Neurosurgery in the state of Oklahoma began in 1931, when Dr. Harry Wilkins arrived at the University of Oklahoma (OU) after completion of his training. The Division of Neurosurgery at OU was founded in 1946, as was the residency program. The Department of Neurosurgery was established in 1993 and continues to be the state’s only academic neurosurgery program. We describe the history of neurosurgery at OU and the rise of the department, whose mission remains the delivery of state-of-the-art neurosurgical care to the citizens of Oklahoma and the region, training of the next generation of Oklahoma’s neurosurgeons, and investigation of neurological disease.

The Frontier, the Land Run, and the College of Medicine

Oklahoma’s past and present are inextricably tied to the land and its resources. Oklahoma City was born from the Land Run of 1889, which was memorialized in the well-known OU fight song, “Boomer Sooner.” According to lore, “Boomers” are alleged to have properly waited for the “boom” of the cannon marking the beginning of the official Land Run to claim land, while “Sooners” were settlers or “land thieves” who illegally settled territory before the Land Run began.

OU was founded the following year in Norman (15 miles south of Oklahoma City).1,2 In 1906, the College of Medicine, which was founded in 1900, was accepted into the Association of American Medical Colleges. In 1910, Abraham Flexner wrote in his seminal work that “if [the new commonwealth of Oklahoma] wishes a high-grade supply only, it must speedily define a standard…. Perhaps it will have at once to occupy Oklahoma City with a clinical department so as to obtain control of the field.”1,2 The college was soon moved fully to Oklahoma City, fulfilling Flexner’s prophecy.1 Even in its infancy, the OU College of Medicine graduated students who would go on to have distinguished neurological careers across the country, including, among others, Ross Miller, who would later lead the Department of Neurosurgery at Mayo Clinic, and Wallace Hamby, who would lead the Department of Neurosurgery at Cleveland Clinic.
The University Hospital was built in 1919 in Oklahoma City, and the free-standing Children's Hospital opened in 1928 (Fig. 1).

Department of Surgery (1931–1946)

The early years of neurosurgery at OU and in the state were defined by Harry Wilkins and Jess Herrmann (Table 1). In every respect, Wilkins is the father of neurosurgery at OU (Fig. 2). He received his degrees from OU, then interned in Kansas City, Missouri, where he was influenced by Dr. Frank Teachener. Wilkins completed a neurosurgery fellowship at Washington University in St. Louis, Missouri, under the renowned Dr. Ernest Sachs, who had the distinction of being the first professor of neurosurgery in the United States.

Sachs hoped that Wilkins would remain in St. Louis as his partner. Instead, Wilkins chose his own settler's trail, moved to Oklahoma to be the state's first neurosurgeon in 1931, accepted an appointment in the Department of Surgery at OU, and served as an attending physician at several local hospitals. At the time, there were 35 neurosurgeons in the country. Amazingly, he was the only certified neurosurgeon west of Kansas City, outside California.

Sachs wrote to Wilkins, stating that he must have posted scouts at the border because he had not seen a single patient from the state of Oklahoma since Wilkins started at OU. However, the early days of his neurosurgical practice were trying. His wife commonly used a $10 gold piece, which they had received as a wedding gift from Dr. Sachs' anesthesiologist, as collateral for groceries.

By all accounts, Wilkins embodied the “3 A’s”—affability, ability, and availability. He went to extraordinary lengths to treat those in need of neurosurgical care. In a communication to Sachs in 1933, Wilkins recalled how, on his way to treat a patient in Texas who had a head injury, the open-cockpit plane he was flying in for the first time in the middle of winter had caught fire during takeoff. He traveled throughout the region with his own instruments and portable cautery to operate on patients who were too ill to travel to Oklahoma City. At times, he was paid in chickens for his services. Years later, visiting neurosurgeons from throughout the country—all accustomed to well-equipped hospitals and contemporary instruments—were stunned by the simple operative tools that the pioneering Dr. Wilkins needed for craniotomy.

Through his tireless dedication, Wilkins developed a reputation as an early neurosurgical pioneer, and he was one of an emerging cadre of neurosurgeons to have been reared away from the East Coast lineage. He developed a transdural subtemporal approach for posterior rhizotomy for the treatment of trigeminal neuralgia, which decreased the incidence of facial paralysis compared with that of the extradural approach favored at the time. His series of 13 consecutive operations for cerebral abscess without a death rivaled the results of the legendary Scottish neurosurgeon, Dr. William MacEwen. In 1933, Wilkins was invited to become a member of the Harvey Cushing Society, the forerunner of the American Association of Neurological Surgeons (AANS). He served as the organization’s vice president from 1950 to 1951 and as president from 1954 to 1955, as well as president of the Society of Neurological Surgeons (SNS) from 1962 to 1963.

In 1932, one of Wilkins’ first pupils was Dr. Jess D. Herrmann, a first-year medical resident at nearby St. Anthony’s Hospital. His interest in the neurological sciences led him to treat a number of patients with Wilkins. This association led to a formal preceptorship and eventual partnership, where the two surgeons would become synonymous. Six months of this apprentice period were spent with the renowned University of Chicago neurosurgeon and neuropathologist, Dr. Percival Bailey.

Wilkins and Herrmann established a partnership in

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**FIG. 1.** The evolution of the OUHSC campus. A: University Hospital, circa 1919. B: Crippled Children's Hospital, circa 1928; now called Oklahoma Children's Hospital at OU Health. C: OU Medical Center’s new, recently completed patient tower and entrance. D: Oklahoma Children’s Hospital at OU Health. E: OUHSC campus. All images copyright OU Medicine. Published with permission. Figure is available in color online only.

**TABLE 1. Chiefs/Chairs of the OU Division/Department of Neurosurgery**

<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harry Wilkins</td>
<td>1946–1958</td>
</tr>
<tr>
<td>Jess D. Herrmann</td>
<td>1958–1966</td>
</tr>
<tr>
<td>Michael Pollay</td>
<td>1976–1993</td>
</tr>
<tr>
<td>Louis P. Carter</td>
<td>1993–1996</td>
</tr>
<tr>
<td>Christopher M. Loftus</td>
<td>1997–2004</td>
</tr>
<tr>
<td>Timothy B. Mapstone</td>
<td>2005–2018</td>
</tr>
<tr>
<td>Ian F. Dunn</td>
<td>2018 to present</td>
</tr>
</tbody>
</table>

1936 that served as the foundation for neurosurgery in Oklahoma. Despite being younger, Herrmann actually became Oklahoma's first board-certified neurosurgeon, having taken and passed the first certification examination of the American Board of Neurological Surgery (ABNS) in 1940. Wilkins had mistakenly thought he would be certified without examination, given his experience and title of professor of surgery (neurosurgery) at the college of medicine, but he finally took the examination and became certified in 1942.

The pair carried on a grueling workload for many years, as their referrals grew throughout Oklahoma and the surrounding states. Because many of their patients were too ill to travel to Oklahoma City, Wilkins and Herrmann, often accompanied by a nurse or resident, would travel to remote areas to treat their patients (T. Siler, personal communication, October 2019). Alvin Rix, a pupil and eventual partner of Wilkins and Herrmann, recalled, “About one-third of our work was charity because few people had insurance. And our charges were less than most places. I remember Jess [Herrmann] saying it was wrong to work an undue hardship on patients.” Furthermore, they would personally supplement the salaries of their neurosurgical residents.

With the entry of the United States into World War II in December 1941, either Wilkins or Herrmann would be called to service. Wilkins later recalled that he and Herrmann had flipped a coin to decide which of them would be activated because only one could serve. When asked who won the toss, he replied, “we both did” (S. Pelofsky, personal communication, January 2020). Herrmann joined the OU Evacuation Hospital Unit, which was activated in the summer of 1942, beginning a tradition of military service among OU neurosurgeons.
in the Pacific theater—including Guadalcanal—and received a Bronze Star for heroically operating on an Allied soldier who had been shot in the head, despite having undergone an appendectomy himself a few days prior. He is said to have worn the same rubber boots from the field hospital for the rest of his neurosurgical career. He served as vice president and president of the exclusive American Academy of Neurological Surgery in 1956 and 1958, respectively.

Division of Neurosurgery (1946–1993)

Herrmann’s return from World War II in 1946 marked a pivotal point in OU’s neurosurgical history. The Division of Neurosurgery was established, and Wilkins was named division chief, in addition to serving as vice chair of the Department of Surgery. That same year, the ABNS commissioned Wilkins and Herrmann with the task of establishing a residency program at OU, and Achilles Courtney “A.C.” Lisle, Jr., became the first official resident in 1946. Wilkins and Herrmann quickly established reputations as supratable educators with an exceptional training program. “We could all be so fortunate to be as fondly regarded by our trainees,” wrote Lisle, and that both Jess [Herrmann] and Harry [Wilkins] were excellent teachers in their own ways; Harry was a perfectionist and neurosurgery was his life, yet he didn’t have a mean bone in his body. Jess’s criticism always was constructive, and he was a superb model for the art of effective communication. They were about equal in their surgical expertise and were referred to as though they were one, Herrmann-Wilkins or Wilkins-Herrmann. I grew to love each man very much.

The neurosurgery training program was enhanced by neurosurgeons from the Oklahoma City community who had an affiliation with the OU College of Medicine and University Hospital, as well as with several private hospitals throughout the city. The program has played a great role in training neurosurgeons in Oklahoma and throughout the United States. In the mid-1950s, Dr. Leonard Furlow, the secretary of the ABNS, stated that for a period of time there were more certified neurosurgeons who had graduated from the OU College of Medicine or its neurosurgical training program than any other medical school in the United States.

Wilkins and Herrmann, together with their trainees, performed a number of neurosurgical procedures for the first time in the state of Oklahoma, including myelography, lumbar discectomy, thoracolumbar sympathectomy for hypertension, and arteriography for aneurysm, to name a few. Together, the two partners operated on well over 1000 patients with brain tumor. In 1952, Wilkins received high praise when the revered Dr. William P. Van Wagenen, a charter member and inaugural president of the Harvey Cushing Society, toured various neurological facilities throughout the United States. During his time in Oklahoma, he watched Wilkins remove a meningioma near the transverse sinus. He would later write to Sachs, “Of all the surgery I have seen on this trip, the best was done by your former pupil Harry Wilkins” (Fig. 4).

In 1958, Wilkins stepped down as chief of the Division of Neurosurgery but continued to operate on patients and train residents. Herrmann succeeded Wilkins as chief of the Division of Neurosurgery and head of the training program. On December 31, 1966, both men fittingly retired together from surgery after practicing together for nearly 40 years. Herrmann retired to a quieter life in Arkansas. Wilkins, the consummate physician, remained in
Oklahoma City where he continued to practice neurology at the Oklahoma Veterans Administration Hospital and even taught students in the family medicine clinic until his formal retirement from medicine in 1974 (S. Pelofsky, personal communication, January 2020).

After Herrmann’s retirement, Dr. Robert Fisher joined the Division of Neurosurgery as its first full-time professor and chief in 1967. Like Herrmann, he had served in the Army, where he toured in the 392nd Medical Neurosurgical Detachment in Saipan. He completed his residency at the Mayo Foundation and Johns Hopkins Hospital in 1951 and served as chief of Neurosurgery at Dartmouth Medical School. An exemplary teacher and academic, Fisher received multiple teaching awards at OU and was an integral part of the development of the clinical and research elements of the program. He served as division chief until 1974, when he joined Rutgers New Jersey Medical School to serve as chief of neurosurgery until his retirement in 1987.

In 1976, Dr. Michael Pollay became the next full-time professor and chief of the Division of Neurosurgery and Residency Program Director, as well as Professor of Anatomy in the College of Medicine. Pollay trained in neurological surgery at the University of Colorado and completed a 1-year fellowship in London with renowned physiologist Dr. Hugh Davson in CSF dynamics, which would remain a primary research interest for the rest of his career and for which he was internationally known. Prior to joining OU, Pollay spent 12 years at the University of New Mexico, where he established the Division of Neurosurgery and was a founding member of the University of New Mexico School of Medicine. Like many OU neurosurgeons before him, Pollay had also served in the military, in the Air Force’s 13th Air Task Force in Taipei, Taiwan.

During his time as Chief of Neurosurgery at OU, Pollay was instrumental to strengthening every aspect of the enterprise, which benefitted from his participation on the editorial board of the Journal of Neurosurgery from 1985 to 1993, as well as his role as a reviewer at the National Institutes of Health. He was viewed as a brilliant leader and teacher who was beloved by his students and residents. His devotion to OU was evident by the fact that he was the only full-time attending physician on staff for many years. One of his mentees, Dr. Donnie Horton, who later served as program director under Pollay, described him as “a great person and wonderful chairman who was more interested in developing the talents of residents he was training than in his own reputation. He engendered respect and made you want to work hard.” He was also known for his keen sense of humor and cutting wit.

Pollay was integral to providing stability to the program and increasing its involvement in modern neurosurgery research, especially in the basic sciences. In 1991, Pollay was a recipient of the prestigious Robert H. Pudenz Award for Excellence in Cerebrospinal Physiology for his work evaluating CSF dynamics.17 After his retirement from surgery in 1993, Pollay remained at OU as the Associate Dean of Clinical Practice. He remains the longest tenured head of neurosurgery (chief or chair) in the history of OU.

Department of Neurosurgery (1993–2004)

In 1993, the Division of Neurosurgery gained departmental status and welcomed Dr. Louis Philip Carter as its first chairman and residency program director. Carter completed his neurosurgical training at the Barrow Neurological Institute (BNI). Prior to joining OU, Carter had served as chief of Cerebrovascular Surgery at BNI, where he worked with Dr. Robert Spetzler, and as chief of the Division of Neurosurgery at the University of Arizona. He had also served in the US Air Force, serving as captain and general medical officer at Otis Air Force Base in Massachusetts.

During his tenure at OU, Carter fortified clinical and research programs and continued his own work on thermal diffusion flowmetry. He was instrumental in procuring new offices for the new department, obtained OU’s first Gamma Knife equipment, and hosted a wonderful 50th anniversary celebration for the residency program. Additionally, he played a vital role for the hospital and community by supervising triage for the victims of the Oklahoma City bombing. In 1996, he returned to Arizona, where he eventually retired.

Dr. Christopher M. Loftus succeeded Carter in 1997. Loftus completed his neurosurgery residency at the Neurological Institute of New York in 1985. At the age of 44 years, he left the University of Iowa and joined OU as chair of the Department of Neurosurgery.

Loftus developed an international reputation for expertise in the management of neurovascular disorders, with a specific emphasis on carotid endarterectomy. The first edition of his acclaimed textbook, Carotid Endarterectomy, was published while he was chair. During his time at OU, Loftus cemented an incredibly strong clinical foundation for the department, fortified its academic base, instituted the Harry Wilkins, MD, Chair of Neurosurgery held by subsequent department heads, and helped establish the state’s only level I neurosurgery trauma program. During his tenure, the OU Stephenson Cancer Center was established as the state’s only academic cancer center. In 2004, Loftus departed OU to assume the position of chair of the Department of Neurosurgery at Temple University. Having held multiple national and international leadership positions, Loftus would later hold leadership positions in the World Federation of Neurosurgical Societies and the US Food and Drug Administration.

Recent History

In 2005, Dr. Timothy B. Mapstone joined the Department of Neurosurgery as the third department chair and the second to hold the Harry Wilkins, MD, Chair of Neurosurgery. Arriving from Emory University, Mapstone had trained at University Hospitals Cleveland and Case Western Reserve University under Dr. Robert Ratcheson. He had a special interest in pediatric neurosurgery and a keen interest in education. He was central to the development of the educational milestones of the Accreditation Council for Graduate Medical Education, as well as the SNS Matrix Curriculum for residents. He served as vice president of the AANS and as president of the American Society of Pediatric Neurosurgeons.
Mapstone was instrumental to growing all aspects of the department and residency program. He oversaw the expansion of both pediatric and adult neurosurgery services, with specific growth in neurooncology and cerebrovascular programs. One of his signature achievements was mentoring residents, several of whom went on to prestigious fellowships and some returned to OU as productive faculty members.

During this time, there was also tremendous growth of the OU Health Sciences Center (OUHSC) campus, with additions to Oklahoma Children’s Hospital and the initiation of the OU Medical Center’s new patient tower, which was Oklahoma’s largest hospital expansion project. The new tower was completed in 2020 and added 450,000 square feet of additional space, 144 more beds, and 32 new operating rooms to OU Medical Center (Fig. 1). The Stephenson Cancer Center moved into a new facility on the OUHSC campus, which uniquely houses a wide array of radiotherapy delivery options such as a Gamma Knife Perfexion system (Elekta AB), a linear accelerator, and the recently opened Proton Therapy Center. In 2018, the Stephenson Cancer Center became Oklahoma’s only cancer center designated by the National Cancer Institute, and it is currently ranked number 1 nationally in the number of patients who participate in late-phase treatment trials with the National Clinical Trials Network. The Department of Neurosurgery has benefitted both clinically and academically from these campus improvements.

After Dr. Mapstone’s retirement, Dr. Ian F. Dunn joined OU in 2018, at the age of 42, as the fourth professor and chair of the department and the third to hold the Harry Wilkins, MD, Chair of Neurosurgery. Dunn completed his neurosurgical residency at Brigham and Women’s Hospital in 2009, where he trained under the leadership of Dr. Peter Black and Dr. Arthur Day and learned pituitary surgery under Dr. Edward Laws. He then completed a skull base...
fellowship under Dr. Ossama Al-Mefty and would later serve as a faculty member at the Brigham and Women's Hospital under Dr. John Popp and Dr. Nino Chiocca, rising from instructor to associate professor.

The department has since grown to 10 surgeons with primary appointments at OU, one adjunct faculty member who serves the Veterans Administration, two neurooncologists with primary appointments in neurosurgery, and three research faculty members (Fig. 5). All primary faculty members are fellowship trained (Table 2), and the entire spectrum of neurosurgical care is represented.

The academic focus of the department also continues to sharpen. Currently, laboratory research topics include malignant tumor biology, cranial base tumor, DNA repair machinery, biomarkers for spinal cord injury, and translational therapeutic applications for patients with spinal cord injury. Numerous collaborations exist between the department and investigators at OU, OU College of Medicine, Stephenson Cancer Center, and Oklahoma Medical Research Foundation, among others.

A Core Mission: Neurosurgical Training in Oklahoma

OU is approaching its 75th anniversary as the sole neurosurgical training program in the state. OU has trained more than 80 residents (Table 3), including many of the state's practicing neurosurgeons.

Since its inception in 1946, neurosurgery at OU has grown a comprehensive residency program, leveraging the clinical and academic breadth afforded by OUHSC, which is one of only four comprehensive academic health

### TABLE 2. Current clinical faculty members of the Department of Neurosurgery at OUHSC

<table>
<thead>
<tr>
<th>Name &amp; Title</th>
<th>Employed Since</th>
<th>Residency Institution</th>
<th>Fellowship Institution (specialty)</th>
<th>Subspecialty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ian F. Dunn, MD, professor &amp; Harry Wilkins, MD, Chair of Neurosurgery</td>
<td>2018</td>
<td>Brigham and Women’s Hospital/Harvard Medical School</td>
<td>University of Arkansas for Medical Sciences/St. Vincent Infirmary Medical Center (skull base surgery); Dana-Farber Cancer Institute/Broad Institute (cancer genomics)</td>
<td>Skull base surgery &amp; tumor</td>
</tr>
<tr>
<td>James D. Battiste, MD, PhD, associate professor</td>
<td>2020</td>
<td>University of Texas Southwestern Medical School</td>
<td>University of Texas Southwestern Medical Center (neurooncology)</td>
<td>Neurooncology</td>
</tr>
<tr>
<td>Andrew M. Bauer, MD, assistant professor &amp; assistant residency program director</td>
<td>2019</td>
<td>University of Wisconsin School of Medicine and Public Health</td>
<td>Cleveland Clinic (endovascular surgical neuroradiology)</td>
<td>Vascular, endovascular, &amp; skull base surgery</td>
</tr>
<tr>
<td>Ahmed A. Cheema, MD, assistant professor</td>
<td>2018</td>
<td>OU College of Medicine</td>
<td>Semmes Murphey Clinic/University of Tennessee (endovascular &amp; cerebrovascular surgery)</td>
<td>Vascular &amp; endovascular surgery</td>
</tr>
<tr>
<td>Andrew K. P. Conner, MD, assistant professor</td>
<td>2019</td>
<td>OU College of Medicine</td>
<td>University of California, San Francisco (functional neurosurgery &amp; epilepsy surgery)</td>
<td>Functional neurosurgery &amp; epilepsy surgery</td>
</tr>
<tr>
<td>Joanna E. Gernsback, MD, assistant professor</td>
<td>2019</td>
<td>University of Miami Miller School of Medicine</td>
<td>Lurie Children's Hospital/Northwestern University (pediatric neurosurgery)</td>
<td>Pediatric neurosurgery</td>
</tr>
<tr>
<td>Chad A. Glenn, MD, assistant professor</td>
<td>2018</td>
<td>OU College of Medicine</td>
<td>Case Western Reserve University (skull base surgery)</td>
<td>Skull base surgery &amp; tumor</td>
</tr>
<tr>
<td>Naina L. Gross, MD, associate professor</td>
<td>2006</td>
<td>Baylor College of Medicine</td>
<td>University of Tennessee Health Sciences Center (pediatric neurosurgery)</td>
<td>Pediatric neurosurgery</td>
</tr>
<tr>
<td>Andrew H. Jea, MD, professor, vice chair &amp; chief of pediatric neurosurgery, Oklahoma Children's Hospital at OU Health</td>
<td>2020</td>
<td>University of Miami Miller School of Medicine</td>
<td>Hospital for Sick Children/University of Toronto (pediatric neurosurgery)</td>
<td>Pediatric neurosurgery</td>
</tr>
<tr>
<td>Donald D. Horton, MD, adjunct faculty &amp; clinical assistant professor, Oklahoma City VA Healthcare System</td>
<td>2019</td>
<td>OU College of Medicine</td>
<td></td>
<td>General neurosurgery</td>
</tr>
<tr>
<td>Michael D. Martin, MD, associate professor &amp; residency program director</td>
<td>2009</td>
<td>OU College of Medicine</td>
<td>Medical College of Wisconsin (advanced deformity spine surgery)</td>
<td>Spine surgery</td>
</tr>
<tr>
<td>Hakeem J. Shakir, MD, clinical assistant professor</td>
<td>2021</td>
<td>University at Buffalo</td>
<td>University at Buffalo (endovascular neurosurgery)</td>
<td>Vascular &amp; endovascular surgery</td>
</tr>
<tr>
<td>Zachary A. Smith, MD, associate professor</td>
<td>2020</td>
<td>David Geffen School of Medicine at UCLA</td>
<td>Northwestern Memorial Hospital (advanced deformity/minimally invasive spine surgery)</td>
<td>Spine surgery</td>
</tr>
<tr>
<td>Sarah Sung, MD, assistant professor</td>
<td>2020</td>
<td>Rush Medical College</td>
<td>University of California, Los Angeles (neurooncology)</td>
<td>Neurooncology</td>
</tr>
</tbody>
</table>
centers in the United States with seven professional colleges: medicine, allied health, dentistry, nursing, pharmacy, public health, and graduate studies. This affords the residents substantial academic opportunities within the basic science, biomedical, translational, and clinical research fields. Ultimately, the department strives to continue its strong tradition of service by training clinically excellent neurosurgeons with strong academic foundations, and this is the cornerstone of all department activities.

Conclusions

Neurosurgery has been practiced in Oklahoma for nearly 90 years. It has come a long way since the singular herculean efforts of Harry Wilkins, but many of our mandates remain the same. We continue our mission as the state’s academic neurosurgical beacon tasked with growing and refining the most comprehensive neurosurgical program in the region, serving every demographic of our population and those with the simplest to the most complex disorders, asking critical questions to improve the quality of the lives of our patients, and fortifying our commitment to neurosurgical education.

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10. Letter from Dr. Harry Wilkins to Dr. Earnest Sachs. March 2, 1933. Harry Wilkins Collection. Robert M. Bird Health Sciences Library, History of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK.


14. Letter from Dr. Mark R. Everett to Dr. Harry Wilkins. December 8, 1949. Harry Wilkins Collection. Robert M. Bird Health Sciences Library, History of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK.


Disclosures
The authors report no conflict of interest concerning the materials or methods used in this study or the findings specified in this paper.

Author Contributions
Conception and design: Dunn. Acquisition of data: Pelargos, Milton. Analysis and interpretation of data: Pelargos. Drafting the article: Pelargos, Milton, Martin, Pelofsky. Critically revising the article: all authors. Reviewed submitted version of manuscript: all authors. Approved the final version of the manuscript on behalf of all authors: Dunn. Study supervision: Dunn.

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