



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. Through our efforts in 2024, we published research results, presented at regional meetings and awaited the outcomes of our national trial. I continued important education-focused missions while concurrently collecting data and expanding clinical efforts in several areas.

Research

I supported the Division of General Surgery and Rush Medical College students' presentations in 2024 at regional meetings. We presented a video of sleeve gastrectomy leak revision to Roux-en-Y gastric bypass at the Southeastern Surgical Congress Annual Meeting. We presented the case report, "Thoracic Aortic Aneurysm with Recurrent Hemoptysis Following Repair," at the Midwest Surgical Association's Annual Meeting. **Thea P. Price, MD**, whose research is enabled by your generosity, published an article in the *Annals of Surgery*. This article described the use of steroids for malignancies that caused bowel obstructions. **Jose Velasco, MD**, whose research is also supported by your generosity, published two research articles, including one on a novel approach to training residents in breast surgery using human donors in the *Journal of Surgical Research* and another on enhancing cholangiogram interpretation skills in the *Journal of Surgical Education*. I also contributed to an article published in *The Lancet* on a prognostic model for use before elective surgery to estimate the risk of pulmonary complications after surgery. Finally, we await the compilation of the three-year results of our national trial comparing clinical outcomes between laparoscopic, robotic and open hernia surgeries.



Clinical Trials

Data collection continues for ongoing work related to the innovative abdominal wall reconstructive technique I learned in Spain. In addition, I collected data for robotic hernia surgery curriculum for resident trainees. Robotic surgery curriculum is being studied to evaluate competency in the operating room for trainees obtaining their Certificate of Competency required for surgical privileges after graduating.

Education

In August 2024, I hosted an education day for the Department of Surgery featuring **Jacob Greenberg, MD**, from Duke University. Dr. Greenberg reviewed specifics of the newly outlined Entrusted Professional Activities, or EPAs, required by the American Board of Surgery. These EPAs will be incorporated into tools to evaluate general surgery resident performance. I continue coordinating 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 await FDA approval for a phase 2 trial using cold plasma technology. We are also awaiting approval for a phase 2 trial evaluating a new, long-lasting pain reliever given in 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, 2024-2025
- American Board of Surgery Oral Boards Examiner for General Surgery Certification, March and November 2024

Publication and Presentation Highlights

- “Use and Outcomes of Dexamethasone in the Management of Malignant Small Bowel Obstruction,” *Annals of Surgery*
- “Novel Approach to Residents Training in Breast Surgery Using Human Donors,” *Journal of Surgical Research*
- “Enhancing Intra-operative cholangiography Interpretations Skills,” *Journal of Surgical Education*
- “Thoracic Aortic Aneurysm with Recurrent Hemoptysis Following Repair,” case presentation at the Midwest Surgical Association Annual Meeting
- “Sleeve Gastrectomy Leak Revision to Roux-en-Y,” video presentation at the Southeastern Surgical Congress Annual Meeting
- “A Prognostic Model for Use Before Elective Surgery to Estimate the Risk of Postoperative Pulmonary Complications,” *The Lancet*

The Year Ahead: 2025 and Beyond

New and exciting opportunities for research and education are planned for 2025 and beyond at Rush with the generous support from the Steven G. Economou, MD, endowment. I plan to continue to collect research data on abdominal wall reconstruction. I will start a collaborative clinical trial studying the effects of a long-lasting post-operative, non-narcotic pain medication after surgery once National Institutes of Health approval for the grant is completed. We aim to start the phase 2 trial of cold plasma treatment effects on solid organ cancers once FDA approval is granted. 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.

Ongoing efforts to provide superb surgical education to residents and medical students help fulfill our educational mission. From an education perspective, I continue developing and implementing the robotic hernia repair curriculum. Additionally, ongoing efforts are being made to integrate the new Entrusted Professional Activities mandated by the American Board of Surgery into the evaluation tools for trainees. I will also continue to monitor the education programs relating to faculty, residents



and students through their respective division chiefs, residency program directors and student clerkship directors. We plan to host an education day on professionalism for the Department of Surgery this year.

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 diversity, equity and inclusion programs to enhance the future of the Department of Surgery. I was instrumental in establishing 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 Oral Examiner Committee to ensure the competence of newly graduated surgical trainees from around the country.

With Gratitude

Thank you for funding the Steven G. Economou, MD, Professorship of General Surgery. Your generosity has significantly 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. I appreciate your support over the years.