

Keith W. Millikan, MD

The Steven G. Economou, MD, Professor
of General Surgery

Advancement of Medicine

It has been my great honor and privilege to serve as the Steven G. Economou, MD, Professor of General Surgery and support three missions of research, education and positive clinical practice outcomes. In 2025, we published research results, presented at regional meetings and awaited outcomes of our national trial. I continued to support important education- and research-focused efforts while concurrently collecting data and expanding clinical efforts in several areas.

Research

In 2025, I supported Department of Surgery presentations at regional meetings and at the department's annual Research Day. We presented a video of sleeve gastrectomy leak revision to Roux-en-Y gastric bypass at the Southeastern Surgical Society Annual Meeting. Twelve posters, four oral abstract winners, and four resident research projects were presented on May 14, 2025, at the Hyatt Place Chicago Medical Ballroom during the third annual Department of Surgery Research Day. **Jose Velasco, MD**, whose research is also supported by your generosity, published two research articles, including one on a targeted simulation training in ICU shared decision-making in the *Journal of Hospital and Palliative Care*. This work boosts the confidence and competence of medical students. The second research article, which focused on improving the team response to surgical airway emergencies, was published in the *Journal of Surgical Education*. Dr. Velasco also published an educational article on popliteal artery injuries in the *Journal of Trauma and Acute Care Surgery*. I also support **Darrin Nin, PhD**, who works with surgical residents on large database projects. Finally, we await compilation of the results of our three-year national trial comparing clinical outcomes between laparoscopic, robotic and open hernia surgeries.





Clinical Trials

Data collection continues for ongoing work related to the innovative, complex abdominal wall reconstructive technique I learned in Madrid, Spain. In addition, collection of prospective data for the robotic surgery curriculum for resident trainees continues. A robotic surgery curriculum is being studied to evaluate competency in the operating room and help trainees obtain their Certificate of Competency, which is required for surgical privileges after graduation.

Education

In October 2025, we hosted an education day for the Department of Surgery featuring **Lee Jones, MD**, from Rush University. Dr. Jones presented a seminar on professionalism in today's environment, both inside and outside of the workplace. This seminar emphasized wellness and achievement of personal and professional goals. I continue to coordinate educational efforts for faculty, resident trainees and medical students as vice chair of education.

Grants

Since completing our U.S. Food and Drug Administration-funded Phase 1 clinical trial using cold plasma technology to treat cancer cells at the surgical margins of solid organs, we are awaiting FDA approval for a Phase 2 trial. We are also awaiting approval for a Phase 2 trial evaluating a new, long-lasting pain reliever given during surgery to reduce or possibly eliminate post-operative pain medication use in hernia surgery patients.

Honors

- Top Doctor, Surgery as recognized by peers and published in *Chicago Magazine*, January 2025.
- Executive Council Member, Chicago Surgical Society, 2025.
- American Board of Surgery Oral Board Examiner for General Surgery Certification, March and November 2025.



Publication and Presentation Highlights

- “Sleeve gastrectomy leak revision to Roux-en-Y,” video presentation Southeastern Surgical Society Annual Meeting
- “Targeted simulation training in ICU shared decision-making boosts confidence and competence in medical students,” *American Journal of Hospital Palliative Care*
- “Improving the team response to surgical airway emergencies: A simulation-based, multi-disciplinary approach to quality improvement,” *Journal of Surgical Education*
- “Popliteal artery injuries: What you need to know,” *Journal of Trauma Acute Care Surgery*

The Year Ahead: 2026 and Beyond

New and exciting research and educational opportunities are planned for 2026 and beyond at Rush, with generous support from the Steven G. Economou Endowment. I plan to continue the collection of research data on abdominal wall reconstruction. When the National Institutes of Health, or NIH, completes grant approval, I plan to start a collaborative clinical trial to investigate the effects of a long-lasting post-operative, non-narcotic pain medication after surgery. Once FDA approval is granted, we also aim to start the Phase 2 trial of cold plasma treatment for solid organ cancers. I will continue an American Board of Surgery simulation study evaluating fundamental surgical techniques of surgical residents. I will continue to support Dr. Velasco’s research in simulation education of surgical trainees. I will continue to support Dr. Nin and his collaboration with our research residents for large data collection studies.

Ongoing efforts to provide superb surgical education to residents and medical students help fulfill our educational mission and will continue in 2026. From an education perspective, I will continue developing and implementing robotic curriculum for hernia repair. Additionally, ongoing efforts will continue to integrate the new Entrusted Professional Activities requirements mandated by the American Board of Surgery into evaluation tools for trainees. I will continue to monitor education programs for faculty, residents and students through their respective division chiefs, residency program directors and student clerkship directors, as well as through my active participation on the leadership council, surgical advisory committee and clinical competency committee. We plan to host our third annual education day this year. We look forward to the completion and publication of the



fourth edition of our *Common Surgical Diseases* textbook. I appreciate the opportunity to mentor others embarking on a surgical career. I will continue to mentor junior surgical faculty, surgical residents and students with surgery as a career interest. I will support the work of our inclusivity programs to enhance the Department of Surgery.

I was instrumental in the establishment of the Alexander Doolas Society, which supports housing and expenses for the Department of Surgery's visiting medical students in need of financial assistance. Finally, I will continue to serve on the American Board of Surgery's Oral Examiner Committee to ensure the competence of newly graduated surgical trainees from around the world.

With Gratitude

Thank you for funding the Steven G. Economou, MD, Professorship of General Surgery. Your generosity has greatly bolstered our education and research efforts within the Department of Surgery. The fund allows me to direct the education of both residents and students, while also participating in research with faculty members, residents and students. Your generosity will enable us to remain steadfast in our commitments to research and excellence in education. Thank you for your support over the years.