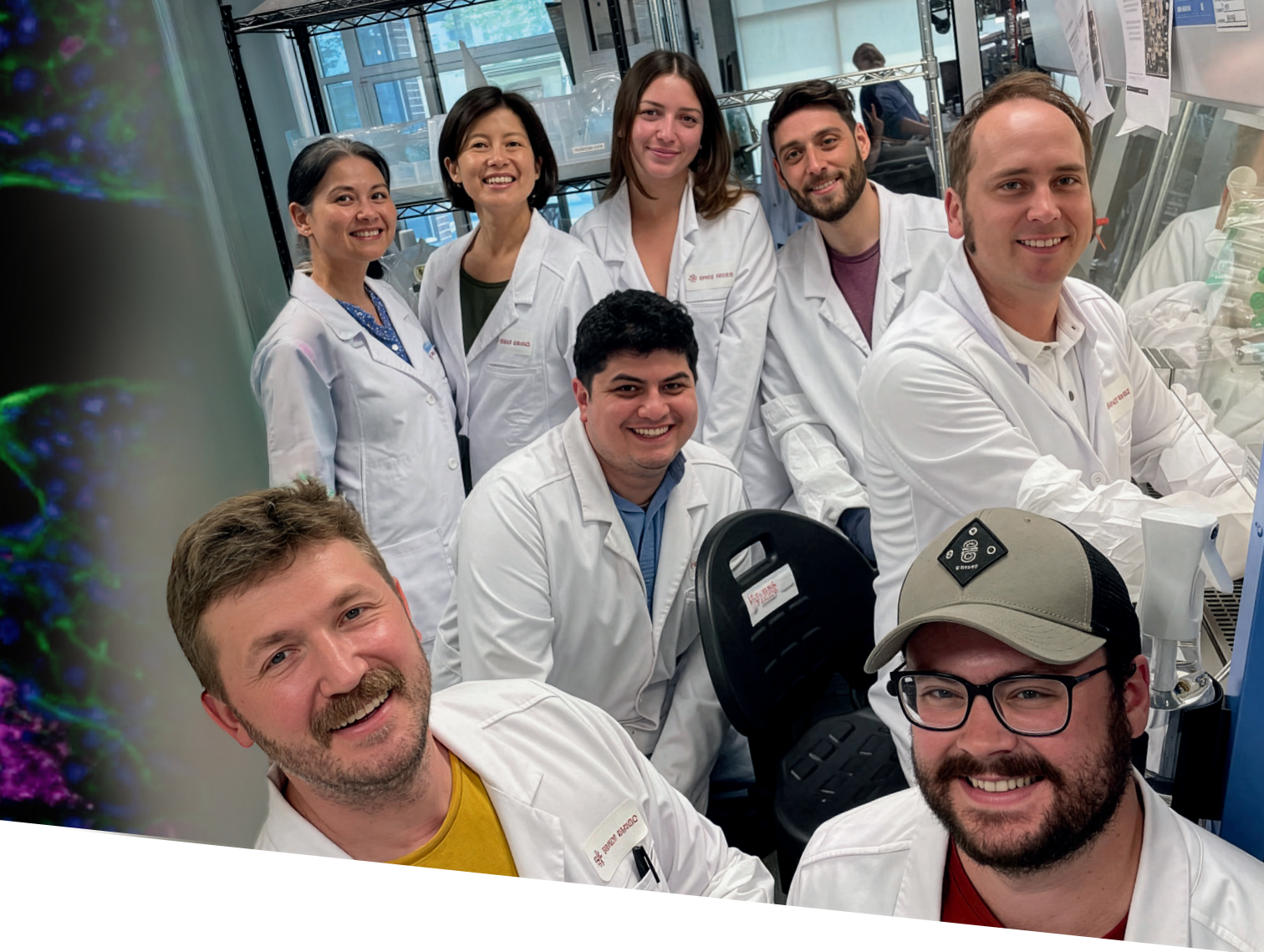
Balancing the dual role of the surgeon-researcher requires more than time management; it necessitates robust institutional support.

“Patient care comes first, and that’s clear in my mind. So, when I am on call on clinical service, that is what I’m doing. My team in my lab knows that, and that’s how I guide my time,” explained

Dr. Chang. “But when I am off clinical duty, I’m also working with a team of colleagues and other attending surgeons that allows me to focus on advancing research in the lab, training the person who needs to be trained in the lab, writing manuscripts and grants, and helping develop new ideas that are going to push the work forward.”

Surgeons occupy a vantage point that few others in medicine can share—a reality that helps motivate surgeons who have one foot firmly planted on the patient side and the other in research.

“Surgeons have such a unique perspective on human disease that other physicians or clinicians may not have access to because we actually see the disease process and anatomy, and we know the techniques and approaches that can be used to manipulate that anatomy,”



Dr. Chang said, “Having that unique perspective gives surgeons involved in research valuable insight into what questions should be asked and the range of possibilities.”

To learn about the basic requirements and obligations associated with the Clowes Award, visit facs.org/clowes. For more information about the ACS Foundation, the programs it supports, and how to contribute, check out facs.org/foundation. **B**

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Dr. Chang and her research team run through experimental procedures in preparation for launching liver organoids into space.

Dr. William Halsted performs the first operation in a new surgical amphitheater at The Johns Hopkins Hospital with his surgical trainees.



The Churchill “Rectangular” Residency Program Transformed Surgical Education

Aaron Delman, MD
Brendan P. Lovasik, MD

July 1 is an honorary milestone in US medical education, when a newly minted class of aspirational and hardworking surgical interns arrive at their hospitals to begin their surgical education and professionalization.



Edward D. Churchill, MD

THIS RITE OF PASSAGE has become formalized in the US through the standardization and accreditation systems overseen by the Accreditation Council for Graduate Medical Education, board certification processes administered by the American Board of Surgery (ABS), and the educational contributions of organizations such as the ACS and numerous surgical specialty societies.

In the twenty-first century, both the US public and the medical profession have come to expect board-certified general surgeons to have completed a rigorous and regulated residency program. However, throughout much of US history, this was not always the case.

From the eighteenth to the nineteenth century, colonial America experienced a rapidly growing population with an increase in medical problems. Few trained practitioners could perform even minor surgical procedures and apprentice-trained surgeons were rarely available to provide care.

Notably, the first US hospital was founded in Philadelphia in 1751, and shortly thereafter, apprenticeships were developed to provide training to medical doctors. Major US medical schools also were established. Despite these developments, there was a lack of standardized regulation governing the training or qualification of surgeons. Local medical societies began licensing physicians in an early effort to regulate practice and promote quality of care.

Seeking advanced medical education, many wealthy aspiring US physicians traveled to England, France, and Germany to pursue more advanced medical training before returning to their practices in the US.

The mid-to-late nineteenth century also brought increased scientific sophistication to the practice of medicine and surgery. The discovery and implementation of anesthesia (1846) and antisepsis (1867), as well as advances in physiology, radiography, hospital design, and professionalized nursing expanded the boundaries of surgical practice. And in 1880, Samuel Gross, MD, founded the American Surgical Association, with the goals to elevate the scientific rigor of surgery in the US and distinguish the roles of surgeons and physicians.

Building the Pyramid: The Halsted Model

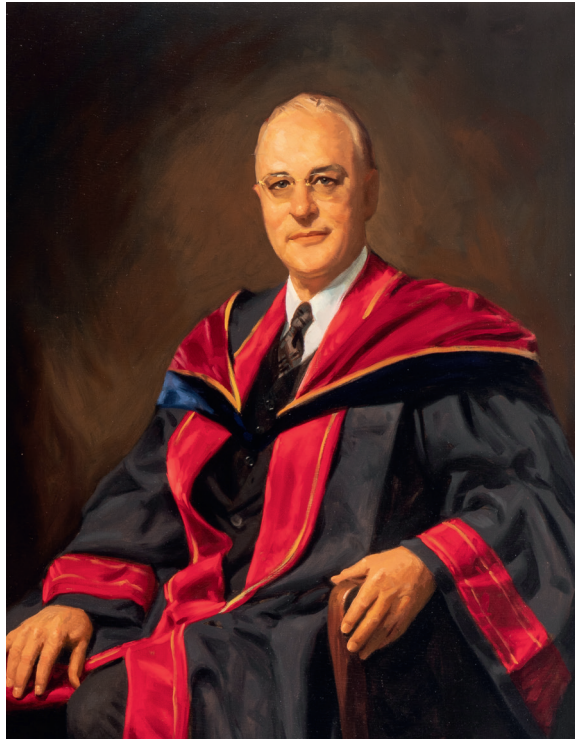
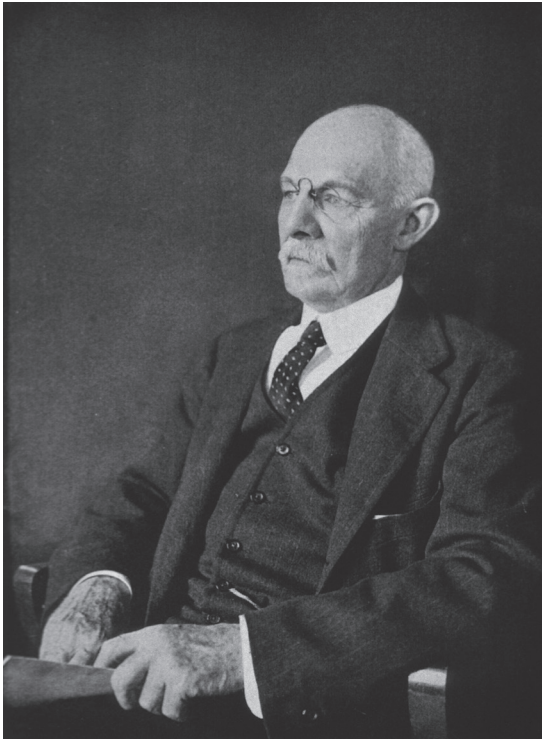
William Stewart Halsted, MD, is recognized as a pioneer in US surgical education and was the first to establish an academic surgical residency in this country. Dr. Halsted completed his medical education at Columbia University College of Physicians and Surgeons in New York City, and his surgical training at New York's Bellevue Hospital, followed by 2 years of clinical training in Germany and Austria.

The Germanic model of surgical training made a strong impression on Dr. Halsted and would influence his reform of surgical education.

In 1880, he returned to the US to begin his surgical career, and in 1886, he was recruited to the newly founded Johns Hopkins Hospital in Baltimore, Maryland, where he founded the surgical department and established what would become the model of residency training programs in the US.

The model, based on the German approach to medical training, was strictly pyramidal. Eight interns enrolled each year and were guaranteed a position for 1 year. Four of the eight advanced to the next year, and ultimately only one attained the position of chief house resident, a role held for an indefinite period. Advancement and graduation were determined solely by Dr. Halsted, leaving residents in training until he deemed them prepared for independent practice.

A report issued by a Hopkins committee noted the following: "The resident physician: It would be well to use for this officer the term 'first assistant' at the medical, surgical, and gynaecological [sic] clinics respectively. Ultimately, we should look forward to having second assistants, as at the German clinics. These men should, as now, be salaried. They should be selected with the greatest care by the staff, with the approval of the medical board and of the trustees. Though appointed annually, it is expected that these men remain for an indefinite period, so long in fact as they do their work satisfactorily."



Advancement was not guaranteed, and the competition was “fierce and vigorous” while caring for patients, operating, and producing research.

This steeply pyramidal system was adequate for its time, because even residents who did not complete the full program but had 2–3 years of training could return to their communities as more knowledgeable and skilled surgeons.

Will C. Sealy, MD, speaking a century later through a contemporary lens, issued the following comment: “It is a strict pyramid with an autocratic chief...The period of training is long and indefinite.” This cutthroat and demanding approach to surgical education, with only one excellent winner, was meant to “produce not only surgeons, but surgeons of the highest type, men who will stimulate the first youths of our country to study surgery and

devote their energies and their lives to raising the standard of surgical science.”

The Halstedian model was revolutionary for its time, and although it is flawed when viewed in retrospect, it rightfully established a strong framework of residency training in the US.

This model was instituted at a time when there was an emerging demand for standardized education, and with this goal in mind, the model replicated the highly recognized German-Austrian system. Dr. Halsted graduated 17 chief residents, and of these, 11 went on to establish similar residency training programs at other institutions.

Despite the proliferation of these pyramidal training programs, with graduated responsibility, and structured training of surgical residents, the bulk of US surgery in the early twentieth century continued to be performed by general practitioners who only

had 1 year of medical internship training following medical school.

As surgical sciences advanced, and surgical procedures became progressively more complex, there was a growing need to proliferate surgical skills among a broader generation of trainees.

The College, the Board, and Dr. Evarts Graham

At the turn of the twentieth century, fewer than half of US physicians pursued any postgraduate training. However, the increasing breadth of medical knowledge in the early 1900s required an increased focus on transition to practice.

By 1923, US hospitals offered an internship position to every graduating doctor. Some institutions also offered short, 1-year residency programs that focused on a specific specialty, including surgery.

The American Medical Association established

Left:
William Stewart
Halsted, MD (Credit:
National Library of
Medicine, Images
from the History of
Medicine Collection)

Right:
Evarts A. Graham,
MD, FACS

Published in 1939, this ACS *Bulletin* article reported the results of the first ACS inspections of surgical residency programs, helping establish the high standards that continue to shape surgical training today.

BULLETIN OF THE AMERICAN COLLEGE OF SURGEONS

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No. 1

GRADUATE TRAINING FOR GENERAL SURGERY AND THE SURGICAL SPECIALTIES

NINE years ago the American College of Surgeons began a study of graduate training which approaches culmination with the publication in this issue of the BULLETIN of the first list of hospitals approved for graduate training in general surgery and/or the surgical specialties. This list furnishes a definite starting point for a new effort to make the list of hospitals approved for graduate training as significant and stimulative in this particular field as the Approved List of hospitals has been throughout the hospital field as a whole.

Study of a vast amount of collected data and wide observation of actual practices, upon which were built conceptions of the proper organization, conduct, and content of graduate training programs, have preceded the compilation of this first Approved List. The list itself demonstrates the need for developing more comprehensive and better correlated plans than now exist in most hospitals and other medical educational institutions.

In his report on page 41, Dr. Dallas B. Flemister, chairman of the present Committee on Graduate Training, mentions the earlier committee under the chairmanship of Dr. Samuel C. Harvey whose recommendations, published in the December, 1935, BULLETIN, stimulated the extensive personal surveys and analyses of findings which have since been conducted, and the formulation of Criteria and a Manual for Graduate Training for Surgery and the Surgical Specialties which were first published in the January, 1938, BULLETIN, and which are reprinted on pages 6 to 11 of the present one. The Criteria and Manual were prepared by Dr. Malcolm T. MacEachern, associate director of the College in charge of hospital activities, following analysis of information obtained in surveys made under his direction. On May 10, 1936, the Board of Regents of the College passed the following resolution on requirements for fellowship:

BE IT RESOLVED that applicants for fellowship whose qualifying medical degree shall have been obtained after the date of January 1, 1938, shall be required to present evidence of having completed three years of hospital service in one or more acceptable hospitals, of which two years shall have been spent in training in surgery in hospitals

approved by the American College of Surgeons. In the case of graduates of medical schools which withhold the medical degree until after the fifth year of hospital internship, the date set will be January 1, 1939.

The raising of the standard for fellowship has obligated the College to make certain that no qualified man who aspires to future fellowship shall lack the opportunity to obtain the graduate training required. The support of hospitals and other medical educational institutions in providing wider graduate training opportunities is essential to qualify candidates for fellowship, which is equivalent to qualifying them as competent surgeons from a surgical training point of view. In furthering graduate training for surgery the College is pursuing its general objective—to advance the science of surgery and to insure the competent practice of its art.

A comprehensive investigation of the possibilities for graduate training for surgery was conducted by special field representatives of the College during the years 1937 and 1938. The results of the first survey were published in the BULLETIN for January, 1938, and the current report is published in the present issue on pages 41 and 42. The first report disclosed that there existed "no basic standard of uniformity in the methods of graduate training" and that it was most desirable that some definite organization or planned program for each year of the training period should be formulated. The current report includes recommendations, briefly stated (see page 41), covering general principles, outline of program for 3-year and for 3-year or more periods of graduate training, and statement of "adequate organization and functioning of the attending staff for the program in graduate instruction." These recommendations are elaborated upon in the plan for graduate training for surgery in a hospital by Dr. Harold Earnheart, assistant director of the College, which is published on pages 42 to 44. These principles, and the plan, supplemented by the Criteria and the Manual, furnish a basic guide for the hospital which desires to furnish graduate training of an acceptable standard. As an additional aid, to give suggestions on practical application under different circumstances, outlines of 13 plans now in operation in representative

This committee proposed the establishment of a board of surgery following the organizational structure of other specialties. The requirements for board certification included specialty surgical training consisting of at least 3 years of graduate training following internship, sufficient graduate-level work in anatomy, physiology, pathology, and basic medical sciences, as well as adequate operative experience. The 3-year requirement was derived from the Mayo Clinic model developed in Rochester, Minnesota, in the 1920s.

A two-part examination for board certification would be required: The first part was written, and the second part was oral or practical. The committee's proposal was approved, and the ABS became the twelfth recognized specialty board in the US.

Dr. Graham was a driving force in the standardization of the US surgical residency. A classmate of Allen O. Whipple, MD, FACS, at Princeton University in New Jersey, Dr. Graham completed his medical education at Rush Medical College and his surgical training at Presbyterian Hospital (today known as Rush University Medical Center), both located in Chicago, Illinois.

Following his service in World War I, he was recruited in 1919 to establish the Department of Surgery at Washington University in St. Louis, Missouri (WashU), and would serve as chair from 1919 to 1951.

At WashU, Dr. Graham standardized Halsted's system

into a set-length, graded curriculum with progressive responsibility and operative exposure as trainees advanced. He was the inaugural ACS Vice President (1932–1933) and would later serve as the ACS President (1940–1941) and Chairman of the Board of Regents (1951–1954).

Changing standards of medicine and the creation of the ABS prompted the ACS to adopt and regulate residency training.

In November 1937, the ACS Committee on Graduate Training in Surgery first met and began developing standards for surgical residency programs. "There are really two problems that confronted us," noted an internal report. "One was the ideal training for the surgeon and the other was the graduate training which is necessary for every man to have before he can become a member of the American College of Surgeons."

Thus, the College required residency training for all Fellows and took on the responsibility of inspecting and approving surgical residency programs. The inaugural 1937 ACS Residency Program Inspection evaluated 270 hospitals, and of these, 89 programs (33%) received full approval, 46 programs (17%) received provisional approval, and 135 programs (50%) were rejected.

The ACS published these results in a 1939 issue of the *Bulletin of the American College of Surgeons* that was distributed across the US. The publication of this report demonstrated the strict requirements for ACS residency

From Pyramids to Rectangles: The Churchill Model

program certification and a definitive list of the programs that satisfied these requirements.

The ACS seal of approval became desirable for residency programs that wanted to attract more qualified residents. The applicants, in turn, trusted ACS-approved programs to ensure the quality of education necessary for entrance into both the College and ABS.

From Pyramids to Rectangles: The Churchill Model

The rising standards for trainee instruction among the surgical societies led to increased scrutiny of the practicality of the Halsted pyramidal system.

Although the Halstedian pyramid model produced a number of highly accomplished surgeons, many trainees received only a fraction of the intended education, with some completing as little as 1 year of formal surgical training. While incomplete training was adequate for the late 1800s, the changes in the ABS and ACS requirements in the 1930s meant that the many residents who did not complete the “pyramid” were ineligible to qualify for certification from either the College or ABS.

In 1940, Edward D. Churchill, MD, chair at the Massachusetts General Hospital (MGH) in Boston, publicly rejected the Halsted pyramidal system, commenting that “half a surgical training is about as useful as half a billiard ball.”

Dr. Churchill completed his undergraduate education at

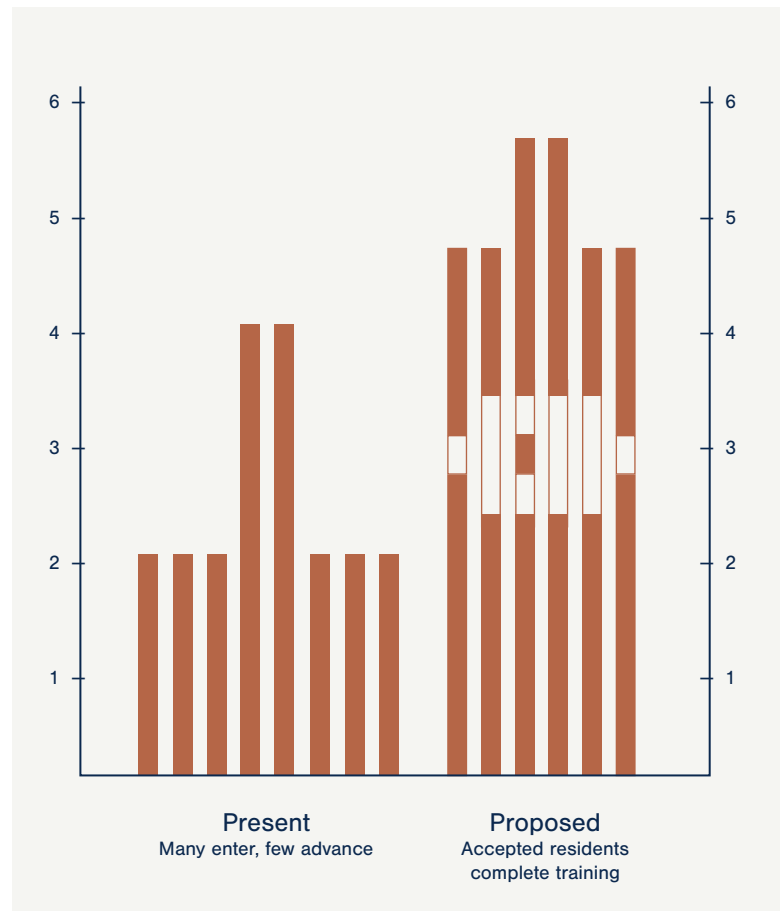
Northwestern University in Chicago, Illinois, and attended medical school at Harvard University in Cambridge, Massachusetts, and completed his surgical residency at MGH. He also completed a 2-year clinical fellowship in Germany and Denmark, where he was exposed to the German model of surgical training.

In 1931, Dr. Churchill became the chief of the West Surgical Service at MGH. Based on his observations of the negative aspects of the pyramidal system during his time in Europe and early years at MGH, he sought to change the culture of American surgical education. Dr. Churchill fostered an educational environment led by a faculty of

excellent surgeons, where no singular personality dominated the methods and technology of the institution, and he eliminated the authoritarian nature that developed as part of the master-apprentice relationship model.

Ultimately, his goal was to enhance the teacher-student relationship to improve resident education and growth. As Dr. Churchill wrote, “The conversion of the intellectually sterile master-apprentice situation into a mutually stimulating teacher-pupil relationship has been one of the goals of my professional life.”

Dr. Churchill established a “rectangular” surgical residency program in which all accepted residents completed the full



This diagram illustrates Dr. Edward Churchill's proposal to replace the Halstedian pyramid with a rectangular residency model offering longer, standardized training.

training program. He limited the number of candidates per year from six to four but increased the length of training to 5 years for all accepted candidates. Individuals with an interest in academic surgery and research could continue for more years if desired. The program guaranteed residents a position throughout training and was designed to graduate surgeons capable of independent practice.

The educational potential of the hospital would be devoted to training several people, instead of just one or two exceptional trainees. This approach removed the constant competition between trainees for advancement and allowed the residents to focus on education. Dr. Churchill suggested that this arrangement would produce well-trained surgeons in a more collegial environment and that this structure encouraged cooperation among resident peers.

In 1939, Dr. Churchill formally proposed the “rectangular” residency program to replace the competitive, “pyramidal” apprenticeship model. It was built on six underlying principles:

- Prevent exploitation of the residents by avoiding repetitious routine procedures
- Expose trainees to the foundations of basic science, including anatomy, physiology, bacteriology, and pathology
- Foster flexibility in training to tailor to individual interests and goals
- Select surgical faculty who meet the criteria for mature and

Six Principles Behind the Rectangular Residency		
01	02	03
Avoid resident exploitation through repetitive routine work	Ground training in basic science	Allow flexibility for individual interests
04	05	06
Choose mature, committed surgical faculty	Increase responsibility with time and competence	Create oversight for graduate education

well-qualified surgeons willing to devote time and effort to the training of residents

- Support progressive responsibility of the trainee that increases with time and competence
- Form an advisory board for graduate education to ensure the educational goals are met by residency training programs

The program would provide graded responsibility in patient care, operative complexity, and autonomy. Dr. Churchill recognized the importance of an institutional obligation to trainees, writing: “The willingness of this group [the residents] to deliver themselves up to an institution for 4 to 6 years of the most vital period of their life without any commitment for the ultimate future places a grave responsibility on the hospital to give them the best it has.”

While this was not the first rectangular training program, its association with Harvard and prominent surgeons such as Dr. Churchill provided the

credibility necessary for wider adoption across the US.

However, the transition from concept to practice was interrupted by global events. Implementation of Dr. Churchill’s proposed training structure was largely deferred by the onset of WWII. As a result, the entering MGH class of 1946 was the first to move through the new system completely in accordance with the rectangular residency. The model’s success was demonstrated by the increased number of surgeons trained for independent practice and the reduced competition among residents for limited training positions. This plan was widely adopted nationally, and the Halsted system became nearly obsolete following WWII.

Revisiting the Rectangle Through Competency-Based Education

Even as he was laying the foundation for his rectangular residency program in 1931, Dr. Churchill called for flexibility in tailoring training to individual needs, writing, “A frozen 5-year

The model's success was demonstrated by the increased number of surgeons trained for independent practice and the reduced competition among residents for limited training positions.

curriculum is unthinkable as it allows no latitude for the development of individual interests and proficiencies.”

While Dr. Churchill may not have been directly referring to a competency-based surgical education model, his words are relevant when considering today's residency training paradigm.

In February 2022, the ABS announced the move to competency-based assessment of surgical trainees with the introduction of the ABS Entrustable Professional Activities (EPA) Project. The EPA platform launched for general surgery residency programs in July 2023. It expanded in August 2025 to include vascular surgery, pediatric surgery, and complex general surgical oncology, followed by surgical critical care in September 2025.

The Churchill model has proven highly successful in training generations of general surgeons in the US and continues to evolve under the leadership of today's surgical educators. This model provided comprehensive

training for skilled surgeons while eliminating the inefficiencies of the pyramidal system.

In his presidential address to the Boston Surgical Society in December 1997, Hermes C. Grillo, MD, FACS, a world-famous thoracic surgeon, remarked, “I shall state a seemingly arrogant but, I think, defensible premise: The surgical residency training system in the US today is, at its best, the finest vehicle yet developed for the education of surgeons.”

Standing on the shoulders of Drs. Halsted, Graham, Churchill, and countless others, we welcome the next generation of surgeons to The House of Surgery® as they begin their journeys. **B**

Acknowledgment

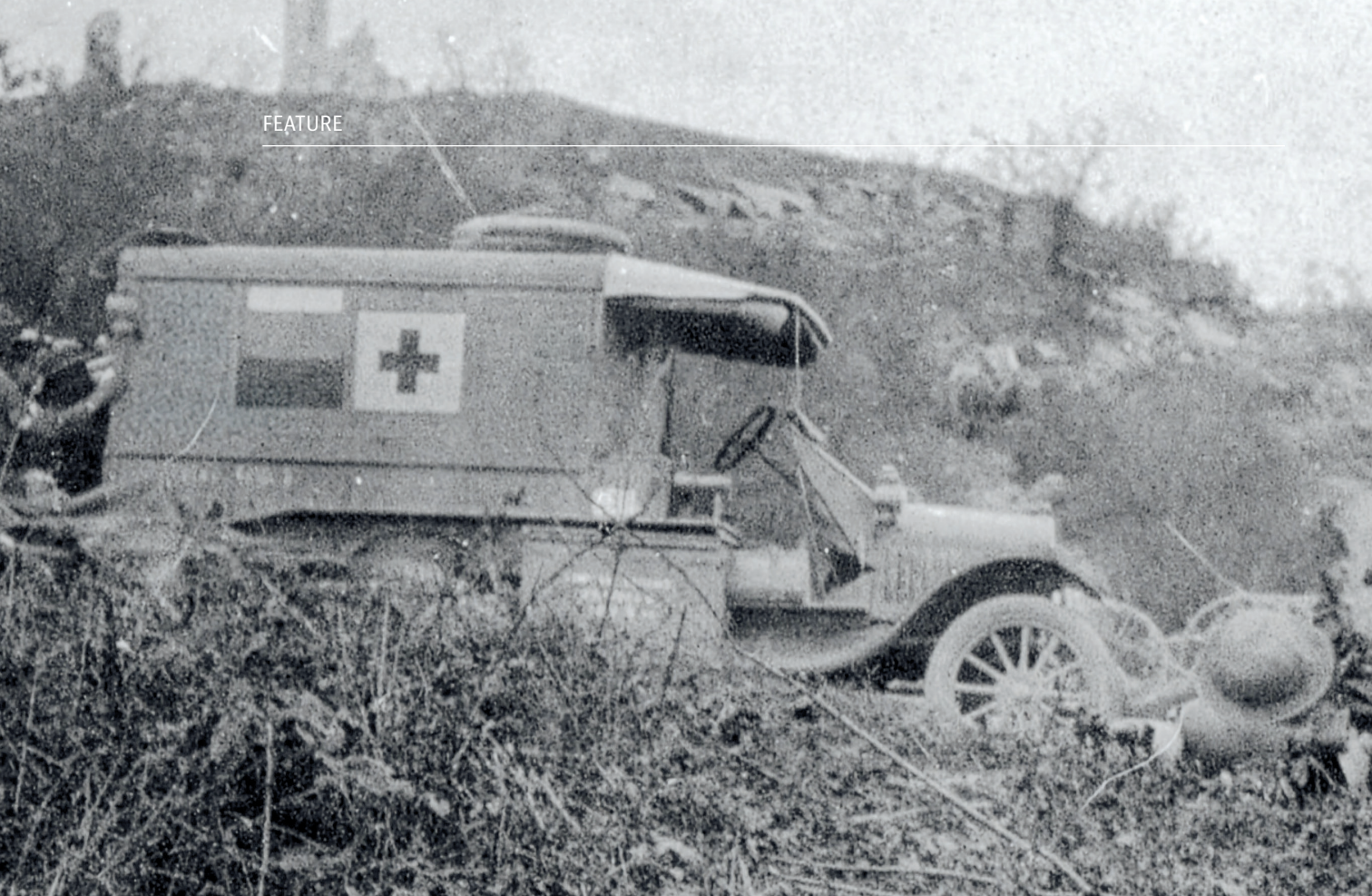
The authors would like to acknowledge Justin Barr, MD, PhD, for his contributions to the field of surgical history, several of which are cited in this article.

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How the ACS Mobilized American Surgery for WWI—and Why It Matters Today

Jeremy W. Cannon, MD, SM, FACS
Emma Zimmerman



FROM ITS FOUNDING, the ACS has maintained close ties with the US military.

During its first 5 years as a professional organization, the ACS appointed Navy Surgeon General Charles F. Stokes, MD, FACS, as a member of the first Board of Regents, recruited thousands of American surgeons to serve in World War I (WWI), and deployed its first president, John M. T. Finney, MD, FACS, to Europe.

These actions represent just a few of the measures taken by ACS founder Franklin H. Martin, MD, FACS, and others to ensure military surgical care met the same rigorous standards they had set for civilian surgical care. The efforts resulted in optimal clinical

outcomes on the battlefields of Europe and strengthened medical readiness at home.

Today, the ACS continues to take a leadership role in medical preparedness efforts, maintaining the legacy and advancing the ideals of its early leaders.

Europe Engulfed in War

In June 1914, what started as a flare-up of regional tensions in the Balkans soon erupted into a conflict among the Great Powers, engulfing all of Europe.

A year earlier in Chicago, the ACS held its first Convocation Ceremony concurrently with the fourth Clinical Congress of North America. This formal ceremony inducted the first class of 1,059 surgeons, including

the College founders, who successfully met the rigorous requirements for Fellowship.

The ceremony featured a formal procession with inductees outfitted in elegant academic robes reflecting inspiration from The Royal College of Surgeons of England (RCS-Eng). To further underscore this alignment, Dr. Martin arranged for a special guest to be named as the first Honorary Fellow: the sitting president of the RCS-Eng, Sir Rickman John Godlee.

In his acceptance address, Sir Godlee affirmed the mutual goodwill between the fledgling ACS and the RCS-Eng, and formally invited the ACS leaders to hold their next meeting with the Clinical Congress of North

American Ambulance personnel served near Saint-Gengoulph in support of French and US forces during the Second Battle of the Marne in July 1918.



Members of the General Medical Board of the Council of National Defense helped coordinate the nation's medical preparedness during WWI, circa 1917–1918.

America in London. He also presented the ACS with the Lister Gavel, which is still in use today.

In July 1914, the ACS founders and more than 1,000 US and Canadian surgeons arrived in London.

Although hostilities had erupted in the Balkans a few weeks prior, most viewed these events as little more than a regional conflict in a troubled corner of Europe. Planned surgical demonstrations at hospitals across London and academic sessions presented at swank hotels continued apace. The proceedings included the Surgeon General of the Army, Major General William C. Gorgas, who was granted Honorary Fellowship in the ACS, a gesture that foreshadowed an invaluable collaboration between both organizations for years to come.

Many conference attendees had intended to visit renowned clinics in Germany and Austria after the Congress, but by the end of the meeting, declarations of war had

engulfed the continent, cutting these travel plans short.

European attendees from both sides hurried home while American participants found their return voyages canceled as passenger ships converted to troop transports. Dr. Martin's quick thinking and political savviness averted a potential crisis. He appealed to the US Ambassador to England for aid in securing transportation home, and he approached his banking friends in New York to extend lines of credit to stranded ACS Fellows.

ACS Influence in Medical Mobilization

Reports from both sides of the European front made clear that modern warfare would require organized surgical capability at a national level, not simply individual expertise to care for these patients. The ACS quickly became the lead surgical society promoting and supporting readiness for the war in Europe.

Central to this engagement were three visionary ACS leaders: Dr. Martin, Dr. Finney, and the second ACS President George Crile, MD, FACS.

These leaders assumed distinct but complementary roles in this effort. Dr. Martin engaged policymakers at the highest levels of government while Drs. Finney and Crile applied their concepts of hospital standards and medical organization into US Army and Navy medical mobilization efforts.

Dr. Martin's Wartime Service

Through a combination of interpersonal connections and deliberate advocacy, the ACS in general, and Dr. Martin in particular, became central organizers of the medical war effort.

Shortly after Dr. Martin and the other ACS attendees returned from London, Frank Simpson, MD, a prominent gynecologist from Pittsburgh, Pennsylvania,



The ACS quickly became the lead surgical society promoting and supporting readiness for the war in Europe.

and an attendee of the 1914 London Clinical Congress, formed the Committee of American Physicians for Medical Preparedness. ACS members were intimately involved in this committee, including Drs. Martin and Finney.

However, medical readiness concerns struggled to gain traction amidst the rush of other wartime preparations.

This reality changed in April 1916, when Dr. Finney, a personal friend of President Woodrow Wilson and frequent White House visitor, lobbied successfully to have a medical advisor on President Wilson's wartime council. This led to Dr. Martin's appointment to the Advisory Commission to the Council of National Defense—a seven-member advisory board that supported President Wilson's cabinet secretaries in their wartime preparations.

Dr. Martin then transformed Dr. Simpson's Committee of American Physicians for Medical Preparedness into the General Medical Board, which served as the action arm for all medical readiness efforts.

During his time on the Advisory Commission to the Council of

National Defense, Dr. Martin successfully recruited thousands of surgeons and other medical professionals into active and volunteer service, gained formal rank for medical officers through the Owen-Dyer bill and standardized medical equipment for hospital units.

These landmark advances supported our nation's medical successes once the US formally entered the war in 1917.

Recruiting an Army of Surgeons

With the US Army expanding to 5 million personnel, the military needed to recruit 30,000 surgeons to meet wartime demand. This staffing need represented one of the most pressing and formidable tasks facing Dr. Martin.

To meet this challenge, he gave a series of public addresses starting with an impromptu speech at the American Medical Association in 1917. He also gained the support of the vast majority of medical school deans to add a special military curriculum to their course of study.

Through these efforts, 90% of the 3,795 ACS Fellows volunteered for military duty, and

the Volunteer Medical Service Corps grew to more than 70,000 physician members.

Dr. Finney completed his tenure as the inaugural ACS President (1914-1916) and was succeeded by Dr. Crile (1916-1917), an outspoken proponent of military medical readiness.

Starting in 1914, Dr. Crile began raising funds for the Ambulance Américaine, the US volunteer hospital in Paris. In early 1915, he and a team from Lakeside Hospital in Cleveland, Ohio (now part of University Hospitals), staffed the hospital for 3 months. During this tour, Dr. Crile and his team introduced direct blood transfusion and nitrous-oxygen anesthesia to hospital clinicians—treatments that transformed combat casualty care throughout the war.

Following his return to the US, Dr. Crile further fleshed out his concept of a university-based staffing model which he presented at the 1915 Clinical Congress in Boston, Massachusetts.

A year later, at the 1916 Clinical Congress meeting in Philadelphia, the American Red Cross coordinated a full-scale demonstration of Dr. Crile's 500-bed hospital

John M. T. Finney,
ACS Founder, first
President of the ACS

unit in Fairmount Park. This exercise, complete with simulated patients, proved invaluable both in garnering support for this concept and in revealing some weaknesses that were quickly addressed. A few months later, shortly after the US officially entered the war, the Lakeside Unit from Cleveland, Ohio, was the first US medical unit to deploy.

Leadership on the Front Lines

In the meantime, Dr. Finney, Dr. Crile, and other ACS members worked with Dr. Gorgas to standardize surgical instruments for the imminent US mobilization.

Closer to home, Dr. Finney ardently supported the effort to establish a university unit at The Johns Hopkins Hospital in Baltimore, Maryland. These efforts proved successful, and the Hopkins Base Hospital No. 18 was in the second wave of hospital

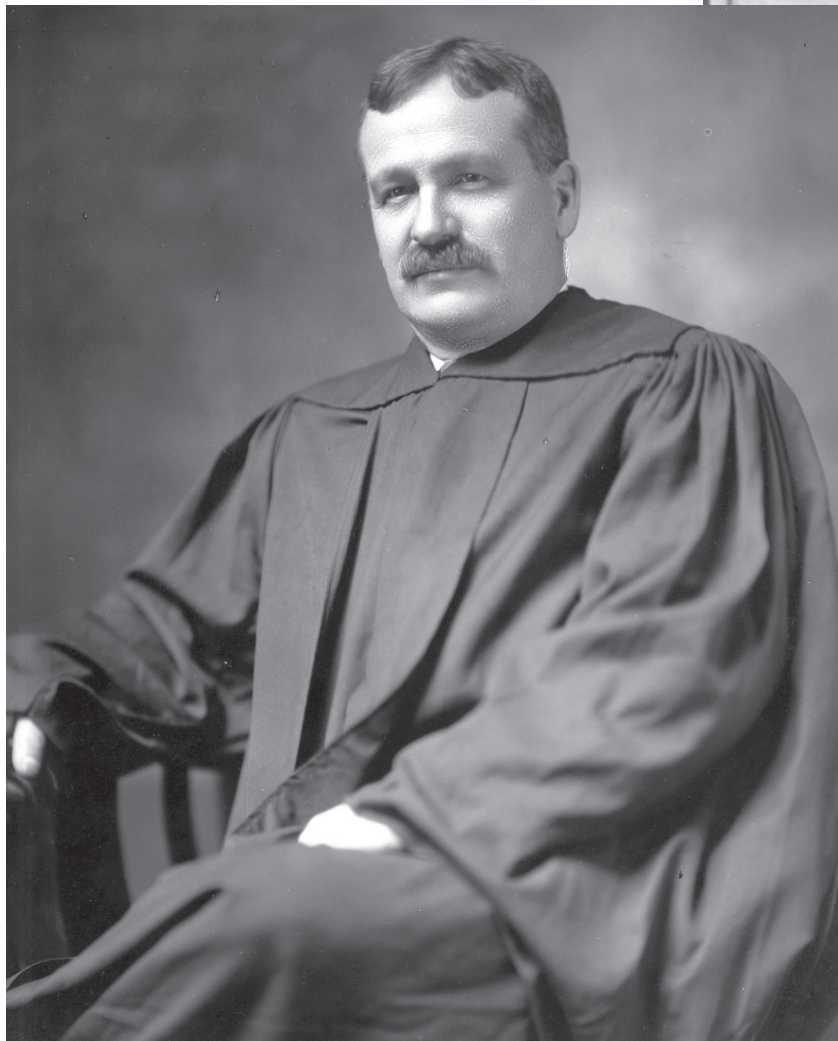
deployments with Dr. Finney as the unit's director.

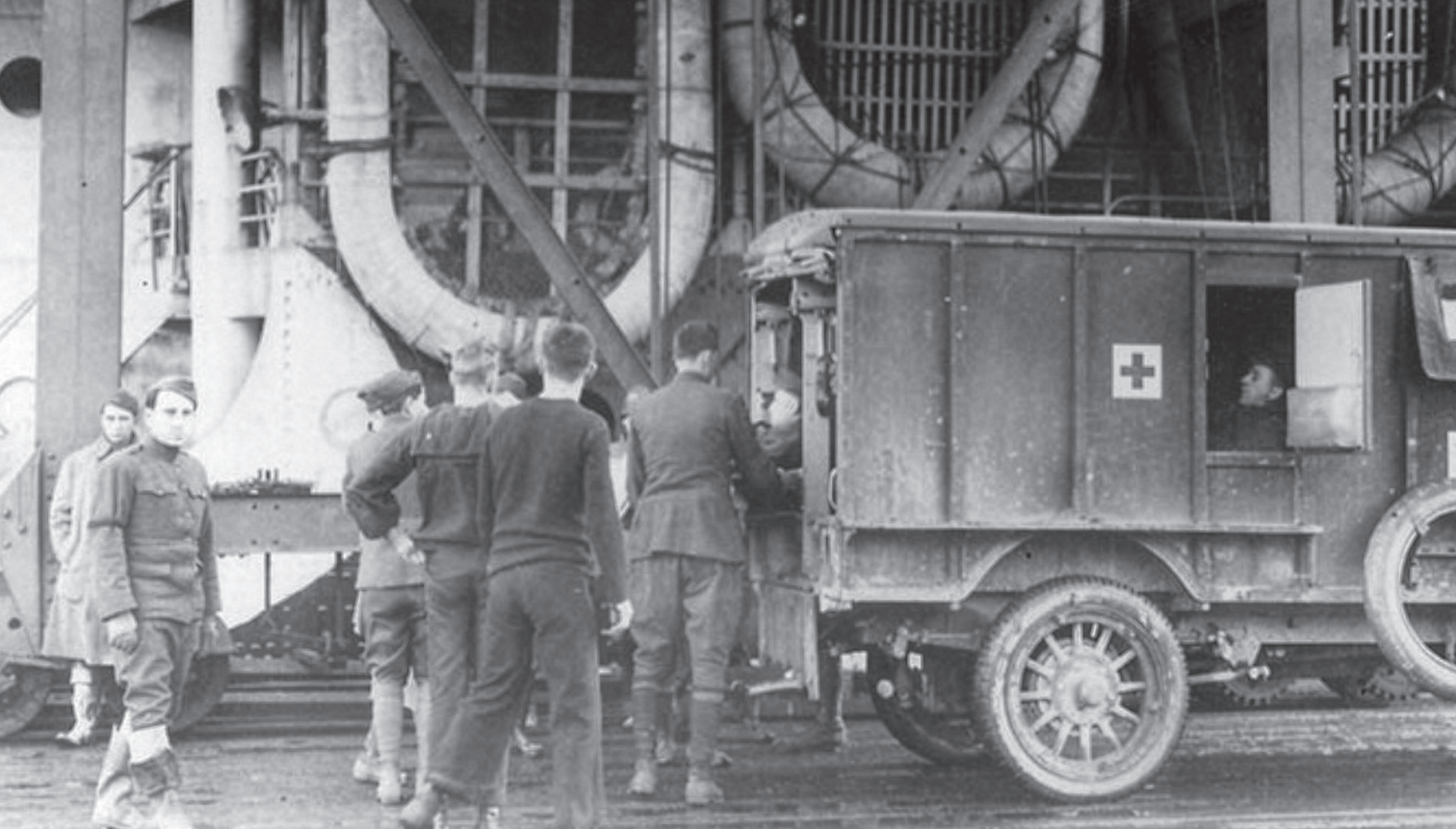
Several months after the team arrived in France, however, Dr. Finney was tapped to take an even bigger role serving as chief consultant in surgery. In this role, he ultimately reported to General John Pershing with whom he met several times. In one such meeting, General Pershing detailed Dr. Finney back to Washington, DC, on short notice to advocate for the general's pick for the next Surgeon General of the Army, Colonel Merritte Ireland.

Dr. Finney showed up unannounced at the White House and was able to secure an impromptu meeting with his friend, President Wilson.

A meeting with the Secretary of War, Newton Baker, soon followed during which the Secretary quipped, "Doctor, you folks who aren't in Washington have no idea of the amount of political pressure that is being constantly brought to bear upon public officials for one reason or another...the pressure is terrific at times."

Nevertheless, Baker navigated the political hurdles, and Dr. Finney and General Pershing were able to get their candidate for this important post. To this day, Major General Ireland is widely considered one of the most effective Army Surgeons General of all time. Although he was not a clinical surgeon, the ACS also recognized his talents by making





him an Honorary Fellow in 1918, and he went on to become ACS President in 1929.

Lessons from the Great War

From its inception, the ACS exercised its advocacy power and engaged with the military to translate the mission of optimizing surgical care at the hospital and physician level to the WWI effort.

Dr. Crile summed up these efforts by stating: “As a consequence of all our efforts, General Gorgas came to the war wholly prepared.” And he was absolutely right. The case fatality rate for hospitalized service members was lower in WWI than in each of the subsequent conflicts: WWII, Korea, and Vietnam.

Through the efforts of Dr. Martin, Dr. Finney, Dr. Crile, and countless other ACS Fellows, the ideals of the fledgling ACS—promoting standards for hospitals and surgeons—elevated the care

of the combat wounded. Their work highlights the College’s legacy of leadership in medical preparedness for threats both at home and abroad.

Today, the Military Health System Strategic Partnership American College of Surgeons collaborates closely with the US Department of Defense Military Health System to promote high standards of combat casualty care.

Strengthening National Medical Readiness

Building upon this legacy of combat casualty care support, the ACS Committee on Trauma (COT) has established a new program area to accelerate efforts to establish a National Trauma and Emergency Preparedness System (NTEPS) that links daily acute care needs and emergency response to large-scale events.

As detailed in the NTEPS 2.0 report, this ongoing advocacy effort presents an opportunity for Fellows seeking to support

the College’s tradition of strengthening our nation’s medical readiness.

The US continues to face the threat of large-scale combat operations overseas, and the US medical system is ill-prepared to care for the number of injured warriors that could result. Such a conflict could approach the scale of WWI with an estimated 1,000 to 3,000 casualties per day for the first 100 days of combat. In contrast to WWI when most casualties convalesced in Europe, these casualties would likely return to the US. This volume and acuity would quickly overwhelm the capacity of the US military health system.

At the same time, large-scale emergencies can also overwhelm the civilian health system. Although healthcare coverage has expanded significantly in the past century, the COVID-19 pandemic brought to light many gaps in the US’s healthcare infrastructure, particularly the lack of surge capacity and

Wounded US service members are transferred from an ambulance to the USS Siboney at the US Army docks in Bassens, France, on December 24, 1918.

Core Elements of NTEPS



Administrative and regulatory oversight

NTEPS provides national administrative and regulatory oversight through RMOCCs.



Continuum of medical response

The system spans daily trauma care operations and large-scale mass casualty incidents.



EMS integration

NTEPS strengthens the role, involvement, and coordination of emergency medical services.



Public-private collaboration

The system reflects collaboration among trauma centers, community stakeholders, and partners from the public and private sectors.



Learning healthcare system

NTEPS functions as a learning system that reviews operational data, identifies gaps, and applies performance improvement and research to drive system change.

inconsistent coordination between public health agencies, emergency management services, and acute care health systems.

In response, trauma surgeons and emergency medicine physicians established Regional Medical Operations Coordination Centers (RMOCCs) in their states and regions to align these disparate services needed to load-balance patients and resources. These efforts proved highly successful in managing the intense resource demands of the pandemic and informed the development of the NTEPS concept.

NTEPS in Practice

NTEPS is based on an integrated system of high-quality daily trauma care that can surge on demand for mass casualty readiness by leveraging an interconnected network of RMOCCs. By way of analogy, RMOCCs function

like air traffic control towers to balance the distribution of patients and resources across a healthcare system. They enable real-time visibility of critical information including emergency medical services (EMS) and transportation resources, hospital bed capacity, and critical resource availability for severely injured and critically ill patients.

During normal operations, RMOCCs coordinate healthcare needs for patients with time-sensitive conditions who may need to move between medical facilities. During critical events, these centers quickly scale up to ensure optimal distribution of large numbers of patients.

Similar to Dr. Martin's General Medical Board, NTEPS aims to oversee the operations of RMOCCs at the national level organized around five operational pillars. This effort will align with other key stakeholders in this space to fully implement

the vision detailed in the 2016 National Academies report, "A National Trauma Care System: Integrating Military and Civilian Trauma Systems to Achieve Zero Preventable Deaths After Injury."

NTEPS also will strengthen military-civilian coordination in response to warfare-related medical needs.

Estimated casualties will quickly exceed the capacity of the military health system and the Department of Veterans Affairs healthcare facilities, necessitating the use of civilian healthcare facilities. Effectively load-leveling patients and optimizing resource use across this integrated system will require deliberate planning and real-time situational awareness.

RMOCCs supported by NTEPS will offer the framework needed to ensure injured service personnel continue to receive optimal care after arriving in the US. This advance preparation offers a dual benefit—optimizing military

RMOCCs supported by NTEPS will offer the framework needed to ensure injured service personnel continue to receive optimal care after arriving in the US.

effectiveness in combat while establishing a framework for translating battlefield lessons into civilian practice.

Legacy of Leadership

Just as the ACS helped prepare American surgery for WWI, the College continues to lead in sustaining national medical readiness today. Through the work of the COT, the ACS has put forth a comprehensive, pragmatic strategy to optimize our readiness for future conflicts and civilian disasters.

Implementing NTEPS will require engagement with multiple departments in the Executive branch of government and strong support from Congress. As in the days of Drs. Martin, Finney, and Crile, advancing this bold agenda will require the full support of the ACS and its many Fellows.

More than a century ago, leaders of the College recognized that surgical preparedness was a matter of national importance. Through the vision of Dr. Martin and the leadership of Drs. Finney and Crile, the ACS helped organize the nation's surgeons for the challenges of modern warfare.

The ACS helped mobilize American surgery in 1917. Today, it is calling on Congress to act with the same urgency—and

on every Fellow to help build the national trauma system that patients deserve. **B**

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Dr. Geoffrey Dunn

As AI Advances, What Defines a Surgeon?

Geoffrey P. Dunn, MD, FACS

Surgery has long defined itself through operative technique.

YET AS TECHNOLOGICAL INNOVATION—including robotics, advanced imaging, and artificial intelligence (AI)—rapidly reshapes how operations are performed, the enduring identity of the surgeon may lie not in the operations they perform, but in something older and more fundamental: The cultivated capacity to “see” through the lens of practiced perception and judgment.

Surgeons, much like Marines, believe in a “once a surgeon, always a surgeon” mentality.

But what, exactly, persists when operative practice ends? One advantage of retirement is the opportunity to reflect, without haste, on what gave one purpose and pride during a career. I was fortunate to have trained and practiced in an era when the scope of general surgical practice was remarkably broad and stimulating.

A single surgeon might perform operations involving the chest, vascular system, abdomen, breast, and thyroid, as well as treat patients suffering from traumatic injury, burns, and conditions affecting pediatric populations. Even urologic and gynecologic procedures occasionally fell within the domain of general surgery.

Identity Sustained by Purpose

By the time of my retirement, however, a gradual shift in operative repertoire had occurred. Many procedures that defined the early years of my career had been reduced, eliminated, or replaced.

Some cases migrated to subspecialists; others evolved into new open techniques. Increasingly, they were transformed by endoscopic, image-guided, and robotic approaches.

Advances in robotics, imaging, and AI suggest a future in which aspects of surgery may increasingly be performed or guided by machines.

The arc of surgical innovation over the past half century has been extraordinary. Yet as I reflect on my career, it isn't the memory of now mostly obsolete operations that gives me a sense of pride. Rather, during those 40 years, I retained a consistent identity as a surgeon despite the rapid pace of technical and scientific change.

That identity was not defined by specific procedures. Instead, it was sustained by purpose and by the impact of working with patients.

Early in my career, I realized that a procedural identity—defining professional worth by the operations performed—would inevitably prove transient. Surgical techniques evolve quickly, and operative repertoires change. Anchoring professional identity in particular procedures risks attaching meaning to something inherently temporary.

More unsettling still is the reality that surgeons may themselves undergo transformation. Advances in robotics, imaging, and AI suggest a future in which aspects of surgery may increasingly be performed or guided by machines.

If that occurs, what remains uniquely human about the practice of surgery?

Despite these changes, the qualities embodied by the most admired surgeons appear remarkably durable. Among them are compassion, disciplined technical skill, equanimity, and a commitment to care for the patient no matter the circumstances. These attributes transcend specific procedures and remain essential regardless of how surgical techniques evolve.

Power of Perception

Preparing for the future of surgery—including coexistence with increasingly powerful technologies—may require preserving something

deeper than operative skill alone. It may require preserving the capacity to “see.”

Before entering medicine, I was an artist in training. That path changed when my instructor advised me to pursue medicine instead, but not before he offered a lesson that would later resonate with my surgical career.

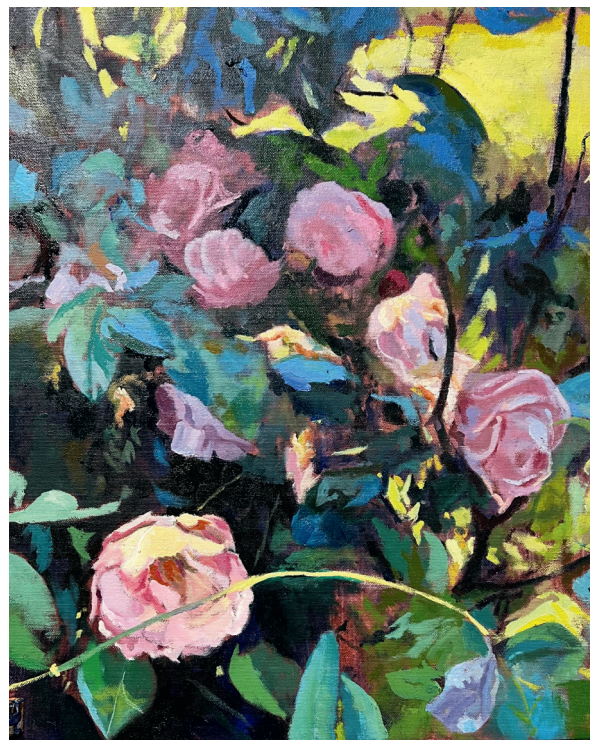
“You’re not here to learn how to draw,” he told our class. “You’re here to learn how to see.”

He elaborated further by warning us not to become trapped by what he called “thingness.” The task of the artist, he explained, was not merely to copy objects but to perceive relationships—structure, balance, and meaning—and interpret them through a trained eye.

Looking back, it is perhaps not surprising that I eventually found my way into surgery, a discipline that is profoundly visual and interpretive. Surgery, like drawing, depends fundamentally on perception. To the novice, surgery appears to consist of a sequence of technical maneuvers. Yet experienced surgeons know that operative practice depends far less on memorized steps than on interpretation. No two operations are identical. Anatomy varies, pathology distorts expected planes, and unexpected findings frequently emerge.

Surgical judgment requires continuous interpretation of a complex and changing landscape. The experienced surgeon entering the OR does not rigidly adhere to a stepwise plan. Rather, the surgeon perceives patterns—delicate tissue planes, variations in vascular anatomy, or the significance of color, tension, and texture within living tissue.

These perceptual judgments often occur rapidly and are difficult to articulate. Philosopher Michael Polanyi described this phenomenon as tacit knowledge, which is the idea that we often know more than we can fully explain.



Left:
A painting from roughly 55 years ago marks Dr. Dunn's pivot from art school to medicine.

Right:
A recent painting by Dr. Dunn, now in an exhibition in Boston, pays homage to Canadian surgeon Balfour Mount, who brought the hospice concept to North America, coined the term "palliative care," and helped inspire its application to surgery.

Much of surgical expertise belongs to this tacit domain.

Surgeons learn through experience to recognize the safe plane of dissection, the feel of tissue under tension, or the subtle cues that signal an impending complication.

Artistic perception operates in a strikingly similar way. Experienced artists recognize compositional relationships, spatial balance, and patterns of light that remain invisible to the untrained observer. In both art and surgery, mastery arises not only from technical repetition but from cultivated perception.

The relationship between surgery and the visual arts is not new. From the Renaissance onward, anatomical discovery depended on artists as much as physicians. The anatomical drawings of Andreas Vesalius and the observational studies of Leonardo da Vinci revealed structures that could not be fully understood through text alone. (To learn more about Vesalius's human anatomy illustrations, read the February 2026 *Bulletin* article, "Vesalius's Fabrica Transforms Medicine Through Observation and Illustration.")

Surgical knowledge advanced through the disciplined act of seeing. This visual tradition continued well into modern surgical education. For generations, surgeons were trained to sketch

anatomical relationships and operative findings as part of the observational approach to surgical learning.

Drawing these likenesses required careful observation and enhanced spatial understanding of the human body. In an era before photography and advanced imaging, the act of drawing was itself a method of surgical thinking. In this sense, the surgeon's eye has always been shaped not only by scientific knowledge but also by artistic habits of perception.

Perhaps most importantly, both forms of perception extend beyond the purely visual.

A great surgeon sees more than anatomy. A great surgeon sees the patient. The surgeon must recognize vulnerability, suffering, and the ethical responsibilities that accompany intervention. In this sense, surgery has always been more than a technical discipline. It is a moral practice grounded in human relationships.

The history of surgery includes moments in which the profession expanded its understanding of the responsibility to the surgical patient, with one such development being the emergence of surgical palliative care.

For much of modern surgical history, the profession focused primarily on cure through intervention. The recognition that surgeons also bear responsibility

A great surgeon sees more than anatomy.

A great surgeon sees the patient. The surgeon must recognize vulnerability, suffering, and the ethical responsibilities that accompany intervention.

for alleviating suffering when a curative approach is no longer possible represented an important shift in surgical culture. It broadened the surgeon's role from technical operator to the physician who is responsible for the full trajectory of serious illness.

A different but related evolution may now be occurring as surgery enters an era of rapid technological transformation. If machines increasingly assist or perform aspects of operative execution, the defining characteristics of the surgeon may lie less in manual technique and more in perception, judgment, and an understanding of the human condition.

The surgeon of the future may therefore resemble an interpreter more than a technician.

In this context, the visual arts may have an unexpected role in surgical culture. In recent years, a small group of surgeons who maintain active artistic practices have begun exploring the relationship between artistic perception and surgical identity. These conversations have led to the formation of the Surgeon Artists League, an informal community intended to foster dialogue among surgeons who engage in visual art. At first glance, such a group might appear merely recreational—a gathering of surgeons who paint or draw. Yet the deeper significance of such a community lies elsewhere.

Artistic practice cultivates precisely those perceptual habits that underlie surgical judgment: Attentive observation, interpretive awareness, tolerance of ambiguity, and sensitivity to subtle relationships. Communities such as the Surgeon Artists League offer a space in which surgeons may continue to cultivate the perceptual and reflective capacities that sustain the deeper meaning of their profession.

Earlier in my career, I had the opportunity to participate in work that helped bring the principles

of palliative care into surgical practice. That effort broadened the ethical responsibilities of surgeons in the care of patients facing serious illness. In a different way, the emergence of the Surgeon Artists League reflects another expansion—one concerned not with the limits of cure but with the enduring identity of the surgeon.

Both developments arise from a common recognition: that the practice of surgery cannot be defined solely by technique.

Many years ago, my art instructor told me that drawing was not about learning how to draw, but about learning how to see. After 40 years in surgery, I have come to believe that the future of our profession may depend on remembering that lesson. **B**

Author's Disclosure

AI was employed for referencing, formatting, and stylistic suggestions and improvements.

Dr. Geoffrey Dunn is a retired general surgeon based in Erie, PA, widely recognized as the father of the surgical palliative care movement. He has dedicated his career to integrating palliative principles into surgical practice and improving the end-of-life care and suffering of patients.

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Dr. Cassandra Anderson

Greater Reciprocity in Global Surgery Partnerships Is Possible

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ACADEMIC GLOBAL HEALTH partnerships can provide a mutually beneficial exchange of skills, knowledge, and resources between high-income countries (HICs) and low- and middle-income countries (LMICs) to address workforce needs and increase capacity building.

For a procedural specialty such as surgery, an essential aspect of these partnerships is the ability to provide hands-on clinical experiences to trainees. Existing partnerships have demonstrated several benefits to HIC trainee involvement in short-term medical exchanges, including exposure to open techniques and

pathologies not routinely seen in their home countries, as well as increased cultural awareness.

LMIC trainees may benefit from exposure to different techniques, new technologies, and mentorship opportunities.^{1,2} It is important to note that while many partnerships claim to be bidirectional, achieving true bidirectional exchange and reciprocity in clinical opportunities remains challenging.

While many global surgery partnerships aim to address the gaps in the surgical workforce, it can be argued that global surgery rotations tend to benefit trainees from HICs more than those from LMICs. In fact, some initiatives

have faced criticism for promoting unequal power dynamics between partnering countries.

One method of promoting a more balanced partnership is fostering international reciprocity for surgeons and surgical trainees from LMICs for short-term clinical exchanges. Historically, this approach seems to be largely characterized by a one-way flow where partners from HICs travel to LMIC institutions, but rarely vice versa.³

Fostering reciprocity within academic partnerships between US and LMIC institutions is particularly challenging due to the visa processes, governmental and

institutional policies, financial barriers, and cultural differences.

By reviewing the history of global academic surgical partnerships and examining these current challenges, we hope to provide insights for developing a future where achieving true reciprocity is possible, and surgical care can be made safe, accessible, and affordable for all patients around the globe.

Surgical Missions to Bilateral Partnership

In 2005, the World Health Organization founded the Global Initiative for Emergency and Essential Surgical Care, a multidisciplinary forum that seeks to reduce the burden of surgical disease through international collaboration, development, and policy.⁴

Given the paucity of investment in surgical disease, which continues to account for a significant portion of the burden of treatable diseases worldwide, Paul Farmer, MD, PhD, a pioneer in global health equity, dubbed global surgery the “neglected stepchild of global health.”⁵

The Lancet Commission on Global Surgery highlighted the burden of surgical disease and noted that several of the United Nations Sustainable Development Goals could not be achieved without the provision of surgical care in LMICs.⁶ Over the last 10 years, there has been a growing effort to forge bilateral partnerships beyond medical mission

trips previously grounded in neocolonial and imperialist ideologies toward promoting collaborative efforts rooted in international reciprocity.

Academic global surgery partnerships are relatively new, dating back to about 30 years ago. Many current partnerships use the “twinning model,” in which HIC and LMIC institutions partner to share clinical, education, and research opportunities.⁴ Models have included partnerships between universities, academic, nongovernmental, and governmental organizations.

A particularly effective partnership between HICs and LMICs is the collaboration between the ACS and the College of Surgeons of East, Central, and Southern Africa (COSECSA), which was formalized in 2018.

Since its inauguration in 1999, COSECSA has focused on creating a standardized surgical training pathway for participating countries, while addressing the surgical needs and limited access to qualified surgeons in the sub-Saharan African region.^{3,7} The ACS-COSECSA Surgical Training Collaborative has been the largest accomplishment of this partnership, which is focused on surgical education and workforce development.

In 2018, Hawassa University in Ethiopia became the first collaborative site, which serves as a hub for improvements in education, research, quality, and clinical care. Key successes

of this partnership include the creation of a trauma registry in Hawassa and “train the trainer” Advanced Trauma Life Support® (ATLS®) courses to train local instructors to promulgate ATLS skills, eliminating the need for international travel for local participants. Two additional hubs have since been launched at University Teaching Hospital in Lusaka, Zambia, and the University of Rwanda and Ministry of Health in Kigali, Rwanda.⁷

The COSECSA partnership with the Society of American Gastrointestinal and Endoscopic Surgeons Global Laparoscopic Advancement Program has introduced laparoscopic skills sessions at recent meetings, with the goal of incorporating Fundamentals of Laparoscopic Surgery (FLS) into the COSECSA curriculum.⁸ With the overarching aim of solidifying these training programs, the expectation is that as local capacity expands, there will be an overall reduction in US surgeons traveling to these facilities.

Current State of Short-Term Clinical Exchanges

Despite the progress in bidirectionality made from transitioning from surgical missions to the twinning model, most examples of US-LMIC partnerships may still be perceived as unilateral, especially given the lack of opportunity for LMIC partners to travel to HIC training environments.

Short-term clinical exchanges are immersive experiences that provide significant educational benefits. However, most literature on global surgery focuses primarily on the advantages for HIC trainees, who typically travel to LMICs.

Trainees from HICs are frequently exposed to a broader range of cases and receive more opportunities to perform open surgeries than they might in their home countries³, which has contributed to the increasing integration of global surgery rotations in various residency programs across the US. There are several programs where US trainees can earn credit toward Accreditation Council for Graduate Medical Education (ACGME) case requirements by scrubbing into cases and providing direct patient care. Limited infrastructure in LMICs

often constrains local trainees, and visiting HIC trainees may take away surgical opportunities from local practitioners.

Conversely, opportunities for LMIC trainees to participate in international rotations are much scarcer, with additional barriers that may limit their role to that of an observer, preventing full participation in patient care. These limitations may vary based on institution and local regulations, but often exclude observers from essential patient care activities, including taking a patient history, performing a physical exam, performing or assisting in procedures, prescribing medications, documenting in the medical record, or obtaining consent for surgery or research.⁹

At the federal level, one of the most significant barriers for LMIC trainees to participate

in international rotations is the visa process. While there are several visa pathways available for observerships and medical student exchanges, there is currently no visa category to support hands-on, short-term clinical exchanges for residents and faculty.

Foreign medical graduates may apply for J-1 (exchange visitor) or H-1B (specialty occupation) visas. However, the visa process is lengthy, expensive, and inconsistent. Approvals for J-1 visas are particularly subjective, and applicants may face rejection if they are not deemed to have strong enough ties to their home country.¹⁰

One concern is the potential for “brain drain,” in which highly educated or trained individuals leave their home countries in pursuit of better professional opportunities or compensation if equitable learning opportunities

The Shoe4Africa Children's Hospital in Eldoret, Kenya, is East and Central Africa's first dedicated public children's hospital.



Trainees from HICs are frequently exposed to a broader range of cases and receive more opportunities to perform open surgeries than they might in their home countries.

are provided to LMIC trainees. Allowing for short-term clinical experiences may mitigate this concern given limited time training outside an individual's home country. Additionally, studies have shown that many LMIC trainees seeking training opportunities outside of their home countries often return to their home country or continent of origin after training.¹¹

Once LMIC trainees have obtained visas, their involvement is often limited by additional barriers at the state and institutional levels, including state medical board licensure and liability insurance. Foreign medical graduates seeking to participate in US-hosted residency and fellowship programs are usually required to possess Educational Commission for Foreign Medical Graduates (ECFMG) certification. Those seeking to participate in short-term clinical exchanges also may be required to possess ECFMG certification, depending on whether the state offers temporary or special licenses for short-term practice.

This process necessitates significant time and cost investments, as applicants for ECFMG certification must pass both the US Medical Licensing

Examination Step 1 and 2 exams, as well as the Occupational English Test, and demonstrate clinical proficiency through an ECFMG pathway. Outside residency and fellowship training, opportunities for hands-on clinical exchanges available to physicians and surgeons are almost nonexistent. There have been few instances documented of surgical trainees from LMICs participating in short-term exchanges in the US, and even fewer where they were allowed to participate in hands-on clinical care or scrub into surgical cases.

Because international trainees rarely participate in US training environments, hospital administrative personnel may have limited experience supporting their integration into clinical and educational activities.

The combined challenges of administrative complexity, potential liability, and lack of institutional support offer little incentive to address these inequities. Access for international trainees to electronic health records is variable; some institutions offer limited read-only access, while others deny access entirely. This restriction limits educational opportunities and may be perceived as blatant mistrust.

Stereotypes, preconceptions, and implicit biases also may negatively impact the experiences of visiting trainees, particularly those with accents or unfamiliar social norms, even when they possess comparable knowledge and skills.

Path to Reciprocity

To enhance reciprocity within international surgical training exchanges, efforts have emerged from academic programs and global surgical societies, all aimed at fostering collaboration and enriching mutual learning.

Addressing the unique challenges faced by LMICs trainees and faculty members may collectively enhance surgical training, improve patient outcomes, and lead to the global advancement of surgical care. There remains a continued need to advocate for change at the state and federal levels, as well as with affiliate organizations, to minimize the burden of obtaining visas, state licensure, and malpractice coverage for LMIC trainees.

These changes are particularly important for surgical specialties because they would enable participation in hands-on clinical training, helping visiting trainees develop skills that can strengthen surgical capacity in their home countries.

Advocacy for policy changes at the governmental level can reduce bureaucratic barriers. The Coalition for Building Reciprocal Initiatives for Global Healthcare Training (BRIGHT) was recently founded by the ACS Committee on Global Engagement Advocacy Subcommittee to address the most significant barriers to on-the-ground clinical exchanges, including a proposed amendment to J-1 visas.

This amendment would allow foreign physicians to obtain visas specifically for short-term continuing medical education experiences.¹² Additional streamlining of visa processes through dedicated categories and fast-track processing could be implemented by establishing bilateral agreements between countries.

For licensures and exams, host institutions can work toward mutual recognition of qualifications, offer tailored exam preparation courses, and develop flexible licensing pathways to accommodate the unique needs of international trainees. While some states in the US have created short-term medical licenses for foreign medical graduates, there are still significant barriers associated with obtaining ECFMG certification, which is required by most states and is a disproportionately long and costly process for short-term experiences.

The following recommendations are intended to promote

bidirectionality in academic partnerships at individual, institutional, and governmental (state and federal) levels.

Individual

- Become familiar with the systemic, financial, and administrative hurdles—including visa restrictions, credential verification, and expensive licensure processes—faced by international surgeons and surgical trainees.
- Discuss experiences with LMIC partners to generate support from institutional leaders and government representatives.
- Join institutional or national committees that focus on global surgery and health equity.
- Engage with global surgery initiatives that foster relationships with international counterparts.
- Focus on bilateral exchange of ideas in current partnerships, with the goal of reducing practices that primarily benefit HIC participants.

Institutional

- Support Coalition BRIGHT's J-1 visa amendment proposal.
- Develop institutional policies and best practices that allow LMIC trainees to participate in clinical care at your institution.
- Provide administrative support to assist with the documentation required for hosting visitors at your specific institution.
- Facilitate liability insurance for international visitors analogous to visiting medical students.

- Provide badges that recognize training qualifications of foreign trainees and identify them as physicians (when applicable).
- Create agreements that recognize trainee qualifications from partner institutions.
- Develop pathways for international recognition of surgical training through surgical organizations such as the ACS, Royal College of Surgeons in Ireland, and COSECSA.
- Formalize an orientation program for visiting foreign physicians.

Governmental (state):

- Revise current short-term medical licenses to exempt trainees from ECFMG certification requirements.
- Include language in licensure statutes that addresses and allows direct patient care by foreign trainees under direct or indirect supervision in alignment with ACGME competencies and graduated autonomy.
- Collaborate with state medical boards to propose and adopt a “short-term visitor clinical training license” category for foreign medical graduates.

Governmental (federal):

- Address the lack of an appropriate visa category for short-term clinical exchanges.

Although policy and regulatory reforms will take time, global surgery partnerships should



not wait to advance reciprocity. Existing collaborations can promote more equitable engagement through shared educational programs, bilateral research initiatives, and meaningful opportunities for LMIC trainees and faculty to participate in academic and clinical exchanges. By creating pathways for meaningful bidirectional exchange, global surgery partnerships can better fulfill their shared goal of improving surgical education and patient care worldwide. **B**

Acknowledgment

The authors would like to thank Rondi M. Kauffmann, MD, MPH, FACS, and Ray Price, MD, FACS, for their review of this article and ongoing advocacy efforts to support bilateral clinical exchanges in surgery. Dr. Kauffmann is an associate professor of surgery, associate program director, and vice chair of global surgery at Vanderbilt University Medical Center in Nashville, TN. Dr. Price is a professor of surgery and vice chair of global affairs for the Center for Global Surgery at the University of Utah in Salt Lake City.

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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Dr. Cassandra Anderson trained alongside one of her pediatric surgery mentors, Dr. Peter Saula, at Shoe4Africa Children's Hospital during a clinical exchange in her fourth year of medical school.

Navigate Coding for Peritoneal, Mesenteric, and Retroperitoneal Tumor Excision

Megan McNally, MD, FACS

When new Current Procedural Terminology (CPT)* codes 49186–49190 for open excision or destruction of peritoneal, mesenteric, and retroperitoneal tumors were created for CPT 2025, the intent was to better reflect differences in surgeon work, disease processes, and patient populations.

THE CPT INSTRUCTIONAL guidelines provide definitions and examples to clarify the services reported. However, early implementation has revealed the need for additional clarification to support accurate coding by surgeons and professional coders.

This article provides additional clarity for the reporting of these complex procedures and to improve accuracy in documenting tumor excision involving “orphaned organs,” such as peritoneal or retroperitoneal tissues.

Accurate documentation must reflect the work actually performed, while ensuring that all distinct, reportable services are captured. The examples included in the CPT guidelines were designed to illustrate this balance—particularly to avoid duplicate reporting of excisions involving masses that arise from specific organs. When masses are resected, they may require additional organ removal consistent with oncologic principles.

A key distinction among codes 49186–49190 is whether the mass arises *from* a particular organ or *within* separate peritoneal or retroperitoneal tissue. If the mass originates from an organ, the appropriate organ resection code should be reported, not a code from the 49186–49190 family. For example, excision of a mass arising from the colon should be reported with the appropriate colectomy code, and resection of a renal cell

carcinoma should be reported with a nephrectomy code.

Conversely, resection or destruction of a mass arising from peritoneal tissue—requiring independent dissection, stripping, or destruction—should be measured in vivo (excluding margins) and reported cumulatively using the applicable tumor excision or destruction code. The primary consideration for accurate reporting is determining *where* the mass arises: whether its removal is inherent to an organ

resection or represents distinct, additional work.

Following implementation of the new codes, several inquiries have focused on retroperitoneal resections. When resection of a retroperitoneal mass requires removal of adjacent organs, those organ resections may be separately reported if the dissection of each organ represents distinct work beyond that required for the retroperitoneal mass itself. Oncologic resections are often described as en bloc to indicate

*All specific references to CPT codes and descriptions are © 2025 American Medical Association. All rights reserved. CPT is a registered trademark of the American Medical Association.

CPT Codes for Intra-Abdominal Tumor Excision	
CPT Code	Descriptor
49186	Excision or destruction, open, intra-abdominal (i.e., peritoneal, mesenteric, retroperitoneal), primary or secondary tumor(s) or cyst(s), sum of the maximum length of tumor(s) or cyst(s); 5 cm or less
49187	5.1 to 10 cm
49188	10.1 to 20 cm
49189	20.1 to 30 cm
49190	Greater than 30 cm

that the tumor and tissue planes were not violated during removal. This terminology does not imply that organ resections are bundled; separate reporting remains appropriate when distinct dissection and resection work are documented.

The following examples describe correct reporting practices:

- **Example 1:** A patient with a 22-cm left retroperitoneal liposarcoma involving the left kidney, tail of the pancreas, and spleen undergoes complete resection. Distinct dissections of both the retroperitoneal mass and the invaded organs are documented. Appropriate reporting would include excision of *retroperitoneal mass* (49189), *nephrectomy* (50220), and *distal pancreatectomy with splenectomy* (48140), with modifier 51 or 59 as appropriate. The operative report must clearly document that the organ dissection is distinct from the retroperitoneal mass removal.
- **Example 2:** A patient with a mass arising from the adrenal gland should be reported only as an *adrenalectomy* (60545).
- **Example 3:** A patient undergoes excision of a 7-cm mass (excluding margins) involving retroperitoneal tissue and the abdominal wall. The procedure should be reported solely with the *tumor excision* code (49187).

If excision of a peritoneal, mesenteric, or retroperitoneal mass does not require separate organ dissection, control of hilar or mesenteric blood supply, or perioperative work associated with organ resection, then additional organ codes should not be reported. However, large, complex oncologic resections—such as those for extensive retroperitoneal sarcomas—often involve distinct perioperative considerations beyond the primary mass excision. These include physiological implications of organ removal and management of postoperative complications such as pancreatic leak, infection following splenectomy, or renal function concerns after nephrectomy.

- If the mass arises *from* an organ, report only the organ resection code.
- If the mass arises *from peritoneal, mesenteric, or retroperitoneal tissue* but requires adjacent organ resection, report both the appropriate mass excision and organ resection codes.
- Document the cumulative excision size based on the in situ measured sum of the maximum length of each tumor or cyst excised or destroyed.
- Only the tumors and cysts are measured, not the margins or the tissue (e.g., mesentery) in which the tumors and cysts may be implanted.

As part of the ACS's ongoing efforts to help members and their practices submit clean claims and receive proper reimbursement, a coding consultation service—the ACS Coding Hotline—has been established for coding and billing questions. ACS members are offered five free consultation units (CUs) per calendar year. One CU is a period of up to 10 minutes of coding services time. Access the ACS Coding Hotline website at prsnetwork.com/acshotline. **B**

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NAPRC Accreditation Is Associated with Improvements in Care Quality, Increases in Patient Volume

Samantha Hendren, MD, MPH, FACS

Fergal J. Fleming, MD, MPH, FACS

Ingrid Lizarraga, MBBS, FACS

**The ACS National Accreditation Program
for Rectal Cancer (NAPRC) was launched
by the ACS Cancer Programs in 2017.**

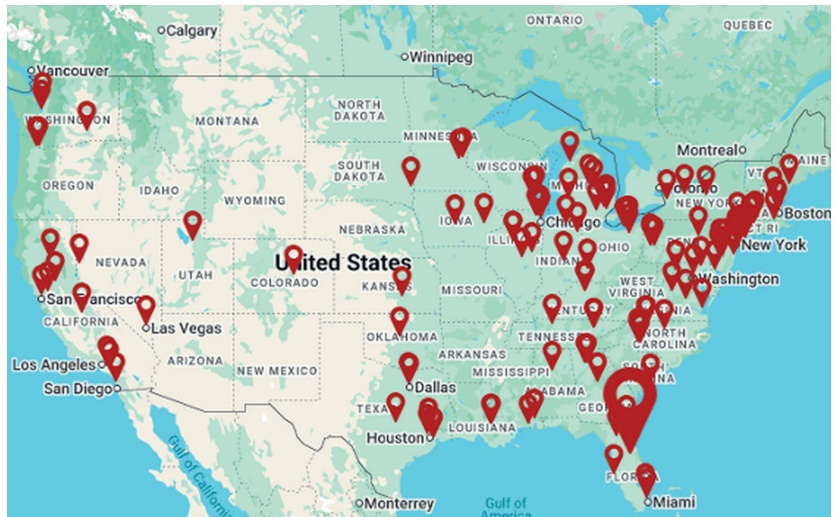
NAPRC WAS THE SECOND disease-site-specific accreditation program, after the National Accreditation Program for Breast Cancer (NAPBC). The first NAPRC centers were accredited in 2018, and the program has since grown to 128 accredited centers across 36 states and the District of Columbia.¹

Prior to the establishment of the NAPRC, there was a body

of evidence showing variability in the quality of care for rectal cancer in North America, as well as in cancer outcomes.^{2,3} This disparity in rectal cancer care resulted in the formation of a grassroots organization known as the OSTRiCh (Optimizing the Surgical Treatment of Rectal Cancer) Consortium in 2011.^{2,3} The collaborative promoted standardization of rectal cancer

care, based on the European model of training, centralization, and standardization.

While the organization began with just 18 North American centers, more than 400 centers ultimately expressed interest in joining OSTRiCh. Given the widespread interest in a “centers of excellence” program for rectal cancer care, the leaders of OSTRiCh partnered with



Map of NAPRC-accredited sites

the ACS Cancer Programs, and NAPRC was established.

The NAPRC program follows five core principles of evidence-based rectal cancer care.⁴

1. Total mesorectal excision surgery should be performed. This is a surgical technique that had been standardized in Europe and was associated with decreased local recurrence rates and improved survival.⁵
2. Quality of surgery should be measured by specific techniques of pathology assessment.
3. Specialist imaging techniques should identify patients at high risk for local recurrence.
4. Modern neoadjuvant and adjuvant therapies should be used as appropriate based on cancer stage.
5. A multidisciplinary team (MDT) should care for patients with rectal cancer to identify, coordinate, deliver, and monitor optimized treatment “on an individual patient-by-patient basis.”⁴

Based on these principles, all NAPRC programs must have a defined MDT, with surgeons, pathologists, and radiologists who have completed additional training in rectal cancer care, along with medical oncologists

and radiation oncologists. All patients must be evaluated by the MDT at multiple points in the care pathway, with a coordinator who organizes the MDT and helps navigate patients and scheduling.

Photographs of surgical specimens are reviewed, and synoptic reporting is used for surgery, rectal cancer staging, magnetic resonance imaging (MRI), and pathology reporting. The expectation is that these best practices should result in better surgical and nonsurgical oncologic care and improved outcomes for patients.

While there has been limited evidence to support that becoming an NAPRC-accredited center improves the quality of care, new research demonstrates a decrease in hospitals’ rates of circumferential resection margin (CRM) positivity after becoming NAPRC-accredited.⁶ A low rate of CRM positivity is an important indicator of surgical quality for rectal cancer and is associated with decreased cancer recurrence rates.

Another publication shows an increase in patient volume after NAPRC accreditation.⁷ This research is the result of a collaboration between three groups: health services

researchers at the University of Rochester in New York, the ACS Cancer Research Program’s (CRP) Standards Investigation and Validation Committee, and the NAPRC Executive Committee.

The research team, led by coauthor Dr. Fleming, used a statistical technique called “difference in difference,” designed to evaluate whether a policy change or intervention results in a change in performance or outcomes.

The first paper, recently published in the *Journal of the American College of Surgeons*, examined hospital-level circumferential resection margin positivity rate, considered an important measure of surgical and multidisciplinary care quality.

Researchers also examined secondary outcomes of carcinoembryonic antigen (CEA) measurement, a part of the recommended staging workup for rectal cancer patients, and delayed initiation of treatment (greater than 60 days). They found that obtaining NAPRC accreditation was associated with a significant reduction in circumferential resection margin positivity (absolute reduction of 1.1% and relative reduction of 8.7%).

Becoming accredited also was associated with an increase in



guideline-concordant CEA testing. Furthermore, no difference in rates of delayed treatment were determined by the study.

In the second article, recently published in *JAMA Surgery*, the research question addressed by the study's authors considered whether becoming NAPRC-accredited was associated with higher volumes of rectal cancer care at those centers.

The study found that baseline procedural volumes were similar across NAPRC-accredited and nonaccredited hospitals, which also had similar geographic distributions and facility characteristics. However, after accreditation, rectal cancer volumes increased in the NAPRC centers. This increase was observed in both patient volume and surgical volume. Notably, these changes were not seen in hospitals that did not become accredited.

Researchers also were concerned that referring more patients to accredited centers might increase "care fragmentation." However, the study showed that accreditation did not significantly worsen fragmentation.

These studies, which are retrospective analyses of data from the National Cancer Database® (NCDB®) registry,

feature compelling results, according to Dr. Fleming.

"This research demonstrates that becoming NAPRC-accredited improves quality of patient care and increases volume. Centers that are considering accreditation may find the evidence helpful in committing the resources required for establishing an NAPRC program," he said.

"It's important for the ACS Cancer Research Programs to demonstrate their value to participating centers, and most importantly, to patients," added coauthor Dr. Lizarraga, who chairs the ACS CRP's Standards Investigation and Validation Committee. "This new research is an important step in demonstrating the value of NAPRC accreditation."

Despite NAPRC's growth to 128 accredited sites, this represents a small fraction of the 1,400 CoC-accredited programs; by comparison, the NAPBC currently has 547 accredited sites. In fact, it is estimated that only about 10% of rectal cancer patients now receive treatment in an NAPRC center.⁸

According to Dr. Lizarraga, the ACS CRP Standards Investigation and Validation Committee is currently conducting a study on the barriers to NAPRC

and NAPBC subspecialty accreditation. The study involves interviews with representatives from CoC-accredited sites that are not subspecialty accredited.

"It is more important than ever to understand the barriers to more centers becoming a part of NAPRC, now that we see this evidence that the program improves the quality of care," explained Dr. Lizarraga.

To become NAPRC-accredited, a CoC institution must implement the NAPRC Standards and then apply for an accreditation site visit.⁹ Once accredited, a center will be reaccredited on a 3-year cycle. The NAPRC standards include:

- Program structure requirements
- Patient care protocols
- Data and quality improvement
- Educational requirements

Key program structure elements include a physician program director, a program coordinator (usually a nurse or administrator), and a defined MDT that meets at least twice a month (also known as a tumor board). Representatives from five key specialties (i.e., surgery, medical oncology, radiation oncology, radiology, and pathology) must be present at every meeting.

Patient care protocols include standardized staging evaluation

“It is more important than ever to understand the barriers to more centers becoming a part of NAPRC, now that we see this evidence that the program improves the quality of care.”

Dr. Ingrid Lizarraga

and presentation of all primary rectal cancer patients at the MDT meeting prior to treatment, after neoadjuvant therapy, and after surgery. Surgical pathology and surgical specimen photos are reviewed by the MDT to promote optimal care for the surgical patient. Synoptic reporting is used for MRI, pathology, and operative notes. Protocols are put in place for several aspects of patient care, and treatment must begin in a timely manner.

In terms of data and quality improvement, NCDB quality measure performance is reviewed regularly, and the results drive targeted quality improvement projects. The educational standard requires all the surgeons, radiologists, and pathologists involved with the program to complete rectal cancer educational modules designed by their respective specialty societies.

The NAPRC accreditation standards recently were revised to acknowledge important changes in rectal cancer care. Specifically, there are new standards on “watch and wait” and local excision surgery. Additionally, a standard on adjuvant therapy was removed with the nationwide change to total neoadjuvant therapy for rectal cancer. Another notable change is that the

threshold for compliance was reduced for several standards in an effort to make the program accessible to more centers.

For more information, visit facs.org/quality-programs/cancer-programs/national-accreditation-program-for-rectal-cancer. 

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Dr. Ingrid Lizarraga is a professor in the Department of Surgery at the University of Iowa in Iowa City.

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Dr. A. Brent Eastman, ACS Past-President and Trauma System Innovator, Passes Away

A. Brent Eastman, MD, FACS, ACS Past-President, and a lifelong champion of trauma care and surgical excellence, died June 24, at the age of 86.

DR. EASTMAN'S VISIONARY LEADERSHIP helped reshape trauma systems and improve care for injured patients worldwide.

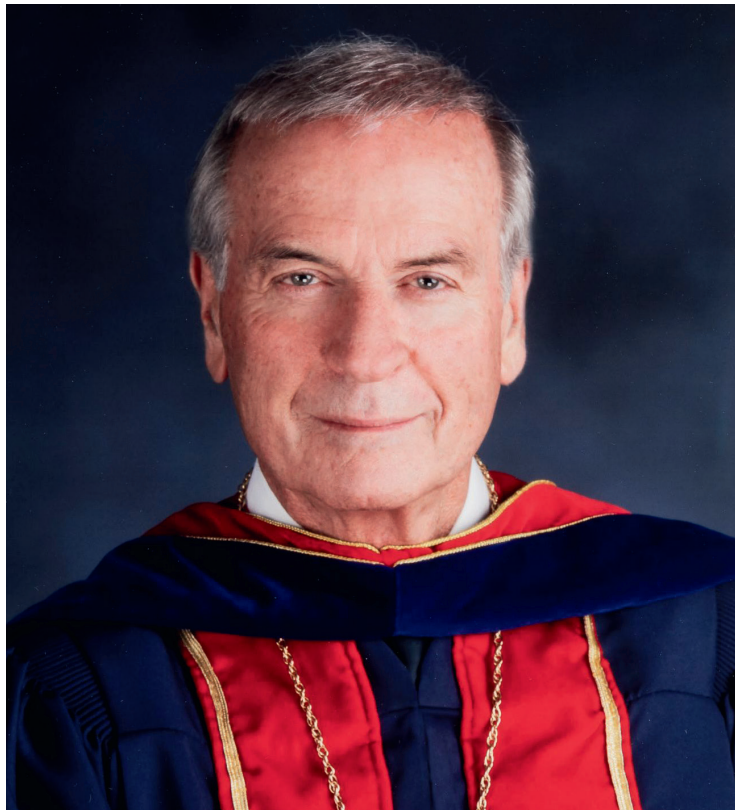
"The ACS and the world of surgery have suffered a great loss with Dr. Eastman's passing," said Patricia L. Turner, MD, MBA, FACS, ACS Executive Director and CEO.

"But as we mourn, we will remember and celebrate Dr. Eastman as a consummate surgeon—a talented clinician, an advocate for and mentor to the next generation, a leader at the highest levels of the ACS and in many other organizations, and a pioneer in trauma system design whose work has saved the lives

of innumerable individuals in the US and across the world," she said.

Dr. Eastman's legacy within the ACS spanned decades of extraordinary volunteer leadership. A Fellow of the College since 1976, he served in numerous leadership roles, including Chair of the ACS Committee on Trauma (COT), member and Chair of the Board of Regents, and ultimately as the 93rd President of the ACS from 2012 to 2013.

He was instrumental in advancing trauma systems around the world, cofounding the San Diego County Trauma System, which has served as a model since its establishment in 1984.



This coordinated, integrated system emphasized getting patients to specialized, high-quality trauma care within the first “golden hour” after injury. Previously, patients in San Diego County were taken to the nearest hospital regardless of its ability to treat trauma, resulting in a trauma mortality rate of approximately 22%. After Dr. Eastman and his colleagues implemented the new system, which designated high-performing, well-equipped hospitals as trauma centers and directed injured patients there for initial treatment, the mortality rate dropped to approximately 2%.

The San Diego County Trauma System became the foundation for modern trauma center verification and the development of trauma systems in the US and around the world. Dr. Eastman helped establish trauma systems on six continents.

He also played a pivotal role in developing and teaching the Advanced Trauma Life Support® (ATLS®) program, helped create and served as the first chair of the COT Trauma System Consultation Committee, and contributed extensively to many other ACS committees and initiatives.

Throughout his career, Dr. Eastman authored or coauthored multiple publications and articles related to trauma. He served on the Institute

of Medicine (now the National Academy of Medicine) committee that, in 2006, published the landmark report, *The Future of Emergency Care in the United States Health System*. In 2009, he delivered the prestigious Scudder Oration at the annual ACS Clinical Congress, “Wherever the Dart Lands: Toward the Ideal Trauma System.”

Beyond the College, Dr. Eastman was internationally recognized as a leader in trauma surgery, injury prevention, and health system development, and was an honorary fellow of many international surgical organizations. Throughout his distinguished career, he remained committed to improving surgical care, mentoring future generations of surgeons, and advancing the mission of the ACS.

The ACS is deeply grateful for Dr. Eastman’s remarkable service, leadership, and enduring contributions to our profession. His legacy will continue to inspire surgeons and improve patient care for generations to come.

He is survived by his wife, Sarita Eastman, MD, his three children, and his five grandchildren.

Learn more about Dr. Eastman’s life and career in a June Bulletin article and hear reflections in his own words from a 2015 ACS oral history. **B**

ACS Mourns the Passing of Surgeon Philanthropist Dr. Pon Satitpunwaycha

Pon Satitpunwaycha, MD, FACS, a retired general surgeon whose philanthropy transformed surgical education and research, passed away on April 17. He was 89 years old.



IN ADDITION TO A LONG CAREER as a practicing surgeon, Dr. Pon, as he preferred to be called, was perhaps best known for the substantial donations he gifted to surgical and health organizations. The ACS was a particular beneficiary of his largesse, as Dr. Pon donated more than \$5.1 million over the years to support a wide range of initiatives.

“We are profoundly saddened at the passing of Dr. Pon. His extraordinary generosity as a donor to the College has made possible opportunities that have had, and will continue to have, a generational impact on the careers of surgeons and the lives of innumerable patients,” said Patricia L. Turner, MD, MBA, FACS, ACS Executive Director and CEO, as well as President of the ACS Foundation. “As a surgeon and a philanthropist, Dr. Pon was a true visionary who saw the potential of the ACS to benefit our field, and we will endeavor to support his legacy.”

Dr. Pon has been recognized for his commitment to altruism for many years, as he received the ACS Distinguished Philanthropist Award in 2001. After successfully investing in the stock market at the suggestion of a patient in 2008, Dr. Pon significantly increased his philanthropy, and in 2025, his \$2 million donation marked the largest individual gift in the more than 20-year history of the Foundation.

His donations to the ACS have helped fund trauma surgery education, provide research fellowships and scholarships to burgeoning female surgeons in Africa, and created opportunities for surgeons to better understand and effectively integrate artificial intelligence and machine learning into surgical practice.

“Through the many decades that he supported the College’s mission to improve the care of the surgical patient, Dr. Pon remained a humble and unassuming benefactor,” said H. Randolph Bailey, MD, FACS, Chair of the ACS Foundation. “As we

mourn the passing of a truly good man, the ACS and the Foundation will continue to work toward his goal—to ensure that future surgeons will have opportunities to advance their work so they, too, can continue to give back.”

Dr. Pon was born and raised in Thailand, graduating in 1962 from its well-regarded Chulalongkorn University Medical School in Bangkok. In 1964, he came to the US to complete his residency at Northwestern University Medical School (now the Feinberg School of Medicine) in Chicago, Illinois.

After completing his training, he returned to Thailand to serve as an instructor at Chulalongkorn University Medical School, helping educate and mentor the next generation of physicians and surgeons. Throughout his career, he remained committed to advancing surgical education, later supporting resident research programs and other initiatives designed to foster innovation and training in surgery.

He returned to the US in 1978 after accepting a fellowship position with pioneering cardiovascular surgeon Denton A. Cooley, MD, FACS, at The Texas Heart Institute (now part of Baylor College of Medicine) in Houston. He decided to remain in Houston, serving as a general surgeon in its rural, underserved outskirts for more than 40 years. During his decades-long surgical career, he cared for generations of patients while witnessing—and embracing—major advances in surgical care. Colleagues and patients alike remembered him for bringing high-quality surgical care to communities that often had limited access to specialty services.

Dr. Pon became an ACS Fellow in 1973, remained a proud member for more than 5 decades, and has made an indelible mark on the organization. **B**

Shark Tank Helps Shape Next Generation of Trauma Leaders

Tony Peregrin

FTL class of 2026, an FTL participant from the class of 2025, and ACS COT executive leaders participated in a Shark Tank session where trauma experts provided guidance on proposed project initiatives.

RISING TRAUMA AND ACUTE CARE surgery leaders stepped into the spotlight at this year's Future Trauma Leaders (FTLs) Mentoring Day, where early career surgeons pitched innovative project ideas in a fast-paced "Shark Tank"-style session and received candid feedback from seasoned trauma leaders.

The annual event is a cornerstone of the ACS Committee on Trauma (COT) FTL program, a 2-year leadership development initiative that provides intensive mentoring, hands-on project experience, and direct engagement with ACS COT

leaders to help participants build the skills and connections needed to become the next generation of trauma surgery leaders.

Surgeons within 5 years of completing fellowship training are eligible to apply to the FTL program. A competitive application process is promoted among members of the ACS COT, American Association for the Surgery of Trauma, Eastern Association for the Surgery of Trauma, and Western Trauma Association. Through participation in ACS COT committees and leading projects aligned with their own professional



FTL Class of 2026

Eduardo Gus, MD, MSc, FABA, Hospital for Sick Children, Toronto, Canada—Improve outcomes for children with burn injuries through new performance metrics, enhanced data collection, and updated guidelines for wound care and recovery.

Anamaria Robles, MD, FACS, University of California Davis Medical Center, Sacramento—Advance equity in trauma care and improve outcomes for injured patients across diverse communities through trauma-informed and community-focused training programs.

Jarrett Santorelli, MD, FACS, University of California San Diego—Define the role of artificial intelligence in trauma care by identifying technologies that deliver meaningful value in the areas of trauma registry enhancement, emergency medical decision support, transfer optimization, and educational applications for simulation and assessment.

Crisanto Torres, MD, MPH, FACS, Boston Medical Center, Massachusetts—Expand access to prehospital blood transfusion for severely hemorrhaging trauma patients by assessing ground emergency medical services agencies through a new survey evaluating current capabilities, interest in adoption, operational barriers, and support needs from hospitals and blood banks.

Patrick Walker, MD, FACS, Walter Reed National Military Medical Center, Bethesda, Maryland—Identify opportunities to expand national military-civilian trauma research and improve surgical workforce capabilities to boost US readiness for large-scale combat operations and improve mass casualty surge response.

A total of 53 early career surgeons, including the FTL class of 2026, have participated in the FTL program.

interests, FTL members contribute meaningful work that advances the mission of the ACS COT.

This year's FTL Mentoring Day, which convened June 25 at the ACS Headquarters in Chicago, Illinois, featured a series of brief presentations by trauma leaders highlighting updates on COT initiatives in trauma education, injury prevention, Stop the Bleed, and ACS Quality Programs.

The presentations began with a look at the broader strategic direction of the ACS COT. Kristan L. Staudenmayer, MD, MS, FACS, Chair of the ACS COT, provided an overview of emerging priorities including national trauma preparedness, regional coordination, and rural access to trauma care. She noted that the US lacks a fully integrated trauma system, echoing the long-standing observation that the nation has “islands of excellence in a sea of chaos.” In response, the COT is advancing efforts to strengthen a National Trauma and Emergency Preparedness System (NTEPS) to establish a trauma care infrastructure that has the capability to manage the daily injured population in the US along with mass population events (e.g., mass casualty incidents, public health emergencies, large-scale military conflicts).

Dr. Staudenmayer also highlighted Regional Medical Operations Coordination Centers (RMOCCs) as a foundational component of NTEPS. Serving as central hubs for real-time situational awareness, these centers mitigate crises by continually monitoring system capacity and facilitating rapid, equitable resource sharing across broader geographic areas. The ACS COT is currently developing RMOCC standards, which she said will ensure “high-quality, consistent care across diverse settings.”

Shark Tank Turns Ideas into Action

Among the day's highlights was a “Shark Tank” session in which participants present and defend their FTL project proposals before a panel of veteran trauma leaders. The event reflects the broader mission of the FTL program to cultivate emerging leaders through structured mentorship and a collaborative approach to project management. See the sidebar for details on the 2026 cohort and their proposed projects.

The Shark Tank panel of experts featured Dr. Staudenmayer, Avery B. Nathens, MD, PhD, MPH, FACS, FRCSC, Medical Director of the ACS Trauma Quality Programs, Leah Tatebe, MD, FACS, Chair, ACS COT Injury Prevention Program Area, and Jeremy W. Cannon, MD, SM, FACS, Chair, ACS COT NTEPS Program Area.

After each 5-minute presentation, the panel challenged FTL participants with questions designed to strengthen and refine their projects. Discussion topics included implementation strategies, practical uses for project data, the importance of taking a systems-level approach, potential opportunities to collaborate with other specialty societies, the role of advocacy, crafting a compelling elevator pitch to unify project goals, securing buy-in from users and administrators, and defining meaningful measures of success at the end of the 2-year FTL program.

For more information on the FTL Program, eligibility requirements, or to submit an application, visit facs.org/ftl. 

Tony Peregrin is the Managing Editor of *Special Projects in the ACS Division of Integrated Communications in Chicago, IL.*

Report on ACS/ACSPA Activities, June 2026

Cherisse D. Berry, MD, FACS

The Board of Directors of the ACS Board of Regents (BoR) and ACS Professional Association (ACSPA) met June 5–6 at the ACS Headquarters in Chicago, Illinois.

KEY PRESENTATIONS focused on updates to the Division of Advocacy and Health Policy, Division of Education, *Journal of the American College of Surgeons*, Rural Surgery Collaborative efforts, and the overarching ACS clinical data strategy.

The following is a summary of the discussion and was current as of the date of the meeting.

ACSPA

The ACSPA, a 501(c)(6), 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 for Fiscal Year 2026 were reviewed.

Advocacy and Health Policy

Christian Shalgian, Senior Vice President of the Division of Advocacy and Health Policy, provided an update on proposed bipartisan legislation to reform Medicare physician payment.

Education

Patrice Gabler Blair, DrPH, MPH, Associate Vice President of the Division of Education, Annesley (AJ) Copeland, MD, FACS, Chair of the BoR Education Advisory Committee, and Kyla P. Terhune, MD, MBA, FACS, Senior Vice President of the Division of Education, provided an update on the Division's strategic priorities.

The discussion focused on expanding access to high-quality educational content, creating a more personalized and technology-enabled learning ecosystem, strengthening support for trainees and fellowship programs, increasing engagement with surgical specialty societies, fostering innovation across surgical disciplines, and enhancing Clinical Congress as a global forum for education, collaboration, and the exchange of best practices.

Information Technology

Genevieve Melton-Meaux, MD, PhD, FACS, FACMI, 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.

Journal of the American College of Surgeons

Thomas Varghese Jr., MD, MS, MBA, FACS, Editor-in-Chief of the *Journal of the American College of Surgeons*, presented a market analysis of the journal's performance and outlined strategies to strengthen its position as a leading source of scientific and clinical information for practicing surgeons.

Dr. Varghese reported on efforts to broaden editorial board representation across specialties and career stages, revise author guidelines, expand multimedia requirements, and increase emphasis on ACS work products, clinical practice guidelines, health policy, the surgical workforce, and surgical business data.

He also reviewed the journal's rapid-response publication initiatives, including publications supporting ACS advocacy efforts and workforce sustainability. These included "Longitudinal Trends in Efficiency and Complexity of Surgical Procedures: Analysis of 1.7 Million Operations Between 2019 and 2023," which supported the ACS response to the Centers for Medicare & Medicaid Services Proposed Rule for the 2026 Medicare Physician Fee Schedule, and "Developing Specialty-Specific Workplace Standards for Surgeons: A Framework to Support Sustainable Surgical Careers," which was developed in collaboration with the BoR Optimal Working Environment for Surgeons Task Force.

Member Services

The BoR accepted the resignations of 15 Fellows and changed the status of 83 Fellows from Active or Senior to Retired. The formation of the Zambia Chapter and the consolidation of the Metropolitan Philadelphia Chapter and Keystone Chapter into the new Pennsylvania Commonwealth Chapter also were approved.

Rural Surgery Collaborative

Andrea Hayes-Dixon, MD, FACS, FAAP, Chair of the Committee on Patient Access and Surgical Excellence, Bonnie Simpson Mason, MD, FAAOS, FAOA, Medical Director of the Office of Inclusive

Excellence, and Gary Timmerman, MD, FACS, Regent member on the ACS Rural Surgery Strategic Development Collaborative Taskforce presented an overview of the challenges facing rural surgical care, including ongoing financial and workforce pressures that affect hospital sustainability and patient access.

Presenters reviewed the ACS Rural Surgery Collaborative, which seeks to strengthen rural surgical capacity through education, advocacy, research, innovation, and partnerships that support workforce development, evidence generation, and delivery of high-quality surgical care.

ACS Foundation

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. As of April 30, 2026, the foundation secured \$1.5 million in restricted and unrestricted support for the College.

Additional Activity

In addition to these presentations, the Regents heard updates from the Advisory Councils, Investment Subcommittee, and the Finance Committee. They also reviewed several informational reports and approved revisions to the Statement of Principles Underlying Surgeon Responsibility Toward the Patient and on Needlestick and Sharps Safety, and to the Committee on Trauma's Statement on Post-Transfusion Care After RhD-positive Transfusion and Timely Intervention of Hemorrhage Control. **B**

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

Transplant Pioneer Is Honored with Jacobson Innovation Award

Christian P. Larsen, MD, DPhil, FACS, renowned for his contributions that helped reshape the field of transplantation, is the recipient of the 2026 ACS Jacobson Innovation Award.



THIS PRESTIGIOUS honor recognizes surgeon-scientists who have made impactful contributions to surgical techniques or the advancement of surgery.

Dr. Larsen, the Carlos and Marguerite Mason Professor of Surgery in the Department of Surgery at Emory University School of Medicine and chief scientific officer of Woodruff Health Sciences and Emory Healthcare in Atlanta, Georgia, is a visionary kidney and pancreas transplant surgeon. His work includes the development of costimulation blockade, a class of antirejection therapy that significantly improves transplant outcomes.

"It's a tremendous honor to win this award. The people who have previously been honored are icons, role models, and people I admire greatly," said Dr. Larsen about the prestigious award.

Training to Transform Lives

After growing up in Miami, Florida, with a father who was a cardiac surgeon, Dr. Larsen

earned his medical degree magna cum laude from Emory University School of Medicine. He then completed an internship at Stanford University in Palo Alto, California, with Norman Shumway, MD, PhD, FACS, a heart transplant pioneer whose work piqued Dr. Larsen's interest in the field.

Later, cross-specialty training under a nephrologist sealed his commitment to the specialty. "I saw people whose lives were transformed by transplant," explained Dr. Larsen.

He completed his surgical residency and fellowship in transplant surgery at Emory University, as well as a doctorate in transplantation immunology at the University of Oxford in England, under Sir Peter Morris, MBBS, AC, FRS, FRCS, FACS. Dr. Larsen also completed a fellowship at Rockefeller University in New York, New York, with Ralph Steinman, MD, a trailblazing immunologist who co-discovered dendritic cells in 1973, an achievement for which he posthumously

won the 2011 Nobel Prize in Physiology or Medicine.

Steinman, Starzl, and More

Building on Dr. Steinman's research, Dr. Larsen's early work helped define how dendritic cells initiate T-cell responses. This research reflects a theme in Dr. Larsen's career: close collaborations with fellow scientists and surgeons.

"My very first presentation of a paper was at the American Surgical Association meeting, which is a very unusual place to share your first paper," he said. The session discussants included Joseph E. Murray, MD, FACS, who later won the 1990 Nobel Prize for transplant innovations, and the groundbreaking transplant surgeon Thomas E. Starzl, MD, PhD, FACS.

Drs. Starzl and Larsen eventually became friends. "I would see him all over the world. I would attend some small immunology meeting in the mountains out west, and there's Tom Starzl, or I'd be at

ACS President Dr. Anton Sidawy presents Dr. Christian Larsen with the 2026 ACS Jacobson Innovation Award.



Dr. Christian Larsen reflects on a career of scientific discovery after accepting the 2026 ACS Jacobson Innovation Award.

breakfast in Japan at a meeting, and at the next table over, there's Tom Starzl," recalled Dr. Larsen. "Come talk to me, Chris. Tell me what you're doing? I was able to speak at his 80th birthday celebration. He had a profound influence on me."

Around the same time, Dr. Larsen developed another impactful collaboration. Thomas C. Pearson, MD, DPhil, FACS, completed his surgical residency at Emory University and graduate studies at the University of Oxford concurrently with Dr. Larsen. In the UK, the two "became fast friends," according to Dr. Larsen.

After returning to the US, Drs. Larsen and Pearson set up a laboratory together. "We said, 'This is going to be hard enough, so let's do it together,' which was unusual."

The two surgeons built the Emory Transplant Center, which is now home to one of the world's foremost transplantation immunology centers. The center now has 200 staff members who provide patient-centered care and conduct multidisciplinary research.

Reshaping Antirejection Regimens

Both Drs. Larsen and Pearson have investigated immunological mechanisms of transplant rejection and innovated therapies based on the resulting insights.

Specifically, they led the development of belatacept (Nulojix), the first costimulation blocker medication developed specifically for kidney transplant patients. The drug deters organ rejection by blocking costimulation of T-cells and

is less toxic than calcineurin inhibitor antirejection drugs. Emory University caregivers have since treated more than 2,500 kidney transplant patients with belatacept, improving their long-term outcomes.

Despite this notable accomplishment, Dr. Larsen described clinical care as a learning curve. "In the trials, graft loss and mortality were reduced by about 40% at 7 years, and this medication significantly improved kidney function and prevented complications. It had tremendous promise. But like many new classes of drugs, there were new challenges to optimal use in clinical practice," Dr. Larsen said.

"Much of the last couple of decades has been about learning to use this drug and making iterative changes to the protocols,

using adaptive design in practice, and then de-intensifying the treatments for patients who are at low risk and intensifying for those at high risk,” he added.

With each refinement, Dr. Larsen and his team have reduced rejection rates, rescued more kidneys, and, in many cases, decreased the number of pills and healthcare visits needed. Belatacept remains a preferred therapy for kidney transplant patients today.

From Transplant Science to Personal Fight

Dr. Larsen is currently investigating the immunological foundations of organ rejection.

His work involves an ongoing alloimmunity mapping project, which is focused on major histocompatibility complex,

class II, DQ alpha 1 (HLA-DQA1), which plays a key role in how patients develop antibodies against a donated organ.

Dr. Larsen’s aim is to find new ways to sustain organ viability. “If you can understand which parts of that molecule are foreign to you...there may be ways to predict risk and develop tolerance strategies so that you can perhaps silence the T-cell help for that and prevent that risk,” he explained.

He also is conducting a more personal investigation. Diagnosed 6 years ago with a melanoma in his eye (which ended his time as an operating surgeon) and later with liver metastases, Dr. Larsen has applied his expertise to his own disease. After a career focused on silencing T-cells, his circumstances “flipped it on its head,” he said. “How do I turn on

my T-cell response to my tumor?”

His efforts include engaging the community he has built in research on personalized cancer vaccines. “Now, I’m a collaborator with all my cancer colleagues,” he said.

He remains in good health and engaged with colleagues, including Robert Montgomery, MD, DPhil, FACS, the 2024 Jacobson Innovation Award recipient, who he has known since their overlapping years at Oxford.

The award is made possible through a gift from Julius H. Jacobson II, MD, FACS, and his wife, Joan.

To learn more about the Jacobson Innovation Award or to submit a nomination, visit facs.org. 

Timothy J. Eberlein, MD, FACS, Andrew H. Miller, MD (husband of Wendy Jacobson, MD), Dr. Wendy Jacobson (daughter of Dr. Julius Jacobson), Lena M. Napolitano, MD, FACS, Anton N. Sidawy, MD, MPH, FACS, Dr. Christian Larsen, and Douglas E. Wood, MD, FACS, FRCSEd



Faculty Research Fellows Are Announced

The ACS awarded four Faculty Research Fellowships for the 2026–2028 cycle.

DESIGNED TO HELP early career surgeons establish independent research programs, the fellowships provide mentorship and financial support as recipients advance their research careers. Each award provides \$40,000 annually for 2 years and is made possible through the generosity of ACS Fellows, Chapters, and friends of the College.

Franklin H. Martin, MD, FACS, Faculty Research Fellowship

Alessandra L. Moore, MD, FACS, University of Rochester in New York

- *Discipline:* General surgery
- *Research title:* Investigating the Mechanism of Epinephrine-Induced Dermal Fibroblast Progenitor Cell Depletion and Delayed Wound Healing

Undesignated Fellowships

Christopher A. Ahuja, MD, PhD, Northwestern University in Chicago, Illinois

- *Discipline:* Neurological surgery
- *Research title:* Bioengineering the Extracellular Matrix to Enhance Neural Stem Cell-Based Regeneration in Chronic Cervical SCI

Laura Drudi, MD, MSc, FACS, Centre hospitalier de l'Université de Montréal

- *Discipline:* Vascular surgery
- *Research title:* Exploring Barriers and Facilitators to Diabetic Foot Care in Persons Experiencing Homelessness in Montreal

Robert Torphy, MD, PhD, University of North Carolina in Chapel Hill

- *Discipline:* General surgery
- *Research title:* Tumor-Draining Lymph Nodes as Drivers of Local and Systemic Immunosuppression in Pancreatic Cancer

An open call for applications for the 2027–2029 cohort begins soon. More information is available at facs.org/faculty-research-fellowships. 

Residents Receive Research Scholarships

Research Scholarships for 2026–2028 have been awarded to six residents pursuing careers in academic surgery.

THESE SCHOLARSHIPS, supported through the generosity of Fellows, Chapters, and friends of the College, offer \$60,000 over 2 years.

The recipients are:

Cameron Keramati, MD, The University of Texas Southwestern Medical Center in Dallas

- *Research project:* Unraveling the Molecular Mechanisms Behind Sexual Dimorphism in Gastric Cancer

Cintia Mayumi Sakurai Kimura, MD, PhD, MPH, Stanford University in California

- *Research project:* Pilot Randomized Control Trial of Dietary Prehabilitation to Enhance Microbiome Resilience in Colorectal Surgery

Frances Morales, MD, MS, Massachusetts General Hospital in Boston

- *Research project:* Intestinal Fibrosis Drives Tonic Contraction of the Aganglionic Bowel in Hirschsprung Disease

Praneet Polineni, MD, Northwestern University Feinberg School of Medicine in Chicago, Illinois

- *Research project:* Development of a Proteomics-Based Biomarker Assay for Early Prediction of Decompensation in Cirrhosis

Carter Prentice, MD, University of California, Los Angeles David Geffen School of Medicine

- *Research project:* Validating Artificial Intelligence-Based Surgical Skill Assessment for Robotic Hiatal Hernia Repair Using a Deep Learning Vision Transformer Model

Marshall Wallace, MD, The University of Utah in Salt Lake City

- *Research project:* Implementation of Multicenter Standardized Pediatric Post-Trauma Mental Health Screening Using a Statewide Pediatric Trauma Network

The online application for the Resident Research Scholarship is expected to re-open this month. For more information, visit facs.org/resident-research. 

Member News

Fayanju Heads Surgery at Queen's University



Oluwadamilola "Lola" Fayanju, MD, MA, MPH, FACS, is head of the Department of Surgery and a professor at Queen's University in Kingston, Ontario. She also serves as head of the Department of Surgery and holds the Britton Smith Chair in Surgery at Kingston Health Sciences Centre. A breast surgical oncologist, Dr. Fayanju joins Queen's from the University of Pennsylvania in Philadelphia, where she was the inaugural Helen O. Dickens Presidential Professor in the Perelman School of Medicine and founding chief of the Division of Breast Surgery at Penn Medicine. She also served as the surgical director of the Rena Rowan Breast Center.

Taylor Takes Over CHOP Surgery



Jesse A. Taylor, MD, FACS, is the new surgeon-in-chief and chair of the Department of Surgery at Children's Hospital of Philadelphia (CHOP) in Pennsylvania. Dr. Taylor previously was chief of the Division of Plastic, Reconstructive and Oral Surgery. He also holds the Peter Randall Endowed Chair in Plastic Surgery and serves as a professor in the Division of Plastic Surgery at the Perelman School of Medicine at the University of Pennsylvania in Philadelphia. He has been with CHOP and Penn since 2010.

Termuhlen Steps Into COO Role



Paula Termuhlen, MD, FACS, is the vice dean and chief operating officer (COO) at the University of North Dakota School of Medicine & Health Sciences in Grand Forks. Dr. Termuhlen is a nationally respected physician leader with experience in academic operations, accreditation, and graduate medical education. Previously, Dr. Termuhlen served as president, CEO, and Hal B. Jenson Dean of the Western Michigan University Homer Stryker MD School of Medicine in Kalamazoo.

Harris Moves Up at Kaleida Health in Buffalo



Linda Harris, MD, FACS, has been named chief of adult surgery for Kaleida Health in Buffalo, New York. A vascular surgeon, Dr. Harris also is a professor of surgery in the Division of Vascular Surgery at the Jacobs School of Medicine and Biomedical Sciences at the University at Buffalo. In her new role, she will oversee adult surgical services across the health system while continuing her commitment to clinical care, education, and surgical leadership.



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/bulletin.

Glazer Leads Surgical Oncology at Michigan Medicine



Evan Glazer, MD, PhD, FACS, is the new chief of the Division of Surgical Oncology at the University of Michigan in Ann Arbor. Dr. Glazer joined Michigan Medicine from The University of Tennessee Health Science Center in Memphis, where he was an associate professor of surgery, program director of the Complex General Surgical Oncology Fellowship, and associate program director for research in the General Surgery Residency Program.

Zbar Is Named Surgical Quality Officer



Ross Zbar, MD, FACS, has been named surgical quality officer at Martin Army Community Hospital (MACH) in Fort Benning, Georgia, where he also serves as chief of plastic surgery. In this additional role, he will lead the development of the MACH surgical quality program in alignment with the mission of The Defense Health Agency. Dr. Zbar is a board-certified plastic surgeon with more than 20 years of private practice experience in northern New Jersey.

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CALL FOR ABSTRACTS

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