

OCTOBER 2024 / VOLUME 109 / NUMBER 9

ACS Bulletin

AMERICAN COLLEGE OF SURGEONS

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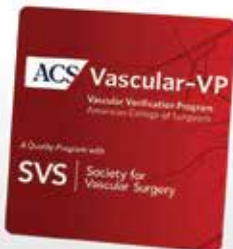


September 19

ACS and SVS Release Standards for Outpatient Vascular Care

The ACS, with the SVS, has released new standards for outpatient vascular centers to help them provide optimal care.

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September 11

Cognitive Screening in Older Patients May Help Optimize



Lindsay Flynn-Houston, MD, FACS

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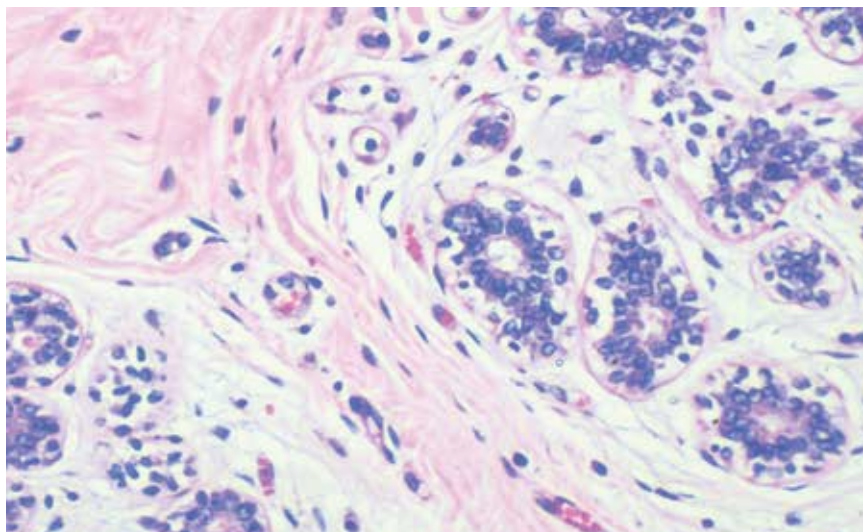
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Exploring Artificial Intelligence at the ACS

Patricia L. Turner, MD, MBA, FACS

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“MORE PROFOUND than fire.” One may not agree with this description of artificial intelligence (AI) from Google CEO Sundar Pichai—but hyperbole notwithstanding, it is clear that AI is an important development in our world today.

AI is the sector of computer science that creates programs capable of performing tasks that previously required human intelligence. Systems incorporating AI can independently analyze data, solve problems, make decisions,

and learn from those experiences. While most current AI systems complete narrowly defined tasks (such as calculating a specific type of prediction), the field is advancing toward systems that can handle many more types of tasks. In the future, developments may bring about artificial general intelligence, which will more closely mimic the abilities of humans.

Even as we contemplate the impact of such sweeping innovations, surgery is incorporating many of the currently available AI programs into tasks ranging from clinical notetaking to robotic laparoscopies. The ACS endeavors to aid all members to thrive in an AI-enhanced environment.

This spring, we were fortunate to bring on **Genevieve Melton-Meaux**, MD, PhD, FACS, FACMI, as the ACS's inaugural Chief Health Informatics Officer. She is a practicing colorectal surgeon, senior associate dean of health informatics and data science, director of the Center for Learning Health System Sciences, and a core faculty member in the

Institute for Health Informatics at the University of Minnesota in Minneapolis. Dr. Melton-Meaux also has been a Fellow of the ACS since 2010 and moderated an engaging session on AI at the April 2024 ACS Leadership & Advocacy Summit.

Her career in informatics has spanned the last 2 decades, during which she has helped healthcare organizations embrace universal electronic health records and become data-driven entities. She is an extraordinary expert, and I am thrilled to have her facilitate our entry to the present era of health informatics.

This effort builds on existing strengths. Emerging AI transformations are built atop big data, and the College and big data have been integrated for as long as that term has existed. For example, the National Surgical Quality Improvement Program has been a part of the ACS for 20 years and currently captures data in approximately 700 hospitals, including 140 across Canada, Australia, and other countries. The ACS National Cancer Data Base,

which started in 1989, gathers data from the 1.4 million patients treated each year in US healthcare centers accredited by the ACS Commission on Cancer. Across all our Quality Programs, the ACS holds data on more than 50 million patients—and this continues to grow.

This means that, as AI changes healthcare, the ACS is poised to play a significant role in how AI is incorporated into data collection for quality improvement and verification programs.

To be clear, to date, we have not permitted the use of any of our data to facilitate machine learning. Rather, the College's current work is focused on explorations of optimal future use. With Dr. Melton-Meaux's help, we are examining how to improve our data collection processes, offer better real-time feedback in clinical settings, and help healthcare centers (particularly small and rural hospitals) access our Quality Programs. The overarching concerns are broad and timeless: to determine how to best improve our enterprise and serve all surgeons.

Because the ACS is one of the largest surgical organizations in the world, we also strive to present innovative research and education on AI in surgery.

Since 2023, we have offered "Artificial Intelligence and Machine Learning: Transforming Surgical Practice and Education," an online course available to all surgeons. In addition, a late-breaking session on AI has been added to Clinical Congress 2024, complementing the more than two dozen AI-related studies that researchers will present in panel and poster sessions. If you are a surgeon interested in these areas, I strongly recommend registering

for both the AI course and Clinical Congress.

The ACS also plans to champion surgical excellence through improved programs and policy efforts as AI raises complex social, regulatory, and quality issues in healthcare. This includes using Dr. Melton-Meaux's wisdom to inform negotiations for updated AI-inclusive contracts, and collaborations with ACS Chief Information Officer **Jack King**, who has greatly enhanced our cybersecurity posture over the last year. His team works diligently to help ensure all ACS data on patients, healthcare systems, and surgeons are safe from AI-enhanced cyberattacks.

Is AI more profound a change than the advent of human-controlled fire? No. Dr. Melton-Meaux has suggested that AI will not radically alter surgery in the near term—but it may facilitate more planful, more effective, less invasive, and less morbid procedures. While we cannot claim to know exactly what the future will hold, the ACS will always work toward fulfilling the aim set forth in our motto. Indeed, it is the most profound idea for us as surgeons: "to heal all with skill and trust."

Learn More at Clinical Congress

One way to learn more about AI and other advances in surgery is to attend Clinical Congress, where presenters will share their evidence-based insights. Register now at facs.org/clincon2024 to attend in person or virtually and view content on demand. **B**

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

Clinical Congress Sessions on Artificial Intelligence

October 20, 11:30 am

Generative AI Tools for Surgery: Will AI Change My Practice?

October 20, 2:30 pm

Artificial Intelligence in Surgery: The Good, the Bad, and the Ugly

October 21, 4:15 pm

Using AI to Diagnose, Remind, Teach, and Monitor from Ask Siri to Chatbots: Understanding the Limitations

October 22, 7:00 am

Is Technology Changing Surgery for the Better?

Multidisciplinary Approach to Treatment, Emerging Techniques Optimize Survival and Quality of Life for Breast Cancer Patients

Jamie Rand, MD

As the outcomes for breast cancer continue to improve and patients are surviving longer, the morbidity of treatments has become more apparent. The timing and type of surgery both have huge impacts on the systemic therapies and radiation for which a patient is eligible.

ADDITIONALLY, WE CONTINUE to learn more about the heterogeneity of breast cancer tumor biology and further understand that different cancer subtypes require dramatically different treatments. Therefore, a multidisciplinary approach to management in the preoperative setting is important to ensure optimal treatments and outcomes. New technologies also are providing exciting potential to further minimize surgical morbidity.

This article examines the importance of a multidisciplinary approach to breast cancer treatment, developments in axillary management, oncoplastic techniques, and emerging technologies such as robotic nipple-sparing mastectomy and tumor ablation.

Multidisciplinary Approach

Neoadjuvant vs. Adjuvant Systemic Therapy

Treatment recommendations for breast cancer vary greatly depending on the biomarker status of the tumor. Most patients with triple-negative breast cancer (TNBC; negative for estrogen receptor [ER], progesterone receptor [PR], and human epidermal growth factor receptor 2 [HER2]) and HER2-positive breast cancers are recommended to undergo chemotherapy first (neoadjuvant) followed by surgery. This is contrasted with ER-positive, HER2-negative breast cancers, which rely on molecular assays sent on the surgical specimen to guide chemotherapy decision-making for patients with early breast cancers.

Systemic therapy regimens for breast cancer have continued to improve. The pathologic complete response (pCR) rate for patients with ER-negative, HER2-positive breast cancers undergoing neoadjuvant chemotherapy in combination with dual HER-2 targeted therapy (trastuzumab plus pertuzumab) is a remarkable 81%.¹

TNBC treated with systemic chemotherapy in combination with pembrolizumab (immune checkpoint blockade) has a pCR rate of 65%.² These rates are contrasted with the low pCR rates for ER-positive, HER2-negative cancers, where pCR rates are under 20% with standard chemotherapy. Emerging data show that adding immunotherapy to chemotherapy for ER-positive, HER2-negative cancers improves the pCR rate, but this has not yet entered standard guidelines as survival data are forthcoming.³ These vastly different pCR rates for different types of breast cancers guide management decisions (see Figure 1, page 10).

Even if surgical plans would be unchanged by the downstaging of neoadjuvant treatment, patients with TNBC and HER2-positive breast cancers are frequently eligible for treatments that improve survival if they have systemic therapy in the neoadjuvant setting.

Who Should Be Referred to Medical Oncology Prior to Surgery?

Preoperative medical oncology consultation is recommended for all patients with TNBC, HER2-positive, or inflammatory breast cancer (any biomarkers). Patients with TNBC or HER2-positive cancers over 0.5 cm in size will all require systemic therapy in the neoadjuvant or adjuvant setting.

For early TNBC or HER2-positive cancers that are cT1N0 on all imaging modalities (≤ 2 cm on magnetic resonance imaging [MRI], ultrasound, and mammogram), patients may receive surgery first as this population is sometimes eligible for a less toxic chemotherapy regimen in the adjuvant setting if early disease is confirmed pathologically. Patients with TNBC or HER2-positive cancer >2 cm in size and/or node positive benefit from neoadjuvant chemotherapy. Making these decisions in conjunction with the medical oncologist is vital.

For ER-positive, HER2-negative cancers, all premenopausal patients with lymph node (LN) involvement or locally advanced cancers should be referred for upfront medical oncology evaluation. In this subset, the decision for surgery first versus chemotherapy first is not as clear-cut as with TNBC and HER2-positive cancers and requires joint decision-making.

At the City of Hope Comprehensive Cancer Center in Duarte, California, we typically proceed with surgery first for most resectable ER-positive, HER2-negative cancers given the low pCR rate and lack of survival benefit with neoadjuvant systemic therapy in this group, unless there is extensive nodal involvement or the likelihood of margin-negative surgical resection would benefit from neoadjuvant therapy.

See Figure 2, page 11, for a summary of management recommendations by biomarker status.

Who Should Be Referred to Radiation Oncology Prior to Surgery?

For patients to make the most informed decision, we recommend that all patients meet with radiation oncology prior to surgery, in environments with

Figure 1. pCR Rates to Neoadjuvant Systemic Therapy by Tumor Subtype

Tumor Biomarkers	Systemic Therapy Regimen	pCR Rate
ER-negative, PR-negative, HER2-positive	Chemo + Dual HER2-targeted	81%
ER-positive, HER2-positive	Chemo + Dual HER2-targeted	47%
TNBC	Chemo + Pembrolizumab	65%
ER-positive, HER2-negative	Chemo	<20%

adequate resources. If this is not possible, the following clinical scenarios represent key situations where preoperative consultation with radiation oncology should be sought.

Patients with a history of prior breast augmentation with implants for whom breast conservation is planned benefit from a preoperative evaluation with radiation oncology to discuss radiation plans and potential risks and morbidity of capsular contracture. As external beam accelerated partial breast irradiation (APBI) has increased in use and additional radiation techniques have developed, depending on the tumor location, size, and nodal status there are often options that can limit radiation to the implant and result in excellent cosmetic and oncologic results with breast conservation. Having these discussions upfront is extremely beneficial.

A second area where radiation plans and options are affected by surgical decisions is when oncoplastic surgery is performed, resulting in larger local tissue rearrangements and affecting the ability to accurately boost the cavity or precluding the patient from receiving APBI. These patients benefit from preoperative multidisciplinary planning between the oncologic surgeon, plastic surgeon, and radiation oncologist.

Another area in which preoperative evaluation is beneficial is when deciding to omit axillary surgery. Choosing Wisely guidelines from the Society of Surgical Oncology (SSO) in 2016 recommended against routine use of sentinel node biopsy in clinically node-negative (cN0) women ≥70 years of age with early stage hormone receptor-positive, HER2-negative invasive breast cancer.⁴

This SSO recommendation was made based on several trials that showed sentinel LN biopsy (SLNB) had no impact on breast cancer recurrence or survival in this population. SLNB results are unlikely to alter recommendations for systemic therapy in this group since all patients will be recommended to take adjuvant endocrine therapy, and chemotherapy recommendations will be guided by molecular tumor profiling, even in

the presence of limited nodal involvement.

Several studies have shown that there is no survival advantage to radiation in patients >70 with early stage ER-positive, HER2-negative cancers with cN0 disease, although there is an increased risk of locoregional recurrence when radiation is omitted.^{5,6}

However, knowledge of LN status can affect radiation recommendations. Since the studies evaluating APBI versus whole breast irradiation required pathologic staging of the axilla and APBI is not recommended for patients with pathologic nodal involvement, there may be some hesitancy for radiation oncologists to offer APBI or omit radiation in patients without axillary nodal sampling, and they may instead offer the traditional fields targeting the whole breast and lower axilla.

We recommend consideration of nodal sampling in patients >70 with more aggressive tumor biology (i.e., ER-low positive, grade 3, multifocal, lymphovascular space invasion) in which pathologic nodal status may help inform adjuvant therapy decisions. Preoperative discussions with radiation oncology will ensure optimal management.

Axillary Management: When to Do SLNB or Complete Axillary Lymphadenectomy

Techniques to Decrease Lymphedema

As surgeons, we see firsthand the morbidity of complete axillary lymphadenectomy (ALND)—including lymphedema, chronic discomfort, and decreased range of motion. Emerging techniques, including axillary reverse mapping (ARM) and lymphovenous anastomosis (LVA), have shown promise in ongoing and recently reported studies to decrease lymphedema rates.

ARM is a procedure where dye (such as isosulfan blue) is injected in the ipsilateral arm intraoperatively prior to ALND to identify the lymphatics and nodes draining the arm and attempt to spare these if they are not directly involved with clinical breast cancer metastasis/drainage. A different type of dye is injected in the breast (such

as radioisotope) to identify the sentinel nodes and ensure these are not the same nodes as the primary drainage of the arm.

If involved with breast cancer or drainage, then the nodes found during ARM should be removed and the afferent and efferent lymphatic channels re-approximated, if possible. The results of an ongoing phase III trial randomizing patients to ARM + ALND versus ALND alone are expected to provide important information about lymphedema rates and oncologic safety of the ARM procedure.⁷

Another technique that has been developed to decrease lymphedema rates following ALND is LVA. LVA is typically performed by a plastic surgeon using microvascular techniques. Similarly to ARM, LVA involves injection of dye into the ipsilateral arm intraoperatively prior to ALND. After ALND, transected lymphatics draining the arm are identified and anastomosed to a vein located in the axilla. Preliminary results of a randomized controlled trial from Memorial Sloan Kettering Cancer Center (MSKCC), New York, New York, showed a significant decrease in breast cancer-related lymphedema of 9.5% following LVA versus 32% without, although we are still awaiting long-term follow-up results.⁸

When to Do SLNB and ALND?

Despite these advances, the ability to de-escalate axillary surgery provides the greatest benefit to decreasing axillary surgical morbidity.

The practice-changing American College of Surgeons Oncology Group (ACOSOG) Z0011 clinical trial demonstrated the safety of omitting ALND in patients with small-volume axillary disease (cT1-2, 1-2 positive SLNs).⁹

Axillary management has been further de-escalated with Choosing Wisely guidelines for omission of SLNB in women >70 years, as reviewed earlier.

As systemic therapies continue to improve and pCR rates increase, we have found more opportunities to de-escalate axillary surgery. Targeted axillary node dissection (TAD) is a technique where the biopsied axillary nodal metastasis is marked with a seed or wire preoperatively and removed in addition to the radioactive or blue nodes identified using standard SLNB techniques.

TAD has been used with good results in patients with limited imaging-detected axillary nodal disease (1-2 LNs identified on imaging with no palpable nodes) who are undergoing upfront surgery with breast conservation or mastectomy and meet

Figure 2. Chemotherapy First vs. Surgery First

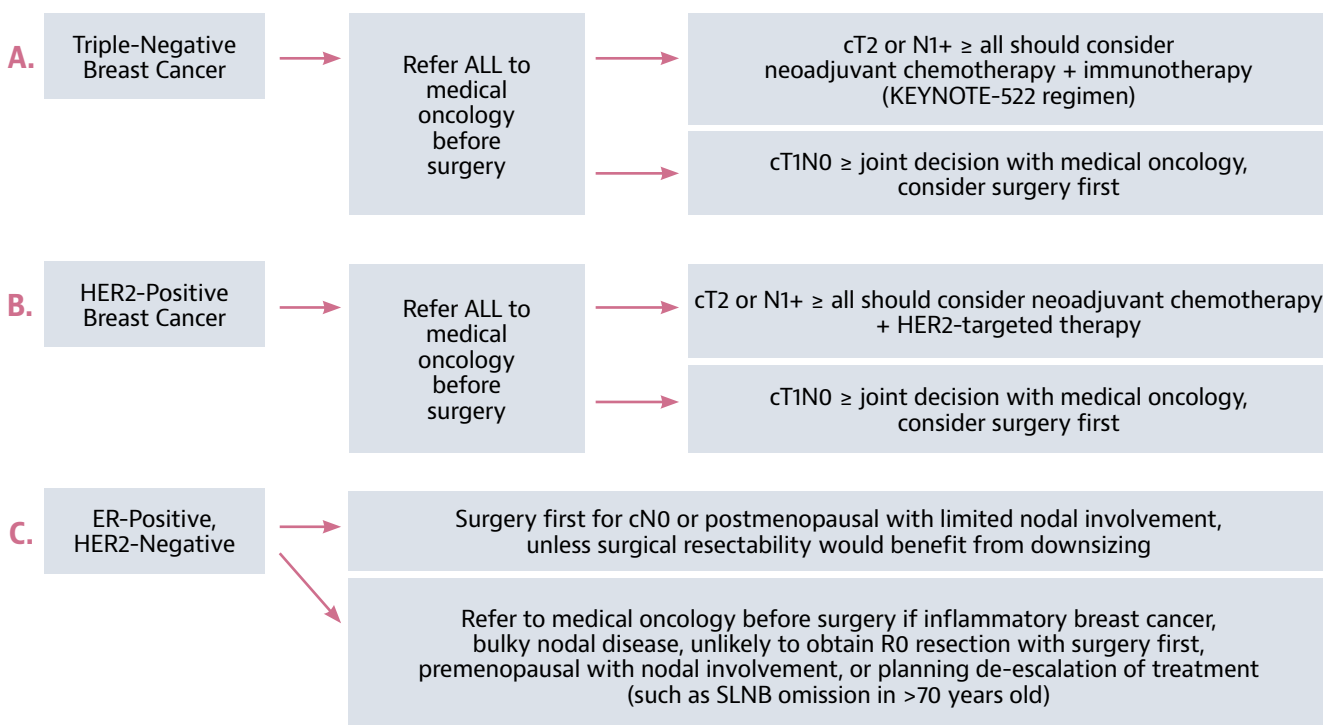


Figure 3. Summary of Leading Indications for Sentinel Node Biopsy, Targeted Axillary Dissection, and Complete Axillary Lymphadenectomy

Sentinel Node Biopsy	Targeted Axillary Dissection	Axillary Lymphadenectomy
cT1-2N0 upfront surgery	1-2 imaging-detected LN mets undergoing surgery first	Clinically palpable LNs undergoing surgery first
cT3N0 upfront surgery*	cN+ at presentation converted to cN0 after neoadjuvant chemo	Failure to map in SLNB
cN0 at presentation, surgery post-neoadjuvant chemo		≥3 abnormal LN on imaging with plans for surgery first
cN0 ipsilateral breast recurrence after breast conservation		Residual cancer in LNs on TAD or SLNB after neoadjuvant chemo
		cN+ after neoadjuvant chemo
		Inflammatory breast cancer (regardless of response to neoadjuvant chemo)
		≥3 positive LNs on SLNB

*Data are limited for cT3 disease as these patients were not included in ACOSOG Z0011, but they were included in the SENOMAC trial, which showed no significant difference in 5-year recurrence-free survival with omission of ALND. Also, per The American Society of Breast Surgeons Performance and Practice Guidelines, SLNB may be suitable for cT3 tumors.

National Comprehensive Cancer Network (NCCN) guidelines for omission of ALND (cT1-2, 1-2 positive LNs, and planning to undergo adjuvant radiation).¹⁰

Additionally, we use TAD after neoadjuvant chemotherapy in patients with node-positive disease that convert to cN0. Removal of the clipped node has been shown to decrease false-negative rates; therefore, this is the preferred method by surgeons at City of Hope.¹¹ We perform radar seed placement in the LN metastasis prior to the start of chemotherapy, as the abnormal node is more easily identified for seed placement prechemotherapy than postchemotherapy.

The need for excision of the clipped node is a controversial topic and many institutions perform SLNB without localization of the clipped node. If the clipped node is not removed, then the surgeon should obtain three or more nodes, as this has been shown to decrease false-negative rates.¹¹ Using these techniques, we can spare ALND in patients who convert from node positive to pathologically node negative with chemotherapy. This is an additional benefit to neoadjuvant chemotherapy in tumor subtypes with a high pCR rate.

Another successful area of axillary de-escalation is in patients with recurrent cN0 breast cancer with

a history of prior breast conservation and axillary surgery, who historically would undergo ALND at time of surgery for the recurrence. Repeat SLNB has been shown to be successful in 64% to 73% of patients and highly specific with a negative predictive value of 96.5%.^{12,13} The NCCN guidelines recommend proceeding with ALND in the setting of failure to map with repeat SLNB.¹⁰

Guidelines for axillary management are summarized in Figure 3, this page.

Impact of ALND on Adjuvant Systemic Therapy

As we de-escalate axillary management, the information regarding the number of positive LNs is limited, as we are favoring radiation for management of potential microscopic LN involvement in nonsentinel nodes. This has the potential to affect patient eligibility for adjuvant systemic therapies, including chemotherapy and cyclin-dependent kinase (CDK) 4/6 inhibitors such as palbociclib, abemaciclib, or ribociclib. CDK 4/6 inhibitors have been shown to improve invasive disease-free survival and distant relapse-free survival in patients with high-risk ER-positive, HER2-negative breast cancers (≥4 positive LNs or 1-3 LNs and

grade 3 and/or tumor size ≥ 5 cm).¹⁴ Therefore, it is important to ensure joint decision-making with the medical oncologists, although ALND should not be performed for the sole reason for determining adjuvant systemic therapy eligibility.¹⁵

Oncoplastic Surgery

Multiple studies during the past decade have shown a breast cancer-specific survival improvement with breast-conserving surgery (BCS) and radiation when compared with mastectomy (with or without radiation). This was initially thought to be due to selection bias of patients; however, additional studies and analyses have shown a survival benefit even when adjusting for tumor stage, subtype, grade, education level, family income, and country of birth.^{16,17}

This survival improvement has stimulated the field of oncoplastic surgery, which uses plastic surgery techniques to remove a larger volume of tissue and improve cosmetic outcomes after BCS. By mobilizing and advancing adjacent breast tissue, up to 50% of the breast parenchyma can be resected, depending on breast size and location of the area of resection, while limiting contour deformity. These techniques increase the number of patients who are eligible for BCS. Patients frequently require a contralateral symmetry procedure if larger volumes of breast tissue are removed.

There are many different techniques for oncoplastic surgery ranging from more basic full-thickness breast tissue re-approximation to reduction mammoplasty.

I favor a staged approach to large oncoplastic surgery procedures and schedule the reduction with a plastic surgeon approximately 2 weeks after the initial BCS

and nodal surgery, to ensure negative margins on final pathology prior to large tissue rearrangements, which could make it difficult to identify the affected margin and result in need for mastectomy.

The timing of the contralateral symmetry procedure depends on the plastic surgeon and patient preferences as there are pros and cons to each option:

- The contralateral symmetry procedure can be performed at the same time as the oncoplastic reduction; however, the ipsilateral breast may further decrease in size after radiation, resulting in future asymmetry.
- Contralateral reduction can be delayed for 6-12 months after completion of radiation, resulting in an initial asymmetry, but improved long-term symmetry after postradiation changes have occurred.

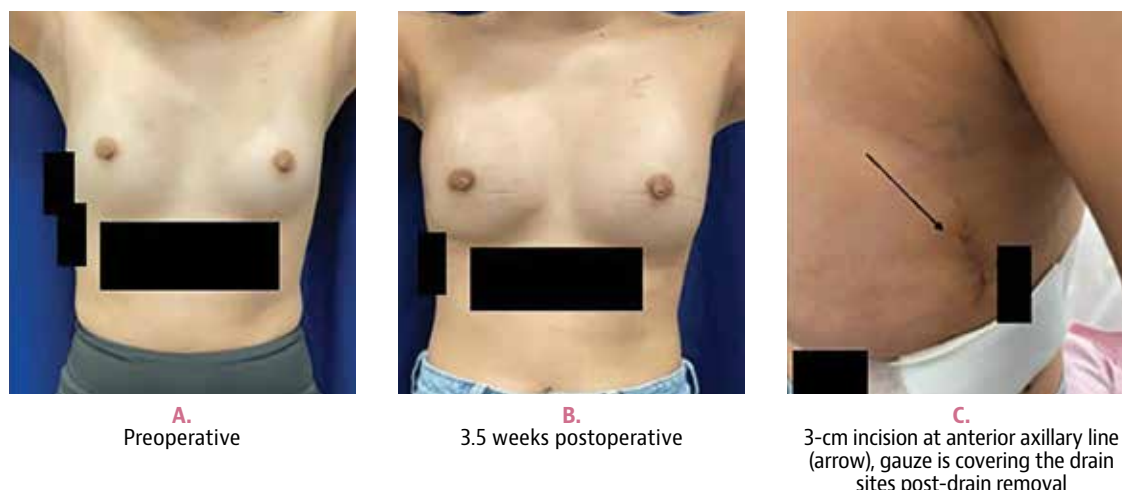
Emerging Technology and Future Directions

While there have been impressive advances in the field of breast surgery over the past few decades, there are still opportunities to further decrease the morbidity of our interventions and further improve outcomes. Numerous exciting areas are currently being studied in clinical trials, several of which are reviewed here.

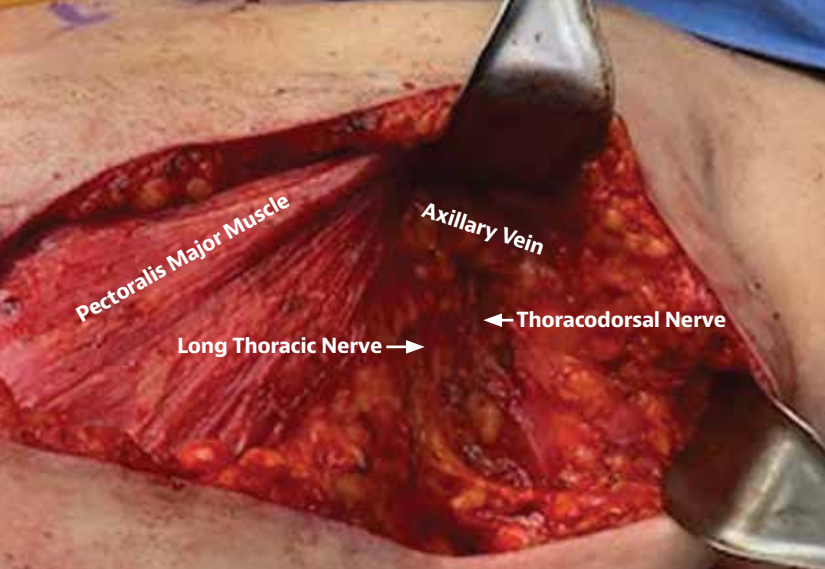
Robotic Mastectomy

Nipple-sparing mastectomies (NSM) have gained popularity due to improvement in aesthetic outcomes. While there are no randomized controlled trials studying NSM versus skin-sparing mastectomy, studies

Figure 4. Robotic NSM



*Black boxes are placed to cover tattoos, birth marks, and other potentially identifying marks.



A postmenopausal woman who presented with locally advanced left TNBC with axillary lymph node involvement underwent a left modified radical mastectomy. The photograph shows intraoperative surgical anatomy following ALND.

of NSM for prophylaxis and treatment of early breast cancers have shown comparable oncologic outcomes and low recurrence rates.

A known side effect of NSM is decreased sensation of the nipple and often permanent numbness. This is thought to be secondary to transection of the nerves that supply sensation to the nipple, in addition to further injury during retraction on the skin flaps during the NSM procedure. During open NSM, the entire breast is removed through a small incision while maintaining perfusion to the skin flaps and nipple.

This approach has ergonomic implications for the surgeons, who are often trying to maintain visualization under the skin flaps through small incisions. These factors make the concept of robotic NSM appealing since excellent visualization can be maintained using robotic instruments.

Additionally, the surgery can be performed through a hidden 3-cm incision along the anterior axillary line, and there is a question of improved sensation in the flaps and nipples, thought to be potentially related to the benefit of CO₂ insufflation instead of manual retraction on the flaps. A criticism of the robotic NSM approach is the question of whether the skin flaps are thicker and if improved sensation is due to the presence of a higher amount of residual breast tissue.

Given these questions, the safety, oncologic outcomes, and patient-reported outcomes are currently being studied in an ongoing prospective, multicenter randomized controlled trial, Robotic versus Open NSM for Early Stage Breast Cancer (NCT05720039).

This trial is sponsored by Intuitive Surgical, and the robotic procedure is performed using the da Vinci Single Port Surgical System. Patients undergo NSM, standard LN evaluation, and reconstruction through a single anterior axillary line incision. Reconstruction is per plastic surgeon preference and can be direct-to-implant or tissue expander

placement, followed by later exchange to implant.

Case Report – Figure 4 (page 13) shows photographs (A) preoperative and (B) postoperative following bilateral robotic NSM with direct-to-implant prepectoral implant placement. This patient is a premenopausal woman who presented with a 1.8-cm right ER 6%, PR-negative, HER2-negative breast cancer diagnosed after self-palpating a mass in the breast. She underwent neoadjuvant chemotherapy plus pembrolizumab with an excellent clinical response.

The patient underwent bilateral robotic NSM with immediate prepectoral implant reconstruction and right SLNB with a pCR. She had an uncomplicated postoperative course and is currently in follow-up per clinical trial guidelines. We are excited to see the results of this clinical trial to determine oncologic safety of the robotic NSM procedure and guide future directions for robotic breast and axillary surgeries.

Tumor Ablation

Cryoablation is a minimally invasive percutaneous technique that uses extreme cold to kill tumor cells under ultrasound guidance. Cryoablation is approved by the US Food and Drug Administration (FDA) for the management of fibroadenomas less than 4 cm in size, as an alternative treatment option to surgical resection or surveillance.

At this time, ablative techniques are not FDA approved for the treatment of breast cancers, but several techniques are currently in clinical trials. Cryoablation has been shown to be highly effective for treatment of breast cancers <1 cm in a multicenter phase II trial that evaluated cryoablation followed by surgical resection of the primary tumor. All <1 cm tumors were completely ablated, as were 92% of tumors ≤2 cm.

Cryoablation is currently being studied as an alternative to surgical resection for small breast cancers in ICE3, a multicenter, single-arm, non-randomized trial of women ≥60 years old with unifocal, ultrasound-visible invasive ductal carcinoma ≤1.5 cm with favorable features (ER-positive, HER2-negative, low-to-intermediate grade) who underwent treatment with cryoablation instead of surgery. Interim analysis at 3 years showed low ipsilateral breast tumor recurrence of 2%.¹⁸

Long-term follow-up and the results of ongoing randomized controlled trials are needed to further evaluate cryoablation as an alternative to surgery for early breast cancers.

In addition to direct killing of the cancer, tumor ablation has been shown to enhance anti-tumor immune responses. This is currently

being studied as another method to harness the immune system against cancer.

Other types of ablation also are being studied, including laser ablation.

Future Directions

Advances in immunotherapy, molecular profiling, targeted therapies, and personalization of cancer care have propelled the field and improved outcomes for nearly every type of cancer. These advances have made the multidisciplinary coordination of cancer care even more important, as the different treatment types fit together like a puzzle to improve patient outcomes.

There is more room to grow to minimize treatment morbidity, further tailor therapy to each patient, and continue to decrease rates of recurrence and cancer-related deaths. Despite major improvements in outcomes for breast cancer over the past few decades, as many as 25%–30% of patients diagnosed with early breast cancer develop recurrence. Ongoing research focuses on how to further harness the immune system to target circulating tumor cells and residual microscopic disease that can result in future local and distant recurrences.

As surgeons, we are often the first specialist that breast cancer patients see, and our involvement in the multidisciplinary approach to treatment, advancement of surgical techniques, development of less-invasive treatments, and optimization of systemic therapies has the potential to further propel the oncology field forward in our goal of continuing to improve survival and quality of life for breast cancer patients. **B**

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FEATURE



Violence Escalates against Surgeons and Other Healthcare Workers

Jim McCartney



Healthcare violence is on the rise, and it is adversely affecting the personal and professional lives of healthcare workers in clinics, hospitals, and other medical facilities across the country.

ALTHOUGH NURSES OFTEN receive the brunt of the violence, which includes verbal abuse, threatening behavior, and physical assaults, physicians—especially surgeons—have increasingly become targets as well. This behavior can come from patients, visitors, outsiders, intimate partners, and coworkers.

Healthcare workers are five times more likely to experience workplace violence than employees in other industries, and they account for 73% of all nonfatal workplace injuries and illnesses due to violence, according to federal government reports.¹ These statistics are from 2018, before healthcare workers began to see incidents of violence ramp up during the COVID-19 outbreak.

“Surgeons being assaulted, battered, or killed is a fairly new phenomenon within civilian hospitals,” said Jay J. Doucet, MD, MSc, FRCSC, FACS, director of the trauma division at the University of California (UC) San Diego Health. “We’ve had six surgeons killed in the last few years.”

Healthcare workers are often the target of angry patients coming into the hospital with violent intent, especially in emergency rooms and trauma bays. “These attacks are often directed at members of the healthcare team

by dissatisfied clients or people unhappy with something about the healthcare system and taking it out on healthcare providers,” Dr. Doucet said.

This troubling pattern of hostility and violence toward physicians and members of the healthcare team was highlighted in the Executive Director column, “How the ACS Can Help Surgeons Address Workplace Violence,” published in the September 2023 issue of the *Bulletin*.

Role of the Pandemic

The problem of violence against healthcare workers escalated during the pandemic, especially during the uncertainty of the first year, said Carter Lebares, MD, FACS, a surgeon and director of the Center for Mindfulness in Surgery at UC San Francisco.

General respect for the sacrifices of healthcare workers was replaced by a more negative attitude that developed and spread on social media, Dr. Doucet added.

“Doctors were framed not as hard-working individuals trying to help solve this medical mystery but as somehow complicit in hiding information and not being straightforward,” Dr. Lebares said. “It’s a travesty, and that sentiment has persisted.”

Some patients question the motives of healthcare workers for recommending masks and vaccinations and accuse them of receiving kickbacks from the drug industry, Dr. Doucet said. Tensions also rose over the overturning of *Roe vs. Wade* and controversy over gender reassignment procedures.

Since violent incidents are typically underreported, it’s possible the problem may be much worse than what statistics and personal anecdotes reveal.

“Workplace violence is going unreported because people feel that there is no effective system in place to make the effort of reporting it worthwhile,” Dr. Lebares said. “People don’t expect anything to be done about it.”

Limited available data demonstrate a substantial increase in violence against healthcare workers since 2019. A survey of American College of Emergency Physicians membership showed that 85% of emergency physicians think there’s been a general increase in the past 5 years, and 91% report they’ve been victims of violence in recent years. A 2024 nationwide survey conducted by National Nurses United found that in 2023, 81.6% of nurses have experienced at least one type of workplace violence incident, and nearly half have seen a rise in rates of violence.²

Impact of Violence on Healthcare

Aside from the direct physical and psychological impact of this behavior, the rise in violence has led to an increase in stress, burnout, job dissatisfaction, and turnover among healthcare workers, including surgeons.³ Hospital violence has led more than 26% of healthcare workers to consider quitting, Dr. Doucet said.

Six in 10 registered nurses report having changed or left their job or profession or considered doing so due to workplace violence.² Due to a lack of data, it's unclear if the rising violence is having the same effect on physicians and surgeons. Dr. Doucet worked on a surgeon survey to better understand the impact of workplace violence in trauma centers; the results have been collected and are expected to be published soon. See the sidebar on page 19 for survey highlights.

Increased turnover has led to staff shortages at medical facilities, resulting in disruptions in patient care, increased absenteeism, and higher turnover rates among staff, said Nathan J. Powell, DO, FACS, an attending trauma and acute care surgeon at the Saint Francis Health System in Tulsa, Oklahoma. This trend could disproportionately hurt urban trauma centers, where many of the violent incidents occur, which in turn, could further widen disparities in care in urban areas.

"Attrition is very expensive for hospitals, especially if you're losing skilled nursing and physicians," Dr. Doucet said.

Hospital operations and

staff are already stressed by a "corporatization of healthcare" trend that is contracting resources and has led to overcrowded hospitals, long wait times for patients, insufficient staffing—all of which have become worse since the pandemic, said Dr. Lebares. See the March 2024 *Bulletin* article on corporatization of healthcare.

Add healthcare violence to that scenario—especially the increasingly antagonistic attitude toward providers from patients—and there is a potential to weaken or even break the traditional bond of trust between healthcare workers and patients.

"Medicine would become closer to being a business where there is a transaction but not a whole lot of soul," Dr. Lebares said.

Strategies for Prevention and Mitigation

Overall, the best way to combat the rise in violence against healthcare workers is for employers to take appropriate caution. One of the best protections employers can offer healthcare workers is to establish a zero-tolerance policy toward workplace violence that covers everyone within the facility.

"A well-written and implemented workplace violence prevention program is key," said Dr. Powell. "But it's critical to ensure that all workers know the policy, and that they understand that all claims of workplace violence will be investigated and remedied promptly."

In January 2022, The Joint Commission began enforcing new and revised workplace violence prevention standards applicable to all hospitals accredited by The

Joint Commission and critical access hospitals, including:

- *Workplace assessment:* Hospitals must conduct an annual worksite analysis related to their workplace violence prevention program, and then take action to mitigate or resolve workplace violence safety and security risks. This may include enhancing security measures such as redesigning hospital layouts, increasing security, implementing alarm systems, and tightening access.
- *Monitoring:* Hospitals must continually monitor, report, and investigate workplace hazards such as safety and security incidents, including those related to workplace violence.
- *Education and training:* Hospitals must provide training, education, and resources to address prevention, recognition, response, and reporting of workplace violence, including training in de-escalation, nonphysical and physical intervention skills, and response to emergency incidents.
- *Response plans:* Hospital response plans must specify policies and procedures to prevent and respond to workplace violence, analyze incidents and trends, and provide follow-up and support to affected victims and witnesses.

Dr. Powell was at Saint Francis on June 1, 2022, when Preston J. Phillips, MD, an orthopaedic surgeon, was shot and killed at the hospital by a man on whom he performed back surgery.

Highlights from Survey about **Violence in Trauma Centers**

The survey was sent to all members of The American Association for the Surgery of Trauma; 212 members responded.

- **42%** personally suffered an assault on duty in the trauma center
- **64%** are aware of a deliberate attack on a healthcare worker in their system
- **40%** knew of an attack on a trauma center healthcare worker that resulted in moderate to severe disability or death
- **19%** were aware of a stalking event; of those events, 65% involved an attending physician and 79% of those stalked were women
- **62%** of trauma centers have armed security or police readily available; 46% have metal detectors at entrances; 36% routinely search for weapons in their systems

Suffering from the aftermath of that event, which claimed three other lives in addition to the shooter, continues today, Dr. Powell shared.⁴ Since the event, Saint Francis administrators have implemented a number of workplace violence prevention strategies, such as:

- Onsite training for the local police department, which had not been familiar with the layout at Saint Francis during the 2022 shootings
- Increasing shooter response training from being offered quarterly to weekly and requiring it for all healthcare workers
- Developing a new text message alert system for all employees
- Instigating tighter access control, including locks on numerous doors and badge access on entrances
- Flagging patients in electronic health records that have exhibited aggressive behavior
- Devising a new lobby guard system that includes a simplified emergency code system

Are Metal Detectors Worth the Expense?

The rise in workplace violence has led many hospitals to add weapon detection systems at high-risk entry points such as emergency departments (EDs), said Amy E. Liepert, MD, FACS, a trauma and acute care surgeon and former chief of the Division of Acute Care Surgery at the University of Missouri Health Care in Columbia.

Even so, fewer than one in three hospitals have metal detection systems.⁵

In 2022, UC San Diego Health installed metal detectors in the main entrance to its Level I Trauma Center, which has an estimated 45,000 ED visits per year, Dr. Doucet said. Previously, security at the hospital screened suspected high-risk patients, such as those with a history of violence, mental illness, or substance abuse.

“Since metal detection was put in, the number of weapons detected has gone up dramatically,” he added.

In the 8 weeks before the metal detector was installed, 511 patients were screened by security; they confiscated 15 weapons. In the 8 weeks after the metal detectors were installed,

13,149 people were screened and 194 weapons were confiscated, according to Dr. Doucet.

A big obstacle posed by metal detectors is the cost. In addition to paying for the physical equipment, they require staffing from additional security agents.

For example, one hospital that has not yet added metal detectors is Saint Francis, the site of the mass shooting in 2022. The discussion about metal detectors is still ongoing, Dr. Powell said.

“I don’t know all of the reasons why we don’t have them, but a lot of it has to do with staffing,” he said.

Metal detectors at entrances are less effective if access to the building is not controlled. Most hospitals have dozens of entrances on the main floor, including employee entrances. Simply adding a metal detector does not provide complete security, Dr. Doucet said.

More Support for Those Exposed to Violence

When violence does occur, healthcare employers need to provide better responses for affected staff, including enhanced security, legal support, and counseling support services, according to Dr. Liepert.

“Violence is a workplace issue, not a personal issue.”

Dr. Amy Liepert

This support starts with not blaming the victim for the incident, Dr. Doucet said. “They say, ‘You know, you shouldn’t have said that, or you shouldn’t have gotten close enough to get punched.’”

Specific forms of support for healthcare workers could include stress mitigation and mindfulness training. One study looking at surgeons undergoing the stress of surgical training found that mindfulness training decreased both physiological and psychological measures of stress, according to Dr. Lebares.

In two randomized trials of surgical residents trained in mindfulness-based stress-resilience skills, stress was reduced as evidenced by functional neuroimaging findings, circulating biomarkers, and subjective reports of feeling less stressed, she explained. Similar findings, from equally rigorous studies, have shown the minimization of post-traumatic stress disorder (PTSD) severity and even evidence of preventing PTSD in military veterans. In fact, the strength of this research lies behind Comprehensive Soldier Fitness—the US Army’s long-standing program which includes mindfulness-based stress-resilience training techniques for exactly this purpose.⁶

“Few things are effective in PTSD, but studies show that mindfulness-based interventions work,” Dr. Lebares said.

Role of Surgeons in Their Healthcare Institutions

Surgeons should help lead violence prevention initiatives within their institutions, Dr. Powell said.

This role could include ensuring that healthcare organizations follow The Joint Commission standards, where applicable, and the laws coming from the state and federal levels. Employers are responsible for the safety of employees and patients. Violence is a workplace issue, not a personal issue, Dr. Liepert said.

But some healthcare leaders don’t want crimes reported or prosecuted, fearing it will affect the reputation of their institutions, Dr. Doucet said, adding that they may not want it known that violence is taking place in their hospitals or that their patients are being prosecuted.

Healthcare facilities, though, are more likely to experience violence if their administration ignores concerning behaviors, tolerates bullying, lacks a reporting system for violent incidents, has inadequate training, security, and threat management, and does not have fair and consistent disciplinary practices.

“We need to hold our organizational leaders accountable,” Dr. Doucet suggested.

Role of Surgeons in the Community

Advocacy and leadership in the community should come from surgeons, according to Dr. Doucet, adding that surgeons should

partner with hospitals, nurses, law enforcement, mental health professionals, and community organizations to address the underlying issues of healthcare violence.

One tactic to deter healthcare violence is by increasing the penalties for it, Dr. Powell said. A variety of state and federal bills address healthcare workplace violence by, at least in part, making penalties for assaulting healthcare workers equivalent to those for attacking police and EMTs.

The ACS endorsed the Safety from Violence for Healthcare Employees (SAVE) Act, currently before US Congress, which would provide federal protections for healthcare workers who are victims of violence and intimidation in the workplace. The SAVE Act would make physically assaulting a healthcare worker punishable by up to 20 years in prison.

In addition to offering federal level protections to healthcare workers, the SAVE Act would provide grants to hospitals for programs to help reduce the incidence of violence in care settings. These grants could be used for training hospital personnel, coordinating with state and local law enforcement, and purchasing equipment or technology that would help create a safer environment.

“It would make intentionally assaulting a physician or nurse in the emergency department a felony,” Dr. Doucet said. “In my state, California, it’s not a felony—it’s not even a serious misdemeanor, it’s a lesser misdemeanor.”

In some parts of California, the maximum sentence for punching a surgeon in the face in the ED is 6 months, Dr. Doucet said, further explaining that some district attorneys won't even bother prosecuting that due to crowded jails.

"I'm aware of surgeons who have been assaulted and don't even bother reporting the crime," he added.

Dr. Doucet supported state legislation in California to make this kind of assault a more serious crime. AB 977, which would increase penalties for those convicted of assaulting emergency department healthcare workers, passed both houses of the California legislature and is on Governor Gavin Newsom's desk awaiting signature. Currently, 38 states have laws increasing penalties for assaults on certain healthcare workers—the majority of which make it a felony offense. See the article "Violence Escalates against Surgeons and Other Healthcare Workers" on page 33, under the header Violence against Healthcare Professionals.

Some argue that anti-stalking laws also need to be made tougher. Dr. Liepert continues to be stalked across country by a former patient—a man on whom she performed surgery in 2018 at the University of Wisconsin Health Level I Trauma Center in Madison. She has been forced to take numerous measures to protect her personal privacy and

safety. Despite anti-stalking laws, she had challenges engaging law enforcement to protect her from the stalker. For example, when her stalker crossed state lines to pursue her, Dr. Liepert was unable to get federal prosecutors to take the case because stalking is regarded as a federal add-on charge, not a standalone charge.

"I was told if you're assaulted or murdered or raped, then call us back," she said.

Dr. Liepert was able to get the stalker successfully prosecuted at the state level, a rare victory that may reflect her status as a surgeon, she said. But the ongoing legal ramifications of the stalking played a part in her decision to leave her job as an academic surgeon to address ongoing security issues and work as a surgeon on a per diem basis to maintain her personal security.

"There needs to be legislation that makes stalking healthcare workers a standalone crime and violence against healthcare workers punishable by severe penalties," Dr. Lebares said.

Dr. Powell agreed that "healthcare workers have a right to provide care in a safe setting."

For more information on violence in healthcare and maintaining a safe workplace environment, attend the Clinical Congress 2024 session, "Violence in the Healthcare System: Recognition, Prevention and De-escalation for Providers" on Monday, October 21, at 8:00 am or view on demand soon after.

Clinical Congress is Sunday–Tuesday, October 19–22 in San Francisco, California. **B**

Jim McCartney is a freelance writer.

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ACS Awards Help Surgeon-Scientist Build Sustainable Breast Cancer Research Program

Tony Peregrin



AS JACQUELINE S. JERUSS, MD, PhD, FACS, gazed at the photographs of children lining her desk, she recalled a time when young breast cancer patients avoided taking the recommended treatment course of chemotherapy or long-term antihormonal therapy because it could significantly delay, if not permanently end, their opportunity to start a family.

These heartwarming images of children, sent by former patients, continue to inspire Dr. Jeruss, a breast surgical oncologist and one of the initial members of The Oncofertility Consortium.

(“Oncofertility” refers to the field of medicine that links oncology to reproductive health.)

“Patients would say to me, ‘I’m able to go through treatment with chemotherapy now because I was able to cryopreserve embryos—my future hope is being preserved,’” reflected Dr. Jeruss.

Breast cancer is one of the most common malignancies found in women of childbearing age, with one study suggesting that approximately 11,000 cases are diagnosed each year in patients under the age of 40.¹ A diagnosis of breast cancer

Overleaf:

Dr. Jacqueline Jeruss and her husband Lonnie Shea, PhD, work in the lab with graduate and postdoctoral students.

This page:

Dr. Jacqueline Jeruss

for this cohort can be particularly challenging when considering the potential for fertility loss associated with specific gonadotoxic therapies. In 2009, Dr. Jeruss and Teresa K. Woodruff, PhD, coauthored the article, “Preservation of Fertility in Patients with Cancer,” published in *The New England Journal of Medicine*, which has been cited more than 700 times and continues to be a primary resource on this topic.²

In 2012, Dr. Jeruss was named the eighth recipient of the ACS Joan L. and Julius H. Jacobson II Promising Investigator Award, which was established to recognize surgeons “demonstrating early promise in contributing to the practice of surgery.” Dr. Jeruss’s research interests focused on the role of novel therapeutics for the treatment of aggressive breast cancer subtypes and examining new approaches to manage cancer metastasis. Eventually, her translational research efforts expanded to include developing a clinical path for the fertility preservation of young patients with cancer, as well as the management of pregnancy-associated breast cancer.

In a 2023 article published in the *Journal of the American College of Surgeons (JACS)*, Dr. Jeruss described the award as a “wonderful honor that served to buoy and motivate my academic career.”² Stated simply, the Jacobson Award helped to validate Dr. Jeruss’s research focus.

“The intentionality around the Jacobson Award is designed to support a surgeon-scientist who is at the tipping point in their academic career,” said Dr. Jeruss. “It is a time of great and also cautious optimism. Through mentorship, resources, and protected time, a tremendous investment was made to help catalyze my research program.

Receiving the Jacobson Award helped to recognize that my work could have a positive impact, and that there would be a return on the generous investment I had been granted.”

Beyond confirming the career trajectory for a young surgeon-scientist, the Jacobson Award provides funding of up to \$30,000, which is supported through an endowed fund established by donors and administered by the ACS Surgical Research Committee.





“Building a lab is a very busy time, when obtaining funding and also attracting graduate students and personnel to help run the lab are occurring simultaneously. It is a certain leap of faith when the lab is just getting started, to take on the responsibility of educating students and say, ‘I’ll be able to support you.’ It’s almost like starting a small business,” she shared.

10 Years Post Jacobson Award

“I remain committed to the meaningfulness of the research that I’ve participated in related to fertility preservation, TGF β signaling and cyclin-dependent kinases inhibition, and cancer progression. The work continues to be challenging, interesting, and inspiring,” said Dr. Jeruss. “I am grateful to have the opportunity to be involved in ongoing research that can help patients diagnosed with breast cancer.” Her approach a decade ago (and today) was to consider novel approaches to cancer care through the study of targeted therapeutic approaches and new treatments that could potentially mitigate off-target effects of therapy to improve quality of life.

After receiving the Jacobson Award, Dr. Jeruss’s

career path also led to key leadership roles, including director of the University of Michigan Breast Care Center and the Dr. Polly Suk-Yee Cheung Breast Surgical Oncology Fellowship, and codirector of a long-standing NIH T32 Surgical Oncology Research Training Program in the Section of General Surgery at the University of Michigan in Ann Arbor. Today, she is serving as associate vice president for Research Integrity and Compliance and associate dean for Regulatory Affairs; she also is the Alfred E. Chang, MD Professor of Surgical Oncology, with appointments in pathology and biomedical engineering, at the University of Michigan.

“Through my work as a surgeon-scientist and the support I have received from mentors and colleagues, I have been so fortunate that I can continue to learn and identify new ways to make a contribution to medicine, science, and education,” she said. “I support the approach to maintain a diverse research portfolio and remain open to many different experiences, allowing for the identification of passions that ultimately prove to be the most rewarding, sustainable, and meaningful throughout life.”

Dr. Jacqueline Jeruss works in the OR with Rachel L. McCaffrey, MD (now at Vanderbilt University Medical Center in Nashville, Tennessee).



Significance of a Solid Base

As an undergraduate attending Brandeis University in Waltham, Massachusetts, Dr. Jeruss worked as a laboratory technician studying neurogenetics in the lab of Jeffrey C. Hall, PhD, who would receive the Nobel Prize in 2017 for his research on circadian rhythms.

In the *JACS* article, Dr. Jeruss wrote about her formative experiences in Dr. Hall's lab, noting that she learned "fundamental premises of hypothesis-based thinking, meticulous scientific documentation, and the perseverance that comes with the scientific process."

"What I took from that initial research experience was what it meant to be an outstanding scientist and mentor and identify the kind of environment I hoped to foster. During this early experience, there was an opportunity to be exceedingly exacting and strive for excellence, but I was also shown compassion on the days when I was not at my best and to allow for a growth mindset. Working in the Hall Lab helped me understand how I might aspire to one day run a lab and how to populate the lab with outstanding people," explained Dr. Jeruss.

After graduating from Brandeis, Dr. Jeruss attended medical school at The University of Vermont in Burlington, where she was mentored by multiple medical educators, including Ann Thor, MD, and Donald Weaver, MD, who introduced Dr. Jeruss to

the field of breast cancer research. After Dr. Thor moved to Northwestern University in Chicago, Illinois, Dr. Jeruss applied to surgical residency at the same institution.

During this time, she received an ACS Resident Research Scholarship, which is a 2-year award that aims to "encourage residents to pursue careers in academic surgery anywhere on the research continuum."

"While at Northwestern, Dr. Thor served as my initial research mentor for the ACS Resident Research Scholarship," she said. The proposal was based on epigenetic factors that could influence the more aggressive trajectories of certain breast cancer subtypes.

After receiving the ACS Resident Research Scholarship (2000–2002), Dr. Jeruss pursued a doctor of philosophy degree in the labs of Drs. Thor and Woodruff, examining TGF β superfamily signaling in mammary gland development and breast oncogenesis.

"Receiving the ACS Resident Research Scholarship, provided me with the opportunity to pursue PhD-level studies," said Dr. Jeruss. "That scholarship also helped to generate support from the Northwestern Department of Surgery Chairs—Richard H. Bell Jr., MD, FACS, and David P. Winchester, MD, FACS—and the graduate school at Northwestern." After completing her PhD, Dr. Jeruss returned to

A combination of many factors, including maintaining optimism, a rigorous focus, a diligent commitment to excellence, and perseverance are key to thriving in the dual role of surgeon-scientist.



Northwestern Memorial Hospital to finish her surgical residency. A short time later, she moved to MD Anderson Cancer Center in Houston, Texas, where she completed a fellowship in breast surgical oncology.

Advice for Young Investigators

In early 2024, the National Cancer Institute's (NCI) payline for competing R01 and R21 grants for new and established investigators is at the 10th percentile.³ (A payline is a percentile that represents a conservative funding cutoff point.)

"This means that 90% of people who have novel ideas to approach cancer research and treatment are not getting funded," explained Dr. Jeruss. "The pressure is very high for young physician-scientists to identify the important questions, write outstanding proposals, publish in high-tier journals, and mentor students to ultimately develop a sustainable research program."

When applying for funding, be it for an NIH proposal or the Jacobson Promising Investigator Award, Dr. Jeruss suggests a straightforward approach. "Do the good work that is meaningful,

intentional, and problem focused. Be observant in the clinical setting and take that clinical experience back to your research program to guide and drive the work forward."

A combination of many factors, including maintaining optimism, a rigorous focus, a diligent commitment to excellence, and perseverance are key to thriving in the dual role of surgeon-scientist.

"Physician-scientists who maintain a clinical practice are competing against PhDs and MD-PhDs who are solely focused on their work in the lab," said Dr. Jeruss. "Clinician-scientists are always wishing for another hour on the clock, another moment to think about a research idea and read another paper. And yet, at the same time, I personally believe there's really no better way to develop novel ideas than by being in the clinic. The connection to patient care is a critical way to remain relevant and facile and also observe the trajectory of disease. Implementing this approach, surgeon-scientists can be responsive to key clinical observations through their research in a way that is meaningful."


Many scholarships and programs administered by the College are supported by funding from the ACS Foundation. To learn more about the ACS Foundation, the programs it supports, and how to contribute, go to facs.org/foundation. For more information about ACS scholarships and awards visit facs.org/awards. **B**

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At The University of Vermont, Dr. Jacqueline Jeruss poses with mentors James C. Hebert, MD, and Bruce J. Leavitt, MD.



Surgeons
Help ACS Drive
State Advocacy Efforts
on Scope of Practice,
Other Issues

Catherine Hendricks



State policymakers play a key role in shaping policies and regulations directly affecting surgeons and their practice, and ACS members and their chapters continue to help the College spearhead efforts to advance these goals. Overall, in 2024, 45 states introduced more than 158,000 state bills, and 25,400 were enacted.

WITH A CONSIDERABLE number of healthcare issues under consideration, the ACS diligently works to advance policies elevating surgical practice while advocating against proposals that undermine it. In 2024, the ACS State Affairs team reviewed more than 3,700 bills, monitoring and tracking close to 1,100.

This article provides a brief overview of the legislation.

Scope of Practice

Nonphysician healthcare practitioners continued to seek expanded scope-of-practice legislation at the state level in 2024. The College activated a grassroots initiative and sent 23 letters of opposition to scope expansion.

The ACS and state chapters supported other physician specialties in opposing scope-of-practice expansion state bills, including physician supervision of certified registered nurse anesthetists (CRNAs) and advanced practice registered nurses (APRNs). The College tracked the following scope-of-practice bills:

Certified Registered Nurse Anesthetists

The College tracked 28 scope expansion bills concerning the practice of CRNAs, allowing for independent or semi-independent practice. While CRNAs provide valuable and timely services, allowing a CRNA to practice independently places the responsibility on the operating surgeon should the patient experience any anesthesia-related complications. The College sent letters opposing state bills attempting to allow for CRNA independent practice in Missouri, New York, and Virginia. To

date, no legislation has been enacted.

In a related action, Washington State enacted SB 5184, which establishes licensure for anesthesiology assistants (AA) as a new health profession in the state. An AA works under the direct supervision of an anesthesiologist and within the AA's education, training, and experience.

Optometrists

Optometrists were especially active this year in pushing their surgical agenda. The ACS State Affairs team is tracking 11 bills that seek to allow optometrists to perform laser and scalpel surgeries around the eye, as well as provide injections. Working with the American Academy of Ophthalmology, the College sent letters opposing this gross expansion of scope and, as a result, all but one bill failed.

Newly enacted South Dakota HB 1099 allows optometrists to:

- Provide diagnostic and therapeutic agents
- Use intense pulsed light for the treatment of dry eye disease
- Provide an intradermal injection of a paralytic agent
- Provide the intralesional injection of a steroid to treat a chalazion
- Use local anesthetic to remove a skin tag
- Select laser to treat trabeculoplasty and posterior

Governor Kristi Noem signed the bill into law March 5.

Physician Assistants

Most state medical licensure boards regulate the practice of physician assistants (PAs), reflecting the supervisory nature of the relationship between a physician and PAs. Allowing nonphysicians to diagnose and treat patients without any physician oversight is a step in the wrong direction. The College is monitoring 21 PA scope expansion bills.

Introduced by Washington Representative Marcus Riccelli, HB 2041 allows a PA who has completed 4,000 hours of postgraduate clinical practice to practice without a collaborative agreement with a physician. The bill also contains provisions for 2,000 additional hours under collaboration with a physician if the PA chooses to change specialties. Governor Jay Inslee signed the bill into law March 13.

Oregon is the first state to officially adopt the title name change from “physician assistant” to “physician associate.” Introduced by the House Behavioral Health Care Committee, HB 4010 changes “physician assistant” to “physician associate.” Governor Tina Kotek signed the bill into law April 4.

Advanced Practice Registered Nurses

Multiple studies show nurse practitioners, regardless of the scope laws they are working under, tend to practice in the same areas of the state as physicians do and order more diagnostic tests. The College is monitoring 22 bills seeking to expand the scope of practice for APRNs. To date, only Virginia has enacted legislation

Introduced by delegate Kathy Tran, Virginia HB 971 reduces the number of required clinical practice hours an APRN needs prior to working independently from 5 years to 3 years. Governor Glenn Youngkin signed the bill into law April 4.

Naturopaths

In recent years, the Washington Association of Naturopathic Physicians (WANP) has become increasingly aggressive in its efforts to expand its scope of practice to include treatments, procedures, and independent authority inconsistent with its education and training. This approach jeopardizes the safety and quality of healthcare delivered to patients. For example, the WANP sought to expand

its scope of practice to include abortions and vasectomies through a licensure board opinion, rather than through regulation or legislation where the obvious flaws could be exposed.

The WANP also seeks to expand its scope of practice to include performing “minor” office procedures. However, there is no clear definition of what constitutes a minor office procedure, nor is there a listing of procedures they are trained to provide. This reality leaves the door open for naturopaths to perform procedures beyond their levels of training and expertise. The ACS will continue to monitor the situation.

International Medical Graduates/ Foreign-Trained Physicians

State legislatures and medical boards have examined ways to ease licensure requirements for foreign-trained physicians and international medical graduates (IMGs), including if and how to count graduate medical education (GME) completed outside of the US or Canada.

Currently, four states (Maine, Oklahoma, Tennessee, and Washington) allow physicians who have completed GME outside of the US and Canada to be licensed without the need to complete any additional GME in the US. Two jurisdictions (Minnesota and New Hampshire) have a process for granting a license by eminence for physicians who have completed GME outside the US and Canada and have an exceptional skill set.

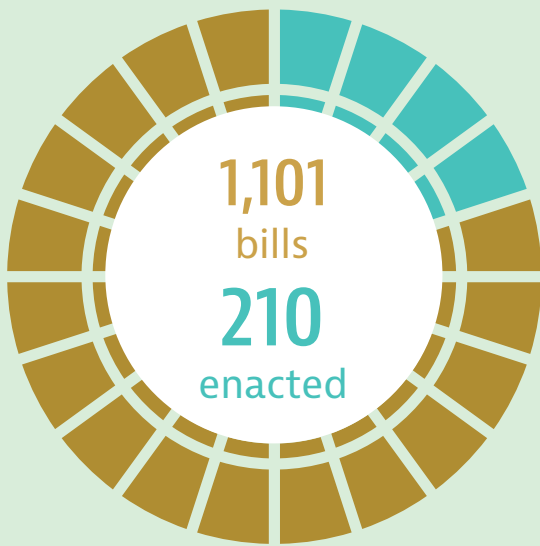
Approximately 22 jurisdictions grant at least some credit to applicants who completed GME outside the US and Canada. This credit is generally granted in instances where the applicant completed at least 1 year of GME in the US and Canada, or is already specialty board certified, licensed in another state, or both.

Prior Authorization

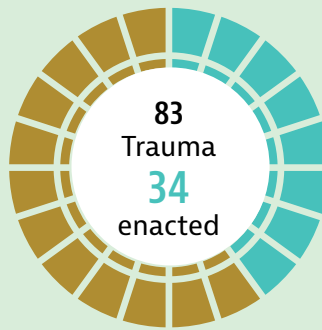
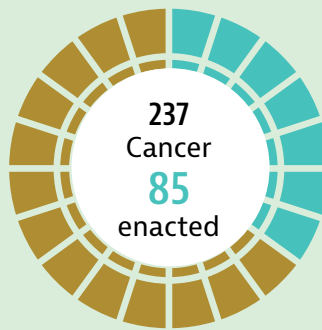
Improving insurance prior authorization requirements to ensure timely access to care for patients remains a priority for the College. These requirements can interrupt care, divert resources from patients, and complicate medical decision-making. In a 2024 American Medical Association survey, 78% of physicians reported that patients often or sometimes abandon treatment due to prior authorization issues.

Figure.

State Affairs Update: Tracking By the Numbers



The ACS is tracking bills involving 89 different issues; these are the categories with the most bills.



23 Letters of Support sent

5 State Advocacy Days

State Advocacy Grants:
California, Delaware, Florida,
New York, Wisconsin

In 2024, the ACS monitored more than 70 prior authorization bills that aimed to:

- Establish quick response times (24 hours for urgent, 48 hours for nonurgent care)
- Mandate any physician reviewing care be licensed in the same state and trained in the same specialty as the physician managing the patient
- Prohibit retroactive denials if care was pre-authorized
- Make prior authorization valid for at least 1 year, regardless of dosage changes or for the length of treatment for a chronic condition
- Require public release of prior authorization data on the number of requests and number approved/denied per month
- Require an online portal for submission of prior authorization requests

Signed by Governor J. B. Pritzker on July 10, Illinois HB 5395 requires health insurers to provide access to a standardized, electronic prior authorization request transaction process, and publish all services requiring this authorization on their website. The law also bans step-therapy requirements, requires formularies to be posted online and include any information on cost-sharing requirements, and provides coverage for both generic and brand-name medications.

Colorado recently enacted a bill requiring healthcare insurers and pharmacy benefit managers to adopt a prior authorization application programming interface by January 1, 2027, to automate the process and facilitate secure electronic transmission of requests and determinations.

The legislation specifically stipulates prior authorization for surgical procedures cannot be denied for related procedures identified during the surgery if they meet the following criteria:

The surgeon determines delaying the provision of additional care to the patient is not medically advisable, the additional service is a covered benefit under the patient's plan, and the additional procedure is not experimental or investigational.

The legislation also stipulates that after completing the procedure, the surgeon must notify the insurer that they provided the additional services. Under this law, the surgeon must file a timely claim for the services, and the insurance carrier is prohibited from denying the approved initial surgical procedure.

The Ensuring Transparency in Prior Authorization Act—signed by New Jersey Governor Phil Murphy on January 6—mandates online publication of detailed prior authorization statistics. The law also requires that physicians who make adverse determinations be of the same specialty as the physician who is managing the patient. Under this law, prior authorization is valid for 1 year, and it requires a response to all prior authorizations within 1 business day.

Medical Liability Reform

The Grieving Families Act in New York would expand the types of damages recoverable in a wrongful death action, including “grief and anguish.” The legislation also extends the timeframe to bring an action and expands the number of close family members who could sue for wrongful death. The ACS New York Chapter and the College worked together to empower surgeons to send Action Alert emails to state legislators in opposition. New York Governor Kathy Hochul has not yet vetoed the bill, but if she does, the bill is expected to be re-introduced in the next session.

Violence against Healthcare Professionals

Introduced by Assemblymember Freddie Rodriguez, AB 977 makes an assault or battery committed against a physician, nurse, or other hospital healthcare worker engaged in providing services in the emergency department punishable by imprisonment in a county jail not exceeding 1 year, by a fine not exceeding \$2,000, or by both fine and imprisonment. The ACS California Chapters and the College sent an Action Alert to all California surgeons requesting that they reach out to Governor Gavin Newsom and encourage him to sign the bill.

Stop the Bleed

The ACS Stop the Bleed (STB) program continues to gain support across the country. In 2024, seven STB bills were enacted. While several bills sought to bring STB kits and training into schools and public buildings, four were resolutions recognizing May 23 as STB Day.

Florida enacted legislation to fund the purchase of bleeding control kits in public schools and Washington Governor Jay Inslee signed SB 5790 into law, mandating schools in the state provide and maintain bleeding control kits on school campuses and ensure at least two employees per school have STB training.

Overall, of the 237 cancer bills the ACS is tracking, more than 40 have been enacted and 31 cancer resolutions have been adopted.

More recently, Illinois Governor J. B. Pritzker signed two bills: HB 1561 amends state law to allow each school to maintain a bleeding control kit on campus, and HB 4653 provides Good Samaritan protections to school employees with STB training should they need to use a bleeding control kit during an emergency.

During a legislative session day in May, the New York State Senate adopted a resolution declaring May as STB month and recognized the ACS New York Chapter members sitting in the gallery during their advocacy day.

Trauma Funding

Maryland broke new ground in enhancing trauma funding in 2024 through an increase in the motor vehicle registration surcharge, from \$17 to \$40. SB 1092 allocated the funds in the following manner: \$6.50 of the surcharge goes toward trauma physician services fund, \$9 of the surcharge goes toward the R Adams Cowley Shock Trauma Center, and the balance of the surcharge goes to the state emergency medical services operations fund.

The bill also outlines disbursements to the state pediatric trauma centers, with amounts up to \$900,000 to Johns Hopkins Children's Center and up to \$900,000 to Children's National Hospital. The new law changes reimbursement for costs incurred by trauma physicians and trauma centers, and beginning fiscal year 2026, includes an annual appropriation of at least \$16.5 million as a baseline for trauma funding.

The success in Maryland prompted John H. Armstrong, MD, FACS, Chair of the Committee on Trauma, to create a trauma funding work group to align with ACS chapters looking for new ways to increase their trauma funding.

Cancer

The ACS Commission on Cancer (CoC) has been supporting efforts to advance legislation on several cancer-related priorities, including:

- Expanding health insurance coverage for breast, prostate, lung, and colorectal cancer screenings
- Asking for the cancer screenings to be provided with no cost-sharing for the patient—meaning no out-of-pocket costs

Other cancer-related priorities tracked by the ACS include biomarker coverage bills, step-therapy, and proton beam therapy bills. Overall, of the 237 cancer bills the ACS is tracking, more than 40 have been enacted and 31 cancer resolutions have been adopted.

Louisiana enacted HB 508 which provides treatment decisions following a diagnosis of cancer are to be made solely by the patient in consultation with their physician. The law also clarifies all levels of medical and surgical treatment considered medically necessary and prohibits exclusion from coverage.

Breast Cancer

For women, breast cancer is the second most common diagnosed cancer and the second leading cause of cancer death. In 2024, the ACS tracked numerous bills that provided no cost-sharing screening and imaging services, including standards for breast density classification, and supplemental testing and examinations.

Vermont enacted HB 621 to provide no cost-sharing for mammograms or other medically necessary breast-imaging services to detect the presence of breast cancer and other abnormalities of breast tissue. Iowa, Kentucky, Mississippi, Maryland, and New Hampshire signed legislation requiring healthcare insurers to provide coverage for diagnostic and supplemental breast examinations, with some states providing those examinations with no cost-sharing requirements.

Oklahoma and Rhode Island passed legislation defining breast density classifications. Louisiana amended existing law to add contrast-enhanced mammograms and breast magnetic resonance imaging to standard mammography services.

Prostate Cancer

Working with the American Urological Association and ZERO Prostate Cancer, the ACS wrote letters of support for no cost-sharing prostate cancer bills, including Tennessee HB 2954 signed by the governor on May 29, and Delaware HB 302 currently awaiting the governor's signature.

Prostate cancer is one of the leading causes of cancer death among men in the US. The relative 5-year survival rate for prostate cancer when diagnosed at an early stage is nearly 100%, while the survival rate drops to 31% when diagnosed at an advanced stage. As with any cancer, early detection is key, and removing cost barriers to screenings will allow more men to survive the disease and maintain their quality of life.

Introduced by Tennessee representative G. A. Hardaway, HB 2954 requires healthcare insurers to cover early detection of prostate cancer in men with a family history, men 40 to 49 years of age at high risk, men 50 years of age and older, and men whose physician determines early detection is medically necessary. Governor Bill Lee signed the bill into law on May 29.

Lung Cancer

Lung cancer is the nation's number one cause of death for both men and women diagnosed with cancer. While there were several state resolutions to designate November as Lung Cancer Awareness Month, New York introduced a bill seeking no cost-sharing for follow-up screenings or diagnostic services when recommended by a healthcare provider.

Colorectal Cancer

Over the past few decades, colorectal cancer in patients 20 to 49 years of age has increased exponentially. Both the American Cancer Society and the US Preventive Services Task Force (USPSTF) released guidelines lowering the age to begin screening from 50 to 45 years of age. Insurers still have the authority to deny patients coverage of routine colorectal cancer screenings if they are younger than 50 years. The CoC Advocacy Committee has been monitoring 15 colorectal bills since January.

Louisiana Governor Jeff Landry signed HB 361 into law on May 23. This legislation mandates health

insurance plans to cover colorectal screenings and allows any test or screening recommended by named medical organizations.

Signed by Nebraska Governor Jim Pillen, LB 829 prevents patients from being subjected to additional charges for any medical service associated with a colonoscopy, including anesthesia and polyp removal.

Introduced by Representative Kate McCann, H 741 amends existing law to mandate insurers provide coverage for colorectal cancer screening for average-risk individuals in accordance with the most recently published recommendations established by the USPSTF. Vermont Governor Phil Scott signed the bill on April 25.

In Virginia, Governor Glenn Younkin signed HB 238 into law March 28. Introduced by Representative Delores McQuinn, HB 238 requires health insurers to provide coverage for examinations and laboratory tests related to colorectal cancer screening in accordance with the most recently published recommendations established by the USPSTF. The law also requires coverage to include follow-up colonoscopy after a positive noninvasive stool-based screening test and prohibits such coverage from being subject to any deductible, coinsurance, or any other cost-sharing requirements for services received from participating providers.

Ovarian Cancer

Delaware is the only state to introduce and enact an ovarian cancer law in 2024. Introduced by House Speaker Valerie Longhurst, HB 15 requires healthcare insurers to cover annual ovarian cancer screening tests, includes monitoring tests after ovarian cancer treatment. Governor John Carney signed the bill into law on March 21.

If you would like to get more involved and help the ACS drive issues that affect your practice and patients, the ACS State Affairs team is available to answer questions. State advocacy resources also are available. For more information, contact state_affairs@facs.org. **B**

Catherine Hendricks is the State Affairs Manager in the ACS Division of Advocacy and Health Policy in Washington, DC.

ACS GSV Program Streamlines Age Friendly

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Hospital Measure Implementation



On August 1, the Centers for Medicare & Medicaid Services (CMS) released the fiscal year (FY) 2025 Inpatient Prospective Payment Systems (IPPS) final rule, which finalized the inclusion of the new Age Friendly Hospital measure as a mandatory measure within the Hospital Inpatient Quality Reporting (IQR) Program beginning with the 2025 IQR reporting period. The period of measurement is January 1–December 31, 2025.

Developed in collaboration with the ACS, Institute for Healthcare Improvement (IHI), and American College of Emergency Physicians (ACEP), this measure is designed to help build a better, safer environment for older adults and will help patients and caregivers find quality care.

Measure Details

The Age Friendly Hospital measure is a “programmatically composite” measure, which is a new type of metric developed by CMS in conjunction with the ACS. It considers the full spectrum of care needed for older adult patients (individuals over the age of 65) in the hospital and is substantially based on ACS Geriatric Surgery Verification (GSV) Program standards. Instead of a single metric, it is broader, akin to a “program,” and aligns with the ACS’s decades of

developing quality programs that improve patient care provided by the clinical team with evidenced protocols and processes that enhance hospital efficiencies and result in better care and outcomes.

The Age Friendly Hospital measure incorporates five domains that target high-yield points of intervention for older adults comprising a total of 10 items to which hospitals must comply. The individual domains and items for compliance are described in the Table on page 39.

The measure is mandatory within the Hospital IQR Program and is pay-for-reporting, requiring participating hospitals to submit data on quality measures to CMS each year in order to receive full Medicare reimbursement payments. If hospitals do not comply with reporting requirements, they will be at risk

for reimbursement deductions and may face significant financial penalties. Hospital performance on IQR measures is publicly reported by CMS.

What It Means for Patients

Improving care for older adults is critical as this population in the US is growing more quickly than any other age group. Between 2010 and 2020, the number of people 65 years and older grew by 3.8%, reaching 55.8 million people (or 16.8% of the total population).¹

Older adults are often living with a number of chronic conditions, have higher healthcare use, worse healthcare outcomes, higher readmission rates, and higher rates of in-hospital delirium—all of which contribute to increasing healthcare costs.^{2,3} Delirium alone has been shown to prolong

hospital length of stay, result in functional cognitive decline, and increase risk of death in geriatric patients.⁴ Delirium is not limited to surgical patients and is just one example of an area for improvement that can be addressed by this measure, which focuses on improving care for these patients in an effort to reduce postoperative outcomes.

As the population ages, this measure is the first step in shifting focus to geriatric care on a national scale. With a national effort being put forth to care for this vulnerable and growing population, the next White House

Conference on Aging will be in 2025 and help shape the landscape for older Americans in the next decade. It is critical that hospitals begin their involvement in this work now to build a foundation for more geriatric-focused work in the future.






What It Means for Surgeons

To assist surgeons in streamlining this process and help ensure compliance, the GSV Program makes available resources to which surgeons and surgical teams will have access if they enroll in the program.

These tools will give efficient and effective ways not only to comply with the measure, but also achieve improved care for this patient population.

Some aspects of the items in the Age Friendly Hospital measure are likely already being performed by most surgeons, their surgical teams, and hospitals. For example, item 3C entails collecting data on falls, decubitus ulcers, and readmission for geriatric patients, which is already being done by hospitals in accordance with other measures in the Hospital IQR Program.

Table. Measure Domains and Items

	Domain	Item
	Eliciting Patient Healthcare Goals	1A. Protocols in place to ensure patient goals related to healthcare
	Responsible Medication Management	2A. Optimizes medication management
	Frailty Screening and Intervention (Mobility, Mentation, and Malnutrition)	3A. Screens at-risk patients 3B. Utilizes positive screens to create management plans 3C. Collects data on falls, decubitus ulcers, readmissions for geriatric patients 3D. Protocols to reduce risk of emergency department delirium
	Social Vulnerability (social isolation, economic insecurity, ageism, limited access to healthcare, caregiver stress, elder abuse)	4A. Screens for geriatric social vulnerability 4B. Utilizes positive screens to create intervention strategies
	Age Friendly Care Leadership	5A. Designates point person/committee to ensure age friendly care is prioritized 5B. Compiles quality data related to Age Friendly Hospital measure to drive improvement cycles

Other items, such as item 1A (patient goals), are likely being done in part through the surgical consent process. To ensure full compliance and be able to attest to this domain, surgeons and surgical teams will need to continue discussing and documenting the aspects addressed in the measure (i.e., health goals, treatment goals, living wills, advanced care planning) and should continue doing this before major procedures and upon significant changes in clinical status.

What This Means for the Hospital

Delirium alone is associated with additional costs of approximately \$20,000 per patient for the initial episode, in addition to

contributing to significantly worse outcomes for patients, including increased mortality and readmission rate.^{3,4}

In surgical patients, for example, approximately 25% of both geriatric emergency general surgery (EGS) patients and elective geriatric surgical patients experience postoperative delirium.^{3,5} It has been estimated that annual national healthcare costs attributable to delirium range from \$143 billion to \$152 billion.⁶ Targeting delirium has the possibility of not only saving the hospital money, but also generating additional revenue. The example in the sidebar on this page demonstrates the financial benefit of targeted interventions to improve delirium.

In addition to improved care, potential cost savings, and increased revenue, which we know occurs in hospitals participating in the GSV Program, hospitals can build a reputation for having the processes, structures, and resources to provide care for older adults through public reporting of their compliance with the measure.

How Your Hospital Can Achieve Compliance

The ACS has been at the forefront of improving hospital care for older adults with the inception of the GSV Program, which launched in 2019 to improve surgical care for older adult patients. The new CMS measure is, as stated earlier,

Case Study: Financial Benefits of Improving Delirium

A 3.3 day–8 day increase in length of stay is attributable to postoperative delirium.^{7,8} Additionally, approximately 30%–50% of EGS operations are performed on older adults.^{9,10}

If, for example, a hospital has 1,000 EGS cases in 1 year, approximately 500 of these will be in older adults. If, as demonstrated by Saljuqi et al., 25% of these patients (125 patients) are diagnosed with postoperative delirium at approximately \$20,000 per patient, this will cost the hospital an additional \$2.5 million and result in an additional 412.5 hospital days per year.

Preventing delirium will free up bed space for those 412.5 days for hospitals to admit new patients and schedule additional operations to generate revenue for the hospital. This does not account for costs saved by decreasing readmission rates which can be up to 53% of patients with postoperative delirium.⁴

The costs saved by the hospital will be much greater than the cost of the GSV Program itself, and the program entails only a small amount of additional time commitment for physicians and staff. Overall, decreasing delirium will not only improve the care of older adult patients, but also provide the opportunity for significant financial gain.

substantially based on the ACS GSV Program.

To help hospitals comply with the Age Friendly Hospital measure and improve care of older adult patients, the ACS has restructured the GSV Program to make it more accessible to hospitals, particularly addressing the widely varying resources existing across facilities. The new GSV Program is simple to do and is specifically tailored to address the 10 items included in the measure.

Also, hospitals that participate in the GSV Program will receive GSV status, the ACS Surgical Quality Partner diamond, and, upon request, a communications toolkit for hospital messaging about being a recognized ACS Geriatric Surgery Verified Hospital.

The collective aim is to ensure older adult patients get appropriate care, which was the nidus for developing the measure. As many of the measure's elements may be new to various parts of hospitals, the ACS sought to help hospitals in their journeys. The ACS GSV Program will assist hospitals in starting this program by providing resources for scaling up to hospital-wide implementation. Surgical care is episodic and often standardized, so the implementation of a program in surgery is a valid and feasible way for hospitals to begin working on compliance with this measure.

It also is expected that taking a scaled approach will allow for easier management and oversight and help hospitals better allocate resources—ensuring that they are used efficiently and effectively without overwhelming the system. This approach has

the potential to lead to successful and sustainable outcomes.

Depending on your hospital, surgical patients may make up a substantial number of geriatric patients, which can more efficiently meet the requirements of the measure. Of the programs that currently exist for care of geriatric patients, the new GSV Program is the only program that provides guidance for all 10 items specified in the measure.

How ACS Members Can Lead in Their Hospitals

In addition to participation in the GSV Program, surgeons can teach their teams about hospital care for older adults and champion quality improvement initiatives for these patients (see item 5B in the Table). Surgeons can serve as a point person or committee member for age friendly care to ensure that geriatric patients are prioritized in their hospitals (see item 5A in the Table). It will be critical to have champions from surgery as high-quality geriatric care is scaled up to the entire hospital. When surgeons are at the forefront of this initiative, with the resources from the GSV Program, they can help lead the rest of the hospital in complying with the measure.

For more information regarding the GSV Program, visit the GSV web page at facs.org/gsv and complete the interest form. Additional questions can be directed to geriatricsurgery@facs.org. **B**

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Dr. Enrique Ginzburg



Dr. Raul Coimbra

Cybersecurity Attack on South Florida Hospital System Leads to Valuable Lessons Learned

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On the morning of Sunday, July 28, our hospital transfusion team was informed by the region's major blood supplier that a critical computer software malfunction had occurred.

IT HAS NOW been determined that a ransomware attack by a non-state Russian actor was responsible for this event. It resulted in our facility's inability to provide critical O-positive red blood cells, O-negative red blood cells, platelets, and other blood products to all hospitals in the region.

In fact, this event initiated a statewide crisis of blood product shortage.

A rapid response team was assembled that included all five hospitals in the network. The team implemented its blood shortage policy, but also creatively tackled issues through other various methods. This article describes strategies to resolve, and hopefully, prevent future blood shortages at the local, region, and federal levels.

Timeline of the Crisis

The main constraints of this crisis, which continue today, were experienced mainly in the first 72 hours. During this time, smaller blood product suppliers were contacted.

The main supplier reached out to the American Red Cross and Association for the Advancement of Blood & Biotherapies emergency task force and was able to procure some critically needed blood products.

The primary issue, due to computer software malfunction, was the ability to label the blood products for distribution. At our center, the inventories from the main local supplier already had been constrained along with the main hospital supply due to a 100-unit liver transplant case the night before. After 72 hours of implementing blood conservation efforts and securing blood products from other blood suppliers, the only ongoing shortage was the inventory of platelets. It took exactly 1 week for the main Florida supplier to resolve its information technology-related issues. At that point, most of the hospitals were reporting adequate blood product supplies.

Interhospital Communication

During the first 72 hours, communication with leadership, the OR staff, and the trauma and transplant teams resulted in the postponement of several elective cases. Trauma teams were instructed to be more judicious on product use in stable or unsalvageable patients. There were other hospitals that had to postpone a significant number of elective cases due to insufficiency of blood product inventories for which platelets were the main critical deficiency.

The hospital transfusion medicine teams along with hospital administration, consisting of the chief medical officer (CMO) and director of perioperative services, established a crisis group that also included the director of clinical services stakeholders. This team served as the conduit to report inventories of blood product and issues to the rest of the hospital staff. Table 1 (see page 44) was adjusted to carry real-time

Table 1.
Inventory and Daily Blood Product Usage
in Hospital Communication Email
 (numbers excluded per the request of hospital administration)

July 31, 2024 6:00 pm	Opos RBC	Oneg RBC	Platelets	Notes
	Daily use average:	Daily use average:	Daily use average:	
	MH: #	MH: #	MH: #	
	S: #	S: #	S: #	
	N: #	N: #	N: #	
	W: #	W: #	W: #	
	Par level:	Par level:	Par level:	
	MH: #	MH: #	MH: #	
	S: #	S: #	S: #	
	N: #	N: #	N: #	
	W: #	W: #	W: #	
Inventory Level				
MH	#	#	#	
S	#	#	#	2 platelets exp. 8/1/24—will transfer to MH in AM if not used
N	#	#	#	
W	#	#	#	
Total	#	#	#	

inventories three times a day.

The original transfusion policy was modified, which resulted in the policy shown in Table 2 (see page 45). The policy was distributed to all staff via their service leaders and enforced by the CMO and transfusion medicine services.

CMO Strategies

Chiefs of service were proactively asked to develop a plan for deferral of elective cases if such a plan was needed. The CMO distributed the transfusion policy to all physicians, and a pop-up was created in the electronic health record if blood or platelets were ordered to serve as a reminder of appropriate criteria prior to ordering the product. If there was a concern that a case would require high blood or platelet usage, surgeons were asked to defer cases when possible. Daily usage and inventory reports were circulated to share periodic automatic replenishment levels and current available units in the blood bank. The CMO requested procurement teams to contact other blood vendors to obtain additional units of blood and platelets until the crisis could be resolved.

Blood Bank Management

Early notification to blood bank management and executive leadership was initiated, and contingency planning, with an emphasis on securing a backup supplier, also was implemented. Debrief sessions were held with physician partners, members of

Table 2.
Hospital System Transfusion Policy Circulated during Crisis

RBC Guidelines	
Adults	Platelet guidelines
<ol style="list-style-type: none"> Hb is less than 7 g/dL, hospitalized and hemodynamically stable or hospitalized and with hematologic and oncologic disorders Hb is less than 7.5 g/dL, undergoing cardiac surgery Hb is less than 8 g/dL, undergoing orthopaedic surgery or with preexisting cardiovascular disease 	<ol style="list-style-type: none"> <10 x 10⁹/L, prophylactic platelet transfusions in hospitalized patients to reduce the risk of spontaneous bleeding (patients with reversible bone marrow failure (e.g., general critical illness, receiving intensive chemotherapy, or undergoing hematopoietic stem cell transplantation) <10 to 20 x 10⁹/L, prophylactic platelet transfusion in patients judged to have additional risk factors for bleeding (e.g., sepsis) <20 x 10⁹/L, prophylactic platelet transfusion for patients having elective central venous catheter placement, procedures with low bleeding risk (e.g., central venous access, including PICC placement, dialysis access, lumbar puncture, paracentesis, thoracentesis, transjugular liver biopsy, or superficial abscess drainage) <50 x 10⁹/L, prophylactic platelet transfusion for patients having elective diagnostic lumbar puncture or prophylactic platelet transfusion for patients having elective neuraxial anesthesia or for procedures with high bleeding risk (e.g., deep abscess drainage, solid organ biopsies, arterial intervention <7 French sheath, gastrostomy, urinary tract interventions [nephrostomy, stone removal]), or transjugular intrahepatic portosystemic shunt ≤50 x 10⁹/L, major surgery or percutaneous liver biopsy (consider transjugular biopsy if platelet count is lower) <80 x 10⁹/L, insertion/removal of epidural catheter ≤100 x 10⁹/L, neurosurgery or posterior segment ophthalmic surgery Recommends against routine prophylactic platelet transfusion for patients who are nonthrombocytopenic and have cardiac surgery with cardiopulmonary bypass or before percutaneous tracheostomy or central venous catheter insertion for platelet counts between 50 100 x 10⁹/L and 100 x 10⁹/L
Pediatric	
<ol style="list-style-type: none"> Hb is less than 7 g/dL, critically ill, at risk of critical illness who are hemodynamically stable and without a hemoglobinopathy, cyanotic cardiac condition, or severe hypoxemia or hemodynamically stable with congenital heart disease with biventricular repair Hb is less than 7 to 9 g/dL, hemodynamically stable with congenital heart disease and uncorrected congenital heart disease Hb is less than 9 g/dL, hemodynamically stable with congenital heart disease with single-ventricle palliation 	

risk management, and executive leadership on day 1 through each day of the crisis. Other blood bank management strategies included:

- Maintaining close communication with the main south Florida supplier
- Fostering strong internal communication among all hospital blood bank management teams in the safety net hospital system and the affiliated university hospital system
- Building strong relationships with neighboring facilities
- Organizing blood drives at the main hospital

- Monitoring inventory counts three times per day and communicating counts to stakeholders
- Implementing a split platelet dose and extended platelet shelf-life plan

It is interesting to note from the blood bank data outlined in Table 3 (this page) that before this event there were no reported acute negative patient outcomes from decreased usage, so we may have been using unnecessary amounts of product in the past. These findings should encourage further study on blood bank product management and usage.

Summary of Lessons Learned

- Institute a minimum requirement of two blood product suppliers in hospitals that serve as transplant or trauma centers
- Establish regional and national networks to supply different areas in the future that may experience disruption from cyberattacks, military-related events, and national disasters
- Establish and coordinate hospital administration command center involving stakeholders from the different medical specialties to enhance communication to all staff
- Establish protocols for transfusion guidelines for blood products to be enforced by CMO/transfusion medicine services
- Advocate for increased funding by federal government toward research in a blood product innovation system
- Share resources among different allied hospitals to ensure no product expires during a crisis of critical shortage with priority of platelets
- Ensure blood suppliers provide transparent real-time information as well as 24–48 hour projection of blood product and platelet availability

Table 3.
Red Blood Cell Transfusions Month of July vs. First 4 Days of Event (July 29–August 1)

	Avg/Day Transfused July 2024	Avg/Day Transfused July 29–August 1, 2024
Platelet	17	11
Red blood cell	78	43
Cryo	11	7
Plasma	44	19
Whole blood	2	2

A cyberattack is an attempt by rogue actors to gain illegal access to a computer system for the purpose of causing damage or harm, and surgeons, along with our patients, are directly affected.

- Request blood suppliers provide transparent allocation information during crisis time with priority to trauma centers and organ transplant centers
- Form an allocation formula for crisis management
- Facilitate collaboration between the state and US Food and Drug Administration (FDA) to establish new regulations for blood suppliers for a reciprocal labeling process when needed
- Champion national budget allocation to support blood collection from the US Department of Homeland Security facilities to ensure readiness and emergency response
- Employ emergency civilian blood shortage algorithm with the US Department of Defense where the Army, Navy, and Air Force have their own blood supplies from their collection services
- Facilitate coordination between US Department of Health and Human Services and local, regional, and national media to provide information on the crisis early and initiate blood drives to replenish critical blood and platelet inventories

- Recognize the need for coordination by each state's hospital association to identify critical shortages of each individual hospital for suppliers, state, and federal agencies
- Support the manufacturing and use of cold-stored platelets, which was approved by the FDA in 2023

The authors want this event to serve as a warning to surgeons around the US and world. A cyberattack is an attempt by rogue actors to gain illegal access to a computer system for the purpose of causing damage or harm, and surgeons, along with our patients, are directly affected. Hopefully, surgeons worldwide will become aware of the risk and request the need to see how their individual institutions and regional leaders in blood transfusion services will respond in the future. **B**

Disclaimer

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

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Surgeons Need Plan for Managing Patients with Difficult EOL Decisions

Lenworth M. Jacobs Jr., MD, MPH, FACS

One of the most difficult clinical and moral challenges for the patient, surgeon, and the patient's family is determining the correct medical, ethical, and legal decision for a patient who is in a terminal state and unable to communicate his or her wishes.

MODERN MEDICINE is now able to resuscitate and stabilize patients who, in a previous era, may not have survived the catastrophic event that caused them to require immediate hospital care. Examples of these kinds of events are major trauma with a prehospital cardiopulmonary arrest, major cerebral hemorrhage, prolonged cardiac arrest with cerebral anoxia, or a postsurgical event resulting in cerebral anoxia. All these scenarios can result in a patient who is being maintained on a ventilator with vasopressor support with no meaningful pathway to recovery. The patient is not brain dead but has no chance of any meaningful functional recovery.

Some of these patients may not

have family members or legally appropriate decision-makers who can make end-of-life (EOL) decisions for the patient. It can be very difficult to track down family members or the legally appropriate decision-makers who may be in another state or may not have had any meaningful contact with the patient in recent years. The result is that the legal system may have to designate a conservator to be the legal decision-maker.

The conservator is not a medical person but someone who understands the legal system and can make the decisions to resolve the clinical issues. These are extraordinarily challenging decisions, as they frequently result in termination of life support and the subsequent death of the

patient. Conversely, the decision may result in the patient being maintained in the hospital or another facility for a prolonged period without any meaningful recovery.

The family member or potential decision-maker for the patient usually does not have a medical background and does not understand why the patient who is alive and being supported in the intensive care unit will not make a meaningful recovery. It is critical to establish and maintain a trusting relationship based on honest communication with the decision-maker.

Many potential barriers exist to understanding the gravity of the situation. These include cultural, religious, and societal differences, as well as ethical

issues. The family and decision-maker may believe that a miracle will happen and favorably resolve the situation.

There is a potential for conflicting information provided by the multiple members of a caregiving team, which in turn, could be poorly perceived and misunderstood by the patient's family. Unfortunately, this miscommunication could rapidly deteriorate into a contentious situation.

Strategies for Managing a Difficult EOL Situation

The most effective and critically important safeguard in this situation is to have a discussion with a patient about the importance of having wishes relative to EOL decision-making formally recorded and available for decision-makers to access.

In the event the patient does not have written EOL preferences, it is important to establish a relationship of trust and confidence with the family and loved ones immediately following the arrival to the emergency department.

If the catastrophic event is in the surgical domain, the surgeon must identify himself or herself to the family and in simple, understandable terms explain the magnitude of the problem and the potential outcome.

In my experience as a trauma surgeon, one has about 7 to 10 seconds to make an introduction, establish trust, and begin the explanation of the problem. The family is usually extremely upset, which may manifest itself in different ways. For the family, this is an incredibly difficult situation to understand. The use of polysyllabic medical terminology is not helpful and is rarely

understood. It is far better to use simple, clear language and be completely truthful about the potential outcome of the catastrophic situation.

In the clinical resuscitative environment, it is very difficult to identify everyone's role and who is the designated decision-maker. This is compounded by the fact that most of the caregivers are wearing clinical "scrubs." I have always found it useful to wear my white coat with my name tag and identification easily visible when I speak to the family and the loved ones. They can then identify who communicated with them and what was said to them. This approach leads to continuity of communication and identifies the lead contact person for the family.

As the situation continues over the ensuing hours and days, it is very important that all members of the team, including surgical, intensive care, medical, nursing, social workers, and ethics professionals communicate with each other and have a unified voice and plan to present to the family and decision-makers. It is important to remember that for the medical team, the clinical problem is of paramount importance. For the family, however, the impact of this event on the patient and their loved ones is as important as the clinical event itself.

The Joint Commission has revised its Rights and Responsibilities of the Individual requirements for accredited ambulatory surgical centers to further clarify who may exercise a patient's rights on their behalf when the patient is unable to make decisions. These new revisions to several requirements align with the US Centers for Medicare & Medicaid Services Conditions for Coverage.

For example, The Joint Commission Standard RI.01.02.01, which mandates that the organization respect the patient's right to participate in decisions about their care, treatment, or services, has been updated with the following verbiage: "If a patient is adjudged incompetent under applicable state laws by a court of proper jurisdiction, the person appointed under state law to act on the patient's behalf exercises the rights of the patient. If a state court has not adjudged a patient incompetent, any legal representative or surrogate decision-maker designated by the patient in accordance with state law may exercise the patient's rights to the extent allowed by state law."

Every surgeon should have a clearly developed plan for effectively managing difficult EOL decisions. It is useful and helpful to communicate this plan to the team as early in the clinical course as is appropriate. It is equally important for the entire team to have a debriefing session following the final outcome for the patient. These discussions go a long way in clarifying difficult decisions and providing a forum for discussion of all elements of the clinical course. **B**

Disclaimer

The thoughts and opinions expressed in this column are solely those of Dr. Jacobs and do not necessarily reflect those of The Joint Commission or the American College of Surgeons.

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Batley's Operation Was an Experiment in Human Endocrinology

Chloe Nobuhara, MD

ON AUGUST 17, 1872, ROBERT BATLEY, MD, performed the first normal ovariectomy, defined as the removal of both ovaries in the absence of gross pathological abnormalities.¹ In the decades to follow, this procedure became a widely accepted surgery and was adapted to fit a variety of maladies, including hysteria.²

The removal of both ovaries drove women into early menopause and made them infertile. For those institutionalized with hysteria, this operation likely was performed without their consent.² While these women were harmed by the procedure, the widespread scope of the operation also advanced our knowledge of endocrinology by definitively establishing that ovaries play a role in menstruation.

Dr. Batley was born in 1828 in Augusta, Georgia.² He earned his medical degree from Thomas Jefferson University in Philadelphia, Pennsylvania, then served as chief surgeon at several US Confederate Army hospitals during the Civil War.²

Following the Confederate surrender in 1865, Dr. Batley returned to Georgia to begin his practice. He performed his first ovariectomy—a term that later was replaced by oophorectomy in the 20th century—for a dermoid cyst on a physician's wife in 1869. He became one of the most preeminent ovariectomists

in the country, cofounding and serving as president of the American Gynecological Society in 1888.²

The first patient to undergo a normal ovariectomy was a 30-year-old woman named Julia Omberg.¹ Since menarche, she had lived a lifetime of intense physical suffering in place of a menstrual cycle. Her symptoms included pelvic pain, epileptiform convulsions, rectal abscesses, and pulmonary congestion.

The decision to perform this novel operation was not made overnight. Dr. Batley diagnosed her with chronic corporeal endometriosis, and she underwent medical treatments for 7 years before an operation was suggested. In June 1872, Dr. Batley wrote to several physicians with his idea for a surgical cure, a “creature of his own thought,” which was discussed further at the Gynecological Society of Boston.² As the patient had failed several years of medical management, her surgery was ultimately performed later that year.

Dr. Batley performed the first normal ovariectomy with chloroform anesthesia.¹ He started with a midline laparotomy, explored the abdomen by palpation, and delivered the ovaries with his fingers. Finding no gross pelvic pathology to explain the symptoms, he tied off each ovary and its vascular pedicle with a silk suture. After Omberg's operation,



Dr. Robert Battey

Dr. Battey stayed by her bedside for the first 10 days. She recovered after a monthlong stay in Dr. Battey's residence with "all the evidences of the most perfect health," according to an independent report published in 1872 by W. F. Westmoreland, MD, a professor of surgery in Atlanta, Georgia.²

Leading gynecologists of the day hailed the operation as a success.³ Performing a normal ovariectomy on women without gross ovarian pathology rapidly gained popularity. "Battey's operation" was ultimately employed for a diverse array of disorders: dysmenorrhea, oophoralgia, epilepsy, and ultimately for hysteria.²

In 1906, Ely Van de Warker, MD, who was a gynecological surgeon and cofounder of the American Gynecological Society, estimated that 150,000 women were subjected to bilateral normal ovariectomy for a wide variety of maladies.⁴ While this estimate was unsubstantiated, even a tenth of this number remains a significant cohort of women who were surgically castrated.

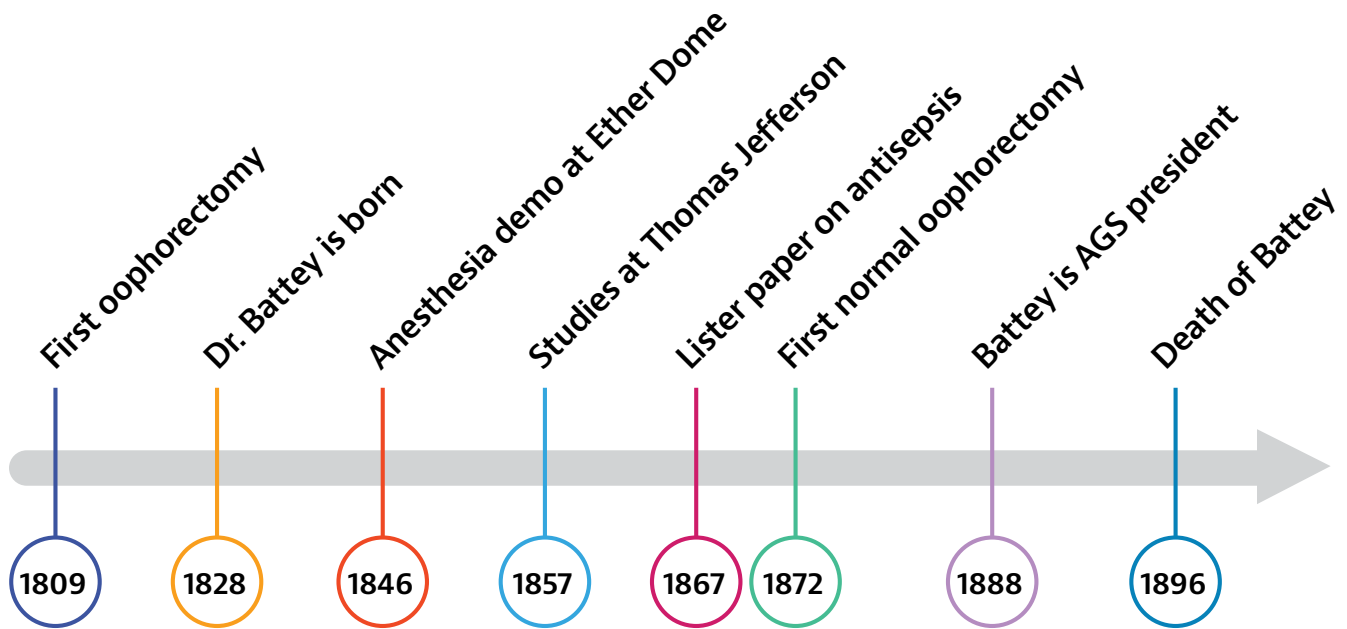
Many of the women diagnosed with hysteria likely underwent the operation without the agency to provide consent.² However, even women such as Omberg who did consent to the normal ovariectomy were unable to be fully informed of its consequences

given the limited knowledge of endocrinology. The function of the ovaries was not fully understood, with hormones such as estrogen yet to be identified. The widespread adoption of Battey's operation would inadvertently become a landmark surgical experiment in endocrinology.

At the turn of the 19th century, not all physicians thought that ovaries drove menstruation. In fact, many were skeptical that Battey's operation would lead to menopause. Notably, R. Lawson Tait, MD, a Scottish pioneer in pelvic and abdominal surgery, believed that the fallopian tubes induced menstruation and thus performed a variation of Battey's operation where he removed both the ovaries and fallopian tubes.³

After the publication of Dr. Battey's first case report, E. S. Gaillard, MD, the editor of the *Richmond and Louisville Medical Journal* wrote that he regretted failing to publish the shared opinion of many authorities on the assertion that "ovaries do not have an effect on the menstrual cycle."⁴ However, the hormonal theory was on the horizon, and Dr. Battey's procedure was instrumental in its proof of concept.

Patients not only stopped menstruating but also developed associated symptoms, including hot flashes and vaginal atrophy after removal of their ovaries.



The systemic symptoms that followed ovariectomy led to the hypothesis that some secreted substance was taken away with removal of the ovaries.⁵

In 1896, Viennese physician Emil Knauer, MD, proved this concept via animal experimentation by removing the ovaries from rabbits and observing uterine atrophy.³ He took the experiment a step further by reimplanting the rabbits' ovaries into a distant site and restoring the size of the uterus. Subsequent physician-scientists such as W. Hubert S. Fosbery, MD, used these conclusions to try and address human symptoms of menopause by having women take pills containing ground-up ovarian tissue.⁵ Hormone replacement therapy remains a modern iteration of this idea.

In 1891, 3 years after Dr. Battey stepped down as president of the American Gynecological Society (AGS), the keynote address was delivered by incoming president A. Reeves Jackson, MD, who made a "scathing condemnation of their irrational surgical procedures, including Battey's operation."³

The operation reached its peak at a time when physicians did not know about the existence of hormones such as estrogen. Regardless of the reasons the operation was performed, the outcome was the same. Female patients stopped menstruating, suffered systemic symptoms due to the withdrawal of estrogen, and lost their ability to bear children. These devastating consequences, combined with the widespread scale of the normal ovariectomy, created an incidental experiment in endocrinology. Battey's operation solidified our knowledge that ovaries play a role in menstruation and advanced the nascent field of endocrinology, at a high cost for women. **B**

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Study Establishes Benchmark for Cancer Survivorship Services

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THERE ARE AN ESTIMATED 19 million cancer survivors in the US, a number that is steadily increasing due to advances in cancer treatment.¹ Unfortunately, many long-term cancer survivors endure uncomfortable side effects resulting from treatment, which reduce quality of life and may lead to premature death. Consequently, cancer survivorship is now recognized by the National Cancer Institute (NCI) as a crucial part of cancer care to ensure that patients receive appropriate monitoring, management, and support following treatment.²

In 2015, the ACS Commission on Cancer (CoC) introduced CoC Survivorship Standard 3.3 as a requirement for cancer programs to receive CoC accreditation. This survivorship standard, the first of its kind in the US, was focused on having programs provide survivorship care plans (i.e., cancer treatment summary and care recommendations) to their patients. In 2021, the standard was revised, and CoC Survivorship Standard 4.8 now requires that facilities offer a survivorship program for cancer patients treated

with curative intent to ensure survivors receive high-quality care following treatment.

With 74% of all cancer patients in the US treated at CoC-accredited facilities, this presented a novel opportunity to investigate the types and availability of survivorship services on a national scale. In early 2022, the Survivorship Services Survey was developed through a collaboration between researchers from the University of Southern California and the ACS (CoC and Cancer Research Program). The study was an anonymous, online, cross-sectional survey conducted in May 2023 at 1,400 eligible CoC institutions representing diverse characteristics, geographic regions, and practice types. Questions included self-reported survivorship program components, availability of services covered under the CoC Survivorship Standard 4.8, and institutional perceptions of the impact of their survivorship programs. Findings from the completed study were recently published in the journal *JAMA Network Open*.³

Responses from 384 programs, which proportionately represented all eight CoC program

categories eligible to participate in the study, were both illuminating and, in some cases, unexpected. The results showed that more than 80% of programs currently provide “the basics” of survivorship care—such as screening for new cancers, referrals to specialists for late effects, and nutritional counseling. Less commonly available was the provision of survivorship care plans, sexual health programs, and fertility preservation/restoration services.

Investigators also found that in about 60% of programs, survivorship services were delivered by the same team of oncology doctors and nurses that treated the patient’s cancer, rather than by a specialized team in a separate survivorship clinic. When programs were asked what resources were most needed to expand and enhance survivorship care at their sites, respondents prioritized having more advanced practice clinicians (nurse practitioners or physician assistants) with survivorship expertise, and information technology to leverage their electronic health record systems for survivorship care.

Some of the most compelling insights revealed by the survey were from the institutions’ perceptions of the value provided by their survivorship programs. While more than 80% of programs endorsed their survivorship services as beneficial for patients, they also felt only a small minority actually receive the services offered. Further, survey respondents reported that the primary barriers to survivorship care were the dual problems of few referrals from the cancer treatment teams and a lack of patient awareness of such services. Notably, nearly 90% of programs endorsed CoC Survivorship Standard 4.8 as having facilitated initiation or advancement of their survivorship programs.

These survey results have established a benchmark for survivorship care delivery for adults in the US, which has never been examined on a national scale. This study also has identified gaps in specific services and opportunities for intervention. These results

will contribute to tracking future progress and trends in cancer survivorship care nationally. Importantly, as the Survivorship Services Survey was being conducted, leaders at the NCI Office of Cancer Survivorship worked with experts around the country to develop the National Standards for Cancer Survivorship Care, which provide guidance for institutions seeking to improve care for cancer survivors.⁴ As the results of this study align with the new national standards, the authors are continuing to collaborate in developing a grant-funded study to build on these results to help cancer treatment centers expand their survivorship services. **B**

Dr. David Freyer is professor of clinical pediatrics, medicine, and population and public health sciences at the Keck School of Medicine of the University of Southern California (USC) in Los Angeles. He serves as director of the Survivorship and Supportive Care Program in the Cancer and Blood Disease Institute at Children’s Hospital Los Angeles, and director of the Cancer Survivorship Program at the USC Norris Comprehensive Cancer Center.

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ACS/Clinical Congress 2024

October 19–22
San Francisco, CA

*Achieving Our Best Together:
#Inclusive Excellence*



Major Awards at Clinical Congress 2024

THE ACS CLINICAL CONGRESS is among the largest surgical gatherings in the world. First convened in 1910, the conference was a driving force behind the founding of the College in 1913. Today, it is a premier event for education, networking, professional development, and celebration of the surgeons on whose extraordinary contributions the advancement of surgery rests. The ACS awards, which reflect the spirit of excellence, progress, and selfless service in surgery, will be presented throughout Clinical Congress 2024, October 19–22, in San Francisco, California.

The Distinguished Service Award is the College's highest honor, intended to acknowledge exceptional and long-standing service as an ACS Fellow, and the Wangenstein Scientific Forum Award celebrates an individual whose career has exemplified clinical, educational, and research accomplishments of a successful academic surgeon. Another major award is the Dr. Mary Edwards Walker Inspiring Women in Surgery Award, which recognizes the contributions

of a surgeon who has helped advance women in surgery. In addition, the ACS Distinguished Lifetime Military Contribution Award honors a physician's distinguished contributions to the advancement of military surgery.

This year, the ACS will present the Lifetime Achievement Award to honor a surgeon who, across several decades, has provided extraordinary contributions and continuous service to the College.

These five awards will be presented during Convocation on Saturday, October 19, at 6:00 pm PT and will be livestreamed on facs.org/convocation.

The ACS/Pfizer Surgical Volunteerism and Humanitarian Awards, honoring ACS Fellows and members whose altruistic efforts to provide clinical care, education, research, and/or leadership have made a positive impact on surgery worldwide, will be presented during the annual Board of Governors dinner on Monday, October 21.

For more information about Clinical Congress and to register, visit facs.org/clincon2024.



Dr. Layton Rikkers Will Receive Distinguished Service Award

LAYTON F. RIKKERS, MD, FACS, an emeritus professor of hepatobiliary, pancreatic, and gastrointestinal surgery at the University of Wisconsin–Madison, will receive the Distinguished Service Award—the ACS’s highest honor—at Convocation during Clinical Congress 2024 in San Francisco, California.

The award, established by the ACS Board of Regents in 1957, recognizes the exceptional and continuous service of an ACS Fellow, as well as a career with outstanding emphasis on patient care and commitment to the ideals of surgical practice.

Dr. Rikkers, known as “Bing,” said, “I’m certainly very honored and humbled. I realize that there are hundreds of other people who are just as deserving.”

Education and Career

Dr. Rikkers completed his medical degree at Stanford University in California, where he conducted research in the heart transplant laboratory of Norman E. Shumway, MD, FACS. Dr. Rikkers was a general surgery residency at The University of Utah in Salt Lake City and conducted hepatological laboratory research under Frank Moody, MD, FACS, at The University of Utah, and Sheila Sherlock, DBE, FRCP, FRCPE, at the Royal Free Hospital in London, England. He also completed a surgical hepatology fellowship with W. Dean Warren, MD, FACS, a Past-President of the ACS, at Emory University in Atlanta, Georgia.

Dr. Rikkers became a University of Utah faculty

member, where he rose to acting chair of the Division of General Surgery. Later, he joined the University of Nebraska Omaha as a professor and chair of the Department of Surgery, before serving as interim dean of the University of Nebraska College of Medicine for 2 years. Dr. Rikkers then moved to the University of Wisconsin–Madison as the A. R. Curreri Professor of Surgery and Chair, where he remained for 12 years before becoming an emeritus professor.

Service to the ACS

Dr. Rikkers became an ACS Fellow in 1980 and has held many committee and leadership roles at the College. These include positions on the Young Surgeons Committee, Surgical Education in Medical Schools Committee, Liaison Program Committee, and the Committee on Coaching the Next Generation. In addition, he served on the Board of Governors for 6 years (2005–2011) and as a First Vice-President of the ACS (2013–2014).

“The thing I am most proud of and enjoyed so very much was conceiving the Surgeons as Leaders course and directing it,” he said about his many contributions to the ACS.

At the behest of past-Executive Director Thomas R. Russell, MD, FACS, Dr. Rikkers helped create this course. It is meant for surgeons who currently serve or aspire to serve in leadership positions to gain skills in

Dr. Layton Rikkers became an ACS Fellow in 1980 and has held many committee and leadership roles at the College.

the principles and practice of leadership, from the operating room to the boardroom. It remains popular among aspiring surgeon leaders.


Because he also served as a leader for various other organizations, Dr. Rikkers was able to help advance the connections of the College to other surgical associations and societies. His leadership roles included chair of the American Board of Surgery and the Surgical Journals Editors Group, and as president of the Society of Clinical Surgery, Halsted Society, Society for Surgery of the Alimentary Tract, Central Surgical Association, Wisconsin Surgical Society, Society of Surgical Chairs, and American Surgical Association. Dr. Rikkers also served as the editor-in-chief of the *Annals of Surgery* for 14 years.

Mentorship and More

Throughout his professional life, Dr. Rikkers heavily emphasized mentorship and the education of students, residents, and faculty. “You remember people early in your career who promoted you,” he said. “The reason I had the opportunities I had was because I had some wonderful mentors. I felt an obligation to give back because I had been so generously mentored by so many people.”

Noting there are several people he still advises, Dr. Rikkers added, “I’m just so very proud of what these people have done. They just take off like rockets.”

As a result of his clinical excellence and enthusiasm for education, he also has been

memorialized several times, including in the Layton F. Rikkers, MD, Master Clinician Award of the Society for Surgery of the Alimentary Tract. He has several more namesakes at the Department of Surgery at the University of Wisconsin: the Layton F. Rikkers Surgery Education Retreat, Layton F. Rikkers Chair in Surgical Leadership, and Layton F. Rikkers Surgical Society, an alumni group. 



Dr. David Hoyt Embodies ACS Lifetime Achievement Award

ASK DAVID B. HOYT, MD, FACS, what he thinks about his Lifetime Achievement Award from the ACS, and he will tell you the real joy is not in the recognition itself, but the service being recognized: “I’m very proud that we have an organization that has allowed me to contribute. In addition to taking care of patients, probably the most satisfying thing you can do is to give to your professional organization. So, to me, this is just a manifestation of what I’ve always enjoyed doing.”

However humble his reaction, the honor is outstanding. The Lifetime Achievement Award, awarded by the Board of Regents on the rare occasion of identifying a worthy candidate, recognizes an ACS Fellow’s exceptional contributions to the College over several decades. This prolonged, continuous service can take many forms, including volunteer, elected, and staff-level contributions providing guidance, expertise, leadership, and influence across all ACS programs and activities.

Dr. Hoyt, an emeritus professor of surgery at the University of California, Irvine (UCI), and a past ACS Executive Director, has contributed to the ACS in virtually all of these forms.

Contributions to the ACS

When Dr. Hoyt became the Executive Director of the ACS in 2010, he was by no means new to the College. An ACS Fellow since 1987, Dr. Hoyt had served as a Chair of the ACS Committee on Trauma and past-Medical Director of the ACS Trauma, Research, and Optimal Patient Care Division (now known

as the Division of Research and Optimal Patient Care). He also was a past member of multiple Board of Governors committees. Using his own specialty in trauma surgery, he had served as a national faculty member and Director of Training for the College’s Advanced Trauma Life Support® course. As a result of this work, he was a recipient of the ACS Distinguished Service Award in 2007 and was selected to deliver the Scudder Oration on Trauma at Clinical Congress in 2008.

During his time as the Executive Director of the ACS (2010–2022), he advanced his earlier work in trauma surgery on measuring system performance via quality indicators and databases, using this approach as a foundation for enhancing ACS Quality Programs. He oversaw development of *Optimal Resources for Surgical Quality and Safety* (known as the Red Book) and *Optimal Resources for Surgical Education and Training* (the Gold Book), which led to an array of new programs in quality verification and surgical education.

Dr. Hoyt also oversaw the following: initiation of the ACS Stop the Bleed program, development of the Military Health System Strategic Partnership-ACS, expansion of membership advocacy and leadership training, and reorganization and expansion of the ACS Division of Advocacy and Health Policy efforts in monitoring and developing legislation, regulation, and health policy formation. Following the end of his ACS tenure, Dr. Hoyt delivered the Martin Memorial Lecture at Clinical Congress in 2022.

“Forty years ago, I experienced the impact of

“I’m very proud that we have an organization that has allowed me to contribute. In addition to taking care of patients, probably the most satisfying thing you can do is to give to your professional organization.”

Dr. David Hoyt

verification programs in trauma in organizing the quality of care. So, when I had the opportunity to join as Executive Director, my hope was that we would be able to bring those same principles to other parts of surgery,” said Dr. Hoyt. “I think we’ve been able to do that with vascular surgery, gastrointestinal surgery, acute care surgery, and many, many other programs that have really followed the principle of setting standards, creating the infrastructure to support those standards, then verifying with an external peer review team that those standards are being met.”

The ACS model and its positive impact, he said, “have been very, very inspiring to me, but also have been very significant in trying to spread what I enjoyed decades ago, in trauma.”

Education and Career

Dr. Hoyt received his medical degree from Case Western Reserve University in Cleveland, Ohio, and completed his internship, surgical residency, and a research fellowship at the UC San Diego and The Scripps Research Institute in La Jolla, California.

Following his surgical training, Dr. Hoyt joined the faculty at UC San Diego, where he eventually became Monroe E. Trout Professor of Surgery and vice-chair of the Department of Surgery. During this period, he maintained National Institutes of Health funding for more than a decade and served as Resuscitation Outcomes Consortium cochair for 11 years. He simultaneously served as director of the Division of Trauma, Burns, and Critical Care

at the UC San Diego Medical Center for 17 years. While in this role, he participated in the San Diego Country Trauma System’s groundbreaking Medical Audit Committee, which reviewed all trauma deaths for preventable causes and potential improvements applicable to future cases.

Following his time in San Diego, Dr. Hoyt was appointed chair of the Department of Surgery and John E. Connolly Professor of Surgery at UCI, where he quickly received a promotion to Executive Vice-Dean for the UCI School of Medicine. Dr. Hoyt also is a past-president of the Council of Medical Specialty Societies, American Association for the Surgery of Trauma, Society of General Surgeons of San Diego, Trauma Research and Education Foundation, and Shock Society.

A Lasting Impression

Although Dr. Hoyt prefers to highlight the ACS and surgical field rather than his own significance, his input indubitably informed the College’s successes during the last 2 decades. In a letter of recommendation, L. D. Britt, MD, MPH, FACS, the Henry Ford Professor and Edward J. Brickhouse Chairman of Eastern Virginia Medical School Department of Surgery in Norfolk, Virginia, and a Past-President of the ACS (2010–2011), summarized Dr. Hoyt’s legacy: “Dr. David Hoyt’s leadership and mastery has allowed the American College of Surgeons to become the best version of itself. Dr. Hoyt is the definition and embodiment of the ACS Lifetime Achievement Award.” **B**



Dr. Mary Hawn Will Receive Wangensteen Scientific Forum Award

NEARLY 4 DECADES AGO, in the summer of 1985, Mary T. Hawn, MD, MPH, FACS, mounted a stage at the American Gastroenterological Association annual meeting. Then a University of Michigan undergraduate, Dr. Hawn had been working in the research laboratory of Tadataka Yamada, MD, KBE, a renowned gastroenterologist. She'd completed her own research in gastric acid secretion and had been selected to present at the conference.

“At the age of 20, I delivered my first scientific presentation in front of more than 1,000 people,” she later said, adding that Dr. Yamada helped ensure her session would go smoothly.

During Convocation at Clinical Congress on Saturday, October 19, she will add another appearance on a stage to the many in her eventful career—this time to receive the 2024 Wangenstein Scientific Forum Award, an honor given by the ACS Scientific Forum Committee to a surgeon who exemplifies research, educational, and clinical achievements.

Dr. Hawn is the Emile Holman Professor of Surgery and Chair of the Department of Surgery at Stanford University in California.

Education and Career

Dr. Hawn earned her medical degree at the University of Michigan in Ann Arbor, where she won the C. Gardner Child Award for Excellence in General Surgery. She was a general surgery intern, resident, and research fellow in colorectal tumor

genetics at the University of Michigan, including a final year as administrative chief resident. She earned a masters degree in public health from the same institution, then completed a minimally invasive surgical fellowship at Oregon Health & Science University in Portland.

Dr. Hawn returned to Ann Arbor for roles as an assistant professor in general surgery at the University of Michigan Medical School and a staff surgeon at the Veterans Affairs (VA) Ann Arbor Health Care. After serving in these roles, she spent 15 years at the University of Alabama at Birmingham, where she rose from assistant professor to chief of the section of gastrointestinal surgery in the Department of Surgery. She was simultaneously a staff surgeon and director of the Center for Surgical, Medical Acute Care Research and Transitions Research Enhancement Award Program at the VA Birmingham Health Care. While in Birmingham, she attained a certificate in healthcare quality and safety from the University of Alabama at Birmingham School of Health Professions and became the vice-chair for quality and clinical effectiveness in the Department of Surgery, before moving to her current position at Stanford in 2015.

Measuring and Improving Surgical Quality

Dr. Hawn has connected her academic leadership with prolific scientific research throughout her career. In her clinical area of expertise, minimally invasive foregut surgery, she has maintained long-running funding. Her output helped improve

“If you work hard and dedicate yourself to the right things, I think there are opportunities for everybody.”

Dr. Mary Hawn

guidelines for noncardiac surgery in patients with coronary stents.

In addition, Dr. Hawn extensively has researched surgical quality measurement and national policy affecting surgical populations, including a comprehensive evaluation of the Surgical Care Improvement Project implementation using national VA data. Her work has informed policy about national surgical quality measurement. She views her work with a sense of urgency; in a biographic statement, she wrote, “Defining robust metrics of surgical quality that are actionable and can lead to sustained improvement in our field is of utmost importance.”


With expertise in creating risk prediction modeling for surgical patients and defining limitations of such models, Dr. Hawn’s current work includes a study examining the confluence of surgery, surgical patients, patient comorbidities, and anesthesia on outcomes. An additional study she is involved with is “leveraging black box data and looking at dynamic quality metrics on team performance between anesthesia, surgery, and nursing,” she said.

Leadership and Legacy

The current president of the Society of Surgical Chairs, Dr. Hawn is also a past-chair of the American Board of Surgery and has held leadership positions within numerous surgical organizations. At the ACS, she has served as President of the Alabama Chapter and as a member of the Board of Governors, as well

as a past member of the Scientific Forum Committee.

Her work embodies the spirit of Owen Wangenstein, MD, PhD, FACS (1898–1981), a surgeon-scientist and ACS Past-President (1959–1960). Dr. Wangenstein, who spent his career at the University of Minnesota in Minneapolis, was instrumental to advancing transplant surgery. He also founded the Surgical Forum in 1940, today known as the Scientific Forum, to encourage surgeons to publish and present scientific research, promoting a culture of research that now defines the epitome of achievement in the surgical field.

Asked what she wanted her own legacy to be, Dr. Hawn gave an answer that seemed to reach back to the undergraduate she once was: “What I want my legacy to be is to inspire those who don’t think they can accomplish things that defy their limits. If you work hard and dedicate yourself to the right things, I think there are opportunities for everybody. I feel like I’ve accomplished way beyond my wildest dreams.” 



Pediatric Surgeon Is Recognized with Inspiring Women in Surgery Award

BARBARA J. PETTITT, MD, MHPE, FACS, is the 2024 recipient of the Dr. Mary Edwards Walker Inspiring Women in Surgery Award.

Dr. Pettitt is a surgeon-educator from Emory University in Atlanta, Georgia, whose career has combined pediatric surgical care with roles that have advanced education for surgeons in training. Asked to describe her work, she said: “I just touch people one at a time.”

Education and Career

Dr. Pettitt earned her medical degree at Northwestern University Feinberg School of Medicine in Chicago, Illinois, and completed her residency in general surgery at Keck Medicine of the University of Southern California in Los Angeles, as well as a pediatric surgery fellowship at Children’s Hospital of Pittsburgh in Pennsylvania.

With her training complete, Dr. Pettitt joined the Department of Surgery at Emory University, where she is professor of surgery. She also served as the chief of pediatric surgery for the Grady Health System for 25 years. She has held multiple roles related to surgical education, including as the surgery clerkship director for third-year medical students for 22 years and surgery sub-internship director for fourth-year medical students for 14 years. She currently is associate director of the surgery clerkship and the sub-internship and directs the surgery electives program for fourth-year medical students, as well as visiting students and surgical applicant career development programs.

In addition, she codirects programs that prepare medical students for internship and teaching. In keeping with this focus, she recently earned a masters degree in health professions education from the University of Illinois College of Medicine in Chicago.

As a surgeon-educator, Dr. Pettitt has helped advance simulation-based surgical education, specifically through her contributions to the ACS/ Association for Surgical Education’s Medical Student Simulation-Based Surgical Skills Curriculum. Her research has likewise focused on surgical education, including nationwide projects aimed at quantifying successful pedagogical methods.

Dr. Pettitt said she enjoys watching novice surgeons attempt the core skills of surgical care, which involves using their hands to cut and suture. “It’s so much fun to watch people try and fail and try and fail and then accomplish,” she added. “Then, what I want for them is to realize is that before the accomplishment came the trying and the failing; so, if you don’t try and fail, you won’t accomplish it.”


Honors

Dr. Pettitt is highly accomplished, and her work has been recognized with numerous awards, including the Association for Surgical Education Philip J. Wolfson Outstanding Teacher Award, the Association of Women Surgeons Olga Jonasson Distinguished Member Award, as well as the Dean’s Teaching Award

Dr. Barbara Pettitt is a surgeon-educator from Emory University in Atlanta, Georgia, whose career has combined pediatric surgical care with roles that have advanced education for surgeons in training.

and Evangeline T. Papageorge Distinguished Teaching Award—both from the Emory School of Medicine. In addition, Dr. Pettitt has been repeatedly recognized by the students at Emory University in receiving the Best Clerkship Director Award, an honor chosen by each year's graduating class of medical students.

Notably, in 2020, the Emory Department of Surgery named the Barbara J. Pettitt Medical Student Teaching Award after her. This annual award is given to the surgical resident voted best medical student teacher.

The Inspiring Women in Surgery Award is presented annually at Clinical Congress in recognition of an individual's contributions to the advancement of women in the field of surgery. The award honors the fortitude and accomplishments of Mary Edwards Walker, MD, the first female surgeon to serve in the US Army and the only female recipient of the Congressional Medal of Honor. 



Dr. C. William Schwab Will Be Honored with Lifetime Military Contribution Award

AT CONVOCATION during this year's Clinical Congress, C. William Schwab, MD, FACS, a retired Commander in the US Navy, will receive the Distinguished Lifetime Military Contribution Award.

The Board of Regents Honors Committee established the award in 2018, which is presented on merit rather than annually. The award honors a physician for his or her distinguished contributions to the advancement of military surgery.

Military and Surgical Background

Dr. Schwab, an ACS Fellow since 1980, is an emeritus professor of surgery and the founding chief of the Division of Traumatology and Surgical Critical Care at the University of Pennsylvania Medical Center in Philadelphia. He also is the founding physician-in-chief of the PennSTAR Flight Program, a nonprofit critical care air and ground medical transportation serving Pennsylvania, New Jersey, and New York within a 100-mile radius of Penn Medicine in Philadelphia.

Dr. Schwab earned his medical degree at The State University of New York in Syracuse and completed an internship, surgical residency, and fellowship in gastroenterological endoscopy at the Naval Medical Center Portsmouth in Virginia. He was active in the US Navy during his surgical training, and he remained an active-duty military surgeon from 1970 to 1980. Following this, he served in the Navy Reserves until 2006.

During Dr. Schwab's long career at the University of Pennsylvania, where he served as division chief for 25 years, he was instrumental in advancing trauma

care in the areas of clinical innovation, research, and the development of military-civilian partnerships in trauma care.

Contributions to Trauma Surgery and Research

On a clinical level, Dr. Schwab and his colleagues pioneered numerous aspects of damage control surgery, which aims to control bleeding through unconventional means and is now considered integral to surgical care for potentially fatal injuries. He also helped pilot several other techniques essential to the care of patients with life-threatening injuries.

Dr. Schwab's research, while wide-ranging, has particularly focused on firearm injury prevention. (His other research and policy interests have focused on the management of critical injury and trauma systems and center development.) In the 1990s, Dr. Schwab catalyzed the surgical community to respond to the epidemic of firearm injury in the US. At the University of Pennsylvania, he helped establish an interdisciplinary center to promote public policies to reduce gun violence. His publications include more than 350 articles and position papers, as well as several textbooks in the fields of trauma, ballistics, and damage control.

Contributions to Military-Civilian Partnerships in Trauma Care

Dr. Schwab mentored hundreds of postgraduate fellows in traumatology and critical care, advancing their clinical skills and preparing them for

On a clinical level, Dr. C. William Schwab and his colleagues pioneered numerous aspects of damage control surgery, which aims to control bleeding through unconventional means and is now considered integral to surgical care for potentially fatal injuries.

leadership. In part due to his guidance, training surgeons from the US Army, Navy, and Air Force has been a continuous part of the educational mission of the ACS Trauma Programs since the early 1990s.

This connection to active service members has informed Dr. Schwab's influential work on broad developments in trauma care. In a written statement he stated, "During the military operations in Iraq and Afghanistan, 16 faculty and postgraduate fellows deployed as military combat surgeons. Upon return, they provided critical commentary that catalyzed," his work, particularly his Scudder Oration on Trauma at Clinical Congress in 2014. In his lecture, Dr. Schwab called for the enhancement of military-civilian partnerships.

He continued to advocate for the expansion of military trauma surgery through his participation in the ACS Committee on Trauma (which he has been involved with for more than 40 years). Dr. Schwab also contributed to the 2006 and 2016 National Academies of Sciences, Engineering, and Medicine (NASEM) reports on trauma systems. The 2016 report pressed for the expansion of military-civilian partnerships, which permit military surgeons to fully practice in high-volume, high-acuity civilian centers as a means of achieving and maintaining the expert clinical proficiencies necessary for deployments in austere and hostile environments. Dr. Schwab's contributions to the NASEM reports helped drive a successful push for the passage of the MISSION ZERO Act, a federal law that has funded

nearly 30 military-civilian partnerships to date.

One such partnership is at his own institution. Dr. Schwab directed the development of the US Navy partnership with Penn Medicine and currently serves as the senior consultant to Penn Medicine's Naval Strategic Health Alliance for Readiness and Performance. His participation in this program provides an opportunity for Dr. Schwab to continue to train surgeons associated with the US Armed Forces.

Leadership and Research

Dr. Schwab has held multiple leadership positions in the Eastern Association for the Surgery of Trauma, The American Association for the Surgery of Trauma, and other surgical organizations. He remains a visiting board member of the Uniformed Services University of the Health Sciences, a member of the Defense Health Board Trauma and Injury Subcommittee of the Defense Health Agency, and a member of the Trauma Systems Development Committee of the Pennsylvania Trauma Systems Foundation. **B**

Five Surgeons Are Honored for 2024 ACS/Pfizer Volunteerism and Humanitarian Awards

THE ACS BOARD OF GOVERNORS Surgical Volunteerism and Humanitarian Awards Workgroup has announced the recipients of the 2024 ACS/Pfizer Surgical Volunteerism and Humanitarian Awards. The awards are administered through the ACS Health Outreach Program for Equity in Global Surgery (ACS H.O.P.E.).

The contributions of the five award recipients are briefly summarized in this article and will be formally recognized at Clinical Congress 2024 in San Francisco, California. Clinical Congress attendees are invited to hear the honorees speak on their experiences at the Panel Session, “Reports of the 2024 Volunteerism and Humanitarian Award Winners,” on Sunday, October 20.

Academic Global Surgeon Award

Catherine J. Juillard, MD, MPH, FACS, a trauma surgeon from Los Angeles, California, will receive the ACS/Pfizer Academic Global Surgeon Award for her work spearheading transformative healthcare initiatives as the director of the Program for the Advancement of Surgical Equity at the University of California, Los Angeles (UCLA). She also is the founding director of the UCLA HEAL Trauma Program. Dr. Juillard has built a career marked by a commitment to enhancing surgical care both domestically and internationally.

Following her medical training and residency at UCLA, Dr. Juillard completed a fellowship in trauma and critical care at the University of California San Francisco (UCSF). She was the director of the Center for Global Surgical Studies and San Francisco Wraparound Project, both based at Zuckerberg San Francisco General Hospital and Trauma Center. These positions underscored her interest in addressing complex health challenges through multidisciplinary approaches and community engagement.

The impact of Dr. Juillard extends beyond the US.

Her research and leadership in projects funded by the National Institutes of Health (NIH) have set benchmarks in improving access to quality surgical care in low- and middle-income countries. Notably, her work through the Data Science Center for the Study of Surgery, Injury, and Equity in Africa and Sustainable Trauma Research, Education, and Mentorship Program in Cameroon has been instrumental in enhancing surgical outcomes and building local capacities. These initiatives not only advance surgical science but also strengthen the infrastructures of healthcare systems, enabling them to deliver equitable and sustainable care to their communities.

Dr. Juillard’s dedication to global surgical equity also is exemplified by her ongoing efforts to mentor and train the next generation of surgeons and healthcare leaders.

Surgical Humanitarian Award

Jason Peter Fader, MD, FACS, FCS(ECSA), a general surgeon in Burundi, will receive the ACS/Pfizer Surgical Humanitarian Award for his work at Kibuye Hope Hospital, where he transformed a small mission hospital into a major medical center.

Raised on a Navajo Reservation and later in Kenya, Dr. Fader developed an early appreciation for the transformative power of medical care in under-resourced areas. This exposure was the impetus for a passion for medicine, leading him to complete his medical education at Loyola University Chicago Stritch School of Medicine in Maywood, Illinois, followed by a general surgery residency and an international surgery fellowship at St. Joseph Mercy Hospital in Ann Arbor, Michigan.

Dr. Fader’s commitment to improving global health guided him to Burundi, where he became



In March 2024, Dr. Catherine Juillard (seated, fourth from left) and colleagues met with faculty and investigators at the University of Buea in Cameroon.



During rounds at Kibuye Hope Hospital in 2016, Dr. Jason Peter Fader (left) listens to a medical student presenting a patient who suffered a femur fracture when he fell from a tree while collecting firewood.



Dr. Alfredo Quiñones-Hinojosa (right, seated) visits with a patient and the neurosurgery and nursing teams in Mexico after performing a cranioplasty.

Dr. Damon Howard Clark (seated at front of the room) leads the Trauma and Careers in Medicine Program at USC Keck School of Medicine, teaching at-risk youth from Los Angeles County about CPR, Stop the Bleed, ultrasound, and anatomy.



a cornerstone in the revitalization of Kibuye Hope Hospital. Initially a small, rural mission hospital struggling with basic utilities, it transformed into a successful healthcare facility under his leadership.

Dr. Fader led efforts to develop the hospital's infrastructure and significantly expand its surgical services. He was pivotal in establishing a comprehensive surgical residency program that equips local medical professionals with skills necessary for sustainable healthcare delivery in their communities. Today, the hospital annually performs more than 3,700 operations and treats more than 30,000 patients.

Through his dedication and leadership, Dr. Fader has elevated healthcare standards in Burundi and inspired a new generation of medical professionals. These individuals are committed to facing the challenges of delivering quality medical care in some of the world's most difficult environments.

International Surgical Volunteerism Award

Alfredo Quiñones-Hinojosa, MD, FACS, a neurosurgeon in Jacksonville, Florida, will receive the ACS/Pfizer International Surgical Volunteerism Award for his work as cofounder and president of mission:brain (Bridging Resources and Advancing International Neuroscience) Foundation, a non-profit organization committed to providing neurosurgical expertise and resources to patients, caregivers, and healthcare providers in underserved areas throughout the world.

Known to patients and colleagues as Dr. Q, Dr. Quiñones-Hinojosa's journey from an immigrant

farm worker to one of the most respected figures in neurosurgery is a testament to the power of determination and dedication.

He earned his medical degree from Harvard Medical School in Boston, Massachusetts, completed his residency and postdoctoral fellowship in neurosurgery at the University of California San Francisco, and held a professorship at The Johns Hopkins University School of Medicine in Baltimore, Maryland. Currently, he serves as the James C. and Sarah K. Kennedy Dean of Research and holds the Monica Flynn Jacoby Endowed Chair for the Department of Neurosurgery at the Mayo Clinic in Florida in Jacksonville.

Through his leadership at mission:brain, the foundation has been crucial in creating networks that link surgeons and caregivers to hospitals and patients without the money, equipment, or training to treat difficult neurosurgical diseases, significantly improving patient outcomes and healthcare practices.

Dr. Quiñones-Hinojosa's life story is captured in his internationally known book, *Becoming Dr. Q: My Journey from Migrant Farm Worker to Brain Surgeon*, which emphasizes the message that achieving a lasting, positive mark is possible no matter one's origins.

Domestic Surgical Volunteerism Award

Damon Howard Clark, MD, FACS, a general surgeon in Los Angeles, California, will receive the ACS/Pfizer Domestic Surgical Volunteerism Award for his extensive community service and commitment to medical education through initiatives like the "Surgeon for a Day" program and a tattoo removal service.

Dr. Clark, assistant professor of clinical surgery



Dr. Nichole Starr (right) works with an OR nurse at Fitche Hospital in rural Ethiopia—one of the first sites to implement the Clean Cut program.

at the Keck School of Medicine of the University of Southern California (USC), exemplifies dedication to surgical excellence and community service. As chair of the diversity, equity, and inclusion committee for the Department of Surgery, director of the Division of Acute Care Surgery, and associate director of the surgical intensive care unit at Keck Medicine of USC, Dr. Clark is committed to advancing clinical practices and promoting inclusive medical environments.

Beyond his clinical and administrative roles, Dr. Clark is an advocate for community outreach, focusing his efforts on addressing the crucial issues of violence, injury, and trauma. His innovative initiatives, such as the “Surgeon for a Day” program, provide unique, hands-on experiences that inspire future medical professionals. His leadership in the “Parents for Peace” support group and transformative tattoo removal service has made significant impacts, helping to heal and rehabilitate communities affected by violence and gang affiliation.

Dr. Clark’s dedication extends to the educational realm, where his commitment to teaching has been recognized multiple times with prestigious awards. These awards include the C. J. Berne Outstanding Faculty Teaching Award and the Demetriades Teaching Award, which he has received four times for his exemplary contributions to the USC Division of Acute Care Surgery.

Resident Surgical Volunteerism Award

Nichole Starr, MD, MPH, a trauma and critical care surgeon in San Francisco, California, will receive the ACS/Pfizer Resident Surgical Volunteerism Award for her impactful work with the Lifebox Foundation

in Ethiopia, which has set new standards for surgical safety and had a substantial influence on healthcare policies and practices in resource-limited settings.

Currently a trauma and surgical critical care fellow at UCSF, Dr. Starr’s surgical training began with a general surgery residency at the same institution, where she honed her skills and developed a commitment to enhancing surgical safety worldwide.

Dr. Starr’s dedication to global health led her to Ethiopia, where she significantly contributed to the Lifebox Foundation, a global nonprofit dedicated to making surgery safer through tools, training, and partnerships, from 2018 to 2021. As both a fellow and senior fellow, she was instrumental in implementing the Clean Cut® program across multiple surgical hospitals in Ethiopia. This Lifebox surgical infection reduction program has been vital in enhancing surgical safety, reducing the risk of infections, and dramatically improving patient outcomes.

Her focus also has extended beyond program implementation. Dr. Starr excelled as an NIH Fogarty Global Health Equity Scholar, focusing on surgical quality improvement and infection prevention. Her expertise and advice have been sought by the Ethiopian Ministry of Health’s Emergency, Injury, and Critical Care Directorate, where she has made impactful decisions to advance trauma care.

In addition to her work in Ethiopia, Dr. Starr has engaged in significant research projects across Brazil and Liberia, further underscoring her commitment to improving international surgical and trauma care. She continues to serve as a surgical advisor at the Lifebox Foundation, influencing global surgical practices and policies. **B**



Surgical Adhesions Summit Launches Ambitious Improvement Project

M. Sophia Newman, MPH



The ACS gathered 100 experts from around the world for its first Surgical Adhesions Improvement Project Summit last month. The 2-day event, held in Washington, DC, aimed to generate momentum in effective prevention, assessment, and treatment for surgical adhesions.

THE REASON TO MEET WAS SIMPLE, if ambitious. Surgical adhesions occur in approximately 90% of patients who undergo abdominal or pelvic surgeries, triggering nearly 300,000 additional surgical procedures and \$2.3 billion in costs each year. But despite their prevalence, there are few effective means to prevent or treat adhesions.

This group of experts is determined to change that.

The assembly included surgeons, biologists, engineers, and researchers from nearly a dozen countries—a team brought together with the help of Peter and Marsha Carlino, who donated \$1 million to the ACS Foundation to help fund surgical adhesions research. In a speech, Mr. Carlino explained that his family’s motivation was personal: one of their sons, a Crohn disease patient, has required extensive treatment for surgical adhesions and had suggested that the family’s philanthropy should include attention to this problem. Movingly, Mr. Carlino thanked the experts present for “your willingness to join us in this shared mission.”

The mission was indeed shared; in addition to expressing gratitude to the Carlino family, multiple speakers commented on their pleasure at finding a rare receptive audience for the topic. Richard ten Broek, MD, PhD, a medical researcher at Radboud University Medical Center in Nijmegen, the Netherlands, as well as leader of the Dutch Adhesions Group, said, “There has never been a dedicated conference on adhesions, so it is good that there is one now.”

With that dearth of prior attention in mind, the conference took a comprehensive approach. Samuel P. Carmichael II, MD, FACS, a trauma surgeon at Wake Forest University School of Medicine in Winston-Salem, North Carolina, and one of the event’s key organizers, later said, “If you came to this meeting not knowing anything about adhesions, you will leave with a holistic understanding of where we’ve been, where we are, and where we’re going, and that’s been our goal from the beginning.”

Where We’ve Been

Some of the atmosphere of inattention to adhesive disease reflects the sheer difficulty of addressing this

problem. Attendees described a basic conundrum: adhesions form as wounds heal and, therefore, efforts to inhibit adhesion formation also may inhibit wound healing. Similarly, efforts to remove existing surgical adhesions create new wounds and thus can provoke more extensive adhesions to form. As a result, avoiding adhesions requires simultaneously helping healthy tissue to form while avoiding excessive or pathological growth.

Several steps toward prevention and treatment remain undone. These include finding ways to effectively assess, measure, and record surgical adhesions. Laboratory research elucidating how adhesion tissue forms, plus engineering to create useful prevention and treatment options, are also crucial. “A particularly frustrating thing about this is the pathobiology of why these adhesions form is not wholly worked out, which is why they’re so difficult to treat,” said speaker Melinda Maggard Gibbons, MD, MSHS, FACS, a general surgeon from University of California, Los Angeles (UCLA) Health in Los Angeles, California.

Where We Are: Assessment and Patient-Reported Outcomes

With that background in mind, the summit’s first panel presented a literature review of research on surgical adhesions, particularly focused on prevention, measurement, and patient-reported outcomes. The review, led by Dr. Maggard and Tara Russell, MD, MPH, PhD, a colorectal surgeon at UCLA Health, clarified how complex approaches had proven ineffectual.

A review of 132 studies showed 54 unique tools for intraoperative measurement of adhesions, including just seven that had been used in more than three studies. The review also included nonoperative approaches to measurement, including ultrasonography and computed tomography. Drs. Maggard and Russell said the tools captured a wide range of adhesion attributes, and most had minimal validation, moderate interrater reliability, and no clear standard as to the timing of measurements.

Approaches to patient-reported outcomes were

Opposite, top left:

Dr. Cliff Ko speaks at the summit.

Opposite, bottom left:

Colorectal surgeon Dr. Tara Russell helps lead attendees through a modified Delphi process.

Opposite, bottom middle:

Kenneth Sharp, MD, FACS, and donor Peter Carlino converse.

Opposite, bottom right:

Dr. Rudy Leon de Wilde, a gynecological surgeon, speaks at the summit.

similarly scattered; 192 research articles showed 87 instruments used in studies, only 10 of which were specific to adhesive disease and related quality of life. “A bunch of siloed tools that don’t talk to each other is what we basically have now,” Clifford Y. Ko, MD, MS, MSHS, FACS, Director of the ACS Division of Research and Optimal Patient Care, later summarized, noting that the upshot is limited clarity and forward momentum in creating effective care.

In discussions, attendees affirmed the need for a well-validated, highly reliable, widely used instrument to assess adhesions and associated outcomes.

Where We Are: Prophylaxis

Drs. Maggard and Russell also presented evidence that adhesion barriers, which aim to prevent the formation of adhesions, had varying effectiveness. They described a meta-analysis of randomized clinical trials on adhesion prophylaxis that found smaller likelihood of small bowel obstruction (SBO) for more than 30 days after surgery (0.76, relative to nonuse). Outcomes varied between products, with Guardix shown to be effective and Sefrafilm ineffective against SBOs.

In a later talk, Dr. ten Broek described research on barriers as ongoing but incomplete: “A problem with using adhesion barriers in bowel surgery is that most barriers have never been tested in proximity of bowel anastomosis or colon tumor cells.”

With that said, much is known. Nearly every speaker on the summit’s first day described at least one prophylactic agent or approach. Like measurement tools, these ran the gamut of effectiveness, reflecting active but uncoordinated development.

The progress includes a fair number of negative results. Rudy Leon de Wilde, MD, PhD, the medical director of

the Clinic for Obstetrics and Gynecology at Pius-Clinic Oldenburg in the University of Gottingen, in Gottingen, Germany, described a range of drugs, including nonsteroidal anti-inflammatory drugs, antibiotics, corticosteroids, and fibrinolytics, that appeared not to reach the right sites or not stay long enough in the abdomen or pelvis, and/or negatively impact epithelial regrowth. He also noted that a product called SprayShield had been shown to elicit allergic reaction in some patients. Another speaker, David Wiseman, PhD, MRPharmS, from the International Adhesions Society, described a failed product called Intergel, which was launched in 2002 despite issues with infectivity and withdrawn from the market a year later.

Other options, Dr. de Wilde said, do work. They include the absorbable barrier gel HyaRegen; 4Dryfield PH Powder, a starch that can be jellified into an effective barrier; and intraoperative approaches, including pneumoperitoneum humidification, use of absorbable sutures, and peritoneal cooling during surgery.

Where We Are: Microbiology and Engineering

Developing effective adhesion prevention and treatment depends on understanding the environment in which adhesions form and what agents can treat them. To that end, the summit included multiple sessions on microbiological and material sciences.

Here again, the picture was complex. Steve Mutsaers, MD, PhD, a professor of pharmacology and toxicology in School of Biomedical Sciences at The University of Western Australia in Perth, has examined the peritoneal environment and determined the role of macrophages in regeneration of mesothelium. Joel Zindel, MD, PhD, from the Department of Visceral Surgery and Medicine at Inselspital in Bern, Switzerland, further explained that macrophages and mesothelial cells are part of a pathway that generates thrombin, which can combine with fibrin to generate fibrous adhesions. Jessica C. Cardenas, PhD, a researcher associated with the Department of Surgery at the University of Colorado in Aurora, added her insights on the connections between inflammation and coagulation—aspects of wound healing known to have implications for adhesion formation.

Dr. Cardenas underlined the complexity of adhesion formation and, like other speakers, evinced enthusiasm for a focused, incisive solution. “Maybe what we really need is just new, better agents—one drug that can perform multiple functions,” she said, noting her laboratory is working on an option based on heparin sulfate.

In addition to the right drug, the right delivery mechanism is important. Eric Appel, PhD, an associate professor of materials science and engineering at

Dr. Melinda Maggard Gibbons presents research at the summit.





Stanford University in California, walked through his research on hydrogels, a form of matter between liquids and solids that can be sprayed, injected, and spread over tissue, remains in place for relatively long periods, and can carry pharmaceutical agents.

In addition, researcher Deshka Foster, MD, PhD, a surgical oncology fellow from Memorial Sloan Kettering Cancer Center in New York, New York, shared her research in mouse models of abdominal adhesion formation. Dr. Foster's work has shown that the *JUN* gene, which is conserved across several species, promotes adhesion formation and is activated early after injury. In in vivo experiments with mice and pigs, she has found that applying a small molecule, T-5224, in hydrogel decreases abdominal adhesion formation by inhibiting *JUN* signaling after surgery. "Suspended released packaging in advanced hydrogel really shows promise," Dr. Foster commented.

Where We're Going

The second day of the summit focused on the future. In interviews, several interviewees noted the key ambition was to bring an effective preventive agent into clinical practice. To that end, developing connections to the National Institutes of Health (NIH) and US Food and Drug Administration (FDA) for research funding and regulatory approval is highly compelling.

Steven Bauer, MD, PhD, a scientist formerly with the FDA and now at Wake Forest Institute for Regenerative Medicine in Winston-Salem, North Carolina, detailed the regulatory pathway for investigative new drugs. Dana K. Andersen, MD, FACS, from the National Institute of Diabetes and Digestive and Kidney Diseases in Bethesda, Maryland, described the NIH funding process, focusing on advising the younger investigators in attendance. "My transparent objective in this business is to put more money in the hands of surgeon-researchers," Dr. Andersen said.

The final summit session addressed what the attendees would do collectively. Before the meeting, most had completed a survey on how and when to measure adhesions and what patient-reported outcomes are most relevant to care. This survey was one of a series the group will complete as part of a modified Delphi process,¹ a research methodology in which experts

complete anonymous surveys about their opinions, then review aggregated scores and modify their responses based on their colleagues' views. Aimed at giving all voices equal weight, the method is useful for aligning group opinion—a natural fit for a situation in which development has been meaningful but scattered. Discussion and re-surveying at the summit advanced the group toward consensus.

"How do we keep this momentum going?" Mr. Carlino asked before answering with respect to his family's philanthropic role. "We're committed, not just for this year, but down the road, to make sure that we complete this, hopefully with a lot more progress and a lot more cohesiveness."

The Carlino family provided a second round of funding for three grants of \$100,000 each for research on surgical adhesions.

As another step toward that goal, Dr. Ko said the group will generate multiple academic papers, including "the results of the Delphi to suggest a way to standardize description classification of adhesions in the operating room."

Additional papers remain under discussion and are likely to include summit proceedings, a literature review, and a white paper summarizing the expert input generated so far—"a small foundational library that puts all that conversation, robust discussion, and enthusiasm down on paper for reference moving forward," Dr. Carmichael said.

Beyond that, the aim is clear. Dr. Carmichael said that bringing a "happy ending" to patients like Mr. Carlino's son is highly motivating: "Certainly, the overall objective is cure. One thing we really want to remain centered around is developing something to treat patients with this disease process on a practical level." **B**

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

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The summit included 100 invited experts from a dozen countries and several surgical disciplines and medical research fields.

As ACS Unites Surgeons, Impact of “House of Surgery” Deepens

The ACS hasn't always been known as the House of Surgery.

SINCE ITS FOUNDING in 1913, the ACS has used the same official seal and motto, “To Heal All with Skill and Fidelity.” Through this constancy, the College has established and sustained a trusted, prestigious presence in surgery.

The phrase the “House of Surgery” is rather newer. It's been used intermittently for decades and has now become the official tagline of the ACS. Through its broad use today, the College is redefining and deepening what it offers to all surgeons.

First Uses

The first use of the House of Surgery at the ACS dates to 1969, when it appeared in an issue of the *ACS Bulletin*—although not with its present definition. Its usage at that time opened an era in which the phrase had several meanings.

In the 20th century, the term seems to have been documented just twice. The 1969 article included a call for full

participation of surgical residents in “this one house of surgery,” indicating that trainees, and not just fully trained surgeons, had a place in this particular professional society. The words were used differently in 1975, when another *Bulletin* article used the phrase to indicate the entire profession of surgery, with all its varied disciplines.

When the “House of Surgery” re-emerged more than a quarter-century later, in the early 2000s, another meaning materialized: a reference to unity within the surgical field. Thomas R. Russell, MD, FACS, used the phrase in this way in the *Bulletin* in 2001. Reflecting on the first of his years as the ACS Executive Director (2000–2009), Dr. Russell urged surgeons to “rally around our primary mission of caring for the surgical patient and, in the process, truly form a ‘house of surgery’ and put an end to unnecessary fragmentation and divisiveness.”

Gerald B. Healy, MD, FACS,

a professor of otolaryngology–head and neck surgery at Harvard Medical School in Boston, Massachusetts, and ACS Past-President (2007–2008), remembers using the phrase similarly in conversations with Dr. Russell and other ACS leaders starting around 2005. “I would use it frequently, when I would talk to the Board of Regents,” he recollected, “and I'd offhandedly say, ‘We are a house of surgery. We're going to act like one.’”

The House, Not A House

As the phrase has gained and lost myriad meanings, the College began to embrace this final concept as an appellation for itself and a way to describe what the ACS can offer to surgeons worldwide. If the College was once considered one house of surgery among many, it is now instead *the* House of Surgery—the place that, uniquely among healthcare organizations, can unite all surgeons.

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While the idea may have emerged slowly, it has continued to evolve and expand in the 3 years as Patricia L. Turner, MD, MBA, FACS, transitioned from her role as ACS Director of Member Services to Executive Director and Chief Executive Officer.

While surgical practice continues to increase in complexity and operative procedures become more and more specialized, surgeons are eager to benefit from shared insights, stronger networks, cross-cutting educational offerings, and more strident advocacy for surgical patients and the

profession—efforts that often require an organization with the broad expertise, infrastructure, and partnerships in place to benefit all surgeons. The phrase, therefore, underscores how the ACS serves, in Dr. Turner’s words, “everyone who comes under the umbrella of surgery. All specialties, all ages, all locations, all practice configurations, all the disciplines.”

As a result, the College also has begun appending the phrase to programming. *The House of Surgery* podcast, which debuted in 2022, offers fireside chats, recorded lectures from prominent surgeons,

and some original interviews about hot surgical topics.

Importantly, the name has become a calling card for the organization. To help ensure all can understand the College’s strategy to represent all surgeons collectively, the ACS has strengthened its identification as the House of Surgery. In 2023, the ACS trademarked the phrase itself. This phrase will continue to characterize the organization for generations to come, as the ACS becomes a stronger and more effective advocate for the surgical collective. **B**

Statement of Ownership, Management, and Circulation

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Member News

Reddy Is Promoted to Chief at Fox Chase Cancer Center



Sanjay S. Reddy, MD, FACS, has been promoted to chief of the Division of Surgical Oncology at Fox Chase Cancer Center in Philadelphia, Pennsylvania. With Fox Chase since 2012, Dr. Reddy also serves as the Marvin S. Greenberg, MD, Chair in Pancreatic Cancer Surgery, associate professor in the Department of Surgery, program director of the complex general surgical oncology fellowship, and codirector of the Marvin & Concetta Greenberg Pancreatic Cancer Institute.

Bleicher Leads New Division of Breast Surgery in Philadelphia



Richard Bleicher, MD, FACS, is chief of the new Division of Breast Surgery at Fox Chase Cancer Center in Philadelphia, Pennsylvania. He will continue to serve as a professor in the Department of Surgical Oncology and clinical director of the breast service line.



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

Dixon Is Chair of HHS Scientific Management Review Board



Andrea A. Hayes Dixon, MD, FACS, was appointed chair of the Scientific Management Review Board with the US Department of Health and Human Services (HHS). This appointment extends through June 2026. Dr. Dixon also serves as vice-president of clinical affairs and dean of the Howard University College of Medicine in Washington, DC, and is an ACS Regent.

Govekar Is Appointed Chief of Colon and Rectal Surgery



Henry R. Govekar, MD, FACS, was named chief of the Division of Colon and Rectal Surgery at Rush University Medical Center in Chicago, Illinois. With Rush since 2019, Dr. Govekar will continue his work as a surgeon at Rush University Medical Center and Rush Oak Brook and as an associate professor in the Department of Surgery at Rush Medical College.

The following articles appear in the October 2024 issue of the *Journal of the American College of Surgeons*. A complimentary online subscription to *JACS* is a benefit of ACS membership. See more articles at facs.org/jacs.

Thirty- and 90-Day Morbidity and Mortality by Clavien-Dindo after Anti-reflux and Hiatal Hernia Surgery

Megan L. Ivy, MD, George Baisou, MD, Cassandra Griffin, and colleagues

Antireflux and hiatal hernia surgery often occur simultaneously and have modest morbidity and low mortality. Using the Clavien-Dindo classification system, this retrospective, single-center study identified and evaluated complications occurring within the first 90 days postoperatively. The data are helpful in informing patients and guiding providers for optimal consent.

Lack of Concordance between Abbreviated Injury Scale and American Association for the Surgery of Trauma Organ Injury Scale in Patients with High-Grade Solid Organ Injury

Jeffrey Santos, MD, Shelby Kunz, MD, Areg Grigorian, MD, and colleagues

This multicenter, retrospective study, which assessed the correlation between the Abbreviated Injury Scale (AIS) for the abdomen and The American Association for the Surgery of Trauma (AAST) Organ Injury Scale for liver and spleen injury, demonstrated that the two severity scores lack overall concordance and differ in rate of surgical intervention. Researchers concluded that AIS should not be used as a surrogate for the AAST Organ Injury Scale.

Surgical Intraoperative Handoff Initiative: Standardizing Operating Room Communication using SHRIMPS

Wesley A. Stephens, MD, Madeline J. Anderson, DO, Brittany E. Levy, MD, MPH, and colleagues

Minimal communication standardization exists within the OR during intraoperative staff changes. Implementation of a standardized handoff between surgical technicians with the SHRIMPS cognitive aid resulted in substantially improved critical communication during staff changes, with 100% of surgical technician handoffs completed with 98.2% of elements addressed.

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