APRIL 2023 / VOLUME 108 / NUMBER 4

ACS Bulletin

AMERICAN COLLEGE OF SURGEONS

What Happens after Match Day

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Global Surgery and Ethical Dilemmas

Training Surgeons in Africa

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With contributions from more than 80 current surgical leaders, the *Surgical Chairs Playbook* provides practical insights, real-world guidance, and innovative suggestions that will benefit current and aspiring leaders in academia and private practice.

"It's clear that the role of the department chair is evolving in many ways given the complicated nature of healthcare in the current environment. This *Surgical Chairs Playbook* provides valuable perspectives and lessons learned on these evolving roles and responsibilities for our surgical leadership community."

—ROBERT S. D. HIGGINS, MD, MSHA, FACS

"There are a few great leadership books on the market, but the *Surgical Chairs Playbook* is really focused on surgical leadership. This is practical advice from people who generously share their experiences, helping to inform how to navigate obstacles and put together 'game plans'."

—SANDRA L. WONG, MD, MS, FACS

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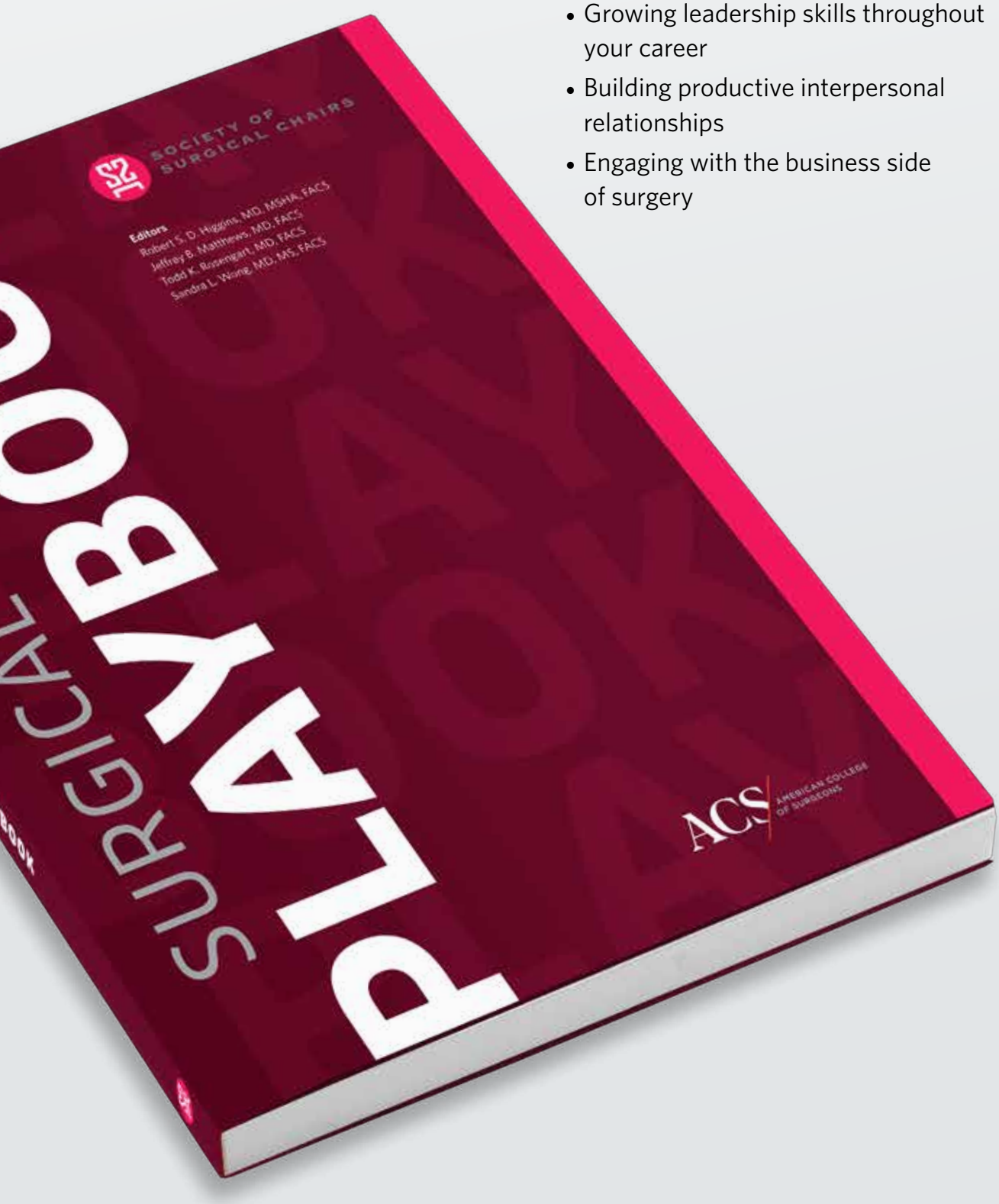

ACS AMERICAN COLLEGE OF SURGEONS

SOCIETY OF SURGICAL CHAIRS

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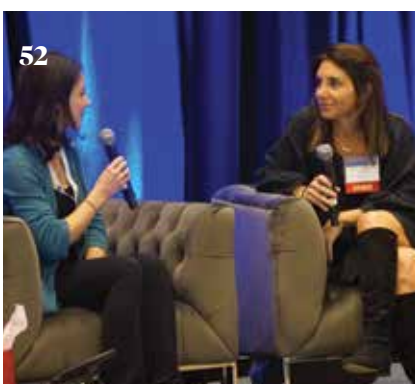

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Five Ways Surgeons Can Welcome Incoming Residents, Fellows, and New Partners

Patricia L. Turner, MD, MBA, FACS

MID-MARCH IS ALWAYS an exciting, albeit anxiety-inducing time for medical students. For students interested in surgery, Match Day determines where they will spend the next 4–12 years of their lives in training.

If we look back to when we matched, I imagine you remember experiencing a range of emotions: hope, determination, jubilation, and perhaps a little anxiety.

This spring and summer, many new attendings and partners will also begin the next phase of their careers.

As we welcome and celebrate the incoming class of residents, fellows, and partners—our current and future colleagues—I encourage all of us to keep five things in mind.

1 Be Patient

First, be patient. Our newly minted trainees will be eager to please us and demonstrate their knowledge and skill. We need to remember that they may be worrying internally about their clinical and operative skills and adjusting to the responsibility of being an MD. Those of us with responsibility to teach must be good mentors as we model accountability and evidence-based patient care.

Our new partners also require our patience as they transition into their new roles. Help them become familiar with the ACS offerings that you value the most, and point out new offerings such as resources in the Practice Management and Professional Growth sections on *facs.org*.

2 Encourage Reading

Second, encourage their curiosity and urge them to continue being voracious readers of the medical literature. This is a lifelong skill we have all mastered. We can share our meaningful tips and tools with the next generation. It's easy to access peer-reviewed surgical science such as what we offer in the *Journal of the American College of Surgeons (JACS)* or other journals via a computer or mobile device. They also can read the monthly *Bulletin* to learn more about important offerings the ACS provides.

On pages 8–15, three members of our Resident and Associate Society (RAS) provide thoughtful advice and feedback for new residents based on their first years in the position.

If it's easier to listen than read, the ACS also offers three podcast series in which surgeons discuss new research, clinical practice, surgical hot topics, leadership, and surgical career paths.

These podcasts are geared toward all surgeons, in all career stages, and in all practice settings. Learn more at *facs.org/podcasts*.

3 Support Skills Training

Third, find ways to help trainees continue practicing hands-on skills outside of patient care opportunities. As surgeons, nothing is as important as our knowledge and judgment, followed by—and what sets us apart from other specialties—our hands and how we use them to care for our patients. Residents need to get as much exposure as possible, in as many situations as possible, to improve their dexterity, refine their decision-making, increase efficiency, and maintain concentration, especially during the most complicated cases.

Give them the time and opportunity to practice, whether it is in the OR, in the simulation lab, or through courses like the ones that the ACS provides.

Shared experiences and hands-on skills acquisition courses keep our techniques sharp.

4 Introduce Quality Improvement

Fourth, it's never too early to embrace quality and the quality improvement process. Providing high-quality care is at the heart of everything we do as surgeons, so it's essential that residents and early career surgeons adopt a continuous quality improvement (QI) mindset. Take time to introduce them to QI projects involving your surgical team, and indoctrinate them into a lifestyle, where participating in clinical outcomes registries and making data-informed decisions are a routine part of their practice.

Encourage participation in our ACS Quality improvement primer and attend the Quality and Safety Conference with them. Registration opens this month for the 2023 conference, July 10–13, in Minneapolis, MN. The content is geared toward all members of the surgical team.

5 Stress Advocacy

Finally, stress the importance of getting involved now in advocacy efforts for our profession and our patients. This month, the ACS is hosting its annual Leadership & Advocacy Summit in Washington, DC, where we'll discuss the healthcare issues that are important for elected officials and regulators to understand, followed by meetings with lawmakers and Congressional staff on Capitol Hill.

Resident and early career surgeon voices can be a powerful part of our advocacy efforts; developing productive and long-term relationships with those making decisions about healthcare laws, regulations, and payments is essential. Many of the legislative aides with whom we meet are early career professionals themselves. Our voices and those of young surgeons resonate. Advocating on behalf of our patients with your new partners can help amplify surgery's voice.

It's also crucial that everyone understands what the ACS Professional Association SurgeonsPAC does and how it helps pave the way for meaningful dialogues with decision makers and provides access to the highest-quality surgical resources for patients.

Member Benefits for Residents and Associates

The RAS is a special organization within the ACS that helps connect residents with peers and provides an avenue for camaraderie and participation in various activities, including educational sessions, scholarships, primers, mentoring programs, "Hangouts," and leadership training. Membership in RAS is automatic for ACS Resident Members and Associate Fellows: those who are in training, and those who are early in their careers, passing their Boards, and just starting out.

In addition, we offer residents free admission to Clinical Congress, a free subscription to *JACS,* and discounted access to other publications and programs such as contract negotiation services and insurance products.

In 2021, the Board of Regents approved **free** dues for residents beginning with the 2022–2023 dues cycle. Please make sure that all residents with whom you come in contact are aware of this new offer and take advantage of it. Our collective reinforcement about the value of belonging to a community of like-minded professionals will have a significant and positive impact on their career trajectories, not just now, but throughout their lifetimes.

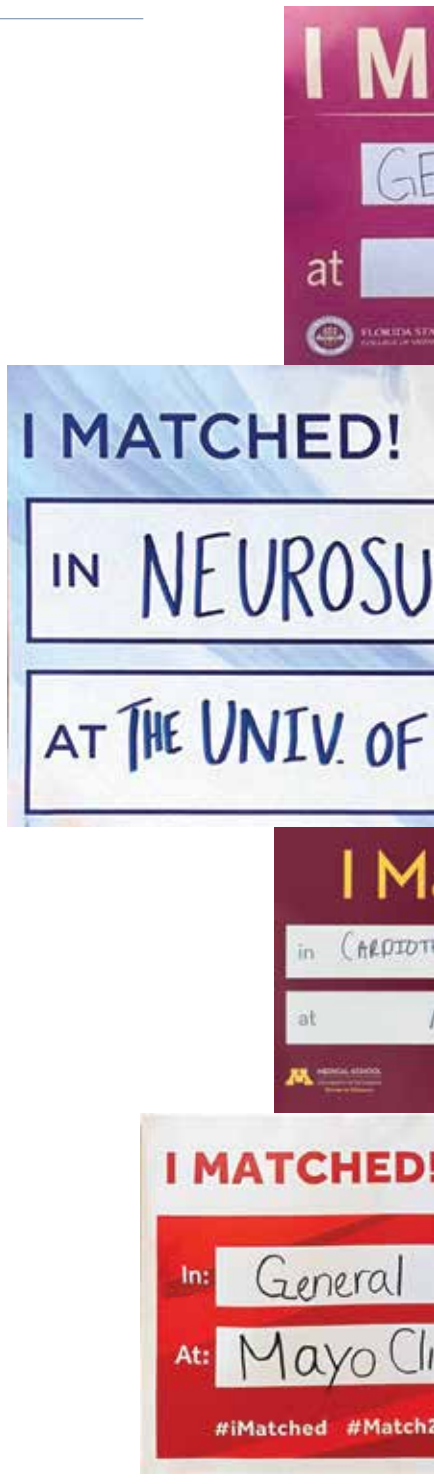
Support for All Surgeons

Surgical residents are the future of our profession, and our new partners are important colleagues. The ACS is committed to supporting surgeons throughout their careers. The ACS is the House of Surgery and champions surgeons in all specialties, in all practice settings, and at all career stages.

Surgeons have a unique ability to adapt to a changing environment, lead with enthusiasm, and inspire confidence in our teams. It is a privilege to care for our patients, and I look forward to sharing our skills, knowledge, and passion for our profession with this next generation.

Set Yourself Up for Success after **Match Day**

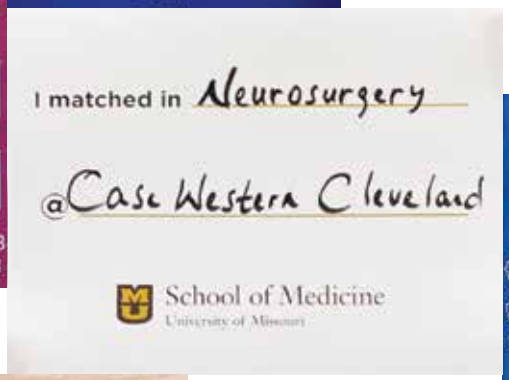
Kaitlin A. Ritter, MD
Peter Kanuika, MD
Julia R. Coleman, MD, MPH



After months of applications, interviews, and reviewing your rank list, Match Day has arrived, and you finally know where you will be spending the next several years of your life. You've agonized over every detail of "the match," and you are left with one final question: Now what?


I matched!
UC Davis
INSTITUTION
Cardiothoracic Surgery!
SPECIALTY


ATCHED!
ENERAL SURGERY
EMORY
Class of 2023
#FSUMatch2023
#Matchday2023

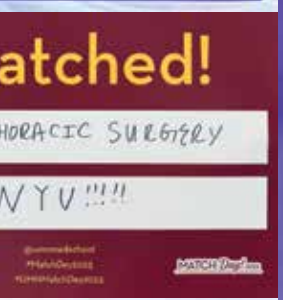

I matched in Neurosurgery
@Case Western Cleveland
School of Medicine
University of Missouri


I MATCHED!!
IN GENERAL SURGERY
AT TUFTS MEDICAL CENTER
#GUMatch
#Match2023


UMMC
School of Medicine
RGERY
VERMONT


I MATCHED
ORTHO
@
DUKE

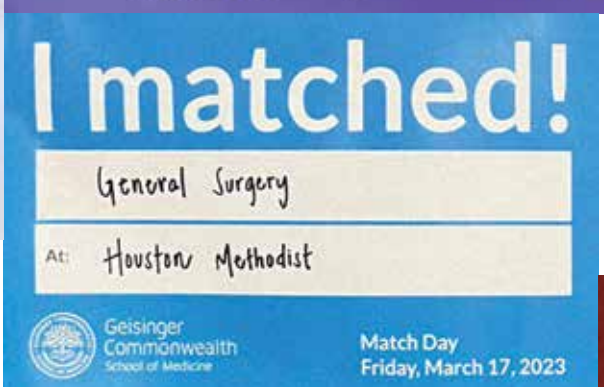

I MATCHED!
in General Surgery
at HCA Healthcare East FL / Westside
Class of 2023
#FSUMatch2023
#Matchday2023

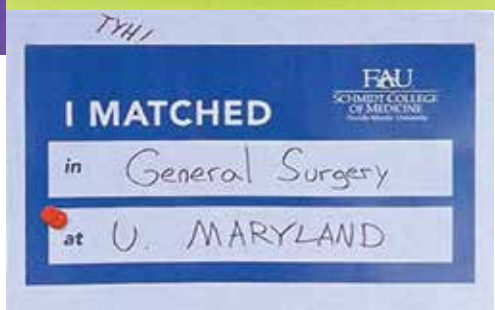

atched!
HORACIC SURGERY
NYU!!!!


I matched!
in GENERAL SURGERY
at INDIANA UNIVERSITY !!
Northwestern Medicine
Feinberg School of Medicine
Class of 2023
#NUMatchDay
@nufeinbergmed


I Matched!
#OHSUMatchDay #OHSUAlumni
in Cardio-thoracic Surgery
at University of Washington!


Renaissance
School of Medicine
Stony Brook University
Surgery
nic
2023


I matched!
General Surgery
At: Houston Methodist
Geisinger
Commonwealth
School of Medicine
Match Day
Friday, March 17, 2023


TYH!
I MATCHED
FAU
SCHMIDT COLLEGE OF MEDICINE
in General Surgery
at U. MARYLAND


I Matched!
in GENERAL SURGERY
at BRIGHAM & WOMEN'S
@umnmedschool

Congratulations and Celebrations

First and foremost, congratulations and welcome to the House of Surgery. We are thrilled that you have decided to join our ranks and devote your life to the service of others. You have put in years of hard work, dedication, and sacrifice to reach this point in your career—and that deserves recognition.

In the hustle and bustle of post-match, take a moment to enjoy your success. Celebrate with your friends, family, and loved ones who have supported you along this journey. Be sure to reach out to your mentors and advisors and let them know about your accomplishment. After investing in your development, there likely is nothing more satisfying to your mentor than to learn about your successful match.

Regardless of where on your rank list you matched, be proud and begin looking forward to the start of a rewarding and fulfilling career.

On Match Day 2015, Dr. Julia Coleman (back, left) joins a group of fellow University of Toledo College of Medicine students, who met while doing medical mission work, to celebrate being matched into various programs across the US.

Personal Match Day Experiences

Everyone has a different story after matching. For Julia R. Coleman, MD, MPH, who matched into the general surgery residency program at the University of Colorado in Aurora, it was a day of celebration.

"Months before Match Day, my husband and I planned a weeks-long trip overseas in an RV, knowing this would be one of the last times in our lives that we would have an open block of time to spend together," recalled Dr. Coleman, currently a surgical critical care fellow at The Ohio State University College of Medicine in Columbus. "I opened my match envelope with my husband, and after calling family, we packed our bags and spent several weeks in Italy. That trip is still one of our most treasured memories as a couple. Your celebration may not include a trip, but make sure to dedicate time to your closest family, friends, and supporters."

Peter Kanuika, MD, who was an international medical school graduate, remembered a different experience. He did not have the deepest of rank lists, and while he hoped for a categorical position at a program that his medical school—St. George's University School of Medicine in Grenada, West Indies—had historically matched students into, he knew not matching or obtaining a preliminary position was a possibility.

Match Monday came, and he matched into a preliminary position.

"I was happy to have a job, but my stomach fell out from beneath me knowing the road I had ahead of me," said Dr. Kanuika, who is a fourth-year resident at MetroHealth in Cleveland, OH. "When the time came to learn the name of my program, I again was happy to have a destination, but unsure of what would come next. The only thing to do was figure out how to succeed, work hard, and keep moving forward. That's what I did."

Reach Out to Your Program

More often than not, your future program director will send you an email on Match Day congratulating you and welcoming you to your

You have put in years of hard work, dedication, and sacrifice to reach this point in your career—and that deserves recognition.

new surgical home. Match Day is a celebration not just for the applicants, but also for programs, their residents, and the faculty who are eager to welcome new members to their surgical family.

After the inevitable email chain of congratulations and welcomes is received, it is appropriate to send a note of thanks to your program director and express your excitement about joining the program.

At this time, you likely will be introduced to your program coordinator who will be your main contact during the coming months. It's important to reach out and introduce yourself via email and confirm your preferred contact information. Many programs have your medical school email address listed as your primary method of contact. Depending on your institution, you may lose access to this account upon graduation.

Paperwork and More Paperwork

It is critical that your program coordinator has updated contact information to send you the multitude of administrative documents required for a residency program. Over the coming weeks, you will receive several emails regarding institutional paperwork and medical licensure. Be sure to watch out for these emails and respond to them quickly.

State and institutional credentialing can take a long time and often requires formal background checks that can slow down the process even more. Staying on top of these administrative tasks sets you up for success and can help avoid a delayed start date.

You also should make note of any clinical requirements your program may have such as completing online training modules or passing Step 2 of the United States Medical Licensing Examination. These tasks can similarly take significant time or preparation, and you should not wait until the last minute.

If you are a non-US medical school graduate, it is imperative that you start working on visa paperwork as soon as possible and that you are diligent in following up with the approving bodies. Kaitlin A. Ritter, MD, noted that every year during her training at the Cleveland Clinic in Ohio, one or two of the preliminary residents would start residency late due to visa or travel issues.

In addition to all the other credentialing paperwork (which can take even longer to verify internationally), visas are subject to very strict approval processes. Even small errors can set your timeline back significantly.

While a delayed start is not the end of the world—as most programs will usually hold your position (within a reasonable timeframe)—it is not how you want to start off your residency.

In addition to helping coordinate the administrative tasks associated with starting residency, your program often can help connect you with resources related to moving and put you in contact with your future co-interns and senior residents.

Reaching out to other trainees can provide a firsthand experience with learned tips and tricks for relocating. After matching, many medical students will start a group chat on a platform like WhatsApp or a group text where they can start getting to know one another and brainstorm ideas related to onboarding and moving. Your intern class will become some of your closest colleagues and lifelong friends—don't hesitate to reach out early and start building fellowship.

Moving Preparations

As you have advanced through the various stages of your academic career, many of you have experienced several moves. And while moving is always a process, moving for residency presents many unique challenges that can be overcome by early planning and preparation.

The first item on the agenda is to find a place to live. Depending on where you matched, this can be as simple as staying at your current residence versus locating a home on the other side of the country. Important considerations for selecting a place to live include proximity to the hospital, safety of the neighborhood, access to parking and/or public transportation, and cost of housing.

One of the most exciting parts of starting surgery residency is the prospect of finally receiving a paycheck for those long hours spent in the hospital.

Access the multimedia extras at *facs.org/bulletin*

Location is one of the most important variables to consider with housing. Proximity to the hospital can have significant effects on your daily schedule and experience taking home call. While living adjacent to the hospital may seem like an ideal situation, it is important to understand the amount of time you will spend at any given location.

Many residency programs have several affiliated hospitals and send their trainees for rotations of various lengths around the city or state. Choosing housing that straddles the distance between your major sites may be a more appealing option depending on your given rotation structure. To help guide your search, ask the senior residents about where members of the program live, especially since many graduating chiefs from your program may be interested in selling, subleasing, or transferring a rental to an incoming intern.

Cost of living also can be a significant consideration. Trainees' salaries are modest, and this can result in tight budgets—especially in more expensive cities with skyrocketing housing costs. Many institutions have started offering housing stipends or hospital-affiliated subsidized housing to trainees. Check with your residency program to see if these options are available.

In addition to the challenges of finding a physical location to live in, moving also entails uprooting multiple elements of your life, such as locating child/pet care, researching school districts, and seeking employment for your spouse or significant other. While 3 months may seem like a long time, organizing these additional details can make those months fly by.

It also is helpful to consider housing location based on your partner's and family's needs. While living close to the hospital and minimizing your personal commute is ideal, it might make more sense to choose a location based your partner's work. These decisions merit thoughtful discussion.

Not only may you have specific considerations for your partner, but you also may be moving or expecting a family. Ask your program coordinator about current residents who have children and reach out to them to inquire about local daycare options or reliable, safe networks to find nannies, as well as recommendations on the best school districts.

Many hospitals have an affiliated daycare with hours that are more amenable to surgery residents' schedules. It's possible that any of these options may have a prolonged wait time, so arranging this should be a top priority after matching (this is still the case if you are expecting a child in the near future).

Understand Your Finances

One of the most exciting parts of starting surgery residency is the prospect of finally receiving a paycheck for those long hours spent in the hospital. For many of you, this may be your first "real paycheck." And while the actual number on that check is a far cry from your future earning potential, now is an important time to take stock of your current financial situation.

Most medical school graduates matriculate with some degree of debt in the form of student loans. Depending on the type of loans you borrowed, your repayment period may begin the day you graduate. Understanding your finances, debts, and income is critically important as you embark on this new phase of your life.

The ACS Resident and Associate Society (RAS) Education Committee has published several primers on financial literacy that can help guide you through this process and can be accessed at *facs.org/financial-literacy.*

As part of the onboarding, your new residency program should provide you with a financial packet that outlines reimbursements, including salary, 401k/403b matching, and insurance benefits. Carefully review this paperwork as your institution may offer various programs that you can opt in/out of and can have significant financial implications.

In addition to your institutional resources, refer to the Membership Benefits page on the ACS website for information on a variety of financial benefits such as life and disability insurance, financial planning tools, and travel discounts.

Seek Out Early Training Opportunities

The 3 months between Match Day and residency can be a busy and stressful time for students. In addition to the administrative, logistic, and life tasks required to coordinate the beginning of residency, there also may be some nagging worry in the back of your mind about the upcoming clinical demands. Seek out early training experiences if they are available.

Many medical schools offer surgical boot camps that provide high-yield didactic lectures, hands-on simulation, and shadowing experiences to help incoming interns learn key content and set them up for success. If your school or hospital does not offer a boot camp, you still can use this time to practice technical skills—such as suturing and knot tying—on your own.

One of the largest hurdles for new interns is adjusting to processes related to the electronic health record (EHR). Depending on where you went to medical school, your experience with the EHR may vary dramatically from what you encounter on your first day of residency. Even if you are using the same EHR, each hospital system has different versions of the same basic construct.

As a medical student, you often are limited with what you can do within the medical record. If you did not have the opportunity to work with your future EHR at your medical school, it can be beneficial to sit down with residents to watch and learn their workflow. How do they have their tabs set up? Do they have shortcuts or dot phrases to save time?

While you won't be able to set up your own EHR preferences until you arrive at your program, learning the workflow and any salient tips can help improve your efficiency for when you get started.

Preliminary Resident Experience

Being a preliminary surgery resident is a distinct challenge if your intention is to remain a surgery resident the following year. In addition to all the considerations outlined in this article, you have fewer than 3 months to learn how to be an intern, impress your senior residents and faculty, acquire new letters of recommendation, and re-enter the match.

Welcome

to the House of Surgery

Take a moment
to enjoy your success

Reach out
to your program director

Stay on top
of administrative paperwork

Plan and prepare
early for your move

Take stock
of your financial situation

Seek out
early training experiences

Find your community
of family, friends, co-interns, and senior residents

Check out
RAS resources and become involved

Location is one of the most important variables to consider with housing. Proximity to the hospital can have significant effects on your daily schedule and experience taking home call.

You need to hit the ground running, and preparation is key. Consider reaching out to previous preliminary residents at your program who matched and ask for their advice and guidance. Try to identify mentors early. When you find out your schedule, start preparing for your upcoming services by reading about the content matter. Your goal is to impress the faculty and program director; to achieve that, you must work hard, prepare, and get a little lucky.

Find Your Community

Perhaps the single most important thing you can do prior to starting residency is to find your community. Surgery residency can be an intense 5–7 years with numerous trials and successes. The importance of a support team, family, and friends to help you through challenges and celebrate your wins cannot be overstated.

Your co-interns and senior residents often will naturally become part of this support system, but the value of members outside of your program is just as important. A great place to start can be the RAS, a national resident-led organization with a variety of programming, outreach, and educational arms designed to support trainees throughout their residency.

As the largest surgical resident organization in the country, RAS has a preponderance of resources to help you excel as an intern. Membership in RAS is automatic when you become an ACS Resident Member; there are no annual dues for Resident Members. More information is available at *facs.org/ras.*

While there are myriad considerations related to this big transition in your life from medical school to residency, don't forget to pause and enjoy this moment.

You finally are starting surgical training, and while rigorous, residency is an important, exciting time with rapid professional and personal development. Take time to celebrate and acknowledge your community, while also preparing and planning for your near future.

If you want to hear more perspectives, check out the "Dear Intern" series, where RAS members from all over the world reflect on and share advice about embarking on this next chapter: *facs.org/dear-intern.*

Dr. Kaitlin Ritter *is a trauma, critical care, and acute care surgeon at MetroHealth and an assistant professor at Case Western Reserve University School of Medicine, both in Cleveland, OH.*

Cover photo details, top to bottom, left to right

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Tayeisha Nelson, general surgery, HCA Healthcare East Florida/Westside in Plantation
Caroline King, general surgery, Tufts Medical Center in Boston, MA
Celeste Yergin, PhD, general surgery, Mount Sinai Medical Center in Miami, FL
Chanell Brown, MPH, orthopaedic surgery, Duke University in Durham, NC
Busha Hika, neurosurgery, Case Western Reserve University in Cleveland, OH
Elizabeth E. Wicks, neurological surgery, The University of Vermont Medical Center in Burlington
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Julia Schroer, general surgery, Houston Methodist in TX
Lee Ann Santore, general surgery, Mayo Clinic in Rochester, MN
Joel Grunhut, general surgery, University of Maryland Medical Center in Baltimore
Amber N. Hannah, general surgery, Emory University School of Medicine in Atlanta, GA
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Jillian Wothe, general surgery, Brigham and Women's Hospital in Boston, MA
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A group of medical students attends Clinical Congress 2022 in San Diego, CA.

Whole Blood in Resuscitating Trauma Patients Is Making a Comeback

Jim McCartney

In modern medicine, sometimes it turns out that the old way is better than the new. This could be the case in how healthcare providers resuscitate trauma victims who need blood transfusions.

RESEARCH IS EMERGING that shows whole blood works better for these patients than fractionated components of blood—a discovery that is catching attention in the worlds of trauma and surgery.

In fact, the most downloaded article from the *Journal of the American College of Surgeons (JACS)* in 2022 was "Impact of Incorporating Whole Blood into Hemorrhagic Shock Resuscitation."[1]

The study showed that compared to using blood component therapy in patients experiencing hemorrhagic shock, whole blood transfusion improved 30-day survival by 60% and reduced the need for 24-hour blood products by 7%. The retrospective study analyzed a diverse group of 1,377 trauma patients from the Red Duke Trauma Institute (RDTI) at Memorial Hermann Hospital in Houston, TX.

Practice today should return to "the resuscitation practices of World War II," although with more transmissible disease testing, said *JACS* study first author Jason B. Brill, MD, a critical care surgery specialist. Dr. Brill recently joined the staff at the Tripler Army Medical Center in Honolulu, HI, after previously working at The University of Texas Health Science Center at Houston (UTHealth Houston).

Opposite, top:
Dr. Bryan Cotton holds two units of low-titer group O whole blood that are ready for immediate use by trauma patients.

Bottom:
Dr. Jason Brill works on a chest trauma case in which multiple units of whole blood were used for the resuscitation.

"They say, 'what is old is new again,'" said *JACS* study coauthor Lillian S. Kao, MD, MS, FACS, director of the Division of Acute Care Surgery and professor at UTHealth Houston. "It's never a bad idea to reassess if something else might be working better. You may just get a completely different perspective on it."

The study indicated that using whole blood benefits a diverse patient population, especially moderate-to-severely injured patients. It also revealed that the earlier patients received whole blood, the better their resuscitation was likely to be.

"Although this study was not a surprise to the trauma community, it was to the broad readership of the *JACS* community, and that may be why it is so popular," said the study's senior author Bryan A. Cotton, MD, MPH, FACS, professor in the Department of Surgery at the McGovern Medical School at UTHealth Houston and codirector of the Shock–Trauma ICU at Memorial Hermann Hospital.

One finding of the study that may have taken aback the trauma community was the fact that whole blood is beneficial for patients with head injuries, Dr. Cotton said. Like many others, he did not expect this outcome.

A strength of the study was that it was conducted at the RDTI at Memorial Hermann Hospital, one of the largest trauma centers in the country with a large prospective data collection. The RDTI is an ACS–verified Level I trauma center—one of only two Level I trauma centers in Houston—that annually evaluates more than 10,000 trauma patients, admitting more than 8,000.

The advanced trauma center coordinated with prehospital aeromedical providers to start whole blood transfusion at the scene of injury, which may have strengthened the effects seen in the most critically injured patients, the authors concluded.

"This large, diverse patient population, including prehospital data, allowed us to show how effective whole blood is in treating hemorrhagic shock," Dr. Kao said.

Brief History of Blood Transfusion

Whole blood transfusions have been around for centuries. The technique was hazardous and uncertain until the discovery of the ABO blood group system in the early 20th century. Not until World War II was blood transfusion more widely used and standardized, and its use was common through the conflicts in Korea and Vietnam.

But after the Vietnam War, for a variety of reasons, component products such as red blood cells, white blood cells, plasma, and platelets became the only available products. One key reason was that blood banks realized that by fractionalizing blood they could serve more patients, with each patient getting the particular component they required. The component blood also was easier to preserve for longer periods of time.

"Using component blood can be more efficient because individual patients get what they need," Dr. Brill said. "You can turn one unit of whole blood into three or four products that various patients can receive."

Dr. Cotton agreed, explaining that from a logistics and efficiency standpoint, this approach made a lot of sense. Yet even if the logistics and economics worked well, there were never any studies showing that it was safe to substitute component therapy for whole blood in hemorrhagic shock patients.

"They didn't test against actual bleeding-to-death patients, and so that's where I think a lot of things went sideways," he said.

"Although this study was not a surprise to the trauma community, it was to the broad readership of the *JACS* community, and that may be why it is so popular."

—Dr. Bryan Cotton

The Reemerging Role of Whole Blood

Fast-forward to the conflicts in Afghanistan and Iraq, and component blood therapy was not always available. As a result, military doctors increasingly used fresh, warm whole blood from nurses, soldiers, and other "walking blood banks," Dr. Brill said. It turned out that trauma patients lived longer and recovered faster when they received whole blood.

"I think it pushed military planners to be more focused on whole blood as the product of resuscitation, not glycerolized red blood cells and frozen plasma. Yes, those last longer, but they're just not as good for our patients," he added.

But medical advances discovered by the military don't always easily translate into civilian medical practice.

"Sometimes, we have to convince civilians that what we are doing in the military is the right thing," said J. R. Taylor III, MD, a military veteran and critical care surgery specialist at Jefferson Regional Medical Center in Pine Bluff, AR.

In the military, walking blood banks were tapped when whole blood was needed. Since service personnel already were screened for transfusion risks and classified by blood type, whole blood would come from uninjured soldiers with the appropriate blood types.

However, in civilian life, lining up donors in the hallways of trauma centers would be impracticable and unlikely to pass scrutiny from the agencies, including the US Food and Drug Administration (FDA), that oversee and regulate the blood supply. There would be obvious safety concerns, no matter how effective its use in combat settings, the study authors wrote.

Now, as an alternative to walking blood banks, many major trauma centers are returning to whole blood-based resuscitation by using cold-stored, low-titer group O units—a fully screened, appropriately collected, and FDA-approved product.

This increased use of, and enthusiasm for, whole blood has raised questions about its benefits in transfusion, according to Dr. Brill and his colleagues. These doubts helped shape the purpose of the study, which was to investigate survival benefit of whole blood across a diverse population of bleeding trauma patients.

The study authors were able to prove their hypothesis that for injured patients presenting

Medical advances discovered by the military don't always easily translate into civilian medical practice.

Opposite:
This field-use blood cooler holds several units of whole blood that were used during Dr. Jason Brill's recent deployment.

in hemorrhagic shock, whole blood would demonstrate increased survival and require fewer units transfused compared to those only receiving fractionated component products.

Additional Research: Addressing the Fears One by One

The 2022 *JACS* study is just one of several research projects dealing with possible objections to increased use of whole blood, especially for heavily bleeding trauma patients.

"We're trying to address people's fears about making this change by knocking off the preconceptions about whole blood one by one," Dr. Cotton said.

Universal versus type-specific blood

One concern is whether or not it is safe to use a universal, low-titer group O whole blood, rather than type-specific blood, which is how whole blood historically has been transfused. There are logistical issues with using type-specific blood for emergency patients, since it can take time to test the patient's blood and then retrieve the right blood product. In an emergency situation, the challenging logistics can lead to mistakes that potentially could harm the patient, said Dr. Cotton.

Drs. Cotton and Brill were among the authors who published a study in the March 2023 issue of *JACS* that shows universal blood product is safe for use across all blood types.[2]

"By and large, there are no differences and low-titer group O whole blood should be used as a universal product," Dr. Brill said. "We should get away from the thinking that it should be used as a type-specific product."

Rh+ whole blood versus Rh- whole blood

Another worry has been that Rh+ low-titer group O whole blood could cause harmful reactions in some patients, particularly women of childbearing age, Dr. Cotton said. As a result, he participated in a study to determine if Rh+ whole blood could be safely used as an alternative to Rh- whole blood.[3]

"What we've shown is that it doesn't look like it's a problem," Dr. Cotton explained. "We're just slowly chipping away at some of the issues about using low-titer whole blood as an emergency release product."

Using whole blood in children

Another recent study addressed whether whole blood is safe for pediatric trauma patients. The researchers concluded that whole blood in children is safe compared to blood component therapy.[4]

"In one case, I gave whole blood to an 8-year-old with a gunshot wound to the abdomen from a drive-by shooting," said Dr. Taylor, who recently convinced his hospital and regional blood bank to use whole blood. "He's the youngest kid ever to get whole blood for trauma in the state of Arkansas."

Obstacles to Using Whole Blood: The Blood Supply

Even as studies continue to show the safety and effectiveness of using whole blood in trauma patients, obstacles remain for trauma surgeons.

For example, once whole blood is kept past a certain date, it can't be broken into components—so there is the fear among blood suppliers that the blood will be wasted, Dr. Cotton said. Another challenge is that some hospitals have concerns about potential complications or adverse effects of whole blood, added Dr. Kao.

As more and more trauma surgeons want to use whole blood, access has become an issue. In fact, the biggest problem with whole blood is the blood supply system. "You have to convince your blood bank or blood supplier that you need this because it's better for patients and actually will use less blood product. All other barriers are secondary," said Dr. Brill.

The fact that using whole blood appears to decrease the need for transfusion may be a convincing factor for blood banks in favor of using more of it. "If you believe our data which show that by giving whole blood, you use less blood overall, then that's a win for the blood bankers," Dr. Cotton said.

Ultimately, more whole blood will become available as blood suppliers understand the need for it,

according to Dr. Brill, who added that the logistical, financial, and strategic reserve challenges that blood banks face can be overcome.

Using Whole Blood in Community Trauma Centers

The 2022 whole blood study in *JACS* helped Dr. Taylor—who was well aware of the benefits of whole blood from his military service and his work with Dr. Cotton at UTHealth Houston—convince his hospital and the area blood banks to allow him to use whole blood for his trauma patients.

In Pine Bluff, AR, where Dr. Taylor works, there is a high volume of penetrating trauma, creating a war-zone type of environment, in addition to the standard emergent and elective general surgery cases treated at the center. Knowing the challenges of using component blood therapy, he went to his administration and asked to use whole blood for more of these cases.

"I was very lucky that our administration supported it," he said. "I think culture change in a healthcare environment is the most difficult thing that you can do, but we were able to make major changes in how we treat trauma patients due to the support of blood bank personnel and the administration."

Another advantage of whole blood in a community trauma center is that it's much easier to use and has many advantages compared to the traditional component therapy, Dr. Taylor said.

Other similar trauma centers, with high volumes of trauma patients requiring transfusion, could benefit from having whole blood, he explained, adding that while the use of whole blood should not be restricted to academic medical centers, not every trauma center needs whole blood.

Although he's only been using whole blood for a year or so, Dr. Taylor thinks he has proved the case for continued use. A review appears to show that his hospital is actually saving money using whole blood when massively transfusing patients.

Beyond Trauma: Additional Uses of Whole Blood

Beyond treating patients in profound hemorrhagic shock, there also could be other uses for whole blood, Dr. Cotton shared.

Dr. Taylor agreed, as research supports that any time there is a need for a massive blood transfusion, whole blood could be advantageous to the patient's outcome. Examples include patients who have major trauma, ruptured aortas, massive gastrointestinal bleeds, severe liver disease, or who are undergoing major cancer surgery.

Looking ahead, according to Dr. Cotton, a large, multicenter study is in progress to further investigate the impact of using whole blood in trauma patients. B

Jim McCartney *is a freelance writer.*

Access the multimedia extras at *facs.org/bulletin*

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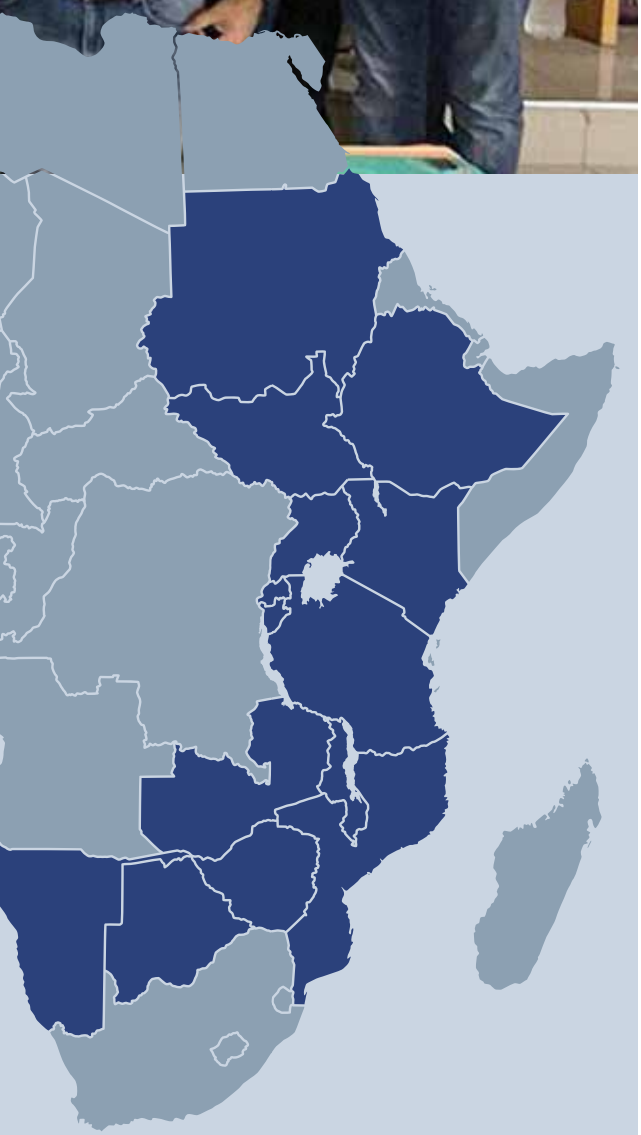
ACS, COSECSA Bring Quality Surgical Care to Sub-Saharan Africa

Daniel M. Chase, MD, FACS



Opposite:
SAGES GLAP faculty connects with some of the course participants. (Courtesy of Dr. Mellinger)

Map:
Currently, COSECSA has 14 member countries: Botswana, Burundi, Ethiopia, Kenya, Malawi, Mozambique, Namibia, Rwanda, South Sudan, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.

EACH YEAR, SURGEONS FROM ACROSS Sub-Saharan Africa and the world serve as volunteer examiners in the College of Surgeons of East, Central, and Southern Africa (COSECSA) fellowship oral examination—which is equivalent to the American Board of Surgery's (ABS) oral certifying exam. This past December, I traveled to Windhoek, Namibia, to participate as an examiner and was impressed by the dedication of the trainees, as well as the volunteers who are trying to ensure that quality surgical care becomes available to patients throughout the region.

The largest barrier to surgical care in Sub-Saharan Africa is the lack of adequately trained surgeons. COSECSA was created to meet this need and, together with its collaborative partners, COSECSA has provided quality education and certification across multiple surgical specialties for more than 20 years.

Following is a synopsis of how COSECSA has grown during the past 2 decades due to the dedication and work of its members and partner organizations. I also introduce you to some of the people I met during my experience in Namibia.

History of COSECSA

Originally developed from the Association of Surgeons of East Africa (ASEA), COSECSA was formed with the goal of having a common surgical training program and an exam that would result in an internationally recognized surgical qualification. Other driving factors that led to the founding of this organization included the inadequate number of surgical training positions, variability of training from country to country and hospital to hospital, and decreasing access to training outside of Africa.

COSECSA has been a result of regional and international collaboration since its inception. It emerged out of the ASEA and was inaugurated in December 1999 in Nairobi, Kenya, after endorsement from the ministers of health of the founding countries and the East, Central, and Southern Africa Health Community.

The organization is unique because its training programs are primarily undertaken in a trainee's country of origin instead of a large central-hub hospital. Education pathways successfully harness existing, but often underused, resources, namely surgeons and hospitals that could be certified as trainers and training centers.

Left:
Audry Banza of the Democratic Republic of the Congo (left) and Noel Ndayisenge of Burundi (right) recently graduated, becoming new COSECSA fellows.

Right:
Dr. Barbara Bass, Past-President of the ACS, speaks at the COSECSA graduation.

The first annual general meeting was held in Lusaka, Zambia, in 2000, and the first examinations took place in 2003. In 2007, ASEA and COSECSA merged to form one organization. In 2008, the Royal College of Surgeons in Ireland/COSECSA Collaboration Programme began, which resulted in the "school for surgeons" web-based curriculum and is used as the standard academic component.

COSECSA trainees have two levels of qualification available:

- Membership of the College of Surgeons (MCS), which may be obtained after passing an exam following 2 years of postgraduate surgical training
- Fellowship of the College of Surgeons (FCS) in general surgery, orthopaedics, urology, pediatric surgery, otorhinolaryngology, plastic surgery, cardiothoracic surgery, or neurosurgery, which may be obtained after completing at least 5 years of postgraduate training (6 years for neurosurgery) and fulfilling all the requirements of the COSECSA curriculum

Similar to the ABS process, candidates must pass a written exam in order to take the oral exam, which is held immediately before the COSECSA annual general meeting. The FCS designation is recognized in all COSECSA member countries and is similar to being board certified by the ABS or being a fellow of the Royal College of Physicians and Surgeons of Canada.

Currently, COSECSA has 14 member countries: Botswana, Burundi, Ethiopia, Kenya, Malawi, Mozambique, Namibia, Rwanda, South Sudan, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.

Approximately 140 hospitals have been been accredited as training sites by COSECSA, some of which are outside of the member countries. More than 900 trainees have completed the COSECSA certification process, and more than 1,600 surgeons have the FCS designation.

Joint Efforts with the ACS

Both the ACS—as an organization—and ACS Fellows have partnered with COSECSA to further its mission. Some examples include granting access to ACS educational resources and leadership training programs, awarding scholarships, and aiding with the recruitment of surgeon volunteers as external examiners and to participate in direct patient care and onsite teaching at COSECSA training sites.

Perhaps the largest single effort has been the ACS-COSECSA Surgical Training Collaborative. Spearheaded by the ACS Committee on Global Engagement through Operation Giving Back, the goal of the project is to pool the resources of the ACS and multiple US hospital departments of surgery to improve the quality of surgical training at a specific training site, with the aim of increasing the number of surgical trainees.

After several years of planning, in 2018, Hawassa University in Ethiopia, became the first ACS-COSECSA Collaborative site. A consortium of 13 US hospitals currently support the effort, with workgroups focusing on improvements in target areas of education, research, quality, and clinical care. In 2020, a second hub launched at the University Teaching Hospital in Lusaka, Zambia.

The ACS and its members have a long history of collaboration with this relatively young college of surgeons. A number of ACS Fellows who volunteer their time and resources in support of COSECSA were on hand during my visit last year to share their experiences with me.

Dr. Mbaga Walusimbi

The oral portion of the COSECSA fellowship exam took place over 2 days. The general surgery exam was held at Windhoek Central Hospital. My partner examiner on the second day of the test was Mbaga Walusimbi, MD, MS, FACS, a surgeon at Wright State University in Dayton, OH. Originally from Uganda, he has been a surgeon educator in the US for many years. Dr. Walusimbi, who has been participating in the COSECSA exams since 2013, said he finds this very fulfilling.

Some of his friends in Africa were associated with COSECSA and encouraged Dr. Walusimbi to become involved with the program. Dr. Walusimbi travels yearly to wherever the exams are held and volunteers his time and expertise. The breadth of knowledge expected of a general surgeon by COSECSA is impressive, commensurate with the range of surgical problems they will need to treat in practice.

Dr. John Mellinger

John D. Mellinger, MD, FACS, currently is the president of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) and vice-president of the ABS. He originally became involved with COSECSA through the Pan-African Academy of Christian Surgeons. He also has been involved in surgery in Africa on behalf of the ABS, teaching a surgeons-as-educators course.

Dr. Mellinger came to Namibia both for the COSECSA exams and on behalf of SAGES to teach their Global Laparoscopic Advancement Program (GLAP) course. SAGES GLAP is a longitudinal program that involves partnerships between the SAGES Go Global Committee and national surgical societies in low- and middle-income settings.

To date, more than 100 practicing surgeons and more than 200 residents have been trained via this program worldwide. The program is designed to teach national surgeons and trainees the fundamentals of laparoscopic surgery-based skills and train-the-trainer skills. This was the first time the course was offered in Africa. A total of 20 Namibian surgeons participated in the event, which was held before the COSECSA exams.

Dr. Sherry Wren

ACS Secretary Sherry M. Wren, MD, FACS, FCS(ECSA), originally became involved with surgery in Africa through Doctors Without Borders. While working at the University of Zimbabwe College of Health Sciences, she learned about COSECSA. Dr. Wren serves on the COSECSA council as its representative for North America and participates in the oral examination and annual general meeting. Dr. Wren explained that one of her main roles is recruiting ACS Fellows to volunteer with COSECSA and work on projects that support surgery in Africa.

Top left:
Dr. Sherry Wren

Bottom right:
During the trip to Nambia, Dr. John Mellinger met with Professor Filemon Amaambo, president of the Namibian Surgical Society. (Courtesy of Dr. Mellinger)

Dr. Michael Mwachiro

Dr. Abebe Bekele

Dr. Wren travels to the COSECSA exams and annual general meeting with esteemed colleagues, including ACS Past-President Patricia J. Numann, MD, FACS, former ACS First Vice-President Hilary Sanfey, MD, FACS, and ACS Past-President Barbara Lee Bass, MD, FACS.

This formidable group of surgeon-leaders has a particular interest in supporting women in surgery globally. Dr. Numann gave the inaugural address of Women in Surgery Africa's (WiSA) first meeting in 2015.

With their support and efforts, two special awards were created: The Association of Women Surgeons (AWS)/WiSA Travel Grants, which sponsors two women consultants/registrars to attend the COSECSA annual general meeting; and the ACS-COSECSA Women Scholars Program for graduating female surgical residents, which covers educational costs and COSECSA fellowship exam expenses.

Dr. Michael Mwachiro

Michael Mwachiro, MBChB, MPH, FCS(ECSA), FACS, a surgical endoscopist at Tenwek Hospital in Kenya, is a COSECSA fellow and Kenyan country representative to the council. He also is an International Fellow of the ACS, a member of the African Organisation for Research and Training in Cancer, and the assistant editor of *Annals of African Surgery*.

Dr. Mwachiro has firsthand experience with the benefits of collaboration between the ACS and COSECSA. Recently, he was a recipient of the ACS International Guest Scholar Award. This scholarship is offered to young surgeons from countries other than the US or Canada who have demonstrated strong interests in teaching and research.

In 2022, the scholarship provided Dr. Mwachiro with the opportunity to travel to the US, spending time at Loma Linda University in CA, Vanderbilt University in Nashville, TN, and the National Institutes of Health in Bethesda, MD.

When asked about the benefits of ACS membership, Dr. Mwachiro answered without hesitation, "Mentorship, connections, fellowship, and friendship."

Dr. Rondi Kaufman

Rondi M. Kaufman, MD, MPH, FACS, from Vanderbilt University, also is a COSECSA examiner. Dr. Kaufman is working to support training for Africa's surgeons in a unique way—by changing the policy for foreign medical trainees.

While a resident, she had the opportunity to do a rotation at a hospital in Kenya, where she discovered the value of such an experience. Unfortunately, African trainees are not able to have a reciprocal experience in the US because, in most cases, short-term training licenses are not available to foreign medical graduates.

Dr. Kaufman believed that a true "resident exchange" would be beneficial for both parties, so she began to investigate. Contacting the Tennessee Board of Medical Examiners, she found that there was no category of license that could be granted to rotating residents from other countries.

Therefore, Dr. Kaufman drafted a bill that would direct the state medical board to grant a training license to foreign medical graduates for 90 days, allowing them to function as surgical residents with the same duties and responsibilities as their American counterparts. She was able to obtain sponsors in the Tennessee House and Senate, and eventually the bill was passed and signed into law.

This process continues with the next step requiring support, persistence, and effort at the

When asked about the benefits of ACS membership, Dr. Mwachiro answered without hesitation, "Mentorship, connections, fellowship, and friendship."

federal level to create a short-term visa designation for this category of trainee.

Dr. Abebe Bekele

Abebe Bekele, MD, FACS, directed the COSECSA oral examinations. Dr. Bekele is the secretary general of COSECSA, a thoracic surgeon, and the dean of the School of Medicine at the University of Global Health Equity in Kigali, Rwanda. Dr. Bekele took the COSECSA exams and became a fellow in 2006.

Dr. Bekele has served as the Ethiopia representative to COSECSA for 3 years and chair of the examination committee for 7 years. An International Fellow of the ACS, he is invested in the partnerships between the College and COSECSA.

According to Dr. Bekele, there are several key areas in which partnership with the ACS and its members are of specific benefit to COSECSA and surgery in Africa:

- The ACS/AWS provides sponsorship for 10 women surgeons a year to take COSECSA's MCS and FCS exams.
- ACS Fellows comprise a significant number of examiners for the MCS and FCS exams: Of 283 examiners in 2022, 95 were overseas examiners, and the majority of those were ACS Fellows.
- The ACS provides connections and access to training sites in the US.
- The ACS currently is collaborating with COSECSA on establishing centers of excellence in surgery in Africa.

Dr. Bekele also offered several practical suggestions on how the ACS and its members can partner with COSECSA to further its mission:

- Individuals, practices, or departments can sponsor a COSECSA trainee, which costs approximately $3,000 per year.
- Volunteer examiners, like the individuals described in this article, are needed for COSECSA's MCS and FCS exams.
- Digital book donations are useful to trainees.
- Teaching or funding "train-the-trainer" programs, such as the SAGES program, are essential to disseminating skills and knowledge.

In the future—as COSECSA continues its mission to provide access to quality surgery for the people of Africa—Dr. Bekele said that COSECSA hopes to involve more countries in its consortium and increase the number of graduates of COSECSA training programs.

As it continues to grow in reach and depth of training, COSECSA will remain a primary force in training the next generation of surgeons in Sub-Saharan Africa. It is a tremendous opportunity and privilege for the ACS and its Fellows to be a part of this important work.

Note

See related story on page 62.

Dr. Daniel Chase *is a rural general surgeon in Hoopeston, IL, and an associate professor of surgery at the Carle Illinois College of Medicine in Urbana. He also is an ACS Governor.*

Globalization of Healthcare Creates Evolving Ethical Dilemmas

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Global surgery, with the aim of relieving the surgical burden of disease for all people, involves the use of collaboration, education, and diplomacy to promote growth in quality surgical access and supporting policy.

WHAT BEGAN AS A CLINICAL EFFORT to advance the provision of safe, timely, and affordable surgical care to marginalized populations, particularly in resource-limited settings, has gained prominence within academia as well. With data gathered from surgical service delivery experience and introspective research, the field of global surgery has increasingly focused on evidenced-based interventions and conscientious health systems strengthening.

Surgical care often spans the fields of general surgery, anesthesia, obstetrics and gynecology, neurosurgery, ophthalmology, oral and maxillofacial surgery, orthopaedic surgery, otolaryngology, plastic surgery, urology, nursing, and rehabilitation.

A global surgeon has been defined as an individual who spends at least a portion of his or her time in person or virtually on activities aimed at improving surgical access in resource-limited settings, which may include participating in the delivery of surgical care, development of surgical capacity, education of local trainees, or enhancement of surgical systems.

Global surgery brings an added layer of complexity to the discussion of surgical ethics. To a certain extent, ethical standards for surgical care are bound by both culture and custom.

The globalization of healthcare, however, has resulted in the transcendence of medical care beyond regional and cultural borders and is associated with new ethical dilemmas. It is essential to understand the history of global surgery and its intimate relationship to surgical ethics.

This article reviews multiple phases of global surgery history and the specific ethical dilemmas that occurred during each phase, specifically regarding the principles of justice, autonomy, beneficence, and nonmaleficence, using a few selected examples.

Origins of Humanitarian Missions of Religious Groups

The history of global surgery begins in the mission work of religious organizations. The medical mission first originated in the 16th century and was developed by Jesuit Christians as part of their work to share their faith across different regions of the world.

Surgical care became an essential component of mission trips in the 18th century as invasive procedures gained legitimacy in the medical community.[1]

In 1834, Peter Parker, MD, established an ophthalmic hospital as part of his mission work in

Editor's note: This article is based on the second-place winning entry in the 2022 History of Surgery Poster Competition, which occurred in conjunction with Clinical Congress. An article featuring the first-place entry appeared in the March issue of the *Bulletin.*

Canton (now known as Guangzhou), China. There, he performed ophthalmic surgery, tumor excisions, lithotomies of the urinary tract, and trauma surgery.

In this context, Dr. Parker became an integral feature of the local community and took on Chinese pupils. Additionally, he founded the Medical Missionary Society in China that aimed to spread Western medicine and introduce Christianity to the region.[2]

Initially, these efforts were met with interest given the outcomes-oriented approach introduced by Western medicine.

However, tensions eventually developed as mission work became perceived as an insidious tool of imperialistic expansion when some of the public health interventions exclusively targeted disease processes that affected laborers' productivity.[3] This resulted in ethical challenges centered around the principles of autonomy and justice.

Specifically, violations of autonomy included:

- Suboptimal informed consent given significant linguistic and sociocultural barriers
- Inability of patients to choose care in the context of significant financial difficulties and medical disadvantages
- Pressure placed on patients for religious conversion when receiving medical care

Similarly, in terms of justice, the following dilemmas occurred:

- Introduction of novel surgical techniques in contexts with insufficient perioperative infrastructure
- Prioritization of healthcare that enhanced the workforce and neglected disease processes prioritized by the community
- Division between the local healthcare infrastructure and missionary healthcare system that resulted in systematic instability

Ultimately, there was no resolution to these ethical challenges as two historical revelations resulted in the withdrawal of medical missionaries from resource-limited settings:

- New emphasis on living a compassionate Christian life and a transition away from evangelism
- Conflict escalation in Europe causing mass casualties that required the reallocation of aid to the region[3]

Critical Moments in the Development of Global Surgery Ethics

Present
Active discussions about the ethical incorporation of academic institutions in global surgery are ongoing

2015
44 essential surgeries are established

2011
International rotations are incorporated into general surgery training in the US

2000s
NGOs expand with emphasis on surgical capacity-building, transnational collaborations, and advocacy organizations

1983
Médecins Sans Frontières begins providing surgical care

1980
Halfdan T. Mahler, MD, declares surgery a global health imperative

1969
Interplast is founded, marking the beginning of short-term mission trips

December 10, 1948
United Nations ratifies the Declaration of Human Rights

1920
The League of Nations Health Organization is established

1914–1918
WWI drives rapid development of surgical techniques

1863–1864
The International Committee of the Red Cross and Geneva Convention are established

1834
Peter Parker, MD, incorporates surgical care in mission work

18th c.
Development of surgical ethics

16th c.
Jesuit mission trips begin

World War I (WWI), which was characterized by large-scale warfare that crossed multiple sociopolitical regions, obviated the need for neutral medical entities to provide medical care during times of conflict. These neutral entities were intended to provide just and equitable care during eras of political strife.

This need led to the rise of secular organizations that provide medical care in resource-limited settings. It should be noted that faith-based organizations continue to have a presence in the global surgery community (e.g., Islamic Medical Association of North America, Pan-African Academy of Christian Surgeons).

Global Health Efforts Sponsored by Secular Organizations

The modern definition of humanitarian aid, which consists of the neutral provision of aid to those in immediate danger, arose in the 19th and 20th centuries.[4]

Secular organizations that provided surgical care subsequently developed in the 19th century, in part as a response to the geopolitical climate of the time that was characterized by significant conflict affecting multiple countries and regions.

These bodies included the International Committee of the Red Cross (ICRC), which was founded in 1863. The ICRC championed the first Geneva Convention in 1864, which defined the ethical parameters for the provision of medical care during conflict.[5]

Along with concepts like medical neutrality, the Geneva Convention introduced the concept of medical care as an apolitical service that must cross borders regardless of conflict or political tension.

WWI resulted from the culmination of European tensions. During this conflict, there were rapid advancements in surgical and anesthetic care. Laparotomies for penetrating abdominal injuries, surgical repair of fractures, craniotomies for intracranial hemorrhage, pedicled flap creation for facial injuries, and amputations for mangled extremities all became standard practice.[6] The acceptance of these procedures was coupled with more targeted antibiotic use, wound debridement, and wound care.[6]

The massive number of casualties and significant disability among surviving soldiers led to the Treaty of Versailles, which outlined the need to assist recovering populations until their infrastructure was reestablished. The League of Nations Health Organization, later known as the World Health Organization (WHO), was established in 1920. This organization went on to direct global healthcare priorities and public health interventions.

In 1948, the United Nations (UN) ratified the Universal Declaration of Human Rights, and for the first time, established a precedent for intervention during both civil and international conflict.[7]

From the early 20th century, when medicine became

a major feature of international collaboration, the focus was on establishing foundational ethical terms for engagement of healthcare workers, governments, and nongovernmental organizations (NGOs).

This era introduced the ethical principle of beneficence to global surgery. Specifically, it presented the concepts of:

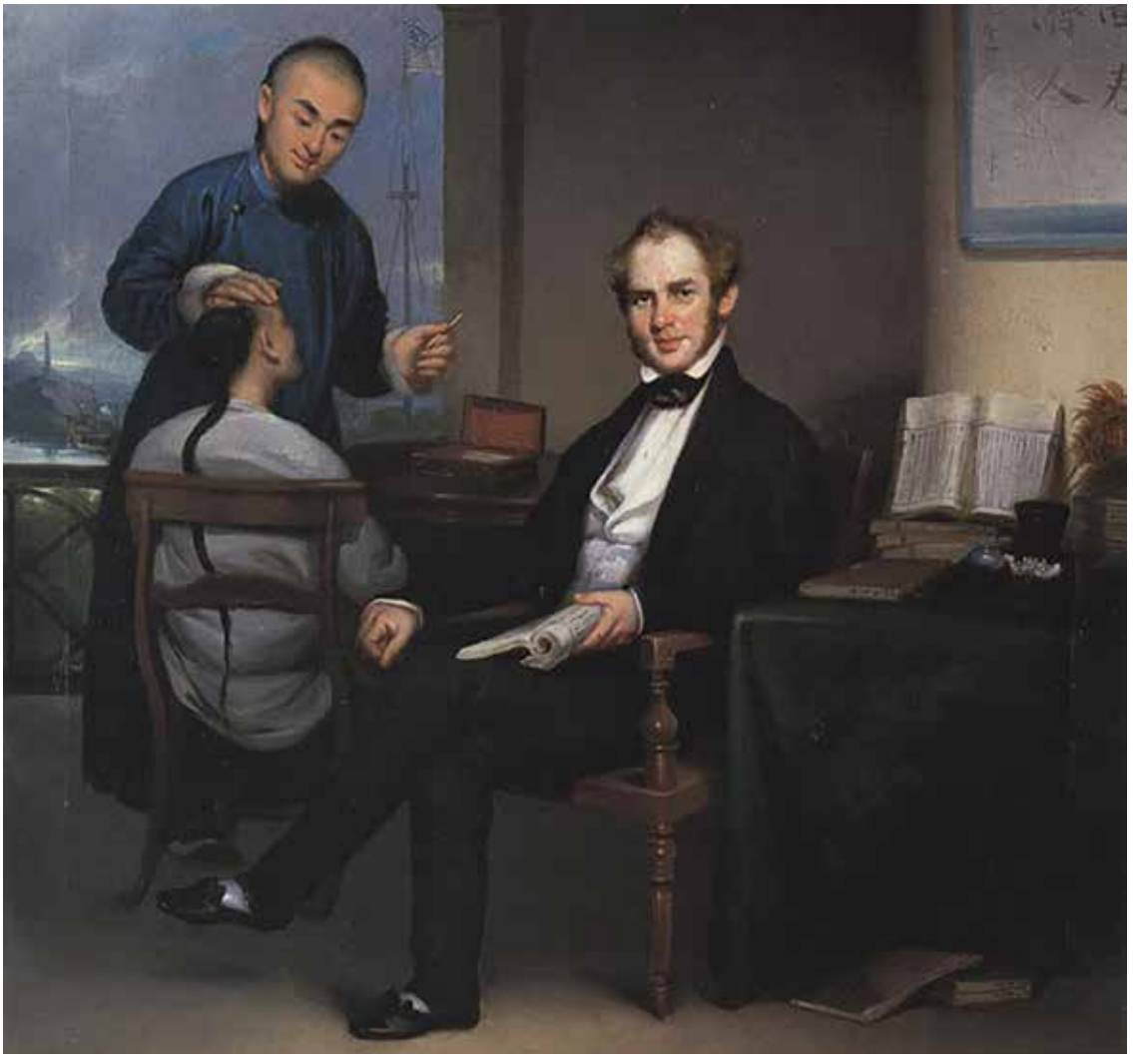
- Surgical healthcare as a human right
- Prioritization of care over political conflict
- Need for ethical guidelines when employing novel surgical techniques on marginalized population
- Importance of investing and establishing surgical infrastructure to manage morbidity in a post-conflict era

Surgery-Specific Global Health Organizations

The period after World War II saw a significant blossoming in the number of NGOs with healthcare-based missions.

To provide an ethical framework for these organizations, the UN Code of Conduct was created. This document outlined the essential principles of humanity, neutrality, impartiality, and independence that must be observed by NGOs when providing medical care across borders.[4] These efforts laid the foundation for the development of surgery-specific NGOs in the late 20th century.

Founded in 1969, Interplast was one of the first surgical NGOs and focused on the provision of cleft lip and palate care.



Opposite:
John Gregory (left) and Thomas Percival were ethicists and thought leaders who helped shape surgical ethics in the 18th century. (Portrait of John Gregory by G. Chalmers)

This page:
Dr. Peter Parker was the first full-time Protestant missionary to China and opened the Ophthalmic Hospital in Canton. (Painting by Lam Qua)

A tubed pedicle flap was used for reconstruction of facial injuries. (Courtesy of *Military Medicine*)

Interplast was instrumental in shaping the history of global surgery as it helped establish the "mission trip" paradigm for surgical NGOs. The organization sent surgeons from high-resource settings to resource-limited locations to perform cleft lip and cleft palate repairs for a predetermined week or on a month-long basis.

Similarly, Médecins Sans Frontières (MSF), which provides medical care in regions affected by conflict or disaster, started to provide surgical work in 1983. Often surgeons associated with MSF were deployed to regions in crisis to provide interim care in emergent settings until the healthcare infrastructure of that region was reestablished.

Additionally, credibility was given to the concept of global surgery efforts in 1980 when the director of the WHO, Halfdan T. Mahler, MD, urged the global health community to prioritize access to surgical care.

Subsequent research led to the gradual determination of global surgery efforts as financially feasible investments that have a significant impact on the health of a local population and improve disability-adjusted life years.[8]

With this information, the number of surgical NGOs continued to increase and, in 2016, there were 403 surgical NGOs operating in 139 countries.[9] Concerns then were presented about the paradigm of care provided through surgical NGOs given the "mission trip" structure that was most often used in these programs.[9]

The ethics of short, service-based surgical trips were re-examined as longitudinal patterns were noticed. The ethical concerns raised about this structure of global surgery efforts included:

- An emphasis on the performance of cases without the appropriate postoperative plan may result in harm to the patient population.
- The expectation for surgeons to perform procedures not typically associated with their specialty may result in suboptimal operations.
- The inclusion of trainees in service-based trips may interfere with education of local students and residents as well as encourage them to attempt procedures outside their level of expertise.
- The absence of local provider and community engagement may result in agendas dictated

The institutionalization of global surgery consisted of multiple, simultaneous efforts to incorporate global surgery activities into medical training and research.

by interests of visiting teams, missed opportunities to address critical health needs, and diversion of surgical resources from local providers to visiting teams.

- A lack of transparent financing may result in the misdirection of funding, unintended competition with local pharmacies and medical suppliers, and dead aid.
- An unfamiliarity with local languages and customs could create cultural misunderstandings that threaten partnerships and stagnate surgical efforts on a national scale.
- Performing complex surgical interventions within infrastructures that are not appropriate settings may hinder the management of subsequent complications. At their infancy, these organizations induced questions regarding the ethics of itinerant surgery.

In response to these ethical challenges, many surgical NGOs expanded their efforts in the early 2000s to include investment in surgical infrastructure, development of surgical capacity, support of local surgical workforces, and enhancement of surgical education structures.

Additionally, NGOs began to form that focused solely on surgical capacity building. The restructuring of global surgery NGOs was coupled with the development of global surgery advocacy groups and transnational collaborations. These organizations created a new emphasis on tracking surgical outcomes in resource-limited settings, enhancement of local educational paradigms, and development of local research infrastructure—all of which facilitated a natural transition to the academicization of global surgery.

Academic Institutions and the Impact on Ethics of Global Surgery Efforts

Since the early 2000s, academic medical institutions have attempted to formalize the field of global surgery through the creation of academic global surgery societies, centers for global surgery, global surgery research institutions, bidirectional academic partnerships, global surgery undergraduate and graduate medical education training programs, and global surgery research fellowships.

Left:
The staff of the League of Nations Health Organization gathers in the late 1920s. (Courtesy of United Nations Archives at Geneva)

Right:
Dr. Halfdan Mahler was director of the World Health Organization from 1973 to 1988.

These efforts manifested in increased publications on global surgery, the inclusion of cases performed in resource-limited settings in the surgical academic promotion paradigm, and the movement to create international surgical accreditation systems.

The institutionalization of global surgery consisted of multiple, simultaneous efforts to incorporate global surgery activities into medical training and research.

In its initial form, modeling the surgery-specific mission trips, trainees and physicians participated in weeklong to monthlong medical trips that exposed them to global health efforts. In 2011, these exposures were formalized in surgery with the Accreditation Council for Graduate Medical Education's (ACGME) support of incorporating international surgical rotations into general surgery training. This was a critical event as it stimulated the development of bidirectional partnerships between academic medical institutions.

In 2015, the World Bank published *Essential Surgery,* which includes a list of 44 surgical procedures that address substantial needs, are cost-effective, and are feasible to implement in low- and middle-income countries. This list of surgeries—from the fields of general surgery, obstetrics, ophthalmology, orthopaedics, oral and maxillofacial surgery, otolaryngology, neurosurgery, and plastic surgery—subsequently has served as the basis for the technical training of global surgeons.

The combination of all these actions described here helped establish long-term partnerships and enhanced global surgery research fellowships and clinical training programs.

During this time, seminal articles were published that discussed the cost-effectiveness of investing in surgical infrastructure,[8,10] the need for global-surgery-specific training programs, and the significant trainee and physician interest in pursuing global surgery efforts. This research further cemented the position of global surgery in academic medicine.

However, these developments resulted in multiple concerns about the ethics of global surgery on the programmatic, institutional, and international levels. Specifically, in certain lenses, academic global surgery may be perceived as a form of neocolonialism.

The parallels have included:

- Data mining from resource-limited settings as a form of resource extraction and depletion
- Presence of academic global surgeons creating mistrust and undermining of local healthcare infrastructures
- Use of global surgery partnerships to enhance the optics of academic institutions in resource-limited settings and facilitate programmatic expansion
- Deployment of trainees from high-income settings to resource-limited settings to gain experience, which may result in the disruption of the local healthcare biome
- Investment in pathologies that are a potential threat to high-income countries (e.g., Ebola, tuberculosis) instead of endemic surgical pathologies that enhance the health of the local population[11]

To address these challenges, academic medical institutions have lobbied for special training permits to allow residents or students from resource-limited settings to meaningfully participate in surgical rotations in high-income countries.

Additionally, there are active discussions on the international level about creating more equitable research paradigms based in resource-limited settings. These conversations have included parameters for authorship and the importance of voices from low- and middle-income countries, grant and scholarship opportunities specific to individuals who reside in resource-limited settings, and hosting of scientific conferences, academic meetings, and advocacy summits in low- and middle-income countries.[12]

Moreover, there is increasing emphasis on the creation of global surgery efforts through equitable partnerships that are community-centered, needs-based, and collaborative with low- and middle-income countries.

Impending Ethical Dilemmas of Global Surgery

Global surgery is a dynamic field that continues to explore uncharted territory for the management of surgical pathologies in resource-limited settings and the development of surgical infrastructure (human resources, surgical care delivery systems, and so on).

As global surgery continues to evolve, clinicians will encounter new and nuanced ethical dilemmas.

The ecology of global surgery consists of faith-based organizations, surgical NGOs, surgical health policy groups, and academic global surgery programs. Each of these entities has contributed to the rapid enhancement of surgical accessibility.

The gradual removal of barriers to global surgery efforts will stir ethical challenges surrounding the development of international or regional surgical accreditation systems, the creation of equitable and comprehensive global surgery training programs, and the establishment of an international structure for ethical support. There are tremendous strides toward ensuring ethical global surgery activities by all key stakeholders.

However, the majority of surgical NGOs, academic global surgery societies, and global surgery centers are not based in resource-limited settings.[9] Perhaps one of the most critical ethical tasks for global surgeons is creating room for the perspective of individuals who provide surgical care in resource-limited settings. These voices must be included in the historical recording and assessment of global surgery.

As global surgery continues to evolve, clinicians will encounter new and nuanced ethical dilemmas. It is essential for practitioners to address these challenges in a conscientious, circumspect, and collaborative fashion to provide meaningful contribution to the field.

An intimate understanding of global surgery history and the ethical dilemmas presented during critical time periods is essential to advancing the ethical discourse in the field. Surgeons are, for better or worse, inextricably tied to the past.

Acknowledgment

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Dr. Michael Sarap

General Surgery Is Relevant and Rewarding

Michael D. Sarap, MD, FACS

VIKTOR FRANKL, IN HIS CLASSIC BOOK *Man's Search for Meaning,* suggests that true happiness ensues from living a life of meaning. He defined a meaningful life as one spent caring for others and being involved in worthwhile causes, endeavors, and experiences.

Recently, surgeons participating in the ACS Communities—a members-only, online community of the College—discussed the topic of "general surgery." One member describes a general surgeon as "an internist that can operate" with the ability to treat maladies of "the skin and its contents."

Several posts, especially from more experienced and retired members of the ACS Communities, described extensive and broad-based training that facilitated practices with full ranges of general surgery, vascular, endocrine, and even thoracic cases. Most of these surgeons look back fondly on their experiences and choice of general surgery as a career.

Postings from younger practicing surgeons frequently call out issues that relate to decreasing reimbursement, call and administrative burdens, limitation of their scope of practice due to increases in the specialization of surgery, and disrespect from other surgical specialists and hospital leadership.

While some of these surgeons expressed that they regret their career choice, I suspect that the majority of general surgeons are frustrated with the current state of healthcare but remain satisfied professionally as general surgeons in their communities.

Unfortunately, several surgeons reported having to leave their facilities and communities due to financial, administrative, or political barriers. A good friend and colleague said his small rural hospital recently eliminated all surgical services and fired half of their staff to reap the short-term financial benefits of a new federal designation.

I consider myself fortunate to be connected to both eras of surgeons. I still very much enjoy being a general surgeon. I felt the same in 1987, as I finished my training at Marshall University in Huntington, WV, as I do now after nearly 4 decades of private group practice in a small community in rural Ohio.

Many aspects of my personal and professional life have not changed. I have been married to the same woman for 41 years, live on 8.5 acres that include a fishing pond, and drive a 10-year-old Chevy pickup.

Most of those years I have shared 1-in-3 call with two partners, and I am now the senior partner in my small group.

However, almost everything else about being a general surgeon has changed and evolved since I finished training.

New Knowledge, Technology

To maintain relevance and survive as a general surgeon, we embrace constant growth and adaptation to new knowledge and new technology. I did not perform any laparoscopy during my training, yet I rapidly learned to perform lap cholecystectomies early in the evolution of the technique.

I have continued the process of converting many of our routine open surgical procedures, including hernias, appendectomies, bowel cases, and reflux procedures, to minimally invasive techniques.

My group performs all of the endoscopies for a wide area of the region. Over the years, we have expanded our repertoire, adding endoscopic retrograde cholangiopancreatography (ERCP), stents, manometry, capsule endoscopy, and other advanced procedures. Learning and performing ERCP and, more recently, lap common bile duct exploration was a direct result of the evolution to lap gallbladder removal surgery and the need to manage bile duct stones and bile leaks without requiring patients to go outside of our community for additional care. These new techniques and procedures we added are a response to the needs of our patients and our community.

A Broad and Varied Practice

Much of the enjoyment and satisfaction related to general surgery is a direct result of the ability to perform a broad range of procedures on the entire body.

I started my practice doing the entire gamut of the usual general surgical procedures and endoscopy, but also carotid, aortic, vascular access, and complex peripheral bypass procedures; pediatric hernias and pyloromyotomies; pacemakers and some other thoracic procedures; thyroid surgery; hydroceles and orchiectomies; and whatever else needed to be done.

Like other surgeons, my practice has narrowed in some areas due to the advance of technology and the increase in the availability of surgical specialists. Endovascular techniques have replaced many of the open vascular procedures previously performed by general surgeons. Limitations of support staff, including anesthesia and nursing, have decreased the number of pediatric cases performed in smaller communities.

The beauty of general surgery is that each individual surgeon can have as broad and varied a practice as their training, experience, support system, and facility will allow.

On one memorable busy surgery day a number of years ago, my case list included an infant with pyloric stenosis and the implantation of a pacemaker in a 100-year-old farmer. No other specialty prepares a surgeon for such a broad range of procedures that help patients at all stages of their lives.

No other specialty prepares a surgeon for such a broad range of procedures that help patients at all stages of their lives.

Aided by his first assistant, Dr. Sarap works on gaining access for a laparoscopic procedure.

We [general surgeons] are the safety net of the surgical world.

Relationships and Leadership

Longstanding relationships with patients and their families are another rewarding benefit of a general surgery community practice.

To correct some serious surgical malady or save a life after a trauma and then see that person leading a long, healthy life in the same community is a sure burnout prevention measure.

I have had 20- and 30-year-old patients show me their pyloromyotomy or appendectomy incisions from when I treated them as infants and children. In fact, I just recently performed a mastectomy on a patient; I had performed a curative mastectomy on her other side 22 years ago.

Another very memorable patient required a laparotomy and bilateral thoracotomies to repair a torn thoracic aorta, ruptured diaphragm, and pelvic fracture in the middle of an epic blizzard without any ability to transfer to a higher level of care. After she recovered, she became pregnant and delivered a beautiful baby girl who now is expecting my patient's second grandchild.

Our actions frequently ripple through multiple generations.

Every general surgeon has stories about certain cases, patients, or families that we never forget.

We once repaired a ruptured abdominal aneurysm on a retired navy admiral who collapsed in a local motel while traveling through the area. His entire family, including kids and grandkids, traveled to our town to stay with him for 2 weeks during his recovery. I let the grandkids use my fishing gear and kayak to keep them occupied.

Several years later, a grandson traveling through the area dropped off a heartwarming note at the hospital thanking us for giving his grandfather the gift of several more years of a happy and fruitful life. These kinds of experiences are priceless and serve to counterbalance the ill effects of ever-increasing nonclinical burdens in our professional lives.

General surgeons also are local leaders in their facilities and communities, frequently leading teams that focus on improving the quality of care.

At the heart of every accredited ACS Commission on Cancer or ACS Committee on Trauma center are general surgeons giving their time and expertise. They staff wound centers, provide community cancer screenings, get involved with local youth programs, help raise funds for community projects, serve as mentors for students and residents, and involve themselves in state and national surgical organizations such as the ACS.

Safety Net of the Surgical World

The economic worth of a general surgeon to a hospital is between $1 million and $2.7 million per year. As much as 40% of a small hospital operating revenue is based on revenues generated by general surgeons. A general surgeon generates $4.4 million in payroll and can create dozens of jobs in a community.

In almost every hospital, it is the general surgeons who, much like the Marines or MacGyver, rush toward every disaster, using their unique skills, courage, and experience to help salvage a bad situation.

Every experienced ER, ICU, or surgical nurse knows to call general surgery when a patient is crashing and needs something done in a hurry. Those frontline providers truly understand the value of general surgeons even as hospital administrators downplay our importance as compared to the specialists.

Even with recent conversations to the contrary, general surgeons are incredibly valuable and indispensable, despite the rapid rise of surgical specialists of every variety, shape, and form.

Frequently we are the final common pathway for the patient who needs surgical help but cannot find anyone to care for them. We are the safety net of the surgical world.

General surgeons still do more than 50% of cancer surgery in the US. There still is an inverse relationship between mortality from a motor vehicle accident and whether there is a surgeon practicing in the county where the accident occurs—no surgeon typically means a higher death rate.

Declining in Numbers

Decades ago, Josef E. Fischer, MD, FACS, past-Chair of the ACS Board of Regents, stated that the decline in recruitment of new surgeons to rural surgery was the "canary in the coalmine" for general surgery. Dr. Fischer's prediction is reinforced by ACS President E. Christopher Ellison, MD, FACS, and others who have predicted a workforce shortage of 26,000 general surgeons by the year 2050.

Several small hospitals already are closing in large part due to the loss of surgical revenue from the inability to replace a retiring general surgeon. There have been multiple discussions, presentations, and articles addressing the causes related to the declining numbers of new trainees choosing general surgery as a career.

Many training programs now offer curriculum and tracks that focus on more broad-based training suitable for fostering success in a rural or small community setting or in a global surgery position.

The value of general surgeons was starkly apparent during the COVID-19 pandemic.

For months at a time, surgeons forfeited their elective surgical cases to become intensivists and pulmonologists. They were the go-to resource to perform tracheostomies, chest tubes, intubations, and other emergency surgical procedures on critically ill COVID patients. These surgeons, who often are in a higher at-risk age group, did so knowing the peril to their own health and that of their families.

Future of General Surgery

I believe that most surgeons, and especially general surgeons, derive not just financial but, more importantly, psychological and spiritual benefits from doing what we do every day. However, many do not realize these benefits without taking time for self-reflection about the lives we live.

General surgeons remember acutely those patients we were unable to save—it is the cemetery we carry on our backs. To lessen that burden, we need to remember the fulfilling moments of those spectacular cases that changed the lives of those we treated—this is the legacy of a general surgeon.

My hope for the future is that somehow all the nonclinical barriers and burdens will be cleared from our healthcare system, and once again general surgeons will be able to do what we do best—care for our patients with the very best of our abilities.

I, for one, will be forever thankful that I chose this path in my professional life, and I am so appreciative of those mentors and teachers who bestowed upon me the skills, knowledge, strength, confidence, and courage to be a general surgeon.

To every student and young surgical resident who is pondering their future—I encourage you to talk with a community general surgeon or, even better, spend some valuable time with one on the job before deciding your ultimate career path. B

Dr. Sarap guides a resident surgeon through a laparoscopic hernia repair.

Access the multimedia extras at *facs.org/bulletin*

Disclaimer

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

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Experts Answer FAQs about CPT Coding and New Hernia Repair Codes

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Correct Current Procedural Terminology (CPT®)* coding is an important area for surgical practice improvement. However, annual changes in CPT codes and new surgical techniques can cause coding confusion.

THIS REPORT PROVIDES ANSWERS to several frequently asked questions (FAQs) and the correct coding responses, including coding guidance for the new 2023 anterior abdominal hernia repair codes.

A surgeon performs open cholecystotomy, places a drain, and takes a biopsy of the gallbladder wall. Can the biopsy be separately reported?

No, the biopsy of the gallbladder wall is not separately reportable. The correct code to report for this operation is 47480, *Cholecystotomy or cholecystostomy, open, with exploration, drainage, or removal of calculus (separate procedure).*

What is the correct code to report an appendectomy with partial cecectomy and no anastomosis?

This operation would be reported with code 44950, *Appendectomy.*

If a surgeon repairs both an umbilical hernia and diastasis recti, can the diastasis measurement be included when choosing a code for reporting the hernia repair?

Diastasis recti (separation of abdominal muscles) is not a hernia defect and cannot be included in the measurement of a hernia sac for reporting a hernia repair code.

How do I report the repair of one 3 cm initial incisional hernia and one 3 cm recurrent incisional hernia that are separated by 2 cm of intact fascia when both hernias are reducible?

This hernia repair would be performed as a single unit with a measurement to include both defects and the bridge of intact fascia (i.e., 8 cm). The entire procedure would be treated as recurrent and reported with code 49615, *Repair of anterior*

Example 1
Patient with 2 cm reducible umbilical hernia

- **Same-day surgery**
- **Two office visits: Suture removal and visit at 6 weeks**

Year	CPT Code and Short Descriptor	Procedure Work RVU	Visit Work RVU	Total Work RVU
2022	49585 Repair umbilical hernia, reducible	6.59	N/A	6.59
2023	49591 Repair initial hernia, <3 cm, reducible	5.96	99213 = 1.30 99212 = 0.70	7.96

Example 2
Patient with 8 cm reducible incisional hernia previously repaired with mesh that has failed

- **Operation includes hernia repair and removal and placement of mesh**
- **Patient stays overnight**
- **Three office visits: Suture/staple removal and visits at 6 weeks and 12 weeks**

Year	CPT Code and Short Descriptor	Procedure Work RVU	Visit Work RVU	Total Work RVU
2022	49560 Open repair incisional hernia, reducible	11.92	N/A	16.80
	+49568 Implantation of mesh	4.88		
	49654 Laparoscopic repair incisional hernia, reducible	13.76	N/A	13.76
2023	49615 Repair recurrent hernia, 3–10 cm, reducible	11.46	99238 = 1.50 99213 = 1.30	19.41
	+49623 Removal of total or near total non-infected mesh	3.75	99212 = 0.70 99212 = 0.70	

Example 3

Patient with incarcerated midline Swiss cheese incisional hernias, total craniocaudal length of all defects is 12 cm

- **Operation includes hernia repair and placement of mesh and drain**
- **Patient goes home on postop day 2 with drain in place (2 midnights)**
- **Four office visits: Removal of drain, removal or sutures/staples, and visits at 6 and 12 weeks**

Year	CPT Code and Short Descriptor	Procedure Work RVU	Visit Work RVU	Total Work RVU
2022	49561 Open repair initial incisional hernia, incarcerated +49568 Implantation of mesh	15.38 4.88	N/A	20.26
	49655 Laparoscopic repair incisional hernia, incarcerated	16.84	N/A	16.84
2023	49596 Repair initial hernia, >10 cm, incarcerated	18.67	99231 = 1.00 99238 = 1.50 99213 = 1.30 99213 = 1.30 99212 = 0.70 99212 = 0.70	25.17

Example 4

Obese diabetic patient with an incarcerated 14 cm incisional hernia previously repaired with mesh that has failed

- **Operation includes hernia repair, removal and placement of mesh, and component separation**
- **Patient goes home on postop day 3 with drain in place (3 midnights)**
- **Four office visits: Removal or sutures/staples at two visits and visits at 6 weeks and 12 weeks**

Year	CPT Code and Short Descriptor	Procedure Work RVU	Visit Work RVU	Total Work RVU
2022	15734 Component separation 49566 Open repair recurrent incisional hernia, incarcerated +49568 Implantation of mesh	23.00 7.77† 4.88	N/A	35.65
2023	15734 Component separation 49618 Repair recurrent hernia, >10 cm, incarcerated +49623 Removal of total or near total non-infected mesh	23.00 11.34† 3.75	N/A	38.12

†Multiple procedure payment reduction of 50%

abdominal hernia(s) (i.e., epigastric, incisional, ventral, umbilical, spigelian), any approach (i.e., open, laparoscopic, robotic), recurrent, including implantation of mesh or other prosthesis when performed, total length of defect(s); 3 cm to 10 cm, reducible.

What if one 3 cm hernia is initial/incarcerated and the second 3 cm hernia is recurrent/reducible, separated by 2 cm of intact fascia?

This hernia repair would be performed as a single unit with a measurement to include both defects and the bridge of intact fascia (i.e., 8 cm). The entire procedure would be considered recurrent and strangulated and reported with code 49616, *Repair of anterior abdominal hernia(s) (i.e., epigastric, incisional, ventral, umbilical, spigelian), any approach (i.e., open, laparoscopic, robotic), recurrent, including implantation of mesh or other prosthesis when performed, total length of defect(s); 3 cm to 10 cm, incarcerated or strangulated***.**

The rationale for this reporting guidance is that repair of these defects will typically include placement of a single piece of mesh. The higher level of repair (recurrent versus initial or incarcerated versus reducible) would dominate the work.

Why did the work relative value units (work RVUs) decrease significantly in 2023 for anterior abdominal hernia repair procedures?

The 2022 CPT codes for anterior abdominal hernia repair had a 90-day global period, and there were separate codes for reporting open and laparoscopic repair. The previous codeset had no option to discriminate for the size of the hernia to be repaired. The 2022 codes were deleted and replaced with new "any method" codes in 2023 that are based on hernia size and that have a 0-day global period.

The work RVUs for the new codes are not reduced, but rather, account only for the work on day of surgery. Postoperative care now is separately billable.

Therefore, it is important to verify the global period for the hernia repair code and to separately report all procedures and visits performed after the day of surgery. However, if these new 0-day global hernia repair codes are reported with another code that has a 90-day global period, then the entire operation is considered to have a 90-day global period.

Examples of changes in codes reported and work RVUs for 2022 versus 2023 are provided on pages 43–45.

Learn More

The ACS collaborates with KarenZupko & Associates (KZA) on courses that provide the tools necessary to increase revenue and decrease compliance risk. These courses are an opportunity to sharpen your coding skills. You also will be provided online access to the KZA alumni website, where you will find additional resources and other FAQs about correct coding. Information about the courses can be accessed at *karenzupko.com/general-surgery*.

In addition, as part of the College'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.*

Dr. Megan McNally *is a surgical oncologist at Saint Luke's Health System in Kansas City, MO, and assistant clinical professor in the Department of Surgery at the University of Missouri-Kansas City School of Medicine. She also is a member of the ACS General Surgery Coding and Reimbursement Committee and ACS advisor to the AMA CPT Editorial Panel.*

Example 5

Patient with 4 cm reducible midline incisional hernia from a prior laparotomy for a colectomy and 4 cm irreducible parastomal hernia that does not require moving the ostomy location

- **Operation includes repair of two distinct hernias and placement of mesh**
- **Patient goes home on postop day 2 with drain in place (2 midnights)**
- **Four office visits: Removal of drain, removal or sutures/staples, and visits at 6 weeks and 12 weeks**

Year	CPT Code and Short Descriptor	Procedure Work RVU	Visit Work RVU	Total Work RVU
2022	49561 Open repair initial incisional hernia, incarcerated 49560 Open repair incisional hernia, reducible +49568 Implantation of mesh	15.38 5.96† 4.88	N/A	26.22
2023	49622 Repair parastomal hernia, incarcerated 49593 Repair initial hernia, 3–10 cm, reducible	17.06 5.13†	99231 = 1.00 99238 = 1.50 99213 = 1.30 99213 = 1.30 99212 = 0.70 99212 = 0.70	28.69

†Multiple procedure payment reduction of 50%

International Abstract(s) of Surgery Inspires Advances in Medical Literature

David E. Clark, MD, FACS

The *International Abstract of Surgery* (after 1946, called the *International Abstracts of Surgery*) was a major monthly supplement to *Surgery, Gynecology & Obstetrics* (*SG&O*) from 1913 until *SG&O* became the *Journal of the American College of Surgeons* in 1994.

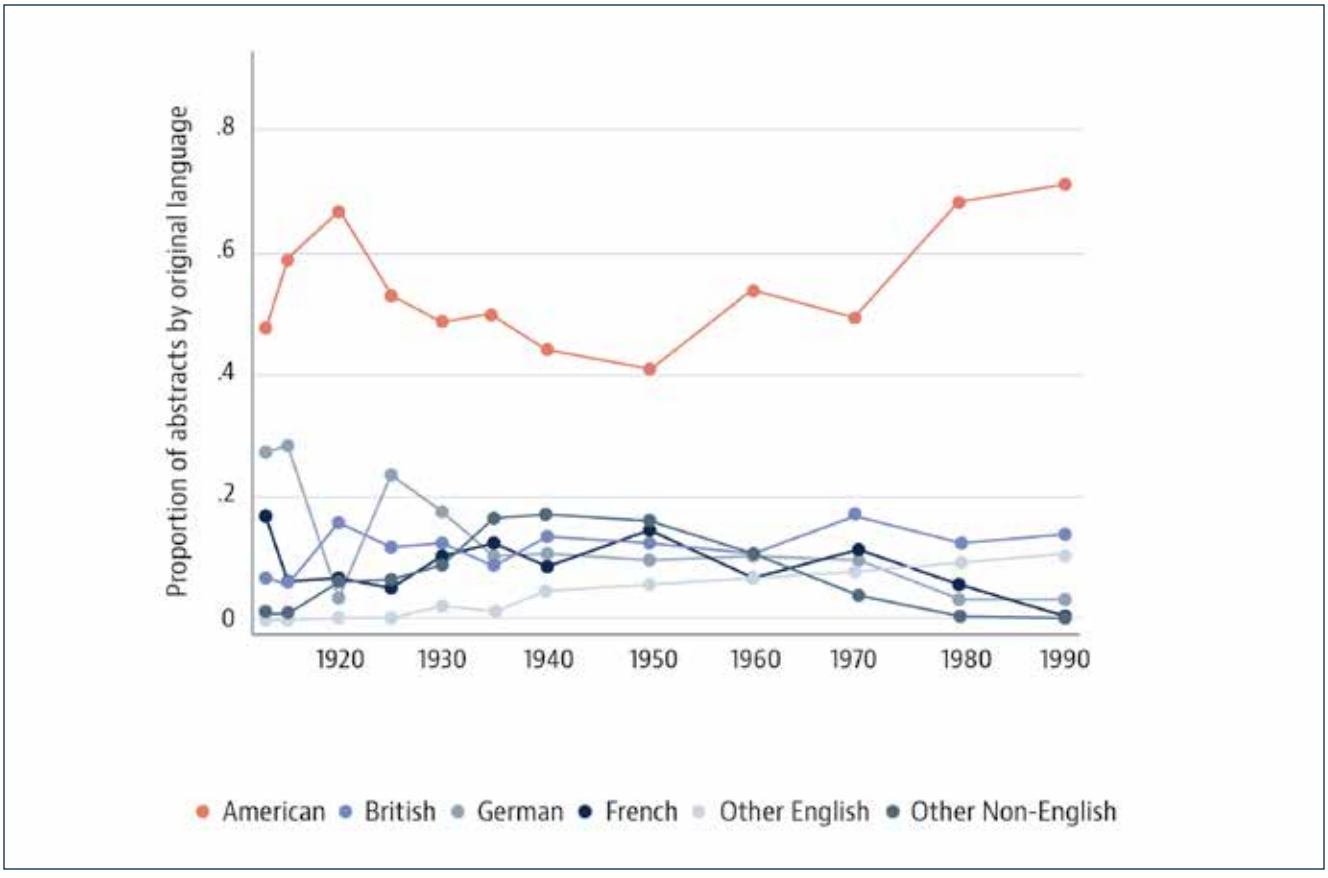

Figure 1. Proportion of abstracts in the *International Abstract(s) of Surgery* by language of original publication for sampled issues in the years shown. English-language publications are separated into North American, British Commonwealth, and others.

THE HISTORY OF the *International Abstract(s)* reflects the extraordinary initiative and business sense of Franklin H. Martin, MD, FACS, the early influence of the Society of Clinical Surgery (SCS), the catastrophic world events of the early 20th century, and the emergence of English as a global scientific language.[1]

Dr. Martin founded *SG&O* in 1905, retaining financial control, and its rapid success enabled him to put his further ideas into practice. The journal underwrote the first Clinical Congress in 1910, and Dr. Martin acknowledged that it had been inspired by the example of SCS visits to centers in Europe and America. He also was willing to collaborate when the SCS proposed adopting *SG&O* as its official journal and/or publishing an "*American Zentralblatt.*"[2]

Zentralblatt was the German term for a regular collection of scientific abstracts translated, if necessary, into the reader's own language. At that time, scientific articles were most frequently written in German, English, or French (in that order), and many American surgeons followed the world literature in German using the *Zentralblatt für Chirurgie*. However, after Dr. Martin reminded the SCS of the "executive work" required to produce such a monthly publication, the SCS lost interest.[2]

Proceeding on his own, Dr. Martin recognized that an "American *Zentralblatt*" (published in English) would require German and French collaborators and convinced a committee of the German Surgical Society to establish a new German-language *Zentralblatt* with which a contractual relationship could be established.

A similar arrangement was made with the French *Journal de Chirurgie*. Dr. Martin obtained a formal motion by the Clinical Congress to "commend and confirm" these agreements and announced in January 1913 that *International Abstract* would be provided to *SG&O* subscribers for the next 3 months at no additional cost.[3]

International Abstract nearly doubled the size of *SG&O*, but readers apparently agreed with Dr. Martin's assessment that it was "one of the most important scientific literary ventures that has been

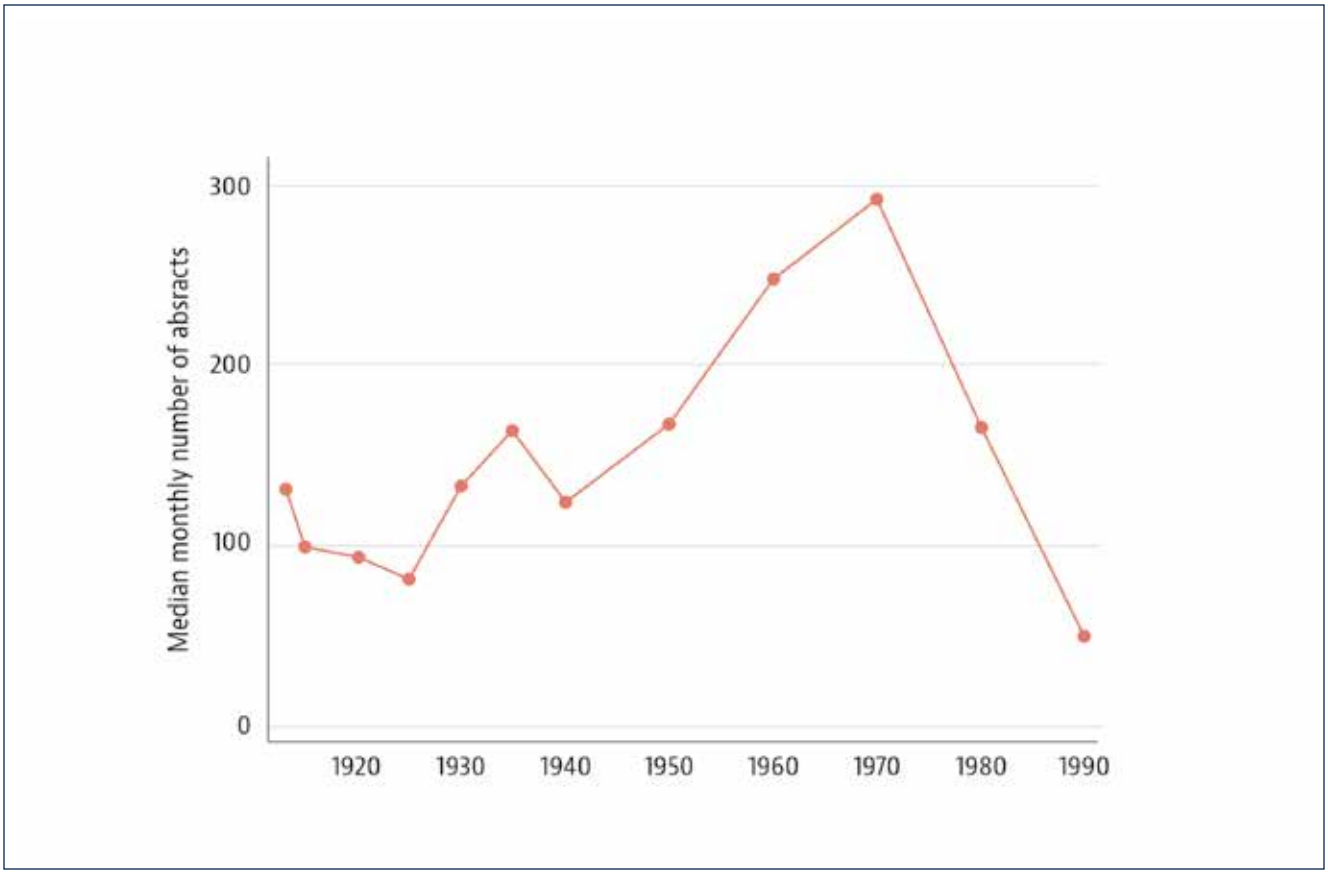

Figure 2. Median number of abstracts included monthly in the *International Abstract(s) of Surgery* for sampled issues in the years shown.

presented in this generation" and were thereafter willing to pay twice as much for a subscription.[4] Dr. Martin could now turn his attention and resources to an even more momentous innovation in 1913—the formation of the American College of Surgeons.

German scientific dominance began to fade after the First World War, reflected by the rising proportion of articles in other languages, especially English (see Figure 1, page 47).[1]

The *International Abstract* continued to grow (see Figure 2, this page) but, after World War II, required more effort due to the volume of literature, increasing specialization, and limited pool of abstractors. "Whereas 25 years ago many surgeons had excellent reading acquaintance with one or more languages besides English," wrote the *International Abstracts* editor in 1955. "Today a bilingual surgeon is a rarity and a trilingual one is found only in the older age group."[5]

By the end of the 20th century, the prevalence of English and the advent of electronic media had made printed abstract collections obsolete. B

Dr. David Clark *is a professor of surgery emeritus at the Tufts University School of Medicine in Boston, MA, and on the courtesy staff at Maine Medical Center in Portland.*

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In Situ Simulation Training on Code Blues May Improve Teamwork, Code Response

Lenworth M. Jacobs, MD, MPH, FACS

WHEN BUFFALO BILLS SAFETY Damar Hamlin collapsed on the field in early January, thousands in attendance and millions more tuning in to *Monday Night Football* watched as emergency personnel rushed to save the young man's life. First responders had to administer CPR and shock Hamlin's heart back into rhythm using a defibrillator after he'd gone into cardiac arrest.

It was a riveting and distressing event that made front page news, highlighting the efforts the emergency personnel took to treat Hamlin on the field and later at the hospital.

Whether on a football field or in the operating room (OR), a cardiac arrest can be a catastrophic event. It is essential to identify the cause, in which body cavity the precipitating event occurred, and the appropriate corrective actions that must be taken.

The surgeon must determine if the cause is an improperly placed endotracheal tube, a malfunctioning endotracheal tube, a tension pneumothorax, a tension mediastinum, an anesthetic gas failure, drug-induced anaphylaxis, an intracranial event, or massive exsanguination. Each of these scenarios requires a different response.

These events may occur once in a decade or once in a career. Simulating this kind of catastrophe and educating the surgeon and team on how to respond appropriately in a controlled environment has real benefits.

A recent study published in *The Joint Commission Journal on Quality and Patient Safety*—"Intraoperative Code Blue: Improving Teamwork and Code Response Through Interprofessional, In Situ Simulation," by Gregory Wu, MD, and coauthors—examined the topic of cardiac arrest, also known as a code blue, for incidents that occur in the OR.

"Although an intraoperative cardiac arrest is uncommon, it can be a catastrophic event that requires special considerations not seen in code blues on nursing units," the study authors wrote.

Code blues can stem from several different factors, and the positioning of the patient can complicate matters for the healthcare team. This makes it imperative that the OR team is trained on proper response measures—in both technical and nontechnical skills, as well as the process needed to provide the best resuscitation measures for the patient.

The study authors argued that in situ simulation—simulation conducted in the work environment, such as a patient care unit as opposed to an

offsite location—has the potential to improve team performance. As part of the study, the authors assessed the effects of in situ simulation on code response, teamwork, communication, and comfort in intraoperative resuscitations.

"Simulation provides the benefit of interprofessional and team-based training, which is important in a perioperative code, when the cumulative performance of the team likely has greater impact than the capabilities of any one individual," according to the authors. "The benefits of simulation in code training also include the use of in situ learning, in which learning can be addressed on the individual, team, unit, and organizational levels."

The study followed a team working in the OR of a community hospital located in New Jersey during a 4-month period in 2021, comprising:

- 21 perioperative nurses
- 7 anesthesiologists
- 7 surgical technologists
- 4 patient care technicians

The group ran through a code blue scenario twice, with technical skills being measured by "time-to-tasks" and nontechnical skills assessed using the Team Emergency Assessment Measure (TEAM) instrument. The team members self-reported comfort in skills prior to the program and again after the simulation training ended. The simulations were recorded and later reviewed for comparison.

The study showed:

- A decrease in time to compressions (by 14 seconds, a 53.5% improvement) and to defibrillation (by 49 seconds) between the two simulations
- Significant improvements in confidence levels of certain CPR-related technical skills
- Statistically significant improvements in TEAM scores in the two teams that performed lowest in the pre-debrief simulation ($p < 0.05$)

The study authors concluded that in the operative setting, "in situ simulation training was associated with improvement in technical skills of individuals and teams, with significantly improved teamwork in teams that required the most training." However, they noted that long-term effects needed additional research.

"In the rare event of an intraoperative code, perioperative individuals and teams need to be equipped with the technical skills, nontechnical skills, and confidence to provide the best resuscitative measures for the patient," the study authors explained. "In the operative setting, where time and space for training are limited, the use of just 1 hour of in situ simulation training has been shown to improve technical skills of individuals and teams, with significantly improved teamwork in teams that required the most training."

> "In the operative setting, where time and space for training are limited, the use of just 1 hour of in situ simulation training has been shown to improve technical skills of individuals and teams."
>
> —Dr. Gregory Wu and coauthors

The authors found "simulation also provided insight into the status of code blue arrests, which allowed us to make local and systemwide changes in policies, OR environment, and code culture to overall improve the quality of intraoperative codes and increase patient safety."

Frequent nontechnical, skill-specific simulation training with a formal debriefing for retention and the continued maintenance of skills will benefit the OR team when faced with an intraoperative cardiac arrest. B

Disclaimer

The thoughts and opinions expressed in this article are solely those of Dr. Jacobs and do not necessarily reflect those of The Joint Commission or the ACS.

Dr. Lenworth Jacobs *is a professor of surgery and professor of traumatology and emergency medicine at the University of Connecticut in Farmington and director of the Trauma Institute at Hartford Hospital, CT. He is Medical Director of the ACS STOP THE BLEED® program.*

ACS Cancer Conference Focuses on Teamwork, Understanding the Patient Journey

Sheila Lai

Photos and updates from the 2023 ACS Cancer Conference are available online at *facs.org/coc*.

United under the theme, "Where Cancer Care Comes Together," more than 300 surgeons, healthcare team members, and administrative professionals gathered in person for the first time since 2019 at this year's ACS Cancer Conference to reflect on the meaning of cancer care as the country emerges from the pandemic.

HELD AT THE HILTON ATLANTA, March 1–4, the conference provided attendees with updates from all ACS Cancer Programs, including the Commission on Cancer (CoC), National Accreditation Program for Breast Centers (NAPBC), National Accreditation Program for Rectal Cancer (NAPRC), National Cancer Database, Cancer Research Program (CRP), Cancer Surgery Standards Program, and the American Joint Committee on Cancer (AJCC).

Throughout the conference, speakers and panelists put a spotlight on teamwork, empathy, and understanding the complexities of the patient journey—from diagnosis to survivorship.

"Our theme this year, 'Where Cancer Care Comes Together,' reflects the changing shift in cancer care that we've seen emerge in the past decade. Our goal was to take American College of Surgeons' standards, which are traditionally reflected in a printed document, and breathe life into them," said Heidi Nelson, MD, FACS, Medical Director of the ACS Cancer Programs. "We wanted to allow participants to learn from one another and see firsthand how standards can be implemented to improve cancer care across the continuum."

New Patient-Centric Standards for Breast Cancer

The first day of the conference focused on the new NAPBC standards, which were officially released in late February. The new standards represent a paradigm shift to put the patient's journey at the center of the framework.

The conference opened with the passionate voices of Katharine A. Yao, MD, FACS, director of the breast surgical program at NorthShore University HealthSystem in Evanston, IL, and Chair of the NAPBC, and Jill R. Dietz, MD, MHCM, FACS, Vice-Chair of the NAPBC, who presented on the significance of rewriting the standards from the patient perspective.

"The new standards are a way to refresh," Dr. Dietz said. "It's a way for both centers and site reviewers to refocus on the patient. Instead of providing instructions for each discipline and care team, we switched the focus to the patient and what they need at each point of their journey."

Opposite: Hundreds of surgeons, healthcare team members, and administrative professionals gathered in person for the first time since 2019 at this year's ACS Cancer Conference in Atlanta, GA.

Left:
Dr. Katharine Yao, Chair of the NAPBC, welcomes attendees to the conference and provides an overview of the new NAPBC standards.

Right:
Dr. Jane Meisel, NAPBC board member, discusses the patient's journey through cancer care with Dr. Jennifer Fay Kawwass, a reproductive endocrinologist and breast cancer survivor.

Many of the significant changes in the new standards are reflected in Chapter 5: Patient Care: Expectations and Protocols (see sidebar, page 55).

"Each patient has different needs, and we need to be thinking about that," Dr. Dietz added. "We hope that these standards help centers provide high-value patient care that is feasible, educational, and not punitive."

To illustrate the unique challenges a patient faces before, during, and after cancer treatment, Jane L. Meisel, MD, an NAPBC board member and associate professor of hematology and medical oncology at Emory University School of Medicine in Atlanta, GA, sat down with Jennifer Fay Kawwass, MD, a reproductive endocrinologist at Emory.

Dr. Kawwass was diagnosed with breast cancer last fall after her first screening mammogram at age 40 detected an abnormality; a biopsy later confirmed cancer. In her talk with Dr. Meisel, she articulated the many challenges she faced as a physician-turned-patient, even as a medical professional with experience guiding patients through the uncertainty of fertility treatments.

For Dr. Kawwass, finding care team members who were willing to have open conversations about balancing treatment options and quality of life helped her navigate uncertainty. Small decisions that may not matter from a medical perspective, such as using cooling caps (also known as scalp hypothermia) to reduce hair loss from chemotherapy, played a significant role in her recovery, too.

"This time last year I was in chemotherapy, and I have hair on my head because I did the cold cap. It took a lot of time and energy, but it made such a huge difference in my ability to be able to think of the cancer as something that I overcame," she said.

Keynote Address: What Does It Mean to Be Part of a Cancer Team?

In the conference keynote address, Arif H. Kamal, MD, MBA, MHS, FACP, FAAHPM, FASCO, an oncologist and chief patient officer at the American Cancer Society, reflected on how multiple disciplines can come together to care for patients across the continuum of care, from prevention through survivorship care.

We live in a time of tremendous progress, with advances in cancer treatments occurring faster than most people can keep up, he noted. At one point in his research at Duke University in Durham, NC, Dr. Kamal counted more than 300 new critical cancer drugs or treatments that occurred in the last decade, meaning that physicians would have to keep up with about 30 innovations per year.

"It is fantastic that we now have new treatments compared to 5 or 10 years ago, but at the same time, it increases the complexity of the delivery of care. Because new innovation doesn't mean that a new treatment is easier to give, easier to access, or easier to understand," he said.

That tightrope—the ability to balance hope, innovation, and uncertainty—is where teamwork can come into play. In particular, caregivers and family members have unique voices that should be elevated in conversations about cancer care.

"The concept of hope is not something we as clinicians can take away from people. We have the power to be reminders that hope itself is a dynamic construct. Hope changes over time," he said. "I've been at the bedsides of patients who are actively dying with hours or days left, and in that moment, there is still hope. The hope to be symptom-free, the hope to mend fences, reduce conflict, or be together with family."

Promoting DEI in Cancer Care

Despite the rapid revolution of cancer treatments available in the past 2 decades, the availability of these new treatments is not always equitably distributed among populations. The pandemic magnified many of these disparities, which exist across geographic regions and races in regard to both cancer incidence and mortality rates.

"Many of the challenges that we face have historical roots. I believe it's vital in medicine to understand these issues so we can really take a look at access, trust, and physical differences in care as well," said Susan Hedlund, MSW, LCSW, OSW-C, an oncology social worker and assistant professor of medicine at Oregon Health & Science University in Portland.

Hedlund noted that specific to cancer care, contributing factors that exacerbate disparities in healthcare include:

- Social determinants of health, which are nonmedical factors that influence health outcomes, including income, education, and access to housing, food, and basic amenities
- Disparities in insurance coverage and access to care
- Variable quality of care
- Implicit bias and patient- and system-level factors

For example, patients who reside in ZIP codes with lower socioeconomic status have lower rates of cancer screening and are more often diagnosed with cancer at a later stage.

Many of these disparities can be addressed through existing CoC standards. As one example, survivorship services can be promoted to include patients from diverse populations who in the past have tended not to seek services due to barriers.

In addition, healthcare workers, including surgeons, can advance diversity, equity, and inclusion (DEI) initiatives by valuing all individuals and populations and providing resources according to need without judgment.

"Each of us has an opportunity to innovate in this space so that we can make all of our environments inclusive for everyone," said Bonnie Simpson Mason, MD, FAAOS, Medical Director of the ACS Office of DEI. "Because when we feel like we belong, we can perform maximally, show up authentically, and in surgery, that means we have better patient outcomes. Our patients do better because we can deliver a better quality of care for all of our patients."

Increased diversity also drives better clinical research. Rebecca A. Snyder, MD, MPH, FACS, an associate professor of surgical oncology at The University of Texas MD Anderson Cancer Center in Houston, described how diverse teams can come together to address cancer disparities and drive research in the clinical trial setting, where historically, Black and Hispanic patients are underrepresented.

The new accreditation standards for the NAPBC *Optimal Resources for Breast Care (2024 Standards)* are available for download online.

Learn more: *facs.org/napbc-standards*

Left:
Dr. Arif Kamal of the American Cancer Society delivers the keynote address, "What Does It Mean to Be Part of a Cancer Team?"

Right:
Dr. Bonnie Simpson Mason presents "Promoting Diversity, Equity, and Inclusion in Cancer Care" with Susan Hedlund and Dr. Rebecca Snyder.

The new AJCC Protocol Version 9 content is presented in a streamlined, easy-to-use format, including synoptic staging report format, tables, explanatory notes, and illustrations.

Learn more: *facs.org/ajccv9*

She pointed to research that shows teams comprising mixed genders are more likely to publish higher-impact research, and physicians from minority backgrounds are more likely to include diverse populations in their clinical trial research, which is vital in the age of precision oncology.

"Diversity is really key in conducting high-quality, multidisciplinary clinical care," Dr. Snyder said. "For us to come up with innovative solutions, we need representation from a variety of perspectives, both from patients and stakeholders in terms of identifying effective interventions."

Driving Quality Surgical Care

Multiple sessions provided attendees with practical tips, resources, and best practices for participating in effective quality improvement projects, applying for accreditation, undergoing a site visit, and completing a synoptic operative report.

"The most important thing we can do is to ask: How can we do it better? How can we deliver better care to our patients, and how can we look at our processes and make sure we are doing a good job?" said Laurie J. Kirstein, MD, FACS, a breast surgical oncologist from Memorial Sloan Kettering Cancer Center in New York, NY, and the ACS Cancer Conference Chair.

Recommendations addressed in these sessions included:

Use templates, process maps, flowcharts, and online resources when available
For example, a visual flowchart may help summarize key steps to achieve accreditation and describe the value of the program.

"Oftentimes, you won't get everyone to read all the standards because they're quite long. For those who are good visual learners, the flowchart is a succinct way to describe key steps," said Kimberly Yee, MD, FACS, a colorectal surgeon at White Plains Hospital in NY, who helped her team achieve NAPRC accreditation.

Employ strategic communication when introducing new standards or trying to improve a specific quality measure
"Framing is really important," said Daniel J. Boffa, MD, FACS, director of clinical affairs for the Thoracic Surgery Program at Yale Medicine in New Haven, CT, and Chair of the CoC Quality Assurance and Data Committee. "You want to avoid presenting performance data in a way that is accusatory or makes people feel bad. Focus on the opportunity to take better care of patients and recognize improvement as a win. If you want people to be engaged and committed to quality improvement, getting better should feel good."

Consider holding smaller meetings (4–6 people) where everyone has an opportunity to

Left:
Martin Madera, Senior Manager of the AJCC (left), presents new disease site protocols with Dr. Alexander Olawaiye (center), Chair of the AJCC Education and Promotions Committee, and Donna Gress, Manager, Cancer Staging and Registry Operations.

Right:
Dr. Laurie Kirstein, ACS Cancer Conference Chair, discusses highlights of the conference.

speak, he suggested, and focus on the shared goal of improving patient outcomes.

Ask for help building your team
"We really want to reinforce the idea of using a systematic, stepwise approach to quality improvement, not only nationally but locally. You're not in this alone," said Anthony D. Yang, MD, MS, FACS, a surgical oncologist with Indiana University Health in Indianapolis and Chair of the Core for Quality Improvement Methodology and Implementation in the ACS Cancer Programs (see sidebar, page 56).

Looking Ahead

On the last day of the conference, speakers highlighted new projects that will drive forth the mission of the ACS Cancer Programs and improve the quality and timeliness of cancer care. Some projects on the horizon include:

Cancer Survival Risk Calculator
The calculator will incorporate specific data, including type of surgery, age at diagnosis, tumor size, and time to treatment, to better provide patients with information on their prognoses.

"The overarching goal is to increase individualized care so that we can give patients a better understanding of their specific prognosis because right now, it's usually based solely on overall stage and the expertise of the clinician," said Lauren Janczewski, MD, a general surgery resident at Northwestern Medicine in Chicago, IL, and clinical scholar with the ACS Cancer Programs.

Survivorship Services Survey
The number of cancer survivors has increased rapidly in recent years. The Survivorship Services Survey, led by the CRP and CoC, is a short survey (<20 minutes) designed to characterize survivorship services currently available to cancer patients in the US, with the goal of better understanding their needs and improving how ACS Cancer Programs can help.

Collaborative research to evaluate quality standards
"We want to drive research that demonstrates the value of standards," said Judy C. Boughey, MBBCh, FACS, a breast surgical oncologist from the Mayo Clinic in Rochester, MN, and Chair of the ACS CRP. "On the flipside, if we study a standard and show that it is not valuable, that's also important information. We're constantly looking at ourselves and making sure the work we do impacts patient care."

In one of the last sessions, Timothy W. Mullett, MD, MBA, FACS, medical director of the Markey Cancer Center Research Network with the University of Kentucky Healthcare in Lexington, and Chair of the CoC, expressed great excitement for the collaborative future of the ACS Cancer Programs.

"We are moving at a rate I've never seen before, and you all are driving us with new information," he said. "For the past few years, we've been hunkered down at our own institutions and forced into virtual meetings. I think this year, we are going to be catching our rhythm again."

Listen to additional insights and highlights from the conference via the *House of Surgery* podcast (episode 8) at *facs.org/houseofsurgery.*

Mark Your Calendars

The 2024 ACS Cancer Conference will be held February 22–24, in Austin, TX. B

Sheila Lai *is a Media Relations Specialist in the ACS Division of Integrated Communications in Chicago, IL.*

Left:
Dr. Heidi Nelson engages with the audience and panelists during one of the Q&A sessions.

Right:
Dr. Timothy Mullett expresses enthusiasm for the future of the ACS Cancer Programs and collaborative research.

Teletrauma Helps Advance Rural Trauma Care

Tony Peregrin

As rural hospitals in the US fight to keep their doors open and care for patients in their communities, a session at the ACS Committee on Trauma (COT) Annual Meeting, March 8–10, in Chicago, IL, focused on ways the COT can address the needs of rural providers and patients.

In "Rural Trauma: Injury Care Advanced by Collaboration," moderated by Michael A. Person, MD, FACS, medical director for the Avera McKennan Trauma Service at the Surgical Institute of South Dakota in Sioux Falls, collaboration between larger trauma centers and rural facilities, as well as trauma system development were discussed.

The need for a true rural perspective within the COT programs was identified a few years ago, when it was acknowledged that most COT members were from large Level I and Level II trauma centers. As a result, the COT Rural Advisory Council, comprising providers on the frontlines of rural trauma care throughout the country, was formed.

Two of these "boots on the ground" providers participated on the panel, describing some of the challenges they face in treating patients in a resource-limited environment. They also offered candid feedback on how the COT and larger trauma centers can better help rural providers and their communities.

Through live polling and panel discussions, several themes arose, including rural provider competency and comfort level in managing injured patients, limited emergency medical services (EMS) and hospital resources, long transport times, liability concerns, and a disconnect in understanding the realities of practicing in a small, rural facility.

Using Teletrauma to Support Providers and Patients

The role of telehealth in trauma—also known as teletrauma—was highlighted in this session and throughout the meeting as an important tool to support providers and patients.

Zain G. Hashmi, MD, assistant professor of surgery in the Division of Trauma and Acute Care Surgery at the University of Alabama at Birmingham and an ACS Associate Fellow, presented an overview of current challenges in rural trauma

systems, described the benefits of teletrauma, and outlined practical guidance for implementing teletrauma service.

Millions of rural Americans lack timely access to Level I or Level II trauma center care due to resource constraints. Many Americans are not taken to a facility that appropriately matches their needs. Two distinct challenges exist across the injury severity spectrum.

The first challenge is tethered to transfers in which patients with less severe injuries are transported to a Level I or Level II trauma center and then rapidly discharged from the emergency department after evaluation. Other times, these less severely injured patients have a very short observational stay and are discharged without requiring any further interventions from the higher-level trauma center.

Dr. Hashmi said transfer rates in those situations can be as high as 40%, which can be costly for the patient and hospital system, creating a need to keep some of these patients local.

"In addition to this challenge, rural hospitals also deal with severely injured patients who require a more complex level of trauma care but may experience worse outcomes before the transfer is complete. The question here is how can we improve outcomes for severely injured patients—with the overarching aim to get the right patient to the right place at the right time?" Dr. Hashmi added.

The traditional approach for improving access to care has focused largely on developing additional higher-level trauma centers, which is a costly and time-consuming process that has seemed to result in minimal improvement in access to care for the rural severely injured patient.

"In fact, in Alabama, access to a Level I or II trauma center has actually decreased. It's staggering. More than half of the state's population does not have access to an ACS-verified trauma center within 60 minutes," he revealed.

Conceptually, a trauma center is composed of material sources (e.g., blood products, intensive care unit, hemorrhage control devices, trauma bay) and human resources, which broadly can be categorized as procedural and nonprocedural expertise.

"All of this exists within this connected environment, which is simultaneously both a physical space where all the action happens and a virtual space where everybody's connected using some sort of telecommunications," explained Dr. Hashmi.

In the context of teletrauma, providers and patients at rural facilities are connected to trauma surgeons and subspecialists at trauma centers with a two-way, real-time audio-video connection.

"The trauma surgeon has access to the patient's electronic health records, labs, and imaging, as well as a visual on the patient," Dr. Hashmi said. "And then the nontrauma center has access to key trauma center resources. All of this is intended to facilitate that early point-of-care engagement with topic experts."

This collaboration of care can help practitioners make decisions that are in the best interest of the patient, leveraging resources that can be readily available via telehealth.

Rural Trauma Special Session panelists: Michael Person, MD, FACS, Chair, ACS COT Rural Committee; Tracy Cotner-Pouncy, BSN, RN, TCN, STN-Rural TOPIC Representative; Zain G. Hashmi, MD, teletrauma presenter; William Oley, MD, FAAFP, FAWM, DiMM, Rural Advisory Council member; Roberta Berry, RN, BSN, CEN, Rural Advisory Council member; Brian Eastridge, MD, FACS, Chair, ACS COT Trauma Systems Pillar; Alexandra Briggs, MD, FACS, Chair, EAST Rural Care Committee; Kristan Staudenmayer, MD, MS, FACS, Vice-Chair, ACS COT Trauma Systems Pillar; Alison Wilson, MD, FACS, Chair, Rural Trauma Team Development Course.

"Teletrauma is an alternative solution that may help improve access among injured rural Americans."

—Dr. Hashmi

The benefits of using teletrauma for the rural patient, provider, and hospital include:

- Rural patient: Improved outcomes with the ability to stay closer to home and reduce the costs associated with transport
- Rural providers: Increased levels of confidence, connectedness, and access to a forum for real-time education and feedback
- Rural hospitals: Enhanced ability to care for patients in the community, engagement in performance improvement opportunities, and the ability to maintain facility viability

"What does this mean for the trauma system? It means that we are using our resources better and, hopefully, improving patient outcomes," he said. "I think this goes back to the idea that we are trying to work toward a truly inclusive trauma system."

Current State of Teletrauma

Dr. Hashmi noted that teletrauma has not found as widespread implementation as other telehealth programs, such as telestroke for improving access to care among rural communities. The challenges associated with wider implementation of this technology include administrative and disease-specific barriers.

Administrative barriers include:

- Funding for infrastructure development
- Costs associated with licensure and liability
- Health information privacy concerns
- Reimbursement for services

"Fortunately, most of these issues have already been addressed by other telehealth services, and there exists precedents and paradigms that we can adapt from quite readily," Dr. Hashmi said.

Trauma-specific challenges could include:

- Consensus and buy-in from local stakeholders, including providers and patients
- Evidence-based clinical workflow and management protocols
- Trauma-specific telehealth training
- Access to relevant medical supplies (e.g., blood, hemostatics)
- Adoption and integration of telehealth into an existing trauma system

"These are major barriers to progress that have remained largely unresolved with no generalizable solution. There's no off-the-shelf solution or implementation toolkits, so to speak, that currently address these issues," said Dr. Hashmi.

Dr. Hashmi described a statewide teletrauma program under development in Alabama that could include up to 26 sites. A majority of rural hospitals have some sort of the telehealth support (e.g., telestroke), which may reduce the costs of teletrauma program implementation. This program could serve as a model for other states and regions once implemented.

"Teletrauma is an alternative solution that may help improve access among injured rural Americans. It looks good on paper, and it makes sense in places that have actually started doing this," Dr. Hashmi said. "However, there are barriers that need to be resolved before we can study its effectiveness and call for a wider implementation."

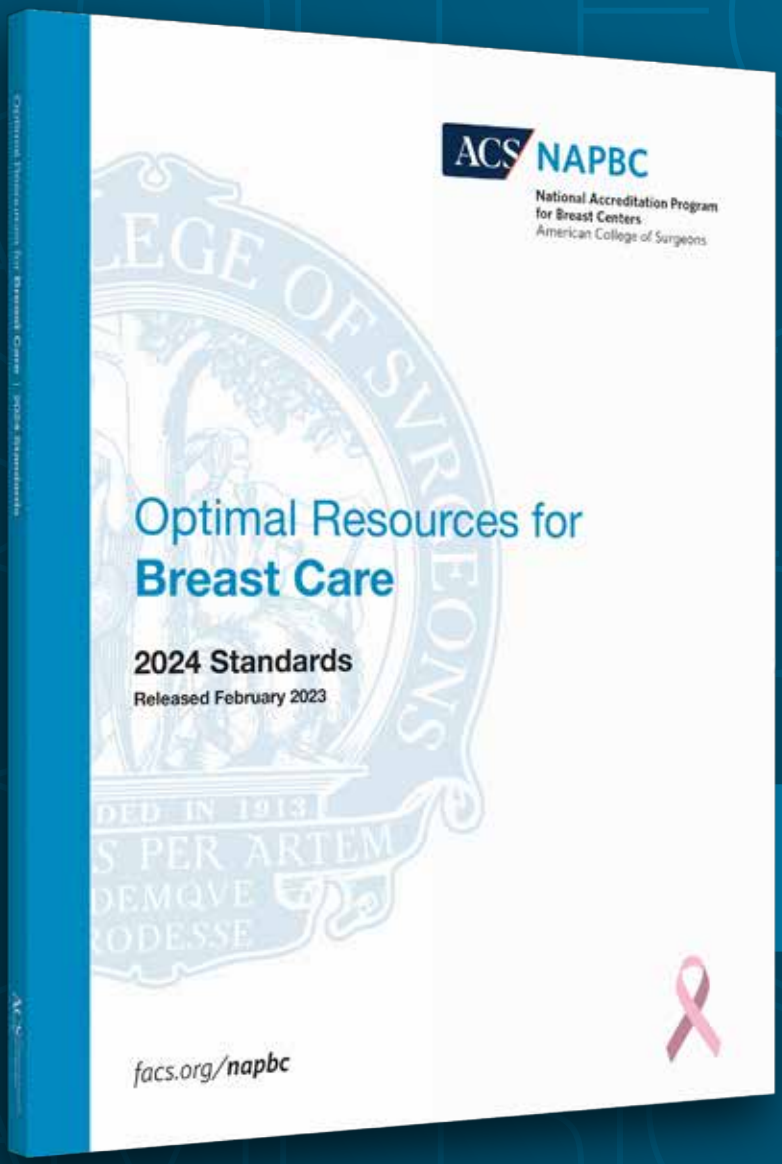
Trauma care in the rural environment faces several challenges. However, education, collaboration, continued trauma system development, along with innovative approaches such as teletrauma, pose opportunities to improve outcomes for injured patients in the rural environment.

More than 400 members of the central and regional Committees on Trauma representing more than 35 countries attended the 2023 COT Annual Meeting, which was open to COT members only. The meeting provided updates from the Advocacy, Quality, Injury Prevention, Systems, and Education Pillars, in addition to a trauma paper competition and Spotlight Discussions—a new networking opportunity organized around specific topics. B

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

Newly Released Breast Cancer Treatment Standards

The National Accreditation Program for Breast Centers (NAPBC) has launched updated accreditation standards for 2024, the *Optimal Resources for Breast Care (2024 Standards)*.



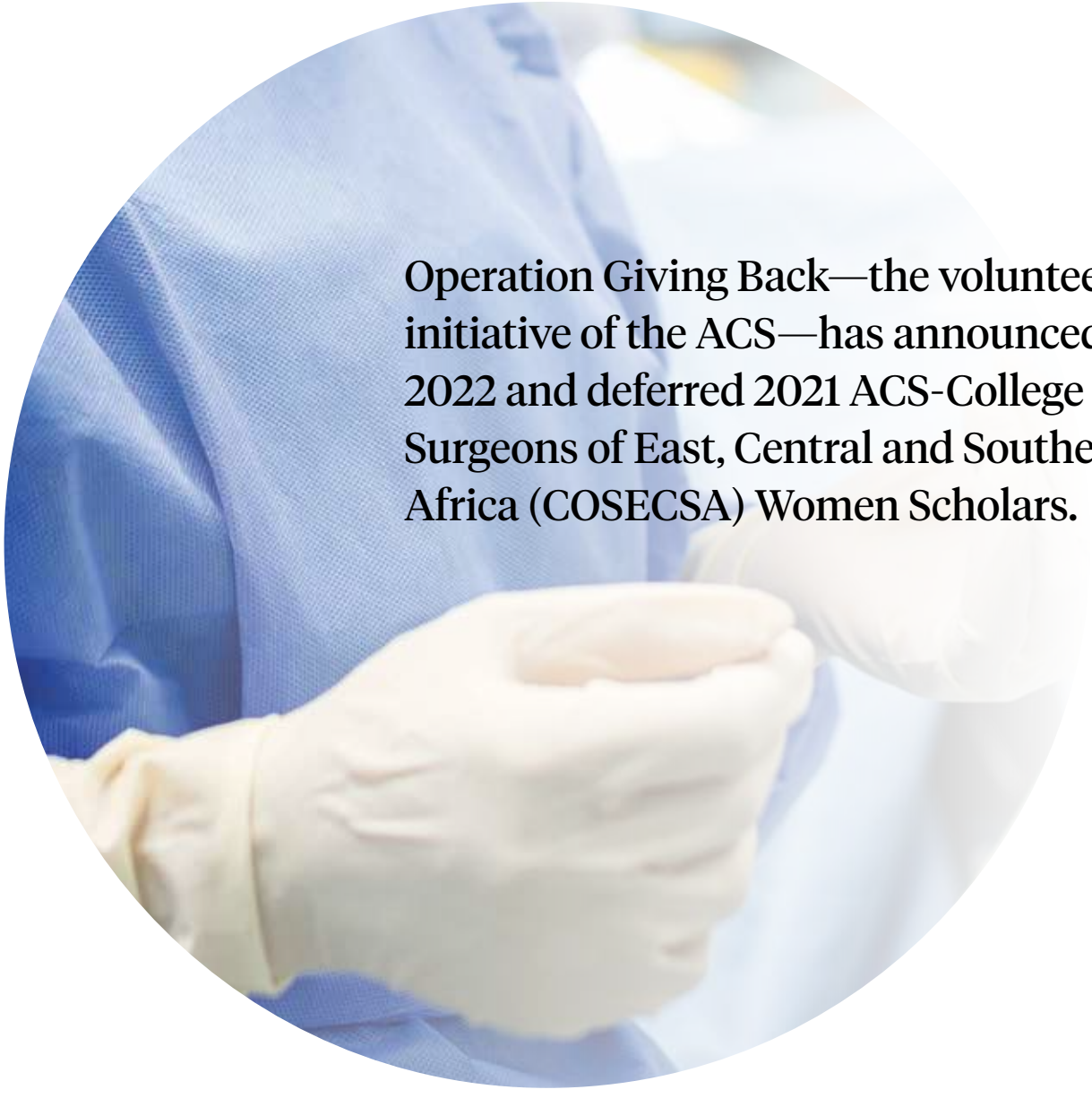
The new standards feature extensive revisions focused on:

- → The patient care journey from screening and prevention to diagnosis, treatment, and survivorship
- → Providing value-based care with multidisciplinary support
- → Usability and ease of implementation

LEARN MORE
*facs.org/**napbc-standards***

ACS AMERICAN COLLEGE OF SURGEONS

ACS-COSECSA Women Scholars Are Announced



Operation Giving Back—the volunteerism initiative of the ACS—has announced the 2022 and deferred 2021 ACS-College of Surgeons of East, Central and Southern Africa (COSECSA) Women Scholars.

THIS SCHOLARSHIP PROGRAM is supported by the ACS Foundation and Association of Women Surgeons Foundation. Up to 10 scholarships are provided annually, each worth $2,500. The award is used for travel to the COSECSA annual meeting and educational expenses, including accreditation and fellowship examination costs.

If you are interested in supporting the scholarships, visit the ACS Foundation webpage and designate your support toward Operation Giving Back at *facs.org/about-acs/acs-foundation/donate-to-ogb.*

Note

See related story on page 22.

Deferred from 2021

- **Shikuria Lemma Nida, MD**
  Orthopaedic surgery resident at Black Lion Specialized Hospital, Addis Ababa University, Ethiopia
- **Samrawit Esayas Birhanu, MD**
  Lecturer of orthopaedic surgery at Addis Ababa University, Ethiopia
- **Bezayit Tesfaye Habteselassie, MD**
  Orthopaedic surgery resident at St. Paul's Millennium College, Addis Ababa, Ethiopia
- **Tsion Tilahun Girma, MD**
  General surgery resident at Addis Ababa University, Ethiopia
- **Veronica Afework Abera, MD**
  General surgery resident at Addis Ababa University, Ethiopia
- **Elsa Alemayehu, MD**
  Orthopaedic surgery resident at Black Lion Specialized Hospital, Addis Ababa University, Ethiopia
- **Kondjela Hamunyela, MD**
  Head of pediatric surgery department at the Ministry of Health in Windhoek, Namibia

2022

- **Juru Gisele Bunogerane, MD, MMed**
  Faculty surgeon at University Teaching Hospital of Kigali, Rwanda
- **Irene Mutua Mariga, MD**
  Pediatric surgeon at Kenyatta University Teaching, Referral and Research Hospital, Nairobi, Kenya
- **Rovine Naluyimbazi, MBBS, MMed**
  Pediatric surgery fellow at Mulago National Referral Hospital, Kampala, Uganda
- **Yohanna Aregawi Hailu, MD**
  General surgeon at St. Paul Medical Millennium College, Addis Ababa, Ethiopia
- **Mwongeli Matheka, MBBS, MMed**
  General surgeon at Eldoret Regional Hospital, Kenya
- **Nathalie Umugwaneza, MD, MSc**
  General surgery resident at University Teaching Hospital of Kigali, Rwanda
- **Yadani Michael Deressa, MD**
  Assistant professor of surgery and general surgeon at Jimma University Medical Center, Ethiopia
- **Simret Abera Debele, MD**
  Pediatric surgery resident at Addis Ababa University, Ethiopia

Proceedings Are Released from Medical Summit on Firearm Injury Prevention

THE PROCEEDINGS FROM the second ACS Medical Summit on Firearm Injury Prevention, held in September 2022 at ACS headquarters, were published online in the *Journal of the American College of Surgeons (JACS)*.

Representatives from 47 organizations, including the ACS, convened for the summit, making it one of the largest gatherings of medical and injury prevention professionals on this issue.

Scope of the Problem

The inaugural Medical Summit on Firearm Injury Prevention took place in 2019. Since then, levels of violence have continued to increase in the US—firearm-related deaths increased 28.4% during the first year of the COVID-19 pandemic, and non-fatal firearm injuries increased 34.2% during the same period.* Further, firearm-related injury has now eclipsed motor vehicle fatalities as the leading cause of death in the US for children and adolescents, age 1 to 19 years.†

To renew efforts addressing this ongoing public health crisis, leaders of the ACS, American College of Physicians, American College of Emergency Physicians, American Academy of Pediatrics, and the Council of Medical Specialty Societies cohosted the summit, during which sessions were held on public policy initiatives, addressing community violence, and effective healthcare-centered communication on firearm injury prevention.

Community-Level Firearm Injury Prevention Efforts

"All healthcare professionals have a role in firearm injury prevention across their main missions of patient care, education of future healthcare workers, research, and community engagement," the authors wrote in the *JACS* article. "All clinicians who care for patients have the opportunity to identify those at risk of firearm injury and provide counseling to mitigate these risks."

The authors recommended programs such as:

- Education on secure firearm storage
- Firearm safety counseling for patients who are at risk of injury or death

Representatives from 47 organizations participated in the second Medical Summit on Firearm Injury Prevention, held September 2022 in Chicago.

- Extreme risk protection programs (temporary removal of firearms from the homes of those at risk for suicide or domestic violence)
- Hospital and community-centered violence intervention programs
- Mentoring programs for at-risk youth
- Integration of social care into the delivery of healthcare

Community engagement is rooted in the understanding of social determinants of health and the principles of trauma-informed care, which is an approach that addresses implicit bias and creates an environment for patients that promotes equity, sensitivity of broader needs, and empowerment.

Engaging Firearm Owners as Part of the Solution

Summit attendees noted the importance of broad community engagement to address firearm violence, which requires engagement from everyone dedicated to reducing firearm injury.

"All too often, the community of firearm owners in the US are approached as part of the firearm injury problem and less commonly as part of the solution," the authors wrote.

The ACS Committee on Trauma has pursued a strategy that acknowledges both the constitutional right to keep and bear arms and the critical and significant problem of intentional firearm violence in the US. A Firearm Strategy Team (FAST) is a group of firearm-owning surgeons that will inform and advise on firearm safety initiatives.

The authors also noted that there have been successful partnerships between health professionals and firearm retailers, instructors, and advocates. Firearm owners and experts are seen as "trusted messengers" and have effectively delivered firearm safety messages in their communities.

A Consensus-Based, Comprehensive Public Health Approach

Just as motor vehicle deaths have sharply declined over the years due to public health-based injury prevention strategies, a comprehensive public health and medical approach is necessary to reduce firearm injury, death, and disability.

The sponsoring organizations of the summit agreed to establish the Healthcare Coalition for Firearm Injury Prevention. The coalition will include the following workgroups: Health Professional Education, Advocacy and Policy Initiatives, Healthcare Professional Engagement for Firearm Safety, Communications, and Community-Centered Approach for Violence Prevention.

"Establishing this coalition provides a venue to continue ongoing multidisciplinary collaboration and leverage the resources of the entire public health and healthcare community," the authors concluded. "The opportunity is before us, and the time is now to address this critically important American public health problem." B

*Sun S, Cao W, Ge Y, Siegel M, Wellenius GA. Analysis of firearm violence during the COVID-19 pandemic in the US. *JAMA Netw Open.* 2022 Apr 1;5(4):e229393.

†Goldstick JE, Cunningham RM, Carter PM. Current causes of death in children and adolescents in the United States. *N Engl J Med.* 2022 May 19;386(20):1955-1956.

ACS and Society for Vascular Surgery Launch Verification Program

The ACS, with the Society for Vascular Surgery (SVS), has launched a new national quality verification program to help participating hospitals improve outcomes and deliver the best treatment for patients receiving vascular surgical and interventional care in an inpatient setting.

Key Web Links

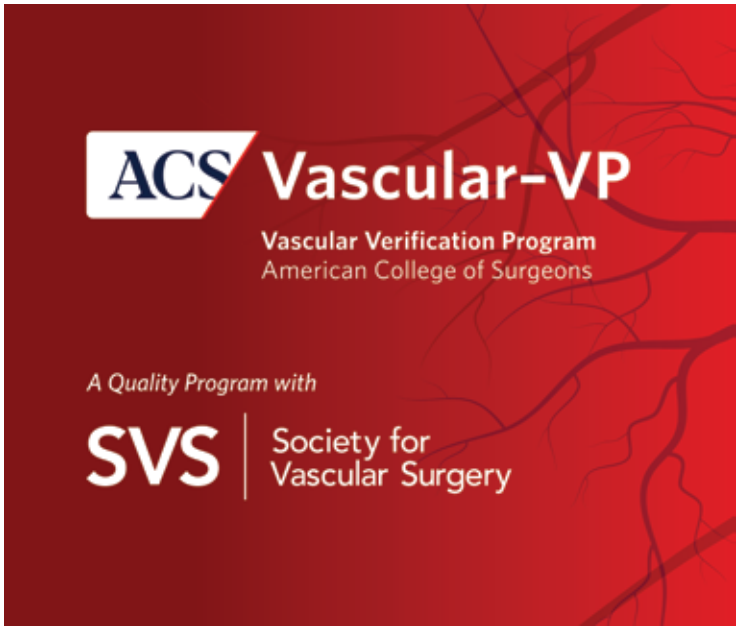
More information about Vascular-VP is available on the ACS website: *facs.org/vascular*

Access the full Vascular-VP standards manual: *facs.org/vascular-standards*

Apply to become a verified vascular surgery center and continue quality improvement: *facs.org/vascular-apply*

THE VASCULAR VERIFICATION PROGRAM (Vascular-VP) leverages the strengths and expertise of the ACS and SVS to provide an evidence-driven, standardized pathway for instituting and growing a quality improvement and clinical care framework within a hospital's vascular program.

"The ACS has the experience and infrastructure for developing surgical quality programs, and the SVS has the experience with and expertise on vascular surgery," said Anton N. Sidawy, MD, MPH, FACS, DFSVS, ACS Regent, past-president of the SVS, and the Lewis B. Saltz Chair in the Department of Surgery at George Washington University in Washington, DC. "The ACS is what we call the 'House of Surgery.' It's the umbrella organization for all surgical specialties, including vascular surgery. It was logical for these two outstanding organizations to collaborate and come up with this comprehensive program."



A Vascular-Specific Program

Vascular-VP was developed by experts who recognize the depth and breadth of vascular care and treatment. Multiple levels of participation (Comprehensive and Verified) help ensure the program can be established in a variety of inpatient hospital settings and encompasses all aspects of vascular care at an institution.

The program provides hospitals with a framework for patient education and informed consent, as well as the organizing principles for developing comprehensive patient services in the hospital and beyond, including allied health and patient support services. By receiving care at hospitals specifically dedicated to providing high-quality vascular care, vascular patients will benefit from the resources and patient care experience across all phases of care at these hospitals.

"Vascular-VP builds upon the ACS's longstanding commitment to surgical quality. By using the existing infrastructure of the College's quality programs and working closely with the SVS to address vascular-specific provider and patient needs, we have built an important program that will help all participating hospitals improve the quality of care they provide," said Patricia L. Turner, MD, MBA, FACS, ACS Executive Director & CEO.

Program Standards

The Vascular-VP program standards manual is the fundamental basis for the program. The manual, *Optimal Resources for Vascular Surgery and Interventional Care (2023 Inpatient Standards),* addresses elements of vascular surgical care and quality, including:

- Institutional commitment
- Program scope and governance
- Resources for facilities, equipment, services, and personnel
- Clinical care
- Data abstraction and analysis
- Quality improvement
- Education and research

"This program can truly be transformative throughout the entire hospital," said Clifford Y. Ko, MD, MS, MSHS, FACS, FASCRS, Director of the ACS Division of Research and Optimal Patient Care. "Vascular-VP helps strengthen a hospital's safety and continuous improvement culture to enhance patient outcomes with greater reliability and standardization of care." B

Members in the News

Dr. Heidi Nelson Retires as Medical Director of ACS Cancer Programs

Heidi Nelson, MD, FACS, plans to retire as Medical Director of the ACS Cancer Programs later this year.

Dr. Nelson, a colorectal surgeon from Rochester, MN, joined the ACS staff in 2018 after having served in various leadership roles for the College, including Director of the ACS Clinical Research Program, Co-Chair of the ACS Oncology Group, and a member of the Commission on Cancer (CoC) Executive Committee.

Through her leadership, vision, and research acumen, ACS Cancer Programs have come together and more closely integrated their strategies and activities. Dr. Nelson oversaw the 100th anniversary of the CoC and the release of new cancer standards, including the recent National Accreditation Program for Breast Centers standards and the new CoC operative standards. She also launched the National Accreditation Program for Rectal Cancer, as well as led major transitions of the National Cancer Database infrastructure.

In addition, Dr. Nelson spearheaded the release of new synoptic operating reports, quality measures, and national quality improvement projects such as Return to Screening, Beyond ASK, and Breaking Barriers.

Dr. Susan Moffatt-Bruce Is New President of Lahey Hospital & Medical Center

Cardiothoracic surgeon Susan Moffatt-Bruce, MD, PhD, FACS, has started a new role as president of Lahey Hospital & Medical Center in Burlington, MA. Previously, she served as chief executive officer of the Royal College of Physicians and Surgeons of Canada and the Royal College International. Dr. Moffatt-Bruce also was a professor at the University of Ottawa in ON. She has served as an ACS Governor since 2022.

Dr. Jennifer Davids Takes Over as Division Chief at BMC

Jennifer S. Davids, MD, FACS, has started a new role as chief of colon and rectal surgery at Boston Medical Center (BMC) in MA. Prior to this role, Dr. Davids was an attending colorectal surgeon and associate professor of surgery at the University of Massachusetts Chan Medical School in Worcester. She has served on the ACS Advisory Council for General Surgery and currently is a member of the ACS Massachusetts Chapter Credentials Committee.

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

Dr. Misty Humphries Will Lead VESS

Vascular surgeon Misty D. Humphries,MD, FACS, has been chosen as president-elect of the Vascular & Endovascular Surgery Society (VESS), with her term beginning in 2024.

Dr. Humphries is an associate professor in the Department of Surgery and interim chief of vascular surgery at the University of California (UC) Davis Health, as well as interim director of the UC Davis Vascular Center and the UC Davis Advanced Wound Care Clinic. She serves on the ACS Northern California Chapter Credentials Committee.

Dr. Amy Liepert Guides Acute Care Surgery in Missouri

General surgeon Amy E. Liepert, MD, FACS, has been appointed as division chief of acute care surgery at the University of Missouri Health Care in Columbia. Before starting this new role, she served as medical director of acute care surgery and associate professor of surgery at UC San Diego Health.

Within the ACS, Dr. Liepert has been an active participant in several committees and workgroups, including currently serving on the board of the ACS Professional Association-SurgeonsPAC, as a member on the Advisory Council for Rural Surgery, and as a member of the Clinical Congress Program Committee.

In addition, she recently played a key role in advocating for and helping to secure passage of STOP THE BLEED®-supported legislation in California.

ACS Bulletin

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ACS Endorses Equitable Enforcement of Bicycle Helmet Laws

THE ACS, THROUGH ITS Committee on Trauma Subcommittee on Injury Prevention and Control, has revised the Statement on Bicycle Safety and the Promotion of Bicycle Helmet Use that was originally developed in 2014.

The statement now endorses equitable and fair enforcement of helmet laws for children and adults, citing updated statistics on bicycle safety and the efficacy of bicycle helmet use.

According to the Centers for Disease Control and Prevention, more than 1,000 people die and 350,000 people are treated in emergency departments each year due to bicycle injuries in the US. Bicycle crashes accounted for $5.4 billion in medical costs in 2020, and an additional $7.7 billion in lost lives, work, and productivity.

Helmet use has been shown to significantly decrease the risk of fatal and nonfatal head injuries. Estimates indicate that helmets reduce the risk of head injury by 48%, traumatic brain injury by 53%, facial injury by 23%, and fatal injury by 34%.*

Based on these data, the ACS supports efforts to promote, enact, and sustain universal bicycle helmet legislation and enforcement. The ACS Board of Regents approved the bicycle safety and helmet use statement at its February 2023 meeting in Washington, DC.

Future research is encouraged on the prevalence of helmet use and measurement of the effectiveness of interventions to increase helmet use and ensure equitable enforcement of helmet laws.

Read the full statement on the ACS website at *facs.org/bicycle-safety-statement.* B

*Høye A. Bicycle helmets—To wear or not to wear? A meta-analyses of the effects of bicycle helmets on injuries. *Accid Anal Prev.* 2018 Aug;117:85-97.

The Operative Word

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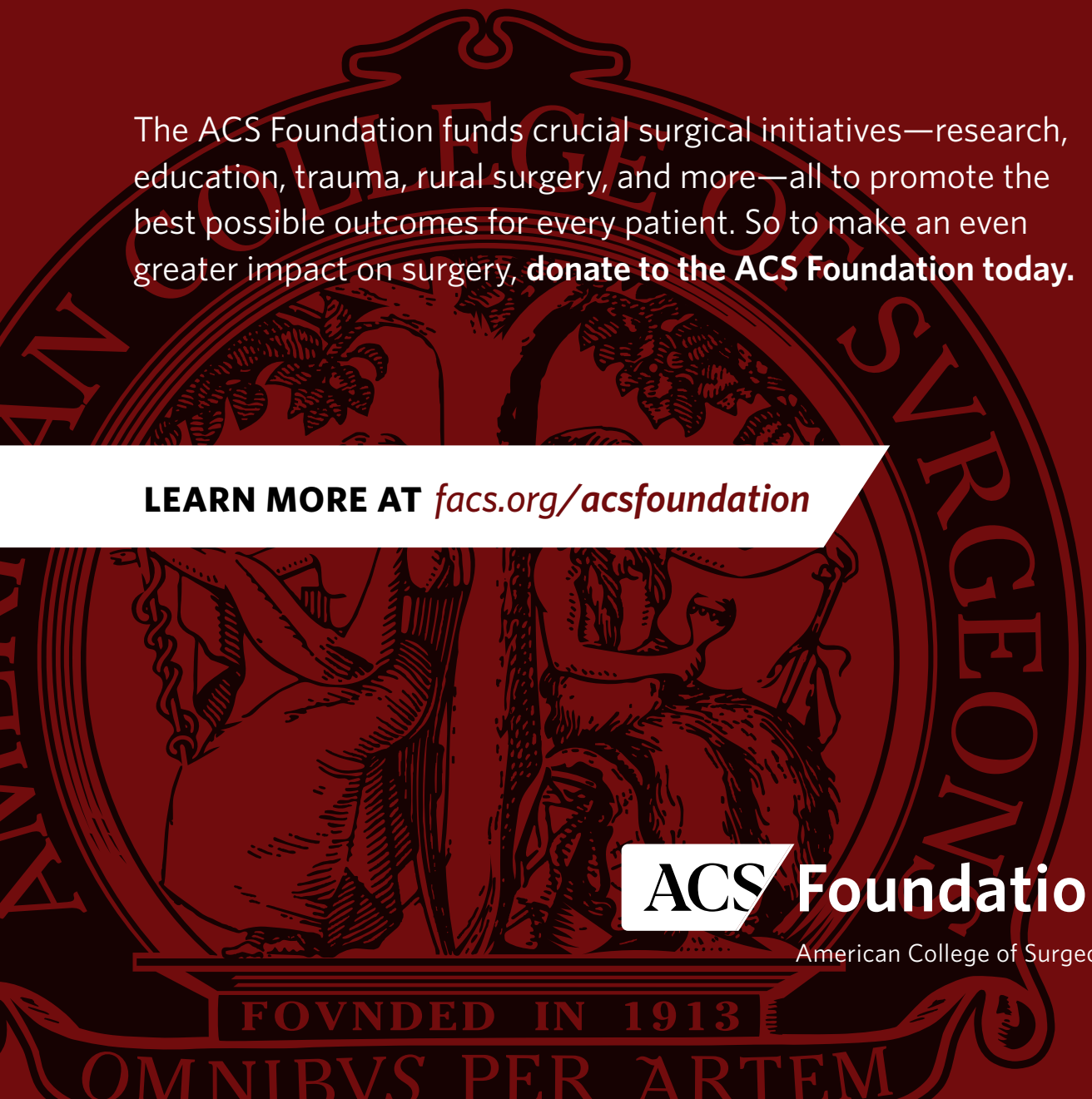

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