3-D printing:

Revolutionizing the future of surgical care

CLINICAL CONGRESS 2016
PRELIMINARY PROGRAM INSIDE
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Author bios*

*Titles and locations current at the time articles were submitted for publication.

DR. BOUGHEY (a) is professor of surgery and vice-chair of research, department of surgery, Mayo Clinic, Rochester, MN. She is Chair of the American College of Surgeons (ACS) Clinical Research Program Education Committee.

DR. BROWN (b) is surgical education coordinator, department of surgery, Washington University School of Medicine, St. Louis, MO.

DR. CLARK (c) is assistant professor of surgery, department of surgery, Wake Forest Baptist School of Medicine, Winston-Salem, NC.

DR. FANTUS (d) is vice-chairman, department of surgery; medical director, trauma services; and chief, section of surgical critical care, Advocate Illinois Masonic Medical Center. He is clinical professor of surgery, University of Illinois College of Medicine, Chicago, and Past-Chair, ad hoc Trauma Registry Advisory Committee, ACS Committee on Trauma.

MR. FOX (e) is Editorial & Production Assistant, Bulletin of the American College of Surgeons, ACS Division of Integrated Communications, Chicago, IL.

DR. GOLDFARB (f) is a general surgeon in private practice in Long Branch, NJ, and Chair, ACS Governors Surgical Care Delivery Workgroup Surgeon Workforce Subcommittee.

DR. HUGHES (g) is a general surgeon in private practice in McPherson, KS, and clinical assistant professor of surgery, Kansas University School of Medicine, Kansas City. He is Chair, ACS Advisory Council for Rural Surgery, and Editor, ACS Communities.

DR. KERNAHAN (h) is a medical historian and adjunct associate professor of surgery, University of Minnesota, Minneapolis.

DR. KODNER (i) is emeritus professor of surgery, department of surgery, division of colon and rectal surgery, Washington University School of Medicine.

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Author bios continued

**DR. LEAPMAN** (j) is urologic oncology fellow, department of urology, University of California, San Francisco (UCSF).

**DR. MENG** (k) is professor of urology and chief of urologic oncology, UCSF.

**MS. MOSES** (l) is a fourth-year medical student, Washington University School of Medicine.

**DR. NUSSENBAUM** (m) is the Christy J. & Richard S. Hawes III Professor of Otolaryngology; vice-chair, clinical affairs; division chief, head and neck surgical oncology; director, fellowship in head and neck oncology and reconstruction; and patient safety officer, Washington University School of Medicine.

**DR. PELLEGRINI** (m) is chief medical officer, UW Medicine, and vice-president for medical affairs, University of Washington, Seattle. He is a Past-President of the ACS.

**MS. PELTZMAN** (o) is ACS Quality Associate, ACS Division of Advocacy and Health Policy, Washington, DC.

**MR. PEREGRIN** (p) is Senior Editor, Bulletin, ACS Division of Integrated Communications.

**MR. SUTTON** (q) is Manager, State Affairs, ACS Division of Advocacy and Health Policy.

**MR. WALTER** (r) is Manager, DC Communications, ACS Division of Integrated Communications, Washington, DC.

**DR. YU** (s) is a fourth-year resident in general surgery, department of surgery, Washington University School of Medicine.
The surgical workforce in the U.S. is arguably more diverse than it was 20 years ago; however, we still have a long way to go before the percentage of women and minority surgeons is representative of the overall patient population. Furthermore, disparities in access and quality of care persist and must be addressed.

I recently had the privilege of serving as the Aubre de Lambert Maynard Guest Lecturer at Morehouse School of Medicine (MSM), Atlanta, GA, and of participating in the department of surgery’s grand rounds. I had always wanted to visit MSM to learn more about its highly acclaimed social agenda. What really struck me during the course of this experience was the commitment of the surgeon leaders to fulfilling this mission. Particularly impressive is a mentoring program for talented high school students who have an interest in pursuing a health care career.

Mentorship program

Founded in 1975 as the medical education program at Morehouse College and now an independently chartered institution, MSM seeks to accomplish the following goals: improve the health and well-being of individuals and communities; increase the diversity of the health care workforce; and address primary health care through programs in education, research, and service with emphasis on people of color and the underserved urban and rural populations in Georgia and throughout the U.S.

The youth mentoring and medical exposure initiative known as Reach One Each One (ROEO) was started by Omar K. Danner, MD, FACS, associate professor of surgery and chief of trauma, in an effort to help MSM achieve its mission. The program is a collaborative initiative between three Atlanta institutions—MSM, Emory University School of Medicine, and Grady Memorial Hospital—and is designed to meet the following objectives:

- Encourage interaction between a multidisciplinary group of physicians, medical students, hospital faculty, and mentors during their normal workflow to stimulate the high school students’ interest in pursuing a career in medicine
- Expose high school students to various medical specialties, medical technology, and trauma care with an emphasis on violence and injury prevention, safety, and future opportunities in health care
- Educate participants on how to navigate undergraduate studies and medical school
- Spark students’ interest in health care careers and stimulate their understanding of how they can ensure access to care for socioeconomically disadvantaged patients and Georgians
- Help students determine whether they would like to pursue a career in medicine, surgery, or another health care profession

MSM and Emory faculty for the program represent a range of specialties, including general surgery, internal medicine, obstetrics and gynecology, emergency medicine, trauma surgery, thoracic surgery, neuroscience and neurosurgery, orthopaedics, and nursing. A total of 27 Atlanta public high school students participated in the 2014–2015 program: 15 seniors, 11 juniors, and one sophomore. Of note, among last year’s ROEO participants, two were Gates Millennium Scholarship Award recipients. The students completed a 10-week program consisting of a two-week orientation and medical clearance process; a six-rotation multidisciplinary rounding and clinical exposure experience, including a tour of MSM; a financial literacy seminar; and ultimately a graduation ceremony at which the students were given white coats.

The ROEO program also beta-tested a Summer Capstone Experience in 2015 with seven participants. This program featured a brief orientation and badge clearance followed by three weeks of clinical shadowing and multidisciplinary clinical rounding. The summer program was supported and supervised by
What really struck me during the course of this experience was the commitment of the surgeon leaders to fulfilling this mission. Particularly impressive is a mentoring program for talented high school students who have an interest in pursuing a health care career.

the MSM departments of surgery, obstetrics and gynecology, and internal medicine.

Reports back from the student participants in both programs were uniformly positive. One student wrote that the ROEO program “exceeded my expectations by tenfold.” This young man said he viewed the program as “a chance of a lifetime,” noting that he was able to see cardiothoracic and hernia operations performed and to be introduced to surgery at the same time and in the same way as third-year medical students. Other students also expressed their enthusiasm, appreciation, and wonder for the work of surgeons and other health care professionals. They also remarked on the incredible pride they feel when wearing the white coats they received at graduation and the boundless appreciation they feel toward the faculty who mentored them through the program.

Other highlights
Another highlight of the lectureship was the welcoming remarks offered by Ed W. Childs, MD, FACS, professor of trauma and critical care and chair, department of surgery, who invited me to the event. I commend Dr. Childs for his outstanding vision and focus on diversity. Under his leadership, the department of surgery has begun implementing a strategic plan to fulfill the MSM mission, including the mentorship program.

After a case presentation by MSM’s two surgery department chief residents—Carl Lokko, MD, and Ruben Burbank, MD—Daniel E. Dawes, JD, MSM’s executive director of government affairs, president’s office, led a discussion on health policy and its effects on quality and equity. He specifically addressed the impact of the Affordable Care Act and the Medicare Access and CHIP (Children’s Health Insurance Program) Reauthorization Act with respect to reducing disparities in care among vulnerable populations. He also addressed the challenges in implementing many of the provisions aimed at improving health care for underserved patients in Georgia.

Shaneeta Johnson, MD, FACS, associate professor of surgery, spoke on health care disparities and disease management, particularly treatment for morbid obesity among underserved populations. In addition, Jacquelyn Turner, MD, FACS, assistant professor of colon and rectal surgery, discussed undergraduate medical education and its effects on residency training.

A more equitable future
As many of you may know, Aubre de Lambert Maynard, MD, is the chief of surgery with whom John Cordice, Jr., MD, FACS, and Emil Naclerio, MD, consulted when they operated on Martin Luther King, Jr., PhD, after the civil rights leader was stabbed by a mentally ill woman in 1958 in Harlem, New York, NY. It is only fitting that Morehouse should sponsor a lectureship in honor of the surgeon who saved the life of one the school’s most distinguished alumni. It further follows that this lectureship program focuses on the themes that Dr. King promoted: equality for people of all races, colors, and creeds, as well as access to health care services for people of all socioeconomic backgrounds.

Participation in the 27th Aubre de Lambert Maynard Lectureship was a humbling and moving experience. It is exciting to see the health care community in Atlanta pull together with surgeon leadership to actively try to overcome the challenges associated with improving diversity and eliminating disparities. I believe the ROEO program and the research and public policy work that is being carried out at MSM will have profound long-term effects on health care in Georgia, and I encourage surgeons who are interested in diversity and variations in care to further explore these efforts and to implement similar models in their communities.
3-D printing: Revolutionizing preoperative planning, resident training, and the future of surgical care

by Matthew Fox and Tony Peregrin
When members of the surgical team at Boston Children’s Hospital, MA, opened the skull of 18-month-old Violet Pietrok in October 2014 to correct her congenital facial malformation, they referred to a three-dimensional (3-D) mold created from computerized tomography (CT) images of Violet’s head to perform the delicate procedure.¹ 3-D printing technology, also known as “additive manufacturing” because its production method adds very thin layers of material upon one another to create 3-D objects, allows surgeons to plan where to cut down to the millimeter and to practice complex operations on patient-specific rubber or plastic molds.²

Although 3-D printers have been used in the last couple of decades to create surgical tools, laboratory equipment, and prosthetic limbs, only recently has software been developed to translate a patient’s magnetic resonance imaging (MRI) or CT scan images into a replica of a patient’s organ. Estimates suggest that as of 2015, 75 U.S. hospitals and 200 worldwide have access to a high-level 3-D printer, and that number is expected to grow.³

Fellows of the American College of Surgeons (ACS) are actively using this technology, not only at Boston Children’s Hospital but at other institutions around the country, including Washington University School of Medicine, St. Louis, MO, where surgeons used a 3-D model of Myah McWilliams’ skull to fix the five-year-old’s severe facial asymmetry in December 2015.⁴

In this article, members of the College describe their experiences with 3-D printing models, identify its benefits and limitations, and consider future applications for this technology.

Preoperative planning with 3-D printing
Adnan Siddiqui, MD, PhD, FACS, FAHA, neurovascular surgeon and vice-chair, neurosurgery, Jacobs School of Medicine and Biomedical Sciences, University of Buffalo, NY, has been using 3-D printers as an aid in operations for complex aneurysms for the last few years.⁵ He uses the technology to help him gain a deeper
understanding of a patient’s unique vasculature in a way that traditional imaging alone cannot provide, as well as to develop a preoperative surgical plan.\(^5\)

“When you do an angiogram and you take a blood vessel picture or snapshot, a CT angiogram, an MRI angiogram, it looks like, ‘There’s the problem, there’s where I need to go,’” said Dr. Siddiqui, chief medical officer, The Jacobs Institute, Buffalo. “The fact of the matter is, when you try to perform the procedure in reality, the impediments are such that you can’t make your way up there with the tools you have or there is less space in the artery than you originally thought, and you need to make adjustments on the fly.” For example, the surgeon may need to abandon the first approach and try something else, such as entering through the neck rather than the groin to reach an aneurysm.

“What this translates into is multiple procedures, multiple variations, longer procedures, [and] more possibilities for complications,” Dr. Siddiqui said. Employing a patient-specific 3-D model preoperatively may be able to alleviate some of those problems.

Dr. Siddiqui and his colleagues at The Gates Vascular Institute and University at Buffalo, including scientists, clinicians, and trainees, meet weekly to discuss what cases would be best served by the technology. “[Then] we say, hold on, this looks like a complicated case. Let’s 3-D print this entire vascular anatomy, put it in the lab, attach it to a flow pump, and let’s do the whole procedure, from groin to vertex, artificially on the 3-D printed model and work out the kinks,” he said. The advantage of practicing on a 3-D printout is to shift any trial-and-error element for a procedure from a patient to a replaceable model, with the goal of achieving improved outcomes and safer patient care.

“With 3-D printing, we are now able to take some of the most complicated cases—specifically those with lots of nuances to their anatomy that really aren’t appreciable on a computer screen—and generate a model that you can turn around in your hand,” said Albert S. Woo, MD, an Associate Member of the ACS and chief, pediatric plastic surgery, and director, craniofacial program, division of plastic surgery, Warren Alpert Medical School of Brown University, Providence, RI. Dr. Woo and Steven Couch, MD, FACS, oculofacial plastic surgeon and assistant professor of ophthalmology, Washington University, used 3-D modeling to carefully reconstruct Myah McWilliams’ orbital deformity while protecting the young patient’s tear ducts.\(^4\) (At the time of Myah’s procedure, Dr. Woo was associate professor, Washington University, and chief of pediatric plastic surgery, St. Louis Children’s Hospital.)

Dr. Couch noted that a 3-D printed model made preoperative visualization a more tangible experience. “The standard is, you look at a 2-D screen and look at multiple views on the area—so in my case, you look at coronal, axial, sagittal images—and you try to do the conceptualization for a long time, “3-D printing potentially improves our ability to accurately visualize in the preoperative setting.”

A 3-D-printed model was especially useful in Myah’s case, in which a multidisciplinary team needed to work together. “A model allows us to say, ‘My goal is to change this portion, this portion, and this portion. How will that affect your portion of the surgery? Is there a better way to expose this area?’” Dr. Couch explained.
Use across subspecialties

More than a year ago, Washington University obtained a grant to purchase a professional grade 3-D printer, and since then Dr. Woo and colleagues have used the printing lab to optimize the results of several of their patients.

“Initially, I had anticipated that the people who would be the most interested in 3-D modeling would be those who deal with bone deformities—plastic surgeons like myself, or oral maxillofacial surgeons, neurosurgeons, and orthopaedic surgeons. The interesting thing is that the greatest enthusiasm for this technology has actually been from surgeons who don’t work on bones, so to speak, but actually on the soft tissues,” said Dr. Woo.

“Not too long ago, a cardiac surgery colleague was working on a case with an aortic deformity and we were able to model-out not only the heart but the aorta for this young infant who was less than a year old,” said Dr. Woo. “When the cardiac surgery team was trying to decide whether the child needed open-heart surgery versus a cardiac catheterization, we were able to not only print a 3-D model for them, we were able to give the interventional cardiologist the opportunity to choose the texture and the softness of the printed materials so that the model was as close to a normal infant’s [heart] as possible. They could actually practice the surgery on a model that was much more true to life.”

“For orthopaedic and craniofacial surgery, the hard tissue simulation is excellent...because the plastic is roughly the same consistency as bone, so you have a fairly realistic simulation,” said John G. Meara, MD, DMD, MBA, FACS, plastic surgeon-in-chief, Boston Children’s Hospital, MA. In fact, Dr. Meara and his team used several 3-D models to plan the operation on Violet Pietrok. “We had a couple of 3-D-printed models made because I wanted to have the ability to do the procedure on those heads and to develop a couple of osteotomy patterns as backups. We revised the pattern three times before we got to the point where I could see exactly where the cuts needed to be.”

This exacting preparation was a key element in correcting the young girl’s rare facial deformity. “Violet had a complex Tessier cleft, and we did a facial bipartition—we moved the two halves of her face
Neurological residents learn and practice stroke intervention surgery with Dr. Siddiqui (at far right) on 3-D-printed models in the Jacobs Institute’s Training Center.

closer together,” Dr. Meara said. “The preoperative planning was very helpful because we actually did the surgery on the 3-D printed models to give us an idea of how the orbits would come together,” he added, explaining that he and his surgical team made subtle changes in the way they had initially planned to cut the bones based on potential interference in the affected area. Similar to Dr. Siddiqui’s experience, Dr. Meara found that he “didn’t have to revise things in the OR [operating room] because we were able to make those adjustments on the model beforehand.”

A tactile understanding of the procedure translates into increased confidence for the surgeon going into that nonstandard operation, and, according to Dr. Meara, the 3-D printed models also are useful inside the OR.¹⁶ “Even in Violet’s case, there were times I would have someone bring the models over to me while operating just for me to take a look from different angles, to get my bearings in terms of where the orbit was, where the optic nerve was,” he said. “You might be making a bone cut that is five millimeters away from a fairly important anatomic structure, so it’s nice to have someone be able to spin that around in front of you to get a much clearer 3-D image in your head of what you need to do on the patient.”

As general surgery and the surgical subspecialties continue to move toward minimally invasive techniques and as these procedures become more sought after by patients, surgeons are facing new challenges that can be alleviated, in part, through 3-D modeling. “With the rising demand for minimally invasive procedures, surgeons are no longer able to fillet open the anatomy and see everything they need to,” said Dr. Woo. “Frequently, you are looking at the anatomy through a very tiny incision or through an unusual angle and with a limited view of what exactly is going on. With a 3-D model on hand, it really helps the surgeon get his or her bearings by having a millimeter-to-millimeter exact correlation from model to patient.” These models can also be sterilized so that the surgeon can manipulate the model on the operative field while performing the procedure.

Surgical education and training benefits

For surgeons—whether the user is an experienced surgeon, a resident, or a medical student—there is no replacement for the knowledge afforded by holding a solid object and understanding its nuances.

“We are a major teaching center, and education and training are typically at the core of what we do,” said Amar Singh, MD, FACS, a urologist with Erlanger Health System, Chattanooga, TN. “A very useful part of resident education is having [trainees] hold a model in their hands and look at the 3-D contour of the tumor and consider how they can approach it surgically.” Surgeons who have done thousands of organ-preserving kidney operations, for example, know the pitfalls of the procedure, “and communicating that knowledge base to a resident is so much easier when you have something tangible,” Dr. Singh said.

In a panel session titled Emerging Technologies in Simulation presented at the ninth annual meeting of the Consortium of ACS-Accredited Education Institutes (ACS-AEI) in March 2016, Robert Sweet, MD, FACS, executive director of the Institute for Simulation Healthcare (formerly the Institute for Simulation and Interprofessional Studies), University of Washington, Seattle, underscored the pedagogic benefits of 3-D
printing technology, particularly for resident education. “You can do these cases that you might not normally see during residency [with 3-D printed models],” said Dr. Sweet, a professor of urology. “If we’re going to credential people to do things that they’ve never seen, that’s problematic. 3-D printing offers us the ability to essentially immortalize these rare cases and create a library of opportunities for students for things that they might see during their residency or training program.”

Katherine A. Barsness, MD, MSCi, FACS, pediatric surgeon; director, surgical simulation at Ann and Robert H. Lurie Children’s Hospital of Chicago; and associate professor of surgery and medical education, Northwestern University Feinberg School of Medicine, Chicago, IL, said she has been using 3-D printers at Northwestern Simulation since 2011 to create new tools to train surgeons in her specialty. Dr. Barsness also spoke at the ACS-AEI Emerging Technologies in Simulation panel session on the topic of hybrid simulation—the use of surgically modified real tissue placed into 3-D printed thoracic and abdominal cavities. In an interview, Dr. Barsness said, “Specifically, it started in pediatric surgery. It was used to work with the size limitations inherent to neonatal surgery—when you’re trying to simulate that small space, 3-D printing is the most accurate way we’re able to do that. It has allowed us to create size-appropriate, anatomically correct teaching aids, so that no longer is a newborn infant exposed to the risk of the learning curve; rather, the learning curve is borne on the back of the simulation,” which is especially meaningful with the fragile tissue at play in neonates.

The educational and training benefits of the technology also extend to experienced surgeons. “There’s a technology called flow diversion, which is used to treat complex brain aneurysms. There are physicians who have done a few cases as a part of their training, but the condition is relatively rare,” Dr. Siddiqui said. To enhance their understanding of the condition, he and his colleagues at The Jacobs Institute have developed an advanced users course, in which physicians from all over the world fly into Buffalo and spend a couple of days at the institute watching surgeons perform live demonstrations of complex cases. “Then we 3-D print some of those cases and have the physicians practice on the
3-D models to gain a stronger familiarity with what they will have to do to be successful with those procedures on patients,” he said. The ability to customize a 3-D printed model also is a useful feature, Dr. Siddiqui noted. “If you have a patient with a perfect aneurysm that would be great for training, you print out that model, and then it can be easily modified in the future to include different complications,” he said. “A bend here, an additional aneurysm there—you can represent any additional problem you want to a student, fellow, or even yourself, in order to work in a variety of training scenarios. That’s a unique advantage of how this all gets done.”

Quality metrics as a key to reimbursement

While 3-D modeling is beneficial in the areas of education and training, the measurable value of 3-D modeling on improved surgical outcomes is yet to be determined. However, anecdotal evidence suggests this technology can reduce the risk for complications and lessen the time the patient spends under anesthesia.

“We’ve done some early work showing a decrease in OR times as a result of the models,” Dr. Meara said. “If you can cut an hour off a 10-hour case, each hour in the OR is extremely expensive, so maybe a $500 or $800 model is not terribly expensive if you are cutting an hour or an hour-and-a-half of OR time,” he said, adding that he was able to save approximately one to two hours on Violet’s case because he had a clearer idea what he and the surgical team were going to do in the OR. So while the infrastructure costs in acquiring an on-site 3-D printer are considerable—the high-quality model at Boston Children’s Hospital costs $400,000, and printers in use at other hospitals can run upward of $100,000—with efficient use, the technology has the potential to save money over time.

A pilot study—reportedly the first in the world to review 3-D modeling in a hospitalwide setting—was launched by the Erlanger Health System in October 2015, to examine how 3-D printing can be used to improve surgical outcomes and the challenges—including costs—involving in using this technology in a large public hospital system. The study was conducted in partnership with the University of Tennessee College of Medicine-Chattanooga and 3D Operations, Inc. (3D Ops), a provider of patient-specific 3-D printed models.

“During the first six months [of the study] we are trying to figure out how to create these models accurately and what is the most cost-effective way to do this so that every surgeon has access [to this technology],” said Christopher Keel, DO, a urologic surgeon, Associate Member of the ACS, and the first surgeon at Erlanger to use a 3-D model for surgical planning. To prepare for that operation, which involved a kidney with multiple large tumors, a model was created using a 3-D printer that costs approximately $250,000, including software.

“We are doing this in a research setting in collaboration with industry because there is no reimbursement currently for 3-D printed models,” explained Dr. Singh. “We do believe this technology helps us provide better outcomes, but there is no way to quantitate that in dollars and cents right now. If I am a hospital or health system or university, unless there is a grant or philanthropic money, it might not make sense to purchase a high-end printer. This is an...
extremely dynamic technology—the printers that are out there could be outdated within the next two years. However, you do see situations where organizations are leasing the technology and equipment or partnering with another entity,” said Dr. Singh.

Drs. Singh and Keel emphasized the importance of quality metrics as a key to reimbursement, particularly if 3-D printing technology can be linked to better outcomes and enhanced efficiency.

Hurdles to adoption
At least three primary limitations are associated with 3-D printing technology for use in surgical models—slow build times, a lack of autonomy, and expensive equipment and software costs. Build times for a single model can last from a few hours to an entire day and can vary depending on whether the 3-D printer is housed on-site or with an outside company. “Speed is one of the things that developers are currently working on,” Dr. Keel said. “It depends on the type of organ you are printing. They’ve printed a whole brain before, and obviously, that takes more time than it does to print a kidney, particularly if it’s a smaller kidney.”

Another challenge to wide adoption of 3-D printing is the training involved in mastering the scan conversion software; as a result, surgeons must typically rely on experts in printer technology to generate models.11 “A lot of these printers need babysitters to sit and watch as they are printing because there can be errors [or because] you have to switch out the materials,” Dr. Sweet said.

“The reality is that there is a huge amount of infrastructure that needs to be developed [by a hospital] before the first case,” Dr. Woo added. “Not only do you need to have a 3-D printer available, which is a significant cost in and of itself, you also need the technical expertise to be able to manipulate the data in order to create the model that you want, and generally that’s not something that surgeons can do themselves.”

Furthermore, medical-grade printers are expensive and cover a range of price points. According to Dr. Sweet, high-end 3-D printers can cost up to $850,000 depending on the scale, number of inks, and performance capabilities of the device. At the low end of the market, namely the consumer market, 3-D printers sell for as low as $140. “Most of the market right now is either on the low end or the high end, but what’s interesting is the merging [of the two markets] right in the middle,” said Dr. Sweet. “This emerging middle market is where you are getting some of the capabilities of the high-end machines, but with lower costs driven by scale and so on, and this is what we need.”
“You don’t necessarily need the most expensive printer to do what we want to do, although the higher-grade printers have much higher resolution and have more flexibility and allow you to use not just one material but multiple materials,” said Dr. Woo. “I can mix a plastic type of material with a rubber material and find the perfect mix so that we are able to get the texture or the flexibility in the material that we want to allow us to achieve our goals.”

Future applications
Although 3-D printing already has affected surgical practice and training, the technology has even greater potential going forward. The future of 3-D printing in health care will likely revolve around bio-printing, which entails creating biological structures through a layered manufacturing method, similar to the one used today, but instead of using a resin polymer, bio-printing uses a stem cell base—tissue grown in a lab. “That is the next step in evolution. We might even see both those types of models merge together,” according to Dr. Singh.

Work already is under way to merge the field of artificial materials and biologics in 3-D printing, Dr. Sweet said, through the use of advanced inks and embedded sensor technology. “When you’re dealing with electronics, they’re two dimensional, they’re hard, rigid, and brittle, and they have very high processing temperatures from a manufacturing standpoint, where biological structures are three dimensional, soft, flexible, stretchable, and are temperature-sensitive,” he said. “So what is nice about 3-D printing is that it can actually solve both those problems and you can start embedding electronics with biological structures.”

Intertwining organic and inorganic materials also may create new possibilities in functional human tissue and organ generation. “There is a core printing and a shell around it, and what you can actually do is implant drugs, small growth factors, and those can be activated and released when you want them to be released using laser or mechanical energy,” Dr. Sweet added. “So imagine that—imagine being able to print an organ with little beads of growth factors embedded in it that may be released over time slowly or when you activate them for release. This opens a whole new world for us, not only in training, but for organ replacement and healing as well.”

The usability of 3-D printed materials inside patients is still in its early stages, but surgeons already are considering the potential. “I guarantee you that someday, you will be able to print 3-D pieces of, for example, orbital bones, which you’ll be able to feed stem cells into and have it turn into bone,” Dr. Meara said.

Dr. Siddiqui believes that the ability to print functional organic components would be a benefit to vascular surgery. “In vascular surgery, we’re always looking for the best grafts, whether that is a radial...
artery graft, or a saphenous vein graft, or a cephalic vein, or an internal mammary artery—it’s a perpetual issue with trying to find the right graft, the right diameter, with properties that will allow it to serve as an effective conduit and not cause spasms,” he said. “Being able to print artificial vessels would be a major step forward in any vascular surgery.”

Ultimately, the goal is to one day be able to print entire functional organs for use in human transplantation; these organs, created from a patient’s stem cells, could avert the need for immunosuppressive drugs and alleviate the ever-growing need for donor organs. Achieving that aim is years away. The complexity of replicating a biologically viable liver or heart via 3-D printing is beyond the current scope of the technology, but the science is continuously improving.

As the capabilities of 3-D technology advance and lead to improved patient safety and outcomes, the surgeons interviewed for this article predict that 3-D printers will be as common in hospitals as CT scans within a decade. “It’s the same thing I told a medical student last week,” said Dr. Singh. “I’ve been in practice for nine years, and I don’t do a single operation the same way I did nine years ago. The ultimate goal is to provide equivalent or superior care and outcomes for your patients and minimize their complications, and if you have a technology that is affordable or that will become affordable as it continues to be developed, you can resist it all you want, but the wave is going to sweep over you, and we have seen that with every sort of minimally invasive approach.”

“There are some incredible benefits of this technology for the surgeons who are willing to get out of their comfort zone,” Dr. Woo added. “I firmly believe that 3-D printing is here to stay and it’s actually going to revolutionize not just the practice of surgery, but really the practice of medicine.”

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Health care networks: 
Surprise billings for surgical patients

Since the passage and implementation of the Affordable Care Act, health care insurers have accelerated their efforts to reduce costs while providing coverage that is affordable and meets the mandates of the law. These efforts have led to the development of narrow and tiered provider networks and, as a result, created situations resulting in surprise billings for patients—an issue that has received considerable media attention. This article describes the key features of these networks and efforts to respond to the challenges involved in surprise billing.

Narrow/tiered networks
Over the last few decades, physicians have grown accustomed to contracting with health care insurers and participating in provider networks as a condition of reimbursement. By being in-network, physicians accept the contracted payment rate and are prohibited from balance billing patients, although patients are responsible for any copayment and deductible set forth in their health care plans.

Out-of-network physicians, however, may bill patients not only for the copayment and deductible (which may be at a higher rate than for in-network care), but the physician also may balance bill the difference between what the health insurer has paid and what the physician normally charges. Physicians who choose to be out of network as nonparticipating providers generally do so because they believe the contracts offered to them provide insufficient reimbursement and because they believe they lack the power to negotiate with the insurer to get a fair fee schedule. As insurers narrow their networks, even fewer physicians are participating in them.

Physicians also may participate in the insurer’s broader network, but are unaware that they are considered out-of-network for patients in some specific plans that only cover services provided by narrow networks of providers. Hence, physicians sometimes provide care to patients who think they are in-network, and then have their bills rejected for being out-of-network. Although health insurers are required to have provider directories for patients to identify in-network providers, these listings are often out of date and provide incorrect information to patients.

Tiering of networks takes place when the insurer categorizes network providers in certain tiers, supposedly based on quality, and then restricts the patient to a particular tier for a service. For example, 10 general surgeons might be in a network, but only three are in Tier 1, while the other seven are in Tier 2. The

HIGHLIGHTS
• Describes narrow and tiered health care networks
• Outlines the College’s position on tiered and narrow networks
• Explains why patients sometimes receive surprise billings and how it affects surgeon reimbursement
insurance carriers may restrict patients in certain plans to receiving care from providers in a specific tier. In this case, patients who are restricted to physicians in Tier 1 would be restricted to the three general surgeons in that tier in order to receive full coverage.

**ACS policy on tiered/narrow networks**

The American College of Surgeons (ACS) Statement on Physician Tiering and Narrow Network Programs provides guidance for surgeons seeking to address problems with tiering and narrow network programs and emphasizes that these programs should be based on quality metrics, not cost.¹

However, the College is aware that many narrow and tiered health care networks rank physicians based solely on cost. These protocols often are implemented improperly, rely on faulty data, use inappropriate cost measures, lack transparency, and lead to the misclassification of physicians. The ACS regards the provision of high-quality surgical care—particularly with the increased emphasis on performance measurement in health care today—as a top priority and urges federal or state agencies, hospitals, health care organizations, insurance companies, and other interested parties to develop policies to ensure patients receive optimal surgical care.

Although the ACS supports efforts that result in the efficient delivery of care, these protocols should be based solely on quality until reliable and valid methods are available to evaluate both cost and quality. As noted in the ACS statement, “Cost alone should never be considered an adequate metric, and patients should understand that access to reasonable care may be limited when such payor-based programs are imposed on plan benefits without regard to quality.”¹

The College supports physician tiering and narrow network programs that meet the following criteria:¹

- Use transparent methods and are rooted in logic that patients, physicians, and other stakeholders can comprehend.
- Use quality measures that meet nationally accepted standards based on importance, scientific acceptability, feasibility, and usefulness. Composite measures that account for both quality and cost should be held to the same standards and should include regular audits for reliability and validity.
- Have metrics that incorporate care from all appropriate providers and that comply with nationally recognized standards. Health care outcomes are the result of the actions of many individuals and the systems that support them.
- Incorporate accepted risk adjustments for outcomes and socioeconomic status to ensure ongoing access for patients who are at higher risk of complications and poor outcomes.
- Involve physicians and physician organizations in the development and implementation of any protocol.
- Use reasons other than just cost for tiering or removing physicians from health care networks. Payors should rely on nationally validated and reliable quality metrics, and even though cost data should be transparently available to patients, these data should not affect network decisions.
- Set appropriate benchmarks that incentivize physicians to achieve optimal clinical outcomes and provide high-value care.
- Impose minimal burdens on physicians to avoid impeding the provision of care or patient access to care.
- Provide an opportunity for patients, physicians, or other stakeholders in the delivery system to appeal any classification of the physician in the program.

According to the statement, to the best of the College’s knowledge, none of the tiering or narrow network programs meet all of these criteria at present. This gap is likely due, in part, to the lack of transparency associated with these programs. The ACS recommends that payors
discontinue such programs and direct their focus toward the quality measures that are currently available from specialty societies, Medicare, or other recognized organizations to encourage providers to participate in learning health systems and quality improvement efforts. If measures of both quality and cost are used for these programs, the metrics used must be explicitly stated by the insurers who are doing the tiering. This transparency is necessary so that patients can understand that access to care may be limited when such programs impose restrictions without respect to quality. Plans should partner with physician organizations, such as the ACS, if they are interested in developing reliable resource-use measures that avert the possibility of denying patients access to quality care.1

Balance billing issues
As noted earlier, out-of-network physicians may balance bill for their services unless restricted by law. If a patient has an insurance plan that does not cover out-of-network provider services, then the patient is responsible for the full charge or whatever fee he or she negotiates with the provider.

This situation sometimes leads to surprise billing, which can take a number of forms. In one example, the patient is being operated on by an in-network surgeon in an in-network facility. However, it turns out the anesthesiologist is out-of-network, as is the assistant surgeon who was pulled in at the last minute to help with the case. The patient assumes that because the procedure is being performed at an in-network facility, all of the providers on staff are in-network. He or she is not notified ahead of time that an assistant surgeon may be needed, and then receives a surprise bill from the anesthesiologist and the surgeon. In a few cases that have been highlighted in the media, these bills, which the patient is responsible for paying, have ranged from $80,000 to $120,000.

In a second example, the patient has coverage with high deductibles and copayments but is not focused on those responsibilities because the premiums for the plan were low. After the surgical services are provided, the patient ends up with an unexpected bill in order to reach the deductible, which could be anywhere from $5,000–$10,000.

A third example involves emergency care. A patient ends up at an emergency room or trauma center that is out-of-network, receives necessary care, and then gets an unexpectedly high bill because he or she thought their insurance covered emergency services. These circumstances can be particularly frustrating because people who are experiencing an emergency health crisis are not always able to check whether the facility or the providers are in-network, and often have no control over the selection of the facility to which they are transported.

Responding to out-of-network issues
Over the last couple of years, policymakers and legislators at the state level have taken action to address the problems raised by the tiering and narrowing of networks. For example, New York lawmakers passed comprehensive legislation in 2014 that includes a requirement that insurers and providers be transparent in their coverage practices and use an independent dispute resolution process for emergency care and other surprise bills; the legislation also mandates that insurers keep their websites up to date. Specifically, the New York state statute does the following:2

- Defines usual and customary cost as the 80th percentile of all charges for the health care service among providers in the same or similar specialty and in the same geographic area. The statewide FAIR Health, Inc., database provides this cost information. Health insurers must describe out-of-network coverage in a manner that is based upon the percentage of this cost of out-of-network health care services, including examples of anticipated out-of-pocket costs for frequently billed out-of-network services.
- Requires that insurers update their websites regarding physician participation status with plans or hospitals within 15 days of a change. Hospitals must disclose on their websites certain standard charges for items and services provided by the hospital and the plans
in which the hospital is a participating provider. Hospitals also are required to post on their websites and provide to patients at the time of registration or admission the names and contact information of the anesthesiology, pathology, and radiology services with which they have contracted; the names of the physicians employed by the hospital and whose services may be provided at the hospital and the health care plans in which they participate; and a statement informing the patient that a physician who provides services in the hospital may be out-of-network and that they should check with their physician to determine if that is the case.

• Imposes new disclosure requirements on physicians, hospitals, and insurers to help make medical billing more transparent and to alleviate and reduce surprise bills. Insurers and hospitals must, upon request, indicate the anticipated fee that a nonparticipating physician will charge the patient for scheduled services.

• Requires all insurance plans, not just health maintenance organizations (HMOs), to have adequate networks. Patients enrolled in all health insurance plans have the right to receive treatment from a specialist who is appropriately qualified to treat a patient’s particular condition at no additional cost to the patient if the network fails to include providers of that specialty.

• Makes all bills for emergency care and other surprise bills for care by nonparticipating physicians subject to an independent dispute resolution process after an insurer makes an initial reasonable payment for such care.2

In 2015, Connecticut’s legislature also enacted a comprehensive health care bill addressing issues including transparency and surprise billing. Key elements of this legislation are as follows:3

• Health insurers are required to provide the state’s health insurance exchange with information on how much they pay for the most common types of care.

• When nonemergency care is scheduled in a hospital, the hospital must let the patient know they have the right to request cost and quality information; such requests must be answered in three days.

• Health care providers must let nonemergency uninsured patients know how much their care will cost.

• Insurers must provide customers with a website and toll-free phone number to access information on cost of care, including out-of-pocket expenses, data on quality measures, and providers accepting new patients; provider directories must be updated at least once a month, and insurers must notify customers in writing within 30 days when a provider opts out of the health plan.

• Insurers are required to pay for emergency services at in-network rates to out-of-network providers; in surprise billing situations, patients pay whatever they would for an in-network provider, and the insurer reimburses at the in-network rate.

Earlier this year, Florida Gov. Rick Scott (R) signed legislation pertaining to surprise billing in emergency situations. H.B. 221, chapter number 2016-222, creates a dispute resolution program, requires hospitals to post on their websites all of the health insurers and HMOs with which the hospital contracts as a network/participating provider, and requires insurers to provide coverage for emergency services and to pay nonparticipating providers of covered emergency services in accordance with the terms of the health insurance policy. It also mandates that online provider directories be updated by insurers at least once a month.4

**National Association of Insurance Commissioners**

One factor that will drive the network adequacy and surprise billing debate in state legislatures is the National Association of Insurance Commissioners (NAIC) updated state model bill. The Health Benefit Plan Network Access and Adequacy Model Act is intended to establish standards for the creation and
maintenance of networks by health carriers and to ensure the adequacy, accessibility, transparency, and quality of health care services. Most state legislatures were not focused on amending their laws to reflect revisions in the model act in the current legislative sessions, as it was just adopted by the NAIC in November 2015. However, 2017 may be a pivotal year for states to take up the model act.5

Any willing provider
During the early years of HMO development, similar issues came to bear with regard to network limits on access to physicians. Many patients were unhappy that they had to pick a gatekeeper in the HMO’s network in order to get a referral to a specialist. In response, states adopted “any willing provider” laws that require health insurance carriers to allow health care providers to become members of the carriers’ networks if certain conditions are met. Such statutes prohibit insurance carriers from limiting membership within their provider networks based upon geography or other characteristics as long as a provider is willing and able to meet the conditions of network membership set by the carrier. At present, 27 states have adopted “any willing provider” statutes.6

Preparing for the future
Because most state legislatures have yet to address the challenges of narrow/tiered networks and surprise billing, it is likely that this will be a hot issue at the state level in 2017. Until then, it is important for surgeons to be engaged in efforts in the medical community in their states, as it will be challenging to convince lawmakers to adopt legislation that will meet the needs of physicians, insurers, and, most importantly, patients.

The College encourages surgeons and ACS chapters to not only engage in the medical community’s grassroots advocacy activities related to this issue, but also to notify the State Affairs staff in the College’s Division of Advocacy and Health Policy at state_affairs@facs.org if legislation is introduced or a legislative initiative is proposed by a professional organization in the state. ♦

REFERENCES
As a cornerstone of the surgeon-patient relationship, shared decision making is a critical factor in determining whether a patient should undergo an elective procedure. The decision as to whether an operation is appropriate should be made based on the surgeon’s understanding of the risks and benefits of surgery and the patient’s goals and quality of life. In some instances, however, patients may request a procedure in which the surgeon believes the risks would outweigh any potential benefit based on the patient’s history and current health status. Such cases present an ethical dilemma for the surgeon.

This article describes a case in which the surgeon believes a conservative approach to care is best based on the patient’s history and previous post-operative complications; however, the patient wants to pursue a more aggressive approach in order to improve her quality of life. Details of the patient’s history and health status are described, and four possible means of resolving the predicament are discussed.

**Seeking equilibrium in decision making:**

The balance between clinical judgment and patient goals

by Lindsey Moses; Ira J. Kodner, MD, FACS; Douglas Brown, PhD; Brian Nussenbaum, MD, FACS; and Jennifer Yu, MD

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The case

A young mother with two children presents with an enlarging neck mass. She is diagnosed as having bilateral vocal fold paralysis and a squamous cell carcinoma with invasion into the larynx. She undergoes treatment with a total laryngectomy and a partial pharyngectomy with pectoralis flap reconstruction followed by adjuvant radiation therapy. The patient has a complete oncologic response but suffers from pharyngoesophageal stenosis as a complication of her treatment. She undergoes esophageal dilation, which improves her swallowing. However, one month later, she develops chondro-radionecrosis of the trachea that requires hyperbaric oxygen therapy to heal. Over the course of the next year, she undergoes several more esophageal dilations and becomes pregnant with her third child. Due to the risk of anesthesia required for dilation, the patient agrees to have a Dobbhoff tube in place during the second half of her pregnancy to maintain a patent esophageal lumen.

In the three years following her initial treatment, the patient undergoes more than 20 esophageal dilations as well as multiple stent placements. Following her last dilation, she suffers a pharyngeal perforation leading to abscess formation and a pharyngocutaneous fistula. With appropriate treatment (including another round of hyperbaric oxygen therapy), the fistula tract ultimately closes and the infection resolves. However, the patient now has a complete pharyngoesophageal stricture. She suffers from severe dysphagia and is unable to even take sips of water.

Throughout the course of treatment, the patient and her surgeon discuss a range of options, including conservative management (observation), repeated esophageal dilations, retrograde dilation through a percutaneous gastrostomy tract, and surgical intervention (performing an open pharyngectomy with free flap reconstruction). The patient initially opts for management with regular dilations. However, once she develops a complete pharyngoesophageal stricture, the only options remaining are to continue with conservative therapy or to conduct a radical operation with considerable risks—particularly related to the significant soft tissue toxicity from the radiation therapy—and possible death or prolonged disability.

The patient, with a strong and persistent desire to swallow again, repeatedly asks that the surgeon perform the open operation. The surgeon, after weighing carefully the risks and benefits of the operation indicated for quality of life measures, recommends that they pursue other options.

The ethical dilemma

The patient is requesting an operation that the surgeon offered as an option but that he would not recommend. After repeated conversations, the patient and surgeon are unable to agree on a plan of care. The patient in this case has been through years of treatment for esophageal stenosis, and her quality of life has diminished to a point where she is willing to risk severe, disabling complications in exchange for the chance to swallow again.

The surgeon is sympathetic to her perspective but believes the operation has only a low to moderate chance of success while carrying a significant risk of complications. The surgeon is faced with having to make a recommendation based on his experience and his judgment with regard to which approach will offer the greatest benefit to the patient.

To continue with conservative management would be a safe approach but would not address the patient’s poor quality of life. Moving forward with the operation would place the patient, who is currently doing well from a clinical perspective, in a situation where possible outcomes range from improved quality of life to severe disability or death. How can the surgeon honor this patient’s wishes while upholding his professional obligations to do what he believes is best and to avoid causing unnecessary harm?

Four possible options

Possible solutions to this ethical dilemma and a review of the pros and cons of each approach are as follows:

- Perform the operation at the patient’s request
- Explain the reasons for not operating at this time but continue to provide care for the patient
• Seek the opinions of colleagues and patient family members

• Do not perform the operation and refer the patient to another physician

Option 1: Perform the operation at the patient’s request

Respect for patient autonomy—an established ethical responsibility in medicine—honors the patient’s right to make decisions that are consistent with his or her personal goals and values. Autonomy in medicine applies to both patients and physicians; that is to say, patients may choose or decline specific treatments or interventions, and physicians are free to act on their best judgment, advising a course of treatment that will yield the greatest medical benefit. A distinction must be made between the concepts of autonomy and independence. Although patients have a right to and are encouraged to make decisions about their treatment plans, those choices should be based on clinical input from their physicians and on the needs and concerns of family and other caregivers. In turn, the physician has a responsibility to offer recommendations and ensure that the patient can synthesize the information independently and arrive at an informed decision. Physicians have an obligation to share their unique knowledge and experiences to help their patients make truly informed autonomous decisions, regardless of whether they are in line with the physician’s recommendations.

In this case, several factors have contributed to the patient’s desire to have the operation. Given that she is aware of the significant risk of postoperative complications (including death) that could follow, the fact that she repeatedly has asked for the operation provides insight into her suffering. Her goal is clearly to achieve an improved quality of life, but what if the operation is unsuccessful? It can be challenging for patients to grasp potential outcomes that they have not experienced and to compare an unknown future to their known present. The possibility that her quality of life might worsen following the surgery is likely difficult for the patient to imagine. Therefore, the physician is responsible for providing an accurate explanation of the full range of perioperative risks so that the patient can make an informed decision.

Patients also may have unrealistic expectations about the potential outcomes of a procedure and place unquestioning faith in their surgeons. When this patient first presented, she was an otherwise healthy young mother. Through her surgeon’s thoughtful exam and workup, she was diagnosed with cancer and underwent a treatment that dramatically changed her life. She lost her voice and, over time, her ability to eat, but ultimately she was cancer-free. Given these experiences, the patient may have become more focused on the possibility of success than the potential of the operation failing and worsening her condition.

The patient in this case has been informed of the risks and benefits of surgery and is an adult who is capable of making her own health care decisions. She has engaged in a thorough discussion of those risks and benefits with her surgeon, listened to the surgeon’s recommendations, and has requested an operation to restore her swallowing function. Since her initial presentation, the patient has actively participated in her own care, following up regularly to receive treatment for the esophageal stenosis and wound healing issues that resulted as complications of her cancer treatment. She went to great lengths for several years to preserve her swallowing abilities and clearly demonstrated that she was committed and willing to bear the treatments necessary to regain the ability to swallow. The surgeon engaged the patient in multiple discussions about the risks involved and the potential consequences of the operation. She nonetheless made the autonomous decision to proceed. Although he may disagree with this course of action, a surgeon who views patient autonomy as a priority would support her decision.

Option 2: Explain the reasons for not operating at this time but continue to provide care for the patient

Commitment to beneficence and nonmaleficence are key factors that guide physicians as they make recommendations to their patients. Attempts to determine the risk-benefit ratio of a particular treatment or intervention followed by discussion of the
patient’s goals and values usually leads to agreement on a treatment plan.¹

In this patient’s initial operation, the agreed-upon goal was to cure the patient of cancer. To achieve that objective, the patient underwent a major operation and received adjuvant radiation therapy; unfortunately, she subsequently developed complications related to her treatment. These complications are fairly common for this course of treatment; in fact, pharyngoesophageal stenosis occurs in up to 20 percent of patients who undergo radiation therapy for laryngeal cancers, with 5 percent of these patients developing a severe or complete stenosis.² These risks were discussed in the development of the patient’s initial treatment plan. At that time, the surgeon and patient agreed that the risks of treatment were justifiable because of the potential benefit of curing the patient’s cancer.

Several years later, the patient and surgeon now must decide whether to proceed with a second operation, this time to restore the patient’s ability to swallow. Their discussion must again take into account the risk-benefit ratio. The desired benefits of treatment have changed and now are focused on improving the patient’s quality of life. The operation is not medically essential because the patient can receive all necessary nutrition through a gastronomy tube and has maintained a healthy weight.

However, her quality of life has been significantly compromised as she cannot swallow even small amounts of water for comfort. The surgeon believes the intervention that the patient has selected, which would involve a total pharyngectomy and free flap reconstruction, is extremely risky because of the soft tissue toxicity the patient experienced as a result of prior radiation treatments and as evidenced by her poor wound healing abilities and dense soft tissue fibrosis.

The surgeon explained to the patient that the risks of this procedure are great and could include death if complications related to the neck vasculature developed or prolonged disability from wound healing issues (including a second potential pharyngocutaneous fistula). In the surgeon’s estimation, the risks of a second operation outweigh the potential benefit.

Because he has known and treated the patient for many years, the surgeon undoubtedly feels a great deal of responsibility for the suffering she has experienced and a duty to help her achieve a better quality of life. In an interview study of 10 Norwegian surgeons in 2005, many agreed, “…it is more difficult to withhold treatment the younger the patients are because the emotional feelings surrounding the decisions are experienced as more difficult.”³ The surgeons in the study were referring to withholding treatment in a life-threatening situation when the outcome is unpredictable. The same sentiment can be applied to the surgeon in this case. He is struggling with the choice to undertake an elective operation with an unpredictable outcome, knowing that if the procedure goes poorly, the patient would have to endure unnecessary suffering and spend a great deal of time away from her family. The patient’s status as a mother with three young children puts an even greater amount of pressure on the surgeon to deliver a positive outcome should he operate. The surgeon in this case is a compassionate and caring physician who has invested a great deal of time and effort in treating this patient. However, his belief that the operation has a low to moderate chance of success based on the complexity of the operation and the patient’s history, coupled with the fact that she has young children at home and thus much to lose if complications arise, ultimately leads the surgeon to argue against the operation. The surgeon clearly has what he believes are the best interests of the patient and her family in mind, and prioritizing beneficence and non-maleficence in this case would lead him to decline to perform the operation but continue to offer care to the patient.

Option 3: Seek the opinions of colleagues and patient family members

This case illustrates an ideal physician-patient relationship built on the foundation of mutual trust, understanding, and respect. However, it may be the very nature of this relationship that has caused the surgeon to feel so torn in choosing a course of action. If a colleague had sought his advice on this same case, the surgeon’s relationship with the patient would not cloud his ability to assess the situation objectively. Does he feel more compelled to operate because he regards...
this patient as someone to whom he has devoted many years and is willing to go further to help, or does his knowledge of the patient’s family and the impact that potential complications would have on them sway his judgment?

Surgeons commonly seek the advice of colleagues to learn from the experiences of others, to gain a new perspective on a situation, or to gain support and validation. Guidance often is sought at formal meetings, such as at multidisciplinary tumor board conferences where experts discuss many aspects of patient management, including whether to pursue more or less radical surgery. Because patients with head and neck cancer frequently are at increased risk of treatment-related morbidity, tumor boards are an excellent forum in which to assess difficult cases. These meetings also allow for a discussion of treatment options without taking into account personal factors that may influence the situation, leading to a more objective evaluation based on medical facts.

The surgeon in this case is struggling with a difficult choice. He must confront many competing factors, including his sense of personal responsibility. Other surgeons who are detached from the patient may strongly oppose the operation based strictly on the medical facts presented. Discussing the case with colleagues may offer the surgeon not only different points of view, but also the support needed to endure such a challenging situation.

In addition to seeking impartial medical opinions, the surgeon might consider a discussion with the patient’s family. This conversation might help to clarify the patient’s goals and whether her family would be able to cope with potential complications. Conversations with family members and close friends of the patient may clarify how the issues she faces affect her daily life and those around her. The commitment of family members to support the patient’s wishes or their concerns about moving forward with such a risky operation could have a major impact on the patient’s decision to continue conservative management or to opt for surgical intervention. When the best course of action is unclear, additional points of view can help to illuminate what is most important to the patient and better define the context in which the decision must be made.

If an agreed-upon treatment plan still cannot be reached, it would be reasonable to bring this case to an ethics committee for further review. An ethics consultant may offer additional perspectives derived from a comprehensive review of the case and help engage the patient and physician in shared decision making.

Option 4: Do not perform the operation and refer the patient to another physician

The decision to undergo an elective operation is always in the patient’s hands. Implicit in that decision is an agreement between the patient and surgeon that the operation chosen has the potential to benefit the patient and is a medically reasonable course of action. If a surgeon believes that the operation will be harmful to the patient or cannot be medically justified, he or she has the right to refuse to perform the operation on the grounds of a professional and moral obligation to do no harm.

The surgeon in this case is asked to perform a major elective operation intended to improve the patient’s quality of life. Although the surgeon has the right to refuse the request, several factors add to the complexity of the situation, including the fact that the patient’s esophageal stenosis occurred as a complication of prior treatment for her cancer. The surgeon treated her stenosis for several years with esophageal dilations, but unfortunately, it progressed to a point where major surgery is the only option for potentially restoring the patient’s ability to swallow. Given that the patient’s stenosis has worsened and the surgeon no longer feels that repeated interventions will provide her any additional benefit, it would be reasonable for him to refuse to perform another operation.

Just as a physician has the right to refuse to perform an operation, patients have the right to seek care elsewhere and to look for a physician with whom they can develop a mutually agreeable treatment plan. The surgeon in this case has diligently treated the patient’s cancer and the complications that arose from the operation and radiation treatment, but he has now exhausted all of the options that he believes are justifiable. If the
patient feels that she wants additional treatment and would like to find another surgeon who would be willing to proceed with an operation, it would be acceptable for the surgeon to refer the patient to another specialist and turn over the case to that individual.

**Bottom line**
Surgery has the potential to improve a patient’s quality of life and to rid a patient of cancer; it also can take away a patient’s ability to eat or speak and change the patient’s physical appearance forever. Each time a patient undergoes an operation, all of the possible outcomes must be considered and weighed against other treatment options. It is impossible to predict the outcome of every operation, so recommendations must be grounded in data and experience. Physicians use data and other objective measures to justify their advice, but for each individual patient, the only outcome that matters is the one he or she experiences.

The patient in this case poses an ethical challenge to the surgeon because every course of action has the potential to result in harm. If the surgeon chooses to operate as the patient requests, she may suffer more than she already has and her family will suffer if she dies or has a painful and protracted postoperative course. However, if the surgeon refuses to operate or offer another intervention, the patient will face a lifetime of severe dysphagia and discomfort, which may ultimately cause her more harm psychologically and place an enormous burden on her family. The surgeon’s argument against operating is based on the medical facts of the case. His professional experience, as well as the patient’s history of poor wound healing and a previous pharyngocutaneous fistula, inform his recommendation not to operate. He is upholding his professional responsibility to provide a complete overview of the possible outcomes of surgery and the estimated likelihood of success given his past experience and the patient’s history. However, the decision to continue conservative management or pursue aggressive treatment ultimately belongs to the patient.

**REFERENCES**

The Best Surgical Education
All in One Place
Convocation Ceremony
Sunday, October 16, 6:00–8:00 pm
Walter E. Washington Convention Center

The Convocation Ceremony confers Fellowship upon those surgeons who have successfully met ACS requirements to provide optimal care to the surgical patient. The ceremony also includes recognition of the Honorary Fellows, presentation of the Distinguished Service Award, installation of the ACS Officers, and the Presidential Address.

The first Convocation Ceremony was held November 13, 1913, at the Congress Hotel in Chicago, IL. The inaugural class of 1,059 surgeons hailed from the U.S. and Canada and included six female surgeons.

All Initiates must register for Clinical Congress if they are planning to participate in the Convocation. All Initiates will be granted Fellowship in the College during the ceremony regardless of their attendance at the event and may begin using the FACS designation upon the conclusion of the ceremony.

Family members of Initiates are not required to register for the Clinical Congress program to attend the Convocation Ceremony.

Information about Convocation can be found at facs.org/member-services/initiates.

Opening Ceremony
Monday, October 17, 8:00–9:00 am
Walter E. Washington Convention Center

The Colors and Canadian and American national anthems are presented, along with a short video highlighting the new President’s theme for the year. The President presides and introduces the Honorary Fellows, the recipient of the Distinguished Philanthropist Award, Past-Presidents, College Officers and Regents, Special Invited Guests from national and international health care organizations, the Resident Research Scholars, and the International Guest Scholars. An annual overview of the College will be reported by the Executive Director. The Martin Memorial Lecture, sponsored by the American Urological Association, follows immediately.

Annual Business Meeting of Members
Wednesday, October 19, 4:15–5:15 pm
Walter E. Washington Convention Center

- Reports from the Chair of the Board of Regents, the Chair of the Board of Governors, the Executive Director, and the ACSPA-SurgeonsPAC Board Chair
- Presentation of the Resident Award for Exemplary Teaching and the Joan L. and Julius H. Jacobson II Promising Investigator Award
- Reports of the Nominating Committee of the Board of Governors and the Nominating Committee of the Fellows, and introduction of the President-Elect
Dear Colleagues,

It is my great pleasure to invite you to attend the American College of Surgeons (ACS) Clinical Congress, October 16–20, 2016, in Washington, DC. The ACS Clinical Congress remains the premier annual surgical meeting for surgeons, surgery residents, medical students, and members of surgical teams. The hallmarks of the Clinical Congress are a broad range of outstanding hands-on and didactic learning opportunities and timely discourse on the most relevant surgical practices and research, along with unparalleled access to peers.

As the College embarks on its second hundred years and prepares to face the many new challenges ahead, ACS President J. David Richardson, MD, FACS, has selected the theme of Challenges for the Second Century for the year. The Program Committee and, under the leadership of Ajit K. Sachdeva, MD, FACS, FRCSC, the ACS Division of Education have developed an outstanding, cutting-edge Scientific Program to address critical education and training needs and equip surgeons with skills to achieve the best outcomes in the ever-changing environment of health care.

The Clinical Congress 2016 program addresses essential clinical and nonclinical content. In addition to placing sessions into thematic tracks, we have placed sessions of interest to surgeons from across various specialties in a separate track. An exciting series of Named Lectures will again be delivered by world-renowned experts in their respective fields. Didactic/Experiential and Surgical Skills Courses will focus on acquisition of knowledge and skills through leading-edge education and training methods. More than 125 Panel Sessions on relevant topics will be offered. The Scientific Forum will include surgical research presentations delivered from the podium or as posters. Video-Based Education Sessions will showcase surgical procedures, and Meet-the-Expert Luncheons and Town Hall Meetings will allow for a more intimate learning experience.

Continuing Medical Education Credit will be available along with Self-Assessment Credit for most Panel Sessions, Postgraduate Courses, and Video-Based Education Sessions. Attendees will be provided Certificates of Verification following participation in Surgical Skills and Didactic/Experiential Courses. Also, certain sessions will address specific regulatory mandates for licensure.

On behalf of the American College of Surgeons, I look forward to welcoming you to Washington, DC, for Clinical Congress 2016.

With best regards,

Valerie W. Rusch, MD, FACS
Chair, ACS Board of Regents
Chair, Program Committee
Clinical Congress 2016 Highlights

Continuing Medical Education Credit Information

**Accreditation**
The American College of Surgeons is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

**AMA PRA Category 1 Credits™**
The American College of Surgeons designates this live activity for a maximum of 47.5 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

**CME Credit Claiming**
On-site claiming of credit for nonticketed sessions (NL, PS, SF, and VE) will be available at the MyCME booth and kiosks located throughout the Walter E. Washington Convention Center or can be accessed off-site at your convenience online. Physicians are responsible for claiming CME credit for Clinical Congress. Claims for CME credit for this event will be accepted until December 1, 2016.

**Self-Assessment Credit**
Self-Assessment Credit will be available for most Panel Sessions, Didactic/Experiential Courses, Surgical Skills Courses, and Video-Based Education Sessions. The process of earning Self-Assessment Credit is voluntary and is not a prerequisite to claiming CME Credit.

Self-Assessment Credit counts toward American Board of Surgery Maintenance of Certification (MOC) Part 2. Participants are strongly encouraged to complete their self-assessment posttest as soon after attendance as possible. The final deadline to claim Self-Assessment Credit is December 1, 2016.

**Credit to Address Regulatory Mandates**
Some state licensing boards and other regulatory organizations have established specific content requirements for CME Credit. The ACS has not and does not verify that any content meets these requirements. The CME Certificate now includes specific content credit designations where applicable.

Please check with your state or local medical board, hospital, or organization to verify that this content meets the criteria for your specific requirements.

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NEW! Pediatric Surgery-Focused Series

**Town Hall**
- Early Results for Optimal Resources for Pediatric Surgical Care Program

**Didactic/Experiential**
- How Do I Get My Hospital Verified as a Children’s Surgical Center?

**Scientific Forum**
- Pediatric Surgery I
- Pediatric Surgery II

**Panel Sessions**
- Childhood Surgical Conditions: Transitions to Long-Term Care and Adult Providers
- Controversies in the Management of Thyroid and Parathyroid Cancer in Adolescents and Children
- New Approaches to an Old Problem: Pediatric Abdominal Wall Defects
- Outpatient Management of Routine Pediatric Surgical Disease: Is It Safe and Feasible?
- Pediatric Neurologic Anesthetic Risks: What Do the Data Show?
- Pediatric Pancreatic Trauma: To Operate or Not to Operate? That Is the Question
- The Role of Simulation in Training, Education, and Maintenance of Certification in Pediatric Surgery
- Undescended Testis
- Utility of Pediatric ACS NSQIP: How Does It Help Me?

**Video Session**
- Pediatric Surgery Video Session

JUL 2016 BULLETIN American College of Surgeons
NAMED LECTURES

MONDAY, OCTOBER 17

NL01 | 9:00–9:30 am
Martin Memorial Lecture—Transforming Health Care
Presiding Officer: Courtney M. Townsend, MD, FACS, Galveston, TX
Introducer: Richard K. Babayan, MD, FACS, Boston, MA
Lecturer: Delos M. Cosgrove III, MD, FACS, Cleveland, OH
Tracks: GEN, URO
Sponsored by the American Urological Association

NL02 | 9:45–10:45 am
John H. Gibbon, Jr., Lecture—Sports and Surgery
Presiding Officer and Introducer: David T. Cooke, MD, FACS, Sacramento, CA
Lecturer: Edward D. Verrier, MD, FACS, Seattle, WA
Track: CTS
Sponsored by the Advisory Council for Cardiothoracic Surgery

NL03 | 2:30–3:30 pm
Charles G. Drake History of Surgery Lecture—Athletic Head Trauma: The Interface between Sport, Science, Pseudoscience, Politics, and Money
Presiding Officer and Introducer: Shelly D. Timmons, MD, PhD, FACS, FAANS, Danville, PA
Lecturer: H. Hunt Batjer, MD, FACS, Dallas, TX
Track: NEU
Sponsored by the Advisory Council for Neurological Surgery

NL04 | 4:15–5:00 pm
I.S. Ravdin Lecture in the Basic and Surgical Sciences—Surgery to Adjust the Activity of Misfiring Brain Circuits to Improve Movement, Mood, and Memory
Presiding Officer and Introducer: Douglas J. E. Schuerer, MD, FACS, St. Louis, MO
Lecturer: Andres M. Lozano, MD, PhD, FRSC, FRCS, Toronto, ON
Tracks: BTR, GEN
Sponsored by the I.S. Ravdin Surgical Society

TUESDAY, OCTOBER 18

NL05 | 8:00–9:00 am
Herand Abcarian Lecture—A Safe Space for Surgeons? Trigger Warning: Unpleasant Facts Discussed
Presiding Officer and Introducer: Neil H. Hyman, MD, FACS, Chicago, IL
Lecturer: Robert D. Fry, MD, FACS, Philadelphia, PA
Track: CRS
Sponsored by the Advisory Council for Colon and Rectal Surgery

NL06 | 9:45–10:45 am
Excelsior Surgical Society/Edward D. Churchill Lecture—Strategies to Increase Survival in Active Shooter and Intentional Mass Casualty Events
Presiding Officer and Introducer: M. Timothy Nelson, MD, FACS, Albuquerque, NM
Lecturer: Lenworth M. Jacobs, Jr., MD, MPH, FACS, Hartford, CT
Track: GEN
Sponsored by the Advisory Council for General Surgery

WEDNESDAY, OCTOBER 19

NL07 | 12:45–1:30 pm
Scudder Oration on Trauma—Responding to Crisis: Surgeons as Leaders in Disaster Response
Presiding Officer and Introducer: Ronald M. Stewart, MD, FACS, San Antonio, TX
Lecturer: Susan M. Briggs, MD, MPH, FACS, Boston, MA
Track: TRA
Sponsored by the Committee on Trauma

NL08 | 2:30–3:30 pm
Olga M. Jonasson Lecture—The Journey: Becoming a Neurosurgeon and Back Again
Presiding Officer and Introducer: Rosemary A. Kozar, MD, PhD, FACS, Baltimore, MD
Lecturer: Alexa I. Canady, MD, FACS, Pensacola, FL
Track: GEN
Sponsored by the Women in Surgery Committee

NL09 | 8:00–9:00 am
Distinguished Lecture of the International Society of Surgery—Global Surgery in 2030: Turning Vision into Reality
Presiding Officer and Introducer: Kathleen M. Casey, MD, FACS, Newport, RI
Lecturer: Andrew Leather, MB, BS, MS, FRCS, London, UK
Track: INT
Sponsored by the U.S. Chapter of the International Society of Surgery

NL10 | 9:45–10:45 am
John J. Conley Ethics and Philosophy Lecture—TRUST: The Keystone of the Patient-Physician Relationship
Presiding Officer and Introducer: Henri R. Ford, MD, MHA, FACS, Los Angeles, CA
Lecturer: Carlos A. Pellegrini, MD, FACS, FRCSEd(Hon), FRCS, Seattle, WA
Track: ETH
Sponsored by the Committee on Ethics

NL11 | 12:45–1:45 pm
Commission on Cancer Oncology Lecture—Finding the Evidence in Real World Evidence: Moving from Data to Information to Knowledge
Presiding Officer and Introducer: David P. Winchester, MD, FACS, Chicago, IL
Lecturer: Richard L. Schilsky, MD, FACP, FASCO, Alexandria, VA
Track: ONC
Sponsored by the Commission on Cancer
The scientific program, scheduled in discipline- and theme-based tracks, will focus specifically on the needs of various surgical specialties and learner groups.

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<th>SATURDAY</th>
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## Postgraduate Courses

### Didactic/Experiential Courses

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<th>Emergency General Surgery Review</th>
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<td>DEC02</td>
<td>Atypical Breast Lesions: Defining and Managing This High-Risk Population</td>
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<td>DEC03</td>
<td>Surgical Education: Principles and Practice</td>
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<td>DEC04</td>
<td>Global Health Competencies for Surgeons: Cognitive and Systems Skills</td>
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<td>DEC05</td>
<td>Update in Trauma Care</td>
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<td>DEC06</td>
<td>Office and Hospital Coding: What to Bill, How to Document and Appeal—2016 Basic Coding Workshop</td>
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<tr>
<td>DEC07</td>
<td>Fertility and Pregnancy in the Young Breast Cancer Patient and Those with Genetic Mutations</td>
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<td>DEC08</td>
<td>Measure Twice, Cut Once! Optimizing Surgical Systems of Care</td>
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<td>DEC10</td>
<td>Challenges in General Surgery Coding and Reimbursement: 2016 Advanced Coding Workshop</td>
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<tr>
<td>DEC11</td>
<td>General Surgery Review Course (Two-Day Course)</td>
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<td>DEC12</td>
<td>How Do I Get My Hospital Verified as a Children’s Surgical Center?</td>
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<td>DEC13</td>
<td>Wound Care: Mentoring the Mentors</td>
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<td>DEC14</td>
<td>Prehabilitation and Enhanced Recovery</td>
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<td>DEC15</td>
<td>Thyroid and Parathyroid Ultrasound in Practice: Improving Interpretation, Expanding Application</td>
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<td>DEC16</td>
<td>MOC Review: Essentials for Surgical Specialties</td>
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<td>Annual Update in Surgical Critical Care</td>
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### Surgical Skills Courses

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<th>SSC01</th>
<th>Advanced Skills Training for Rural Surgeons: Emergency Urology and Vascular Procedures</th>
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<td>SSC02</td>
<td>International Humanitarian Aid Surgery</td>
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<td>SSC03</td>
<td>Surgical Endoscopy: Essential Skills for the Gastrointestinal Surgeon</td>
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<td>SSC03A</td>
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<td>SSC04</td>
<td>Thyroid, Parathyroid, and Neck Ultrasound</td>
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<td>SSC05</td>
<td>Endoscopic Bariatric Techniques: Skills and Strategies for Mastering Primary Endoluminal Procedures and Managing Complications</td>
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<td>SSC06</td>
<td>Interventional Ultrasound Applications for the General Surgeon</td>
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<td>SSC07</td>
<td>Advanced Colonoscopy Skills: Polypectomy and Beyond</td>
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<td>SSC08</td>
<td>Laparoscopic Inguinal and Ventral Hernia Repair</td>
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<td>SSC08B</td>
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<td>SSC09</td>
<td>Minimally Invasive Laparoscopic Colorectal Surgery</td>
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<td>SSC10</td>
<td>Endovascular Approaches to Hemorrhage Control and Resuscitation: Integrating BEST and ESTARS</td>
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<td>SSC14</td>
<td>Robotic Gastrointestinal Surgery: Program Planning, Approach, and Applications</td>
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### Verification Levels

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<td>Verification of satisfactory patient outcomes</td>
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*Not available at Clinical Congress
DIDACTIC/EXPERIENTIAL COURSES

**DEC01**  Emergency General Surgery Review
Tracks: GEN, TRA
6 credits, Verification Level II
Saturday, October 15; 8:00 am–3:30 pm
Chair: Carlos V. R. Brown, MD, FACS, Austin, TX
Co-Chair: Michael C. Chang, MD, FACS, Winston-Salem, NC
Sponsored by the Committee on Trauma and the Advisory Council for General Surgery
Fellow $565 | Non-Fellow $640 | RAS $310 | Non-RAS $350

**DEC02**  Atypical Breast Lesions: Defining and Managing This High-Risk Population
Tracks: GEN, Onc
6 credits, Verification Level II
Saturday, October 15; 8:30 am–4:00 pm
Chair: Kristine E. Calhoun, MD, FACS, Seattle, WA
Co-Chair: Farin Amersi, MD, FACS, Los Angeles, CA
Sponsored by the Advisory Council for General Surgery
Fellow $565 | Non-Fellow $640 | RAS $310 | Non-RAS $350

**DEC03**  Surgical Education: Principles and Practice
Track: EDU
6 credits, Verification Level II
Sunday, October 16; 9:00 am–4:30 pm
Chair: Roy Phitayakorn, MD, FACS, Boston, MA
Co-Chair: Adnan A. Alseidi, MD, Ed.M, FACS, Seattle, WA
Sponsored by the Division of Education
Fellow $485 | Non-Fellow $550 | RAS $270 | Non-RAS $300

**DEC04A**  Global Health Competencies for Surgeons: Cognitive and Systems Skills
Track: HUM
6 credits, Verification Level II
Saturday, October 15; 9:00 am–4:30 pm
Chair: Girma Tefera, MD, FACS, Madison, WI
Co-Chair: Robert Riviello, MD, MPH, FACS, Boston, MA
Sponsored by Operation Giving Back
Fellow $565 | Non-Fellow $640 | RAS $310 | Non-RAS $350

**DEC04B**  Global Health Competencies for Surgeons: Cognitive and Systems Skills
Tracks: HUM
4 credits, Verification Level II
Saturday, October 15; 12:30 pm–4:30 pm
Chair: Girma Tefera, MD, FACS, Madison, WI
Co-Chair: Robert Riviello, MD, MPH, FACS, Boston, MA
Sponsored by Operation Giving Back
Fellow $490 | Non-Fellow $555 | RAS $270 | Non-RAS $300

Please note: This is the prerequisite course for SSC02 International Humanitarian Aid Surgery.

**DEC05**  Update in Trauma Care
Track: TRA
6 credits, Verification Level II
Sunday, October 16; 8:00 am–3:30 pm
Chair: Akpofure Peter Ekeh, MB, BS, FACS, Dayton, OH
Co-Chair: Paula Ferrada, MD, FACS, Richmond, VA
Sponsored by the Committee on Trauma
Fellow $565 | Non-Fellow $640 | RAS $310 | Non-RAS $350

**DEC06**  Office and Hospital Coding: What to Bill, How to Document and Appeal—2016 Basic Coding Workshop
Tracks: GEN, HP
6 credits, Verification Level II
Monday, October 17; 9:00 am–4:30 pm
Chair: Albert Botte, Jr., MD, FACS, Danville, PA
Co-Chair: Linda M. Ramsey, MD, FACS, Dayton, OH
Sponsored by the General Surgery Coding and Reimbursement Committee
Fellow $565 | Non-Fellow $620 | RAS $270 | Non-RAS $300

**DEC07**  Fertility and Pregnancy in the Young Breast Cancer Patient and Those with Genetic Mutations
Tracks: GEN, OBG, Onc
6 credits, Verification Level II
Sunday, October 16; 9:00 am–4:00 pm
Chair: Jacques S. Jersu, MD, PhD, FACS, Ann Arbor, MI
Co-Chair: Elisa R. Port, MD, FACS, New York, NY
Sponsored by the Advisory Council for General Surgery
Fellow $565 | Non-Fellow $640 | RAS $310 | Non-RAS $350

**DEC08**  Measure Twice, Cut Once! Optimizing Surgical Systems of Care
Tracks: EDU, INFO
6 credits, Verification Level II
Sunday, October 16; 9:00 am–4:30 pm
Chair: Peter J. Fabri, MD, PhD, FACS, Tampa, FL
Sponsored by the Committee on Emerging Surgical Technology and Education
Fellow $485 | Non-Fellow $550 | RAS $270 | Non-RAS $300

**DEC10**  Challenges in General Surgery Coding and Reimbursement: 2016 Advanced Coding Workshop
Track: EDU
6 credits, Verification Level II
Monday, October 17; 9:45 am–5:15 pm
Chair: Mark T. Savaresi, MD, FACS, South Jordan, UT
Co-Chair: Christopher K. Senkowski, MD, FACS, Savannah, GA
Sponsored by the General Surgery Coding and Reimbursement Committee
Fellow $535 | Non-Fellow $620 | RAS $270 | Non-RAS $300

**DEC11**  General Surgery Review Course (Two-Day Course)
Tracks: GEN
12 credits, Verification Level II
Monday and Tuesday, November 28 and 29; 8:00 am–5:00 pm
Chair: Laura J. Moore, MD, FACS, Houston, TX
Co-Chair: Judy C. Boughey, MD, FACS, Rochester, MN
Sponsored by the Division of Education
Fellow $1,135 | Non-Fellow $1,270 | RAS $660 | Non-RAS $715

**DEC12**  How Do I Get My Hospital Verified as a Children's Surgical Center?
Tracks: EDU, PED
4 credits, Verification Level II
Monday, December 12; 10:00 am–4:00 pm
Chair: Keith T. Oldham, MD, FACS, Milwaukee, WI
Co-Chair: Mary E. Fallat, MD, FACS, Louisville, KY
Sponsored by the Program Committee and the Advisory Council for Pediatric Surgery
Fellow $225 | Non-Fellow $260 | RAS $125 | Non-RAS $150

**DEC13**  Wound Care: Mentoring the Mentors
Tracks: GEN, TRA
4 credits, Verification Level II
Sunday, October 15; 1:00 pm–5:15 pm
Chair: John Lantis, MD, FACS, New York, NY
Co-Chair: Richard Simman, MD, FACS, Miamisburg, OH
Sponsored by the Committee on Surgical Skills Training for Practicing Surgeons
Fellow $435 | Non-Fellow $500 | RAS $215 | Non-RAS $245

**DEC14**  Prehabilitation and Enhanced Recovery
Tracks: CRS, GEN, GER
4 credits, Verification Level II
Tuesday, October 18; 8:30 am–12:45 pm
Chair: Michael E. Zenilman, MD, FACS, Bethesda, MD
Co-Chair: Marci-valeria Melis, MD, FACS, New York, NY
Sponsored by the Committee on Perioperative Care and the Patient Education Committee
Fellow $435 | Non-Fellow $500 | RAS $215 | Non-RAS $245

**DEC15**  Thyroid and Parathyroid Ultrasound in Practice: Improving Interpretation, Expanding Application
Tracks: GEN, OTO
6 credits, Verification Level II
Tuesday, October 18; 8:00 am–4:30 pm
Chair: Kresimira M. Milas, MD, FACS, Phoenix, AZ
Co-Chair: Lisa A. Orloff, MD, FACS, Stanford, CA
Sponsored by the Advisory Council for Otolaryngology—Head and Neck Surgery and the National Ultrasound Faculty
Fellow $435 | Non-Fellow $500 | RAS $215 | Non-RAS $245

**DEC16**  MOC Review: Essentials for Surgical Specialties
Tracks: EDU, GEN
4 credits, Verification Level II
Wednesday, October 19; 8:00 am–12:15 pm
Chair: Robert R. Lorenz, MD, FACS, Cleveland, OH
Co-Chair: Robert R. Bahnson, MD, FACS, Columbus, OH
Sponsored by the Division of Education
Fellow $435 | Non-Fellow $500 | RAS $215 | Non-RAS $245

**DEC17**  Annual Update in Surgical Critical Care
Track: TRA
8 credits, Verification Level II
Wednesday, October 19; 8:00 am–5:30 pm
Chair: William G. Cioffi, MD, FACS, Providence, RI
Co-Chair: Xeni Inaba, MD, FACS, FRCS, Los Angeles, CA
Sponsored by the Committee on Trauma
Fellow $590 | Non-Fellow $670 | RAS $325 | Non-RAS $355

**DEC18**  Innovation and Invention in Surgery
Tracks: EDU, HP
6 credits, Verification Level II
Wednesday, October 19; 8:00 am–4:00 pm
Chair: T. Forcht Dagi, MD, DMedSc, MPH, MTS, FACS, FAANS, FCCM, FRCSedu, Newton Centre, MA
Co-Chair: Raphael Bueno, MD, FACS, Columbus, OH
Sponsored by the Committee on Perioperative Care and Committee on Emerging Surgical Technology and Education
Fellow $435 | Non-Fellow $500 | RAS $215 | Non-RAS $245

JUL 2016 BULLETIN American College of Surgeons
### SURGICAL SKILLS COURSES

<table>
<thead>
<tr>
<th><strong>Track</strong></th>
<th><strong>Course Title</strong></th>
<th><strong>Tracks</strong></th>
<th><strong>Faculty</strong></th>
<th><strong>Dates</strong></th>
<th><strong>Credits</strong></th>
<th><strong>Verification Level</strong></th>
<th><strong>Costs</strong></th>
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<tbody>
<tr>
<td>SSC01</td>
<td>Advanced Skills Training for Rural Surgeons: Emergency Urology and Vascular Procedures</td>
<td>RUS, URO, VAS, GEN</td>
<td>Amy L. Halverson, MD, FACS, Chicago, IL</td>
<td>Sunday, October 16</td>
<td>6 credits</td>
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<td>Fellow $790</td>
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<td>SSC02</td>
<td>International Humanitarian Aid Surgery</td>
<td>HUM, INT, GEN</td>
<td>Tamara J. Worlton, MD, FACS, Silver Springs, MD</td>
<td>Sunday, October 16</td>
<td>4 credits</td>
<td>Verification Level III</td>
<td>Fellow $1,450</td>
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<td>SSC03</td>
<td>Surgical Endoscopy: Essential Skills for the Gastrointestinal Surgeon</td>
<td>GEN</td>
<td>Brian J. Dunkin, MD, FACS, Houston, TX</td>
<td>Sunday, October 16</td>
<td>4 credits</td>
<td>Verification Level III</td>
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<td>SSC04</td>
<td>Thyroid, Parathyroid, and Neck Ultrasound</td>
<td>OTO, GEN</td>
<td>Lisa A. Orloff, MD, FACS, Stanford, CA</td>
<td>Sunday, October 16</td>
<td>4 credits</td>
<td>Verification Level III</td>
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<td>SSC05</td>
<td>Endoscopic Bariatric Techniques: Skills and Strategies for Mastering Primary Endoluminal Procedures and Managing Complications</td>
<td>GEN</td>
<td>Jeffrey M. Marks, MD, FACS, Cleveland, OH</td>
<td>Monday, October 17</td>
<td>6 credits</td>
<td>Verification Level III</td>
<td>Fellow $1,530</td>
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<td>SSC06</td>
<td>Interventional Ultrasound Applications for the General Surgeon</td>
<td>RUS</td>
<td>Darius S. Francescatti, MD, FACS, Chicago, IL</td>
<td>Monday, October 17</td>
<td>4 credits</td>
<td>Verification Level III</td>
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<td>SSC07</td>
<td>Advanced Colonoscopy: Polypectomy and Beyond</td>
<td>RUS, GEN</td>
<td>John L. Whelan, MD, FACS, New York, NY</td>
<td>Monday, October 17</td>
<td>4 credits</td>
<td>Verification Level III</td>
<td>Fellow $1,450</td>
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<td>SSC08</td>
<td>Laparoscopic Inguinal and Ventral Hernia Repair</td>
<td>GEN, EDU</td>
<td>Richard L. Whelan, MD, FACS, New York, NY</td>
<td>Monday, October 17</td>
<td>3.75 credits</td>
<td>Verification Level II</td>
<td>Fellow $1,450</td>
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<td>SSC09</td>
<td>Minimally Invasive Laparoscopic Colorectal Surgery</td>
<td>CRS, GEN</td>
<td>Howard M. Ross, MD, FACS, Philadelphia, PA</td>
<td>Tuesday, October 18</td>
<td>6 credits</td>
<td>Verification Level III</td>
<td>Fellow $1,450</td>
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<tr>
<td>SSC10</td>
<td>Endovascular Approaches to Hemorrhage Control and Resuscitation: Integrating BESTTM and ESTARSTM</td>
<td>TRA, VAS, GEN</td>
<td>Andrew R. Doben, MD, FACS, Springfield, MA</td>
<td>Tuesday, October 18</td>
<td>6 credits</td>
<td>Verification Level III</td>
<td>Fellow $1,450</td>
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<td>SSC11</td>
<td>Rib Plating</td>
<td>GEN</td>
<td>Richard L. Whelan, MD, FACS, New York, NY</td>
<td>Wednesday, October 19</td>
<td>3 credits</td>
<td>Verification Level III</td>
<td>Fellow $1,450</td>
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<tr>
<td>SSC12</td>
<td>Bedside Procedures in the SICU: What? Why? And How?</td>
<td>ONC, GEN</td>
<td>Shawn C. Willey, MD, FACS, Washington, DC</td>
<td>Wednesday, October 19</td>
<td>3 credits</td>
<td>Verification Level III</td>
<td>Fellow $1,450</td>
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<tr>
<td>SSC13</td>
<td>Oncoplastic Breast Surgery for the General Surgeon</td>
<td>TRA, GEN</td>
<td>Vivian E. Strong, MD, FACS, New York, NY</td>
<td>Wednesday, October 19</td>
<td>3 credits</td>
<td>Verification Level III</td>
<td>Fellow $1,450</td>
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<tr>
<td>SSC14</td>
<td>Robotic Gastrointestinal Surgery: Program Planning, Approach, and Applications</td>
<td>GEN</td>
<td>Martin R. Weiser, MD, FACS, New York, NY</td>
<td>Sunday, October 16</td>
<td>3 credits</td>
<td>Verification Level III</td>
<td>Fellow $1,450</td>
</tr>
</tbody>
</table>
FOR INFORMATION ON:

- PANEL SESSIONS
- MEET-THE-EXPERT LUNCHEONS
- OWEN H. WANGENSTEEN SCIENTIFIC FORUM PRESENTATIONS
- OWEN H. WANGENSTEEN SCIENTIFIC POSTER PRESENTATIONS
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Meeting meaningful use requirements in 2016

by Molly Peltzman, MA

The Centers for Medicare & Medicaid Services (CMS) Medicare Electronic Health Record (EHR) Incentive Program is divided into three stages, each intended to incentivize providers to demonstrate meaningful use (MU) of an EHR system through a progression of measures and objectives. Stage 1 established the foundation for the program by instituting requirements for the electronic capture of clinical data and by providing patients with electronic access to their health information. Stage 2 expands on Stage 1 by encouraging the use of health information technology for continuous quality improvement at the point of care and the exchange of information in a structured format. Stage 3 focuses on improving clinical outcomes. In 2019, MU will transition into the new Merit-based Incentive Payment System (MIPS) program as required under the Medicare Access and CHIP (Children’s Health Insurance Program) Reauthorization Act (MACRA) enacted in 2015.

CMS released a modified version of Stage 2 (Modified Stage 2) requirements in 2015 in an effort to align the first two stages with Stage 3. The new regulation has changed the reporting requirements for providers participating in the EHR Incentive Program in 2016. This column discusses what surgeons need to know to successfully participate in the program.

What are the reporting requirements in 2016?
Surgeons who are participating in the EHR Incentive Program for the first time will report using the Modified Stage 2 requirements for 90 consecutive days. They will need to report on all measures as required, with special accommodations for measures that were not required previously for Stage 1 providers. Providers participating in their second year or beyond are required to report on Modified Stage 2 for the full calendar year. They will have to report on all measures as required. (See Table 1, pages 41–43.)

What are the changes in reporting from 2015 to 2016?
There are very few changes in reporting from 2015 to 2016. Providers are expected to continue to report on the same Modified Stage 2 objectives and measures in 2016 that were required in 2015. Because major changes were made to the program in 2015, such as the elimination of Stage 1 and the consolidation of core and menu objectives, CMS offered measure or objective exceptions that allowed providers to skip reporting on a measure or objective without being penalized. CMS refers to these exceptions as “alternate exclusions.”

The Modified Stage 2 rule includes alternate exclusions in the following circumstances:

• A particular measure does not have a Stage 1 measure equivalent
• A previously optional measure is now required
• Additional technology, such as an upgraded certified EHR system, is required

Many of the alternate exclusions that were available in 2015 are no longer available in 2016. In 2016, alternate exclusions are available for two MU objectives: computerized provider order entry (CPOE) and public health reporting. Providers scheduled to be in Stage 1 (providers in their first two years of participation in the EHR Incentive Program) may claim an alternate exclusion for two measures under the CPOE objective. Providers who choose to use the alternate exclusion for the CPOE objective will not have to report their use of CPOE for laboratory or radiology orders. They also may use an alternate exclusion for the public health reporting objective for two measures. Because the measures were previously optional, providers are not required to submit syndromic surveillance data to a public health information network.

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### TABLE 1. LIST OF OBJECTIVES AND MEASURES REQUIRED FOR REPORTING 2016 MU

<table>
<thead>
<tr>
<th>Objective</th>
<th>Measure</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective 1:</strong> Protect patient health information</td>
<td><strong>Measure:</strong> Conduct or review a security risk analysis in accordance with the requirements in 45 CFR 164.308(a)(1), including addressing the security (to include encryption) of ePHI created or maintained in CEHRT in accordance with requirements under 45 CFR 164.312(a)(2)(iv) and 45 CFR 164.306(d)(3), and implement security updates as necessary and correct identified security deficiencies as part of the EP’s risk management process.</td>
<td></td>
</tr>
</tbody>
</table>
| **Objective 2:** Clinical decision support | For providers to meet the objective they must satisfy both of the following measures:  
**Measure 1:** Implement five clinical decision support interventions related to four or more clinical quality measures at a relevant point in patient care for the entire EHR reporting period. Absent four clinical quality measures related to a provider’s scope of practice or patient population, the clinical decision support interventions must be related to high priority health conditions.  
**Measure 2:** The provider has enabled and implemented the functionality for drug-drug and drug-allergy interaction checks for the entire EHR reporting period. | **Exclusion for Measure 2:** Any provider who writes fewer than 100 medication orders during the EHR reporting period. |
| **Objective 3:** Computerized provider order entry | A provider, through a combination of meeting the thresholds and exclusions (or both), must satisfy all three measures for this objective.  
**Measure 1:** More than 60 percent of medication orders created by the provider during the EHR reporting period are recorded using computerized provider order entry.  
**Measure 2:** More than 30 percent of laboratory orders created by the provider during the EHR reporting period are recorded using computerized provider order entry.  
**Measure 3:** More than 30 percent of radiology orders created by the provider during the EHR reporting period are recorded using computerized provider order entry. | **Exclusion for Measure 1:** Any provider who writes fewer than 100 medication orders during the EHR reporting period.  
**Exclusion for Measure 2:** Any provider who writes fewer than 100 laboratory orders during the EHR reporting period. |
| **Objective 4:** Electronic prescribing | **Measure:** More than 50 percent of permissible prescriptions written by the provider are queried for a drug formulary and transmitted electronically using CEHRT. | **Exclusions:** Any provider who meets the following criteria:  
• Writes fewer than 100 permissible prescriptions during the EHR reporting period; or  
• Does not have a pharmacy within his or her organization and no pharmacies accept electronic prescriptions within 10 miles of the provider’s practice location at the start of his or her EHR reporting period. |
| **Objective 5:** Health information exchange | **Measure:** Providers who transition or refer their patient to another setting of care or provider of care must (1) use CEHRT to create a summary of care record; and (2) electronically transmit such summary to a receiving provider for more than 10 percent of transitions of care and referrals. | **Exclusion:** Any provider who transfers a patient to another setting or refers a patient to another provider less than 100 times during the EHR reporting period. |

*continued on next page*
### Table 1. List of Objectives and Measures Required for Reporting 2016 MU (Continued)

<table>
<thead>
<tr>
<th>Objective</th>
<th>Measure</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective 6: Patient-specific education</strong></td>
<td><strong>Measure:</strong> Patient-specific education resources identified by CEHRT are provided to patients for more than 10 percent of all unique patients with office visits seen by the provider during the EHR reporting period.</td>
<td><strong>Exclusion:</strong> Any provider who has no office visits during the EHR reporting period.</td>
</tr>
<tr>
<td><strong>Objective 7: Medication reconciliation</strong></td>
<td><strong>Measure:</strong> The provider performs medication reconciliation for more than 50 percent of transitions of care in which the patient is transitioned into the care of the provider.</td>
<td><strong>Exclusion:</strong> Any provider who is not the recipient of any transitions of care during the EHR reporting period.</td>
</tr>
</tbody>
</table>
| **Objective 8: Patient electronic access (view, download, and transmit)** | **Measure 1:** More than 50 percent of all unique patients seen by the provider during the EHR reporting period are provided timely access to view online, download, and transmit to a third party their health information subject to the provider's discretion to withhold certain information. **Measure 2:** For an EHR reporting period in 2016, at least one patient seen by the provider during the EHR reporting period (or patient-authorized representative) views, downloads, or transmits his or her health information to a third party during the EHR reporting period. | **Exclusion for Measure 1:** Any provider who neither orders nor creates any of the information listed for inclusion as part of the measures except for “Patient Name” and “Provider’s name and office contact information.” **Exclusion for Measure 2:** Any provider who meets the following criteria:  
  • Neither orders nor creates any of the information listed for inclusion as part of the measures except for “Patient Name” and “Provider’s name and office contact information”; or  
  • Conducts 50 percent or more of his or her patient encounters in a county that does not have 50 percent or more of its housing units with 4Mbps broadband availability according to the latest information available from the FCC on the first day of the EHR reporting period. |
| **Objective 9: Secure messaging** | **Measure:** For an EHR reporting period in 2016, for at least one patient seen by the provider during the EHR reporting period, a secure message was sent using the electronic messaging function of CEHRT to the patient (or the patient-authorized representative), or in response to a secure message sent by the patient (or the patient-authorized representative) during the EHR reporting period. | **Exclusion:** Any provider who has no office visits during the EHR reporting period, or any provider who conducts 50 percent or more of his or her patient encounters in a county that does not have 50 percent or more of its housing units with 4Mbps broadband availability according to the latest information available from the FCC on the first day of the EHR reporting period. |

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**What is the best way for surgeons to meet the public health registry objective?**

In the Modified Stage 2 regulation, CMS finalized a consolidated public health reporting objective that combined three separate registry reporting measures that were previously optional. Providers are asked to report immunization data to a public health agency, report syndromic surveillance data to a public health agency, or report data to a specialized registry to improve public health information. CMS believes these measures can help track the spread of infectious diseases, foodborne illnesses, and other issues that affect public health. Although the information is useful, in 2016 this objective caused concern for both providers with little time to identify registries and with state health organizations and medical associations that lack the infrastructure to accept data from certified electronic health record technology (CEHRT).

To complete the objective, providers must be in “active engagement” with a public health agency to submit health data using CEHRT. Active engagement can be demonstrated through completed registration to submit data to a registry. To meet the public health registry...
<table>
<thead>
<tr>
<th>Objective</th>
<th>Measure</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 10: Public health reporting</td>
<td>Providers in 2016 must meet two of the following three measures: <strong>Measure Option 1 – Immunization Registry Reporting</strong>: The provider is in active engagement with a public health agency to submit immunization data. <strong>Measure Option 2 – Syndromic Surveillance Reporting</strong>: The provider is in active engagement with a public health agency to submit syndromic surveillance data. <strong>Measure Option 3 – Specialized Registry Reporting</strong>: The provider is in active engagement to submit data to a specialized registry.</td>
<td><strong>Exclusions for Measure 1</strong>: Any provider meeting one or more of the following criteria may be excluded from the immunization registry reporting measure if the provider:  • Does not administer any immunizations to any of the populations for which data is collected by its jurisdiction’s immunization registry or immunization information system during the EHR reporting period;  • Operates in a jurisdiction for which no immunization registry or immunization information system is capable of accepting the specific standards required to meet the CEHRT definition at the start of the EHR reporting period; or  • Operates in a jurisdiction where no immunization registry or immunization information system has declared readiness to receive immunization data from the provider at the start of the EHR reporting period. <strong>Exclusions for Measure 2</strong>: Any provider meeting one or more of the following criteria may be excluded from the syndromic surveillance reporting measure if the provider:  • Is not in a category of providers from which ambulatory syndromic surveillance data is collected by their jurisdiction’s syndromic surveillance system;  • Operates in a jurisdiction for which no public health agency is capable of receiving electronic syndromic surveillance data from providers in the specific standards required to meet the CEHRT definition at the start of the EHR reporting period; or  • Operates in a jurisdiction where no public health agency has declared readiness to receive syndromic surveillance data from providers at the start of the EHR reporting period. <strong>Exclusions for Measure 3</strong>: Any provider meeting at least one of the following criteria may be excluded from the specialized registry reporting measure if the provider:  • Does not diagnose or treat any disease or condition associated with, or collect relevant data that is collected by, a specialized registry in their jurisdiction during the EHR reporting period;  • Operates in a jurisdiction for which no specialized registry is capable of accepting electronic registry transactions in the specific standards required to meet the CEHRT definition at the start of the EHR reporting period; or  • Operates in a jurisdiction where no specialized registry for which the provider is eligible has declared readiness to receive electronic registry transactions at the beginning of the EHR reporting period.</td>
</tr>
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**TABLE 2. ALTERNATE EXCLUSIONS AVAILABLE FOR 2016 REPORTING**

<table>
<thead>
<tr>
<th>Objective for 2016</th>
<th>Measures for Providers in 2016</th>
<th>Alternate Exclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 3: CPOE</td>
<td>Measure 2: More than 30 percent of laboratory orders created by the provider during the EHR reporting period are recorded using computerized provider order entry.</td>
<td>Alternate Exclusion for Measure 2: Providers scheduled to be in Stage 1 in 2016 may claim an exclusion for Measure 2 (laboratory orders) of the Stage 2 CPOE objective for an EHR reporting period in 2016.</td>
</tr>
<tr>
<td></td>
<td>Measure 3: More than 30 percent of radiology orders created by the provider during the EHR reporting period are recorded using computerized provider order entry.</td>
<td>Alternate Exclusion for Measure 3: Providers scheduled to be in Stage 1 in 2016 may claim an exclusion for Measure 3 (radiology orders) of the Stage 2 CPOE objective for an EHR reporting period in 2016.</td>
</tr>
<tr>
<td>Objective 10: Public health reporting</td>
<td>Measure Option 2–Syndromic Surveillance Reporting: The provider is in active engagement with a public health agency to submit syndromic surveillance data.</td>
<td>Alternate Exclusion for Measure 2: Providers may claim an alternate exclusion for Measure 2 (syndromic surveillance reporting) for an EHR reporting period in 2016.</td>
</tr>
<tr>
<td></td>
<td>Measure Option 3–Specialized Registry Reporting: The EP is in active engagement to submit data to a specialized registry.</td>
<td>Alternate Exclusion for Measure 3: Providers may claim an alternate exclusion for Measure 3 (specialized registry reporting) for an EHR reporting period in 2016.</td>
</tr>
</tbody>
</table>

Starting in 2017, providers have the option of attesting to Stage 3 measures and objectives for the EHR reporting period using CEHRT that meets either the 2014 or 2015 certification criteria. All providers must attest to Stage 3 beginning in 2018.

Specialty societies and state health departments to determine whether their registries meet the requirements for MU. Due to pending resolution of federal technical and administrative requirements, it is unclear which registries can meet Measure 3.

The American College of Surgeons strongly recommends that surgeons who cannot otherwise meet this objective choose the exclusion option on the attestation form. Any surgeon may be excluded from the specialized registry reporting measure if he or she meets at least one of the following criteria:

- Does not diagnose or treat any disease or condition associated with, or collect relevant data through, a specialized registry in their jurisdiction during the EHR reporting period
- Operates in a jurisdiction for which no specialized registry is capable of accepting electronic registry transactions in the specific standards required to meet the CEHRT definition at the start of the EHR reporting period
- Operates in a jurisdiction where no specialized registry for which the surgeon is eligible has declared readiness to receive electronic registry transactions at the beginning of the EHR reporting period

**Is there a blanket hardship exemption in 2016 like there was in 2015?**

No blanket hardship exemption is available for the 2016 MU reporting period.

**When does Stage 3 begin?**

Starting in 2017, providers have the option of attesting to Stage 3 measures and objectives for the EHR reporting period using CEHRT that meets either the 2014 or 2015 certification criteria. All providers must attest to Stage 3 beginning in 2018.
The origin of the word "doctor" in the Merriam-Webster dictionary is teacher.* Rural surgeons have the opportunity to be unique teachers and as the American journalist and historian Henry Brooks Adams once observed, "A teacher affects eternity; he can never tell where his influence stops."†

My hospital, McPherson Hospital, KS, has been a teaching facility since the late 1990s. With the support and foresight of the leaders at Kansas University (KU) School of Medicine, Kansas City, and a local family practitioner, Greg Thomas, MD, our town of 13,000 has been host to dozens of students during the last 18 years. This column describes that experience along with suggestions for how to start a rural surgical training program for medical students and residents.

**Personal early exposure**

Even before I was a physician or surgeon, I benefitted from the belief that it is every surgeon’s responsibility to teach the next generation. At 17 years old, I walked into the office of David K. Selby, MD, FACS, who had just returned from leading the 101st Airborne MedEvac unit in Vietnam and subsequently set up his orthopaedic surgery practice in my hometown of Garland, TX. Dr. Selby, who died in 1997, was an idol of mine and to this day his mentorship influences my decisions and judgment.

Dr. Selby, without the support of an outside organization, developed an independent summer pre-med program for students. Where he went, we went, and he paid us out of his own pocket. Some of us never went to medical school (a success for those not suited to the lifestyle), and some of us did, including John F. Eidt, MD, FACS, vascular surgeon and director of the American Board of Surgery.

**Starting the KU program**

I decided to follow Dr. Selby’s lead, and in my first year out of residency I developed an independent pre-med program. My first student became a general surgeon and took my place in my Dallas practice when I left to become a rural surgeon. In McPherson, I did the same thing, but within a few years it became obvious that more could be done with the help of the medical school. We initially developed a fourth-year rotation elective as a pilot, and our first student, Apostolos (Likee) Evangildes, MD, became a urologist.

After receiving positive reports from the students, KU, as part of its program to develop rural-based education, asked if we would take on medical students who were in their third-year basic surgery rotation, and

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This experience offers these students the opportunity to get a peek at the other side of life after their training. Because we have no fellows, residents, or interns, these medical students are our first assistants, commensurate with their abilities, and see patients as much as possible before anyone else.

Of course we enthusiastically agreed to do so. Our program has taken on two students nearly every other month since the collaboration began.

My partners at the time, Erik Rieger, MD, FACS, and Clayton Fetsch, MD, FACS, have worked with students since this initiative started. Dr. Rieger moved to Canyon City, CO, eight years ago and Dr. Fetsch continues to work with me today.

The students’ duties are to learn as much as possible about the realities of being a physician, to understand the role of the general surgeon who is practicing far from the university medical center, and to meet the curricular requirements for the third year of medical school. This experience offers these students the opportunity to get a peek at the other side of life after their training. Because we have no fellows, residents, or interns, these medical students are our first assistants, commensurate with their abilities, and see patients as much as possible before anyone else. Hence, these students have the opportunity to make a diagnosis rather than be told to work up the appendicitis in room 308. They become a part of our team and are expected to conduct themselves like any other medical professional.
More than once, a student has called me tremulously at 3:00 am because he or she couldn’t sleep and had checked on an ill patient who they feared might be taking a turn for the worse. More than once, that sort of attitude has saved the day for a patient. So, the benefit is not just to the student but to the patients as well. Rarely do patients refuse to let the student be a part of their care. Most patients feel a special pride in being able to “teach” a student.

Maybe one of the best days of my teaching experience was in March 2016 in New Orleans, LA, when I was helping with the certifying examinations. One of the associate examiners approached me and said that one of his residents, David Klima, MD, wanted me to know that he was taking the exam that day. David was an outstanding student, and he is the only student of mine who has operated on me. While he was on rotation as a third-year medical student, I cut my hand while working on the left engine of my airplane. I phoned him and said we were going to see how good he was. I met him at the office and he expertly sutured my laceration. I can’t even find the scar now. David is currently finishing his pediatric surgery fellowship in Birmingham, AL. My students are scattered around the U.S. in both rural and urban environments. I am proud of all of them, surgeons and nonsurgeons alike.

**Mutually rewarding experience**

The rotation at McPherson is extremely popular for many reasons. Most participants say that they long for the opportunity to be on the front line of care and part of the surgical team. Some students want to see if rural medicine is for them, and all of them enjoy seeing that a rural physician has an interesting and full life. KU is wise in letting the students find locations where they can actively participate.

It is rare in any medical school these days for an attending surgeon to have extensive one-on-one time with third-year students. Our rotation works out to be about 40 hours a week of face time with daily didactic sessions as well as practical training in the operating room. Our staff and administration have been supportive, which is essential to the success of the program, and our small town raised enough money to build a dormitory and library for the students, since housing is an essential part of a remote location rotation.

Developing and implementing this type of program is not difficult if one has the desire to do it. Remember that this work is not a path to riches and that mainly you commit to these types of activities for free because teaching the next generation is part of your mission as a surgeon. The first step is to reach out to the medical school nearest you. So far, I’ve found great support from the chief of surgery and the third-year student rotation directors. Let them know that you would like to be part of their effort and get to know the faculty. My bet is that many medical schools will welcome the assistance.

Teaching medical students is a rewarding experience, and I’ve become a better surgeon as a result. Some say students slow them down. Well, I slowed down Dave Selby when I was 17 years old, but he felt it was worth it. I think he was right.
Building on longstanding safety practices in the military and in the aviation industry, the surgical profession has embraced the use of checklists, which are generally defined as long sets of tasks or actions that need to be accomplished in a specific order to ensure a safe and effective outcome. In fact, many books and articles have been published describing the benefits of a checklist—a tool that all members of the operating room (OR) team are expected to acknowledge and follow.

Building on the success of OR checklists, which are now standard practice for all ORs, the Surgeon Workforce Subcommittee of the American College of Surgeons (ACS) Board of Governors Surgical Care Delivery Workgroup proposes that the complex, multistep process of bringing a new surgeon into a group or surgery department would benefit from a checklist template. The Onboarding Checklist for Surgeons developed by the workgroup delineates action items for both a new surgeon and the hiring partner, group, or hospital.

During and after recruitment, the onboarding process involves important negotiations that might affect key factors such as the type of cases the surgeon will be expected to perform and the nature of the surgeon’s future clinical career. Hospital systems’ human resources departments and lawyers representing private practices generally provide new recruits with an overview of behavioral expectations as well as information regarding compensation, benefits, insurance plans, regulations, licensing requirements, and expectations regarding call, vacation, incentives, and practice routines.

The Onboarding Checklist for Surgeons includes both practice life preparation action items and items related to an employment contract. This checklist is intended to serve as a discussion guideline and is not intended to represent mandatory requirements.

Why is an onboarding checklist needed?
The Onboarding Checklist for Surgeons is a working document for both parties involved in an employment negotiation. The checklist is useful in preparing questions for the initial discussion about a position, but is even more valuable when finalizing the recruitment of a candidate and for setting up a practice. For the young surgeon evaluating a first or second offer, the goal is to discuss and find consensus regarding key issues before beginning a new practice relationship. Ideally, such negotiations should avert potential misunderstanding, and later, dissatisfaction.

Typically a surgeon will seek out a legal review before signing an employment contract. The Onboarding Checklist for Surgeons helps to ensure that essential issues are included in the practice agreement, saving costs and avoiding delays for all parties involved. It should be noted that, although helpful, the checklist does not replace the need for expert legal review, particularly as some issues are unique to specific practice agreements and environments.

The checklist does not define the advantages or disadvantages of different types of employment arrangements, ranging from private practice to multispecialty groups or academic faculty practices.
ONBOARDING CHECKLIST FOR SURGEONS

The following checklist represents action items for consideration by a new surgeon and the partner, group, or hospital employer.

The list includes items regarding practice life preparation and items related to an employment contract. This list is not wholly comprehensive and will continue to be updated as needed, and is intended to provide guidelines for discussion and is not meant to represent any mandatory requirements.

Preparation for practice life

- Common vision for a surgeon’s success:
  - Best thing about practice (as per the hiring surgeon)
  - Most important practice factor (as per the new surgeon)
  - New surgeon’s goals for success
  - Mentorship and career guidance

- Expectations:
  - Expected skill set and competency to operate independently
  - Work requirements and night call
  - Professionalism and social media policy
  - Resident responsibilities
  - Academic ranking and promotion track
  - Metrics for new surgeon evaluation, promotion, or dismissal
  - Proctoring guidelines and OR assistance
  - State license and U.S. Drug Enforcement Agency registration
  - Advanced Cardiac Life Support, Advanced Trauma Life Support® certification
  - Hospital emergency coverage
  - On call rotation
  - Partnership track

- Facilities and equipment:
  - Preference cards and equipment needs
  - Computer (health information technology) use requirements and policies
  - Research options

Employment details

- Compensation and bonus opportunities
- Income from honoraria, inventions, legal opinion—part of practice?
- Employee benefit package
- Health, disability, life, liability insurance
- Vacation policy
- Moving expenses
- Non-compete clause or geographic radius exclusion
- Computers, cell phone, for home/travel: Health Insurance Portability and Accountability Act security consideration
- Dues, books, and subscription payments
- Education meeting attendance and reimbursement
- Business cards, stationery, parking passes
- Training in use of the electronic health record and coding
- Templates for new patients and scheduling and tests
- Referral letter routine
- Termination agreement

- Options:
  - Health insurance participation or nonparticipation
  - Does the patient have access to their electronic health records?
  - Online quality tracking
  - Surgical center availability and ownership
  - Financial planning and retirement coaching
  - Local banking and loan assistance
  - Loan forgiveness arrangements
  - Real estate agent services
  - Military commitment
  - Maternity or paternity leave
  - Are there personal health issues that need to be discussed?
  - New surgeon’s attorney review

Rather, the items for discussion outlined in the Onboarding Checklist for Surgeons are common elements to all types of surgical employment.

As the economics of medicine evolve, so will the Onboarding Checklist for Surgeons. The ACS Surgeon Workforce Subcommittee welcomes your feedback and will keep the checklist up to date and available as a resource on the ACS website at www.facs.org/onboardingsurgicalchecklist.
Diet and lifestyle can influence prostate cancer outcomes

by Michael S. Leapman, MD; Clancy J. Clark, MD, FACS; Maxwell V. Meng, MD, FACS; and Judy C. Boughey, MD, FACS

Efforts to clarify the role of diet and lifestyle on the development and outcomes of prostate cancer (PCa) are highly valuable given the global burden and protracted natural history of the disease. Indeed, PCa is diagnosed in approximately 1.1 million men worldwide annually and is a major contributor to cancer-related mortality, accounting for some 307,000 deaths per year. How health behaviors influence PCa outcomes remains controversial. Randomized placebo-controlled trials of individual supplements (such as selenium and vitamin E) have not indicated a clear benefit in the prevention of PCa, and studies of broader exercise or dietary patterns have remained challenging (see Table 1, page 51).2,3

Considerable heterogeneity exists within empiric lifestyle behavior patterns, while bias in opportunities for detection of PCa also varies with screening practices.4 Nonetheless, correlative evidence from preclinical models supports a potential benefit from dietary modifications, particularly cruciferous vegetables and carotenoids, which appear to confer a protective effect on PCa pathogenesis.5 Similarly, a pilot study of comprehensive lifestyle changes among men with clinical low-risk disease have examined changes in telomere length, a feature of chromosomal stability, where shorter telomere length is associated with aging.6 The intervention group consisted of 10 individuals who underwent dietary modification, aerobic exercise, stress management, and social support. They were compared to a control group. After five years, men in the intervention arm had increased telomere length, whereas men in the control group experienced statistically significant decreases, suggesting the biologic impact of the alterations in lifestyle. Further investigation is warranted to determine whether telomere length and other molecular surrogates can represent a meaningful indicator of clinical disease progression.

HPFS
Longitudinal follow-up studies have afforded an opportunity to assess the long-term effect of diet and health behaviors on the subsequent outcomes from PCa. The Health Professionals Follow-Up Study (HPFS), a cohort study of male health professionals started in 1986, collects data relating to medical comorbidity, height/weight, physical activity, and smoking status. This study has yielded valuable insights into the factors that affect PCa outcomes. For example, cigarette smoking at the time of diagnosis has been shown to be associated with increased risk of disease-specific mortality, and cardiovascular disease-related and overall mortality, while greater than 10-year periods of smoking cessation were comparable to cancer-specific mortality risks for nonsmokers.7 Furthermore, Richman et al. examined 4,577 men with non-metastatic PCa and found that vegetable fat intake after diagnosis was associated with a lower risk of lethal disease and all-cause mortality, whereas saturated and trans fats after diagnosis were associated with higher all-cause mortality.8 Recently, Kenfield et al. examined the effect of diet and lifestyle on the prevention of...
TABLE 1. REVIEW OF PUBLISHED AND ONGOING PROSPECTIVE, RANDOMIZED CONTROLLED TRIALS ADDRESSING THE ROLE OF DIET AND/OR LIFESTYLE IN PCa

<table>
<thead>
<tr>
<th>Study design</th>
<th>Study</th>
<th>Intervention</th>
<th>Population</th>
<th>Primary finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants randomized to once-daily vitamin E, selenium, both, or placebo</td>
<td>SELECT2,11</td>
<td>Selenium and vitamin E</td>
<td>34,887 healthy men without known PCa</td>
<td>Neither vitamin E nor selenium demonstrated benefit in preventing prostate cancer; increased risk associated with vitamin E supplementation</td>
</tr>
<tr>
<td>Randomized trial testing effect of high-vegetable diet among men managed with active surveillance</td>
<td>MEAL10,12</td>
<td>Dietary change</td>
<td>464 men with clinical-low risk PCa</td>
<td>Accrual completed; awaiting study results</td>
</tr>
<tr>
<td>Participants randomized to receive alpha-tocopherol, beta-carotene, both, or placebo</td>
<td>ATBC13-15</td>
<td>Alpha-tocopherol, beta-carotene supplementation</td>
<td>29,133 male smokers</td>
<td>At median 6.1 year follow-up, reduction in prostate cancer mortality; in extended follow-up preventive effect of moderate dose alpha-tocopherol, increased risk with beta-carotene</td>
</tr>
<tr>
<td>Randomization to daily multivitamin or placebo</td>
<td>PHS II16</td>
<td>Long-term multivitamin supplementation</td>
<td>14,641 U.S. physicians</td>
<td>No significant effect observed of daily multi-vitamin on incidence of PCa or cancer-specific mortality</td>
</tr>
<tr>
<td>Randomization to intensive lifestyle program consisting of vegan diet, vitamin supplementation, aerobic exercise, and stress management and support</td>
<td>Prostate Cancer Lifestyle Trial17</td>
<td>Comprehensive lifestyle modification</td>
<td>93 men with early-stage PCa</td>
<td>In short-term follow-up, experimental group associated with greater PSA declines, inhibition of LNCaP growth by serum</td>
</tr>
</tbody>
</table>

lethal PCa within the HPFS cohort. The authors derived a score assigning points corresponding to risk for independent lifestyle factors, including smoking status, body mass index, physical activity, intake of tomatoes and fatty fish, as well as intake level of processed meat (see Table 2, page 52).9 Within this framework, increasing lifestyle scores were inversely associated with risk of lethal PCa. For example, those with a score of 5–6 versus 0–1 had a 68 percent lower risk of lethal PCa, whereas men with three dietary factors versus zero had a 46 percent decreased risk. Such information may prove useful in counseling men both before and after disease diagnosis.

**MEAL Study**
The Men's Eating and Living (MEAL) Study (CALGB 70807 [Alliance]), a prospective study evaluating the role of diet on clinical progression among men with PCa managed with active surveillance, recently completed accrual.10,11 This randomized phase III clinical trial is designed to examine whether a two-year intervention consisting of increased vegetable intake would impact PCa progression. The study enrolled 464 men ages 50–80 with recently diagnosed PCa who meet the following inclusion criteria: clinical stage ≤T2a, prostate-specific antigen (PSA) <10 ng/mL, <25 percent biopsy cores positive for cancer, and ≤50 percent of any single core; for men ≤70 years, biopsy Gleason score ≤3+3, and for men older than 70 years, Gleason score ≤3+4. Participants in the intervention group were assigned to a personal counselor and were encouraged to consume at least seven servings of vegetables, two servings of fruit, two servings of whole grains, and one serving

**REFERENCES**


REFERENCES (CONTINUED)


of beans or legumes per day, whereas those in the control group received printed materials recommending consumption of a healthy diet. The primary study outcome is clinical progression, which is defined as PSA >10 ng/mL, PSA doubling time <3 years, or increase in tumor volume or Gleason score. Results from the study are expected next summer.

The performance of such a trial serves to fill a considerable need to quantify the effect of a well-specified dietary intervention on PCa progression during active surveillance. More broadly, MEAL’s completion is notable for representing a randomized trial in low-risk patients, where virtually no level 1 evidence currently exists in support of modifying short-term disease trajectory. These efforts highlight the breadth of work on this topic, ranging from preclinical work addressing putative mechanisms of disease prevention to observational studies, as well as randomized clinical trials that seek to directly examine the effect of discrete dietary and lifestyle interventions.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Definition</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking status</td>
<td>Never smoker or quit ≥10 years</td>
<td>1</td>
</tr>
<tr>
<td>Body mass index</td>
<td>&lt;30 kg/m²</td>
<td>1</td>
</tr>
<tr>
<td>Physical activity</td>
<td>≥3 hours/week vigorous activity (≥6 METs) and/or ≥7 hours/week brisk walking</td>
<td>1</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>≥7 servings/week raw tomatoes, tomato juice, tomato sauce, salsa, pizza</td>
<td>1</td>
</tr>
<tr>
<td>Fatty fish</td>
<td>≥1 serving/week mackerel, salmon, sardines, blue-fish, swordfish</td>
<td>1</td>
</tr>
<tr>
<td>Processed meat</td>
<td>&lt;3 servings/week of beef or pork hot dogs, bacon, salami, bologna, or other processed meat sandwiches, and other processed meats</td>
<td>1</td>
</tr>
<tr>
<td>Total points</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

TABLE 2. DEFINITIONS OF THE LIFESTYLE SCORE DERIVED FROM THE HPFS ON THE OCCURRENCE OF LETHAL PCa

52 |
Drs. William J. Mayo and Franklin H. Martin: Leaders in establishing the College’s unique identity

By Peter J. Kernahan, MD, PhD, FACS

William J. Mayo, MD, FACS (1861–1939), and his brother Charles H. Mayo, MD, FACS (1865–1939), remain two of the most remarkable individuals in American surgery—a field with no shortage of notable individuals. With their father, William Worrall Mayo, MD (1819–1911), they built a great medical institution from a small-town general practice. By the early 1900s, they had established themselves among the leaders in American surgery. Both would be actively involved in the American College of Surgeons (ACS) from its founding.

Apart from his term as President of the College from 1916 to 1918, William J. Mayo held no official position in the ACS. Nonetheless, through his close friendship with ACS founder Franklin H. Martin, MD, FACS—dating from a meeting in St. Paul, MN, in 1893—he remained a consequential figure in College affairs. Over the years, the Martins were frequent guests on Dr. Mayo’s riverboats, which became a venue for discussing ACS business.

Conflicts with the AMA
In 1913, the newly formed College posed a significant challenge to the American Medical Association (AMA) and its ambition to be the sole representative of American medicine. An intense personal animosity between Dr. Martin and Arthur Dean Bevan, MD, FACS, a founder of the ACS and an AMA leader, deepened the rift. As a strong supporter of the College and its mission, Dr. Mayo also deplored “the little petty back-biting [and] personal enmities” that threatened what he saw as “the greatest movement for American surgery.” He devoted much of his term as ACS President to working to improve the relationship between the AMA and the ACS. Despite their friendship, however, Dr. Martin rejected Dr. Mayo’s recommendation that the ACS turn hospital standardization over to the AMA, and peace between Dr. Martin and the AMA leadership remained elusive.

Achieving international recognition
Dr. Mayo had greater success helping Dr. Martin to position the ACS as an international organization. As Past-President, he accompanied Dr. Martin on an official trip to Panama, Peru, Chile, Argentina, and Uruguay in 1920, where they met with presidents as well as leading surgeons and health officials. A number of prominent South American surgeons received Fellowship in the College, establishing a connection that endures to this day.
Fellowship in the College, establishing a connection that endures to this day. The voyage also helped to solidify the friendship between Dr. Mayo and Dr. Martin and to overcome any ill feelings resulting from Dr. Mayo’s editorial role on the AMA’s new journal, Archives of Surgery.

Their New Zealand and Australian “vacation,” as Dr. Martin referred to it, in 1924 had similar far-reaching results. The warm public reception throughout both countries owed much to the star quality of the Mayo name, to Dr. Mayo’s embarrassment and Dr. Martin’s chagrin. More significantly, their visit inspired leading surgeons in both countries who were considering their own surgical association.

A year later, several Australian surgeons visited Rochester, MN, after receiving College Fellowships. While on Dr. Mayo’s boat, the North Star, they obtained characteristically succinct advice: “My boy[s], go home and found your own College.” So they did—the Royal Australasian College of Surgeons.

The last act
By the early 1930s, an aging Dr. Martin faced growing criticism of his leadership, particularly from a new generation of full-time teachers of surgery. Perhaps Dr. Mayo’s greatest contribution to the College was to use his own leadership transition at the Mayo Clinic to encourage Dr. Martin to accept a succession plan. Only Dr. Martin’s death a few months later disrupted the transition.

Acknowledgements
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REFERENCES
In response to concerns regarding The Joint Commission’s stance on pain management, David W. Baker, MD, MPH, FACP, executive vice-president, Healthcare Quality Evaluation, earlier this year released a statement on the matter.*

“In the environment of today’s prescription opioid epidemic, everyone is looking for someone to blame,” Dr. Baker wrote. “Often, The Joint Commission’s pain standards take that blame. We are encouraging our critics to look at our exact standards, along with the historical context of our standards, to fully understand what our accredited organizations are required to do with regard to pain.”

**The Joint Commission’s pain standards**

Dr. Baker noted that The Joint Commission first established standards for pain assessment and treatment in 2001 in response to the national outcry about the widespread problem of undertreatment of pain. He also noted that The Joint Commission’s current standards require health care organizations to establish policies regarding pain assessment and treatment, as well as to conduct educational efforts to ensure compliance.

“The standards do not require the use of drugs to manage a patient’s pain; and when a drug is appropriate, the standards do not specify which drug should be prescribed,” he noted in the statement.

Dr. Baker further explained that The Joint Commission’s pain standards were designed to address a serious, intractable problem in patient care that affected millions of people, including inadequate pain control for both acute and chronic conditions.

“‘The standards were designed to be part of the solution,’” he wrote. “We believe that our standards, when read thoroughly and correctly interpreted, continue to encourage organizations to establish education programs, training, policies, and procedures that improve the assessment and treatment of pain without promoting the unnecessary or inappropriate use of opioids.”

The foundational standards call for hospitals to engage in the following activities:

- Educate all licensed independent practitioners on assessing and managing pain
- Respect the patient’s right to pain management

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Dr. Baker further explained that The Joint Commission’s pain standards were designed to address a serious, intractable problem in patient care that affected millions of people, including inadequate pain control for both acute and chronic conditions.

- Assess and manage the patient’s pain

  Requirements for what should be addressed in a health care organization’s policies include the following:

  - The hospital conducts a comprehensive pain assessment that is consistent with its scope of care, treatment, and services and the patient’s condition.
  - The hospital uses methods to assess pain that are consistent with the patient’s age, condition, and ability to understand.
  - The hospital reassesses and responds to the patient’s pain based on its reassessment criteria.
  - The hospital either treats the patient’s pain or refers the patient for treatment.

  Treatment strategies for pain may include pharmacologic and nonpharmacologic approaches. Strategies should reflect a patient-centered approach and consider the patient’s current presentation, the health care providers’ clinical judgment, and the risks and benefits associated with the strategies, including potential risk of dependency, addiction, and abuse.

  Dr. Baker also addressed five misconceptions that are commonly associated with The Joint Commission’s pain standards, as follows:

  - Misconception 1: The Joint Commission endorses pain as a vital sign
  - Misconception 2: The Joint Commission requires pain assessment for all patients
  - Misconception 3: The Joint Commission requires that pain be treated until the pain score reaches zero
  - Misconception 4: The Joint Commission standards push doctors to prescribe opioids
  - Misconception 5: The Joint Commission pain standards caused a sharp rise in opioid prescriptions

  The entire statement, including elaboration of the five misconceptions and a video of Dr. Baker debunking the pain standard myths, is available at www.jointcommission.org/topics/pain_management.aspx.

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

by Richard J. Fantus, MD, FACS

The Walking Dead is a popular American horror-drama television show based on a comic book series of the same name. The TV show debuted in 2010 and is now in its seventh season. The show is set in a post-apocalyptic world overrun with zombies. Over the years, the so-called walking dead have been portrayed as mindless creatures wandering the earth.

Today, real-life “smombies” (smartphone zombies) walk face down, eyes glued to their smartphones while navigating city streets.

Attack of the smombies
Smombies are seen walking and texting, checking Facebook, tweeting, or looking at maps on GPS apps, often while stepping off the curb into traffic.

According to a survey conducted in several European cities, including Berlin, approximately 20 percent of pedestrians are distracted by their cell phone.1 Fortunately for smombies in Germany, a new type of pedestrian warning system is being installed, with traffic lights embedded in the pavement. Hence, German smombies can continue to look down and text while waiting for the ground-level traffic lights to turn green, signaling that it is safe to cross the street. This system offers a new level of attention to traffic signals, adapted to the modern age.2

The U.S. has its fair share of smombies as well. A 2012 study on the impact of social and technological distraction on pedestrian behavior when crossing streets indicated that at 20 high-risk intersections in Seattle, WA, nearly one-third of the pedestrians were engaged in a distracted activity—such as listening to music, text messaging, and using a handheld phone—while crossing the road. The study also revealed that it took 18 percent longer for them than for undistracted pedestrians to cross the intersection and that texting pedestrians were 3.9 times more likely than undistracted pedestrians to display at least one unsafe crossing behavior (that is, disobeying the lights, crossing in the middle of the intersection, or failing to look both ways before stepping off the curb).3

An unhealthy distraction
According to several additional studies cited in a 2015 report Everyone Walks from the Governors Highway Safety Association, the risk of injury and death to “petextrians” (pedestrians who text while walking) has increased over the last 10 years. The number of pedestrians killed while using a cell phone rose from 1 percent in 2004 to 3.6 percent in 2010. The U.S. Consumer Products Safety Commission estimated that as many as 2 million pedestrian injuries related to cell phone use occurred in 2010 alone.4 With smartphone use on the rise, these numbers will only increase if nothing is done to mitigate this risky behavior.

To examine the occurrence of distracted pedestrian versus motor vehicle injuries contained in the National Trauma Data Bank® (NTDB®) research dataset admissions for 2014, medical records were searched using the International Classification of Diseases, Ninth Revision, Clinical Modification codes. Specifically searched were records that contained the external cause of injury code (E-code) E814.7 (Motor vehicle traffic accident involving collision with pedestrian, injuring pedestrian), which includes the subset of distracted pedestrians. A total of 24,918 records were found, of which 20,339 contained a discharge status, including 13,647 patients discharged to home, 3,266 to acute care/rehab, and 2,140 sent to skilled nursing facilities; 1,286 died. Of these patients, 63.6 percent were male, on average 39.8 years of age, had an average hospital length of stay of 7.5 days, an intensive care unit length of stay of 6.9 days, an average injury severity score of 14.1, and were on the...
ventilator for an average of seven days (see Figure 1, this page).

Our society has become increasingly dependent on technology, and it is amazing what one can do with a metal and glass device the size of a 3” x 5” index card. One can be in constant communication with friends, loved ones, employers, and employees; almost any contact or information is in reach from your smart device. However, aside from getting a stiff neck from looking down while being a pedestrian, one could join the walking dead as a result of being a smombie while trying to cross the street. For safety tips on preventing pedestrian injuries, go to the American Academy of Orthopaedic Surgeons website at http://orthoinfo.org/topic.cfm?topic=A00748.

Throughout the year, we will be highlighting these data through brief reports that will be found monthly in the Bulletin.

The National Trauma Data Bank Annual Report 2015 is available on the ACS website at facs.org/quality-programs/trauma/ntdb. In addition, information is available on our website about how to obtain NTDB data for more detailed study. If you are interested in submitting your trauma center’s data, contact Melanie L. Neal, Manager, NTDB, at mneal@facs.org.

Acknowledgement
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REFERENCES
2016 Leadership Summit focuses on conflict resolution, cultural dexterity, and strategic thinking

by Tony Peregrin

The 2016 American College of Surgeons (ACS) Leadership & Advocacy Summit, April 9–12 at the JW Marriott, Washington, DC, drew 447 attendees—the highest number to date—representing all levels of ACS leadership, including Regents, Governors, Advisory Council Members, Chapter Officers, Resident Member leaders, and other stakeholders. "We have attendees at this meeting who are in the beginning of careers, the middle of their careers, and senior surgeons," said Patricia L. Turner, MD, FACS, Director, ACS Division of Member Services, in opening comments at the fifth annual summit. "These [attendance] numbers highlight the value of this meeting," Dr. Turner added. "We hope to leave you with specific and actionable elements that you can put to use in your day-to-day work."

The summit—a twofold meeting with a focus on both leadership enhancement and advocacy training—featured success stories from several ACS chapters; professional development programming, including sessions on "cultural dexterity," reputation management skills for social media, and improving emotional intelligence (EI); along with numerous networking opportunities.

A ndrew D. Rogers, MD, MHPE, FACS, FAAP, senior associate dean of faculty affairs and professional development, and professor of surgery, University of Alabama School of Medicine, Birmingham.

An awareness of conflict structure is the first step to resolution, noted Dr. Rogers, who outlined three sources of primary conflict:

- Task: Disagreement related to the outcomes of the task being performed

- Process: Disagreement related to the logistical issues of the task

- Relationship: Disagreement related to personal issues outside the task

Responses to conflict range from "smoothing," such as using humor to diffuse the situation, to "forcing." An example of forcing is copying too many people unnecessarily on e-mails, "which might be a plus for [accomplishing] a task, but it is a minus for relationships because it impairs..."
them,” according to Dr. Rogers. He cited Abraham Lincoln’s restraint in communicating with others as an example of how to avoid the forcing response to conflict. “They talk about finding all these letters in Lincoln’s papers that he never sent…. The same thing can be done when you receive a blistering e-mail,” he said, suggesting attendees step away from a potentially heated exchange and, instead, pick up the phone.

Another common response to conflict is avoidance. “It sounds like you should do that, right? But it’s actually a very aggressive response because the individuals are refusing to participate or be engaged.”

Dr. Rogers said fostering a sense of trustworthiness is key for surgeons to be effective leaders, regardless of the source of the conflict or team members’ response to that discord. “Build a sense of trust and do it around your abilities,” he said, advising attendees to avoid “behaving one way in the operating room (OR) and another way outside the OR. Be consistent—wherever you lead.”

“If a surgeon creates a sense of trust, a task conflict is less likely to develop into a relationship conflict,” he added, noting that a relationship conflict should be avoided whenever possible because it focuses on personalities and may result in project delays and permanently fractured relationships.

### Chapter success stories

Officers of the West Virginia and North Texas Chapters and the Georgia Society of the ACS shared their success stories in an effort to inspire other chapter leaders to boost member engagement and to improve their effectiveness.

**West Virginia Chapter**

Bryan K. Richmond, MD, MBA, FACS, professor of surgery and division chief, general surgery, West Virginia University, Charleston, and ACS Governor and Immediate Past-President of the West Virginia Chapter, described the chapter’s efforts to increase medical student involvement. “Several years ago, we began inviting students from the medical school near the location of our meetings,” said Dr. Richmond. “This year, we extended [the invitation] to all three state medical schools using surgery student interest group presidents as our contacts.”

The 2015 West Virginia Chapter three-day meeting drew 95 surgeon and resident attendees and 70 medical students. “We found that our chapter members enjoy giving advice to young minds who will one day be their colleagues,” said Dr. Richmond. “These meetings establish the concept that surgeons are the most effective mentors and that networking and involvement [are] essential for career development and success.”

Additional efforts to attract medical students included a waived conference fee, accommodation funding assistance, open access to all of the meeting’s receptions and social events, and an open forum session with an opportunity for students to engage in a discussion with academic and community surgeons and ACS leaders.

The West Virginia Chapter has received $20,000 in funding to enhance medical student engagement, including three separate $5,000 grants from training programs in the state and a $5,000 grant from private industry.

Medical student involvement invigorates the chapter meeting, and in turn, shows the students that “the ACS is interested in them and that they have a role and a voice within the College,” Dr. Richmond said.
North Texas Chapter
ACS Governor Dhiresh R. Jeyarajah, MD, FACS, director, surgical oncology, and director, upper gastrointestinal fellowship, Methodist Hospital, Dallas, TX, and Immediate Past-President of the North Texas Chapter, focused on the chapter’s efforts to revitalize its annual meeting. “Historically, there has been a fixed format for the meeting, which included a series of talks and three named lectures,” Dr. Jeyarajah said. “We wanted the meeting to be more interactive and to engage everyone, especially surgeons in private practice, so we focused on the tagline ‘Engaging the practicing surgeon,’ which we thought would be a good way not to alienate anyone and include everyone, town and gown, because all attendees are practicing surgeons.”

Chapter meeting organizers decreased the number of abstracts by 25 percent and used that time to feature a tumor board meeting with faculty from multiple institutions. The annual meeting also included a town hall with ACS Governors and leaders discussing a spectrum of issues, including electronic health records.

Dr. Jeyarajah said the chapter kept meeting costs down by increasing its exhibitor fee and featured electronic posters, rather than the traditional poster format, to increase space for additional exhibitors. “Make [the meeting] applicable, engage your audience, and don’t be afraid to be edgy,” said Dr. Jeyarajah.

Georgia Society of the ACS
“How do we engage younger people and get them to attend meetings when they can just ‘Google it’ for the information they need? How do we enhance a sense of camaraderie at these meetings?” asked Christopher K. Senkowski, MD, FACS, professor and chair, department of surgery, Mercer University School of Medicine, Savannah, GA, and ACS Governor for Georgia and President, Georgia Society of the ACS.

The leadership of the society have implemented several strategies to increase meeting attendance, including collaborating with other state specialty societies, such as the Georgia Chapter of the American Society for Metabolic and Bariatric Surgery; offering new sessions on practice management topics; involving state legislators in the meeting; and providing updates on statewide quality initiatives.

Membership growth has increased 12 percent in the last two years, according to Dr. Senkowski, and annual meeting attendance has grown 40 percent in the same time period.

**Enhancing cultural dexterity**
Developing cultural dexterity (sometimes called “cultural competency”) as a means of reducing health care disparities and providing patient-centered care was the focus of a presentation by Adil H. Haider, MD, MPH, FACS, the Kessler Director of the Center for Surgery and Public Health at Brigham and Women’s Hospital, Harvard Medical School, Boston, MA, and Co-Chair of the ACS Committee on Health Care Disparities.

“Equality is the cornerstone of medicine,” said Dr. Haider. “Every patient, no matter where they come from, deserves the best possible outcome.”

Unfortunately, multiple medical studies have shown that “unconscious bias” affects how some physicians treat patients, Dr. Haider noted. He cited a survey sent to 536 ACS Fellows from July 2013 to March 2014, which found 40 percent of 173 respondents believe that the “evidence for
disparities is weak,” and of the 50 percent who identified disparities in their own practice, “90 percent blamed the patient [for disparities in health care].”

Dr. Haider credited the College for making disparities in health care a top priority, citing an article published in the March issue of JAMA Surgery titled “Setting a national agenda for surgical disparities research: Recommendations from the National Institutes of Health and American College of Surgeons Summit,” which established five research priorities for reducing surgical disparities:

• Improve patient-clinician communication through culturally dexterous care

• Use technology for engagement and community outreach to optimize patient education, literacy, and shared decision making

• Improve quality of care at facilities with a high proportion of minority patients

• Evaluate interventions such as rehab support on functional outcomes and quality of life

• Improve patient centeredness by having patients identify expectations for recovery and palliative care

“Be aware of unequal outcomes, participate in or create a program, and advocate for policy change,” he said. “As I look around this room, which is more diverse than it was 20 years ago, I believe that we can do better [and that our actions] will lead to the eradication of disparities in surgical care.”

### Leading by example

“What is the most popular American sport? It’s not baseball. It’s not football. Some might say it’s soccer, but it’s actually boss-watching. We are all watching our bosses, so lead by example, because motions and behaviors are contagious,” said Kurt O’Brien, MHROD, senior lecturer, department of health services, University of Washington, Seattle, whose presentation focused on interpersonal skill development.

“The emotional part of our brain works much faster than the logical part of our brain. The question is—what do we do about it? We need to reframe conflict,” said Mr. O’Brien, referring to the surgeon-leader’s role in diffusing discord among colleagues and team members. “Start with the heart,” he said. “Seek to understand the unmet needs” of the individuals involved in the conflict.

He outlined a multistep approach to conflict resolution, including determining what you appreciate about the other person, discovering your mutual purpose, and disputing your own “story.” “We all have beliefs about the activating event—the story you tell yourself about how the conflict started,” said Mr. O’Brien. “Ask yourself what other possible explanations exist.”

He also advised attendees to increase self-awareness and suggested that leaders who engage in self-reflection are more successful at interpersonal skills development and conflict resolution.

### Breaking boundaries in strategic thinking

“Being decisive is a quality in leaders, but when it comes to being strategic, don’t be decisive, at least not yet,” said Joshua Klayman, PhD, a faculty member with the Booth School of Business, University of Chicago, IL, and subject matter expert on managerial and organizational behavior. Dr. Klayman stressed the importance of flexibility in problem solving, particularly the ability to reframe a
problem and examine it from a variety of perspectives.

To illustrate the utility of unconventional thinking in problem solving, he asked attendees to solve the nine dots puzzle, a popular brain-teaser that involves individuals linking all nine dots, three rows across and three rows down, without lifting the pen and without tracing the same line more than once. A variety of solutions exist, typically ones that require the problem solver to “think outside the box”—a phrase that was first popularized by the puzzle, according to Dr. Klayman.

He cautioned leaders to avoid giving instructions or asking questions that contain “hidden boundaries,” and he cited the history of the cold storage door as an example of a hidden boundary gone awry. A businessman was looking for a cold storage door that he would not have to open since his hands were carrying trays of heavy meat, according to Dr. Klayman. Industrial designers were initially flummoxed, but eventually solved the problem by moving away from the concept of a standard door, which was part of the wording in the original request, and using heavy plastic strips to allow ease of access while keeping the cold air trapped in the freezer.

“It's a mistake to spend too much time on being the decider and not enough time being the strategic thinker,” Dr. Klayman said.

**Authentic leadership**

After a brief introduction by Daniel D. Klaristenfeld, MD, FACS, FASCARS, a member of the Governing Council of the ACS Young Fellows Association, Susan Moffatt-Bruce, BSc, MD, PhD, MBOE, FACS, FRCSC, led a session on the leadership skills necessary to transition from “volume-driven to value-driven” patient care.

“Leadership is not a static endeavor—leadership demands fluidity, which requires the willingness to recognize the need for change and the ability to lead change,” said Dr. Moffatt-Bruce, chief quality and patient safety officer; associate dean of clinical affairs, quality, and patient safety; and associate professor of surgery and associate professor, biomedical informatics, Ohio State University, Columbus.

She outlined effective leadership traits, such as possessing a compelling vision, fostering a sense of accountability, and developing effective communication skills. Dr. Moffatt-Bruce also suggested that attendees broaden their view of what it means to be a capable leader, urging surgeon leaders to engage in what she called authentic leadership. “Authentic leaders know who they are and what they believe in; they act on values openly and candidly, and their followers consider them to be ethical people and have faith [in their abilities],” said Dr. Moffatt-Bruce, who described this style of leadership as “innate to all of us.”

Authentic leadership “emerges from your life story,” she said, via one or more transformative experiences or “crucibles,” such as illness, having a family, death of a loved one, and career-related experiences that inspire a surgeon to become a leader. Dr. Moffatt-Bruce added that “discovering your authentic leadership requires a commitment to developing self-awareness,” which she called “the first component of emotional intelligence. She noted that “the most effective leaders are alike in one crucial way—they all have a high degree of emotional intelligence.”

**Social media and reputation management**

Surgeons who neglect social media in their practices are out of touch with patients’
growing demand for digital communication, and they run the risk of allowing negative reviews to define their reputation, said Deanna J. Attai, MD, FACS, David Geffen School of Medicine, University of California, Los Angeles, and president, American Society of Breast Surgeons.

A surgeon’s digital footprint can be described as controlled or uncontrolled, Dr. Attai said. Examples of an uncontrolled digital footprint include Healthgrades, Angie’s List, Yelp, and RateMDs.com, some of which may allow surgeons to respond to reviews. “However, the solution to pollution is dilution,” she said, encouraging attendees to amplify their controlled online presence by creating a profile on LinkedIn and Doximity. “If you do nothing else, do this,” said Dr. Attai. “Include a professional picture and set up areas of interest. LinkedIn now has a blog post feature so you don’t have to set up your own website or blog. You can just post directly from that platform.”

As for other social media platforms such as Facebook and Twitter—which can also help shape a physician’s online reputation when used properly—she encouraged attendees to establish a relatable presence. “Patients and doctors want to know you are a real person. Social media users are savvy, they can see through the spin and will notice if you are only there for self-promotion. Don’t be afraid to show a little bit of your personality. During the week I will post articles on breast cancer issues, but on the weekend, I might post pictures of my garden,” she said.

Developing a digital footprint is a balancing act of opportunities (patient education, collaboration with colleagues, access to information) and challenges related to maintaining professionalism and patient privacy. “Common sense online is so uncommon,” said Dr. Attai. “Regardless of how anonymous you think you are… you have to post and tweet as if the entire world is watching.”

“Don’t feed the trolls,” she added, highlighting another way surgeons can control their online reputation. Social media trolls are individuals who create conflict on Facebook or Twitter by posting controversial, inflammatory, or off-topic comments. “Expect some debate, and remember there are many sides to a story or issue. However, you should be able to recognize pretty quickly if you’re going to make headway with an individual. If that’s not possible, just walk away.”

While residents and medical students may have been “raised on social media,” they still benefit from mentoring relationships that underscore professionalism. “The next generation may be comfortable with these platforms, but they are professionally naive, and we need to set the example,” Dr. Attai said.

Enhanced EI leads to better outcomes

“Being nice is not the same thing as emotional intelligence,” said Roy Phitayakorn, MD, FACS, department of surgery, Massachusetts General Hospital, Boston. “EI is how an individual manages his or her emotions and the emotions of others and requires self-regulation, perception of others, interpretation of what others are feeling, and action. EI and personality traits are two separate domains.”

“The OR environment is not conducive to communication. We all have masks on, OR drapes block views, and it seems like every team member is focused on separate tasks, but we have found that EI enhances communication. And if people feel free to talk in the OR, they are more likely to bring up issues when a crisis comes up.” He encouraged attendees to “manage the emotions in the room.
because everyone is looking for you to do that in the OR. If you are emotionally intelligent, it acts as a barrier to errors coming through.”

Cultivating a culture of trust
“We are living in a time of uncertainty, but, with that in mind, we should remember that the College is an enabler of quality and the trusted source of clinical solutions,” said ACS Executive Director David B. Hoyt, MD, FACS, in closing remarks at the Leadership Summit. He described the “leadership characteristics of a thriving College,” which include the organization’s ability to “cultivate a culture of trust, maintain a laser focus on the practical needs of members, and operate at the speed of health system change.”

Dr. Hoyt also updated the attendees on key College initiatives, including the Hartford Consensus and the recently released Stop the Bleed campaign; a re-tooling of Operation Giving Back, which will feature an infrastructure that allows Fellows to participate in the program more easily; and strategizing to amplify member recruitment at all levels. He also highlighted continuous quality improvement projects, such as the quality manual that is currently in development and the forthcoming rollout of the ACS quality database system, which will allow the College to migrate all of its clinical registries into a common, consolidated warehouse and reporting platform.

To underscore the College’s interest in cultivating a culture of trust, Dr. Hoyt closed with an update on plans for regular “fireside chats” enabled by software that will support the participation of up to 1,000 attendees and up to six panelists on video simultaneously.

“Our future is very bright even though these are times of uncertainty,” he said, calling on attendees to use their leadership skills and EI acumen to meet the needs of both the profession and its patients.

The sixth annual Leadership & Advocacy Summit will take place May 6–9, 2017, at the Renaissance Washington, DC, Downtown Hotel.

Version 2.0 of MBSAQIP standards to take effect in October

Version 2.0 of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) standards will become effective in October. The standards manual, Resources for Optimal Care of the Metabolic and Bariatric Surgery Patient 2016, represents the continued collaboration between the American College of Surgeons (ACS) and the American Society for Metabolic and Bariatric Surgery through the MBSAQIP. This updated resource describes the standards and pathways for accreditation of metabolic and bariatric surgery centers and replaces the 2014 standards, which will remain in effect until the end of September.

All MBSAQIP-accredited centers must be in compliance with the 2016 standards criteria by October. In addition, all site visits beginning in October will verify centers using the 2016 standards. The updated standards are available on the ACS website at facs.org/quality-programs/mbsaqip/standards. For more information, contact the MBSAQIP staff at mbsaqip@facs.org.
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Approximately 300 surgeons and surgical residents participated in the Advocacy portion of the 2016 American College of Surgeons (ACS) Leadership & Advocacy Summit, April 9–12. The fifth joint event provided a unique opportunity to share ideas and discuss challenges facing surgery, including the future of the surgical profession under the Medicare Access and CHIP (Children’s Health Insurance Program) Reauthorization Act of 2015 (MACRA). Lawmakers have told ACS Washington, DC, staff that surgeon activism, including participation in the summit, is key to the effectiveness and success of the College’s health policy and advocacy efforts over the last few years, including repeal of the sustainable growth rate (SGR) and taking a leadership role in providing guidance with certain provisions in MACRA.

The heavy hitters
During a summit session on the future of physician payment, Patrick Conway, MD, Deputy Administrator for Innovation and Quality and Chief Medical Director, Centers for Medicare & Medicaid Services (CMS), praised the ACS efforts to develop new payment proposals. He specifically pointed to the efforts of Frank G. Opelka, MD, FACS, Medical Director for Quality and Health Policy, ACS Division of Advocacy and Health Policy, to lead initiatives in developing new payment alternatives under MACRA.

The Advocacy Summit drew top officials from the Obama Administration in addition to lawmakers from both sides of the aisle, including Rep. Phil Roe, MD (R-TN), who noted that he flew back to Washington early to speak with ACS members. “You’re that important,” he said. Representative Roe, a retired obstetrician/gynecologist, said he came to Washington to address the frustrations modern physician practices face. He said physicians want to take care of their patients without interference from Washington.

Rep. Xavier Becerra (D-CA), also acknowledged the influence that surgeons have and noted the important task summit participants had before them. “I was in Congress when we passed the SGR [the repealed sustainable growth rate formula formerly used to calculate Medicare physician payments], and back then you doctors told us it would never work,” Representative Becerra said. “You were right.” He encouraged surgeons to seek out CMS officials as well as their members of Congress to be an active part of the process to develop the new physician payment program.

Summit attendees heard from government leaders and members of Congress as well as leading political commentators Chris Matthews, host of Hardball with Chris Matthews on MSNBC, and Larry J. Sabato, PhD, election analyst, founder and director of the University of Virginia Center for Politics. He is also professor of politics at the University of Virginia, Charlottesville. Mr. Matthews and Dr. Sabato noted the unusual races in both the Democratic and Republican parties for the White House, with no clear outcomes. Using a
basketball analogy, Mr. Matthews said the race for president is a “jump ball” that could land in Republican or Democratic hands. He said that the primary races demonstrate that “we have a polarized country that is becoming more polarized.”

The issues
Advocacy Summit participants were provided an issue briefing on ACS legislative priorities before they met with lawmakers and their staffs April 12 on Capitol Hill. Sara Morse, ACS Manager for Legislative and Political Affairs, led the briefing with a discussion of MACRA. She noted that Congress sought physician input in developing the new Medicare payment programs under MACRA. “Surgeons are key to driving lawmakers’ involvement,” Ms. Morse said. “We don’t want to relive the SGR nightmare and be standing in this room in 10 years calling for repeal of MACRA.”

In addition to urging congressional oversight, surgeons who participated in Capitol Hill visits asked lawmakers to encourage CMS to release reasonable and flexible guidance on qualified alternative payment models (APMs) established by MACRA as a way to participate in the Medicare program. APMs are intended to provide greater flexibility in patient care delivery with opportunities for increased incentive payments that also expose physicians to greater financial risk if care costs exceed what is expected. The ACS is calling on Congress to ensure that CMS provides pathways for surgeons to successfully participate in Medicare through APMs or the Merit-based Incentive Payment System, which will replace the similar fee-for-service program used today. Congressional involvement now is crucial as Medicare payments beginning in 2019 will be based on physician performance in 2017.

The Advocacy Summit occurred at a critical time in physician claims data collection and protection. Surgeons used Capitol Hill meetings with members of Congress and their staffs to urge lawmakers to stop CMS from disclosing raw Medicare physician claims data to third parties. The ACS supports maintaining transparency as an integral component of maintaining the highest quality of patient care, but contends that third-party groups could use questionable methodologies that fail to account for patient risk factors to conduct physician performance analysis, leading to publication of inaccurate individual physician performance ratings.

In their meetings on Capitol Hill, surgeons advanced the Ensuring Access to General Surgery Act of 2016, H.R. 4959, legislation introduced following the summit by Reps. Larry Bucshon, MD, FACS (R-IN), and Ami Bera, MD (D-CA), which would require a study be conducted to designate general surgery Health Professional Shortage Areas (HPSAs). This legislation would direct the Secretary of Health and Human Services to conduct the study, evaluate what constitutes a shortage area and where these areas exist. With growing concerns about the future shortage of surgeons, incentivizing general surgeons to locate or remain in HPSA communities could...
become critical in guaranteeing all Medicare beneficiaries have access to quality care, regardless of where they live.

Lawmakers were also asked to cosponsor H.R. 487, a resolution introduced by Reps. Lynn Jenkins (R-KS) and Richard Neal (D-MA) that recognizes the importance of voluntary accreditation by the ACS Commission on Cancer (CoC) in ensuring that patients have access to high-quality cancer care. Voluntary accreditation demonstrates a cancer program’s commitment to providing high-quality, comprehensive care to patients and their families, allowing programs to continually evaluate performance and make improvements where possible.

Surgeons also asked their representatives and senators to cosponsor H.R. 1220/S. 624, the Removing Barriers to Colorectal Cancer Screening Act introduced by Rep. Charles Dent (R-PA) in the House, and Sen. Sherrod Brown (D-OH) in the Senate. Colorectal cancer is the nation’s second leading cause of death from cancer. Under current law, Medicare waives copayments and deductibles for colonoscopies. However, when a polyp is discovered and removed, the procedure is reclassified as therapeutic and patients are required to make copayments. The legislation would waive coinsurance under Medicare Part B for colorectal cancer screening tests, regardless of whether a polyp is removed. By removing this financial barrier, Congress would help increase screening rates and reduce the incidence of colorectal cancer.

**How to make a difference today**

Members of the ACS can continue to help advance the College’s pro-patient, pro-surgeon advocacy agenda. Here’s how:

• Contact your members of Congress and respond to ACS calls to action through *SurgeonsVoice* at surgeonsvoice.org (log-in required).

• Become familiar with key state legislative issues affecting surgeons and surgical patients at facs.org/advocacy/state/trends.

• Mark your calendar to participate in the 2017 Leadership & Advocacy Summit in Washington, DC, May 6–9, as well as in your local ACS chapter’s state advocacy day.

• Build relationships with your lawmakers by attending their in-district meetings and/or town halls or by inviting them to visit your surgical practice; details for setting up an in-district meeting are at facs.org/advocacy/participate/surgeonsvoice/grassroots/guide.

• Learn about the ACSPA-SurgeonsPAC at surgeonspac.org.
President Barack Obama presented the National Medal of Technology and Innovation—the nation’s highest honor for technological achievement—on May 19 to Cato T. Laurencin, MD, PhD, FACS, Albert and Wilda Van Dusen Distinguished Endowed Chair Professor of Orthopaedic Surgery, UConn School of Medicine, Farmington. Dr. Laurencin also is professor of chemical and biomolecular engineering, professor of materials science and engineering, and professor of biomedical engineering, UConn; and chief executive officer, Connecticut Institute for Clinical and Translational Science, UConn Health.

President Obama paid tribute to Dr. Laurencin “for seminal work in the engineering of musculoskeletal tissues, especially for revolutionary achievements in the design of bone matrices and ligament regeneration, and for extraordinary work in promoting diversity and excellence in science.” This award represents the third time Dr. Laurencin has received White House honors. He received the Presidential Faculty Fellow Award in 1995 from President Bill Clinton for his work bridging engineering and medicine and the Presidential Award for Excellence in Science, Math and Engineering Mentoring in 2009 from President Obama.

Awarded annually, the National Medal of Technology and Innovation Evaluation Committee, an independent committee appointed by the Secretary of Commerce, reviews and evaluates the merits of all candidates nominated through an open, competitive solicitation process. The committee recommends medal candidates to the Secretary who, in turn, makes recommendations to the President. The final selection is based on contributions to chemistry, engineering, computing, mathematics, and the biological, behavioral/social, and physical sciences.

Read more about Dr. Laurencin and the National Medal of Technology and Innovation online at http://today.uconn.edu/school-stories/white-house-honors-dr-cato-laurencin-national-medal-technology-innovation/. ♦
President Barack Obama and L. D. Britt, MD, MPH, DSc(Hon), FACS, FCCM, FRCS(Eng)(Hon), FRCS(Ed)(Hon), FWACS(Hon), FRCS(Hon), FCS(SA)(Hon), FRCS(Glasg)(Hon), Past-President of the American College of Surgeons (ACS), were awarded honorary Doctor of Science degrees at Howard University’s 2016 graduation ceremony May 7 in Washington, DC. President Obama also delivered the commencement address to approximately 2,300 graduates and more than 25,000 family members.

Dr. Britt is a widely respected general and critical care surgeon and philanthropist. He is the Henry Ford Professor and Edward J. Brickhouse Chairman, department of surgery, Eastern Virginia Medical School (EVMS), Norfolk, and is the first African American in the U.S. to have an endowed chair in surgery. Recognized as an outstanding educator and role model, Dr. Britt has been the recipient of many national and institutional awards for his excellence in teaching, including the EVMS Dean’s Outstanding Faculty Achievement Award and the American Association of Medical Colleges’ Robert J. Glasser Distinguished Teaching Award.

A Fellow of the ACS since 1989, Dr. Britt is Past-Chair of the ACS Board of Regents (2008–2009). He has served on a number of key College committees and at present chairs the ACS Committee on Health Care Disparities.

In his keynote speech, President Obama credited two Howard University legal icons, Thurgood Marshall and Charles Hamilton Houston, for their leadership in overturning Jim Crow segregation laws. “The seeds of change for all America were sown here,” President Obama said.

President Obama, Former U.S. Ambassador to Botswana Horace Greeley Dawson, Jr., and Emmy Award-winning actress Cicely Tyson also received honorary degrees. Howard University President Wayne A. I. Frederick, MD, FACS, led the ceremony. View a press release on the commencement ceremony at www2.howard.edu/events/commencement/commencement-2016-recap. ♦
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Dr. Eberlein named honorary SBAS fellow and elected chair of NCCN

Timothy J. Eberlein, MD, FACS, the Bixby Professor of Surgery and head of the department of surgery at Washington University School of Medicine (WUSM), St. Louis, MO, and Editor-in-Chief, Journal of the American College of Surgeons, was named an honorary fellow of the Society of Black Academic Surgeons (SBAS) at a luncheon during the society’s recent annual meeting in Chicago, IL. The society strives to advance academic excellence among its more than 200 members by providing a forum of scholarship in collaboration with leading academic departments of surgery in the U.S. Dr. Eberlein, a breast surgeon, also is director of Siteman Cancer Center at Barnes-Jewish Hospital and WUSM. Learn more about the SBAS annual meeting at www.sbas.net/.

In addition, Dr. Eberlein recently was elected chairman of the National Comprehensive Cancer Network (NCCN) board of directors. The NCCN is a not-for-profit alliance of 27 leading U.S. cancer centers devoted to patient care, research, and education. Dr. Eberlein previously served as vice-chair of the NCCN board and succeeds Samuel M. Silver, MD, PhD, University of Michigan Comprehensive Cancer Center. View an NCCN press release announcing his election at www.nccn.org/about/news/newsinfo.aspx?NewsID=671.

ACGME announces FIRST Trial continuation

On May 17, the Accreditation Council for Graduate Medical Education (ACGME) announced that it “has issued a multicenter research trial waiver, along with funding, to the Flexibility in Duty Hour Requirements for Surgical Trainees (FIRST) Trial for the 2016−2017 academic year, based on the recommendation of the ACGME Review Committee for Surgery.” The ACGME Task Force reviewing Common Program Requirements for residency training in the U.S. determined that in order to comprehensively evaluate the clinical education and experience environment, “it is premature to issue any proposed modifications to requirements for the upcoming academic year.”

Working together in the best interests of surgical patient safety, the American College of Surgeons and American Board of Surgery will continue to collect high-quality data during this one-year expansion of the FIRST Trial. In this time, new programs that meet the requirements as of July 1, 2016, will be allowed to enroll in the trial, and those programs already enrolled will be able to add ongoing data to support future reviews of residency program standards. The one-year expansion will conclude in June 2017.

FIRST Trial results were released online February 2 in the New England Journal of Medicine and presented concurrently at the 2016 Academic Surgical Congress in Jacksonville, FL, by the trial’s principal investigator, Karl Y. Bilimoria, MD, MS, FACS, American College of Surgeons Faculty Scholar. The findings indicated that surgical residents can work more flexible hours than currently allowed by the ACGME without compromising surgical patient safety.

In addition to the patient safety findings, FIRST Trial results indicated that flexibility allowed for greater continuity of patient care, fewer handoffs to other care providers, and increased resident satisfaction. Read the announcement on the ACGME website at www.acgme.org/Portals/0/PDFs/Nasca-Community/NascaLettertotheCommunity-5-17-16.pdf.
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Two Fellows of the American College of Surgeons (ACS) were honored at the 52nd annual meeting of the Society of Thoracic Surgeons (STS) earlier this year. Joseph E. Bavaria, MD, FACS, the Brooks Roberts-William Maul Measey Professor in Surgery and director of the thoracic aortic surgery program at the University of Pennsylvania School of Medicine, Philadelphia, was elected president of the STS at the society’s annual meeting in Phoenix, AZ. Dr. Bavaria, an internationally known cardiothoracic surgeon who will serve as STS president 2016–2017, will focus on expanding the STS national database to include more cardiothoracic surgery procedures. He also hopes to inspire more global educational activities for the society.

In addition, the STS presented the Earl Bakken Scientific Achievement Award to Frederick L. Grover, MD, FACS, professor of cardiothoracic surgery, department of surgery, University of Colorado School of Medicine, Anschutz Medical Campus, Aurora. The Bakken Award honors individuals who have made outstanding scientific contributions that have enhanced the practice of cardiothoracic surgery and patients’ quality of life. Earl Bakken founded Medtronic, where he developed the first external, battery-operated, wearable artificial pacemaker in 1957.

Sheldon M. Feldman, MD, FACS, was elected president of the American Society of Breast Surgeons (ASBrS) at its annual meeting in April in Dallas, TX. Dr. Feldman is chief of breast surgery, New York-Presbyterian/Columbia University Medical Center, and Vivian L. Milstein Associate Professor of Surgery, Columbia University Medical Center, NY. ASBrS, the leadership organization for general surgeons who treat patients with breast disease, has more...
than 3,000 members in the U.S. and in 35 countries worldwide. ASBrS advocates on behalf of surgeons who seek excellence in the care of breast patients and provides a forum for the exchange of ideas through education, research, and the development of advanced surgical techniques. Dr. Feldman is a leader in the innovation and use of new surgical techniques and diagnostic tools and is the principal investigator for both single-site and multicenter research protocols that aim to advance the prevention, diagnosis, and treatment of breast cancer.

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G. E. Ghali, DDS, MD, FACS, FRCSEd, Jack W. Gamble Professor and Chairman, department of oral and maxillofacial surgery, recently was appointed interim chancellor and dean at the Louisiana State University (LSU) Health Sciences Center, Shreveport. As chancellor and dean, Dr. Ghali will serve as chief executive officer of the LSU Health Sciences Center, which includes the School of Medicine, School of Allied Health, and School of Graduate Studies.

Satish Nadig, MD, PhD, FACS, a researcher, transplant surgeon, and co-director of the Transplant Immunobiology Laboratory at the Medical University of South Carolina, Charleston, in March received a grant from the National Institutes of Health that will allow him to pursue innovative approaches to minimizing the harmful effects of immunosuppressant therapy using nanotechnology. The Mentored Clinical Scientist Research Career Development Award, also known as a K08, provides more than $580,000 in funding for Dr. Nadig’s work over a three-year period. The grant is intended to cover expenses for young researchers, giving them the freedom to study and work with the help of mentors and ultimately become independent investigators.

E. Anthony Rankin, MD, FACS, received the 2016 Diversity Award from the American Academy of Orthopaedic Surgeons (AAOS) at the organization’s annual meeting in March in Orlando, FL. The award recognizes individuals who have contributed to making orthopaedics more accessible to diverse populations.

For more than 40 years, Dr. Rankin has educated and inspired generations of minority and female orthopaedists and provided high-quality, culturally competent care to patients worldwide. In 2008, Dr. Rankin became the first African-American president of the AAOS. Dr. Rankin, who specializes in adult reconstructive and hand surgery, is chief of orthopaedic surgery, Providence Hospital; clinical associate professor in community and family medicine, Georgetown University School of Medicine; and clinical professor of orthopaedic surgery, Howard University College of Medicine, Washington, DC. ♦
ACS seeks to fill eight vacancies on Commission on Cancer

The American College of Surgeons (ACS) is seeking eight Fellows to fill vacancies on the Commission on Cancer (CoC). The initial term of appointment is three years with eligibility for re-election to a second term. Members may hold office or serve as vice-chair of a committee or subcommittee during their second term. New members will be recommended by the Nominating Committee, selected in October by the Executive Committee, and then brought before the full CoC membership for approval at the CoC’s Annual Meeting. The ACS Board of Regents will confirm the final list of new members, and the CoC will announce the new members in late October.

Surgeons who meet the criteria and are interested in becoming a member of the CoC should contact cocapplication@facs.org to receive an application. The completed application, curriculum vitae, and any letters of recommendation must be received at the same address by Friday, August 19.

CoC member criteria appear at right. For more information, contact cocapplication@facs.org.

COC MEMBER CRITERIA

- May not be a former CoC member who represented the ACS
- Full ACS Fellowship status
- Staff appointment at a CoC-accredited cancer program and a participant in cancer program activities
- Serve as an effective State Chair or Cancer Liaison Physician
- Knowledge of the CoC’s goals and initiatives
- Represent a surgical specialty, geographic area, or diverse group not currently represented on the CoC
- Interest in contributing to and enhancing CoC programs and committee work
- Ability to serve on at least one CoC committee
- Attend and participate in at least two in-person meetings annually
- Attend and participate in committee conference calls

Visit facs.org/quality-programs to learn more.
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The 2016 American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP®) Conference will take place July 16–19 at the Hilton San Diego Bayfront, CA. With the theme of Innovate to Make a Difference, interactive workshops, informal meetings, and sessions built around personal perspectives will explore employing innovative approaches and ideas to improve patient safety and improve processes. The conference will include additional pediatric-specific content tailored to fit the needs of ACS NSQIP Pediatric program participants.

Julie A. Freischlag, MD, FACS, vice-chancellor for human health sciences and dean of the school of medicine at the University of California (UC), Davis, and Past-Chair, ACS Board of Regents, will be the keynote speaker. A prominent academic health leader and a national voice for improving health and health care, Dr. Freischlag oversees UC Davis Health System’s academic, research, and clinical programs, including the school of medicine, the Betty Irene Moore School of Nursing, the 1,000-member physician practice group, and UC Davis Medical Center, a 619-bed acute-care hospital.

Dr. Freischlag’s presentation, Career Satisfaction by Way of Resilience, will highlight how health care professionals can find career happiness through flexibility, resiliency, and avoiding burnout.

View the agenda on the conference brochure at facs.org/quality-programs/acs-nsqip/events/annual-conference/agenda. Conference space is limited.

For details regarding registration, contact Registration Services at 312-202-5244 or registration@facs.org. For questions about the conference, contact ACS NSQIP staff at 312-202-5261 or nsqipconference@facs.org.
Calendar of events

*Dates and locations subject to change. For more information on College events, visit www.facs.org/events or http://web2.facs.org/ChapterMeetings.cfm.

JULY

Nigeria Chapter
July 8
Nnewi, Anambra
Contact: Stanley N. C. Anyanwu, sncanyanwu@yahoo.com

South Carolina Chapter &
North Carolina Chapter
July 15–17
Myrtle Beach, SC
Contact: Debbie Shealy,
debbie@scmanet.org,
www.scfacs.org and www.ncfacs.org

2016 ACS NSQIP
Annual Conference
July 16–19
San Diego, CA
Contact: ACS NSQIP staff,
sqsipconference@facs.org,
www.acsnsqipconference.org

Tennessee Chapter
July 22–24
Memphis, TN
Contact: Wanda McKnight,
wanda@tnacs.org,
www.tnacs.org

AUGUST

Georgia Society of the
ACS, Day of Trauma
and Annual Meeting
August 19–21
Savannah, GA
Contact: Kathryn Browning,
gasacs@gmail.com,
www.georgiaacs.org

Alaska Chapter
August 25–26
Anchorage, AK
Contact: Danny Robinette,
drrobinette@gmail.com

SEPTEMBER

New Mexico Chapter
September 17–18
Albuquerque, NM
Contact: Melissa Davis,
mdavis@nmms.org

Kansas Chapter
September 24
Wichita, KS
Contact: Denise Lantz,
dlantz@kmsonline.org,
www.kansachapteracs.org

OCTOBER

Italy Chapter
October 21–24
Rome, Italy
Contact: Giuseppe Nigri,
giuseppe.nigri@uniroma1.it,
www.facsitaly.org

Connecticut Chapter
October 28
Farmington, CT
Contact: Christopher Tasik,
info@ctacs.org,
www.ctacs.org

NOVEMBER

South Korea Chapter
November 3–5
Seoul, Korea
Contact: Sun-Whe Kim,
sunkim@plaza.snu.ac.kr

Wisconsin Surgical Society
November 4–5
Kohler, WS
Contact: Terry Estness,
wisurgical@att.net,
www.wisurgicalsociety.com

Argentina Chapter
November 14–17
Buenos Aires, Argentina
Contact: Raul Ferreres,
albertoferrer@gmail.com,
www.facs.org.ar

FUTURE CLINICAL
CONGRESSES

2016
October 16–20
Washington, DC

2017
October 22–26
San Diego, CA

2018
October 21–25
Boston, MA