

PROMOTION RECOMMENDATION  
THE UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF SURGERY

Jonathan L. Eliason, M.D., associate professor of surgery, with tenure, Department of Surgery, Medical School, is recommended for promotion to professor of surgery, with tenure, Department of Surgery, Medical School

Academic Degrees:

M.D.	1996	University of Minnesota
B.S.	1992	Bethel College

Professional Record:

2012-present	Associate Professor of Surgery, University of Michigan
2007-2012	Assistant Professor of Surgery, University of Michigan
2004-2007	Clinical Assistant Professor, University of Texas Health Science Center

Summary of Evaluation:

Teaching: Dr. Eliason's teaching responsibilities have included medical student, house officer, and fellow education in a variety of settings, including but not limited to the scholarly functions that take place at the Medical School and Cardiovascular Center. Dr. Eliason mentors University of Michigan undergraduate students in the basic science laboratory through the UROP program. As a previous M3 rotation facilitator, he has formally mentored medical students during their clerkship, and has more recently included didactic lectures for M4 students during their vascular rotation. These lectures have featured an array of vascular disease types, but more recently, have focused on abdominal aortic aneurysms. As an attending surgeon, Dr. Eliason supervises and instructs residents and fellows on a continuous basis on surgery in the operating room, bedside rounds, and evaluation of consults. In collaboration with Dr. Lena Napolitano, Dr. Eliason developed and implemented a curriculum for teaching minimally invasive endovascular techniques for the management of vascular trauma. His educational responsibilities are not limited to the teaching functions that take place in the Medical School. He is also responsible for running the weekly CME conference for vascular ultrasound technologists. Through the American College of Surgeons, Dr. Eliason delivers workshops on vascular surgery techniques including many that have focused on the use of resuscitative endovascular balloon occlusion of the aorta (REBOA), a technique that he developed. He also delivers annual lectures to fellow practicing surgeons on abdominal aortic aneurysm disease. Dr. Eliason is highly regarded by all levels of learners he instructs, ranging from allied health staff, to trainees, and fellow faculty.

Research: Dr. Eliason is an accomplished physician scientist, with two key areas of interest. The first is the examination of the basic science mechanisms of abdominal aortic aneurysm (AAA) development and its accelerated growth. Specifically, Dr. Eliason's work focuses on the impact

cigarette smoke has on aneurysm development, with smoking being an established risk factor for the development of aneurysmal disease. He has expanded this work to include investigation of the impact of e-cigarette vapor on aortic and vascular cells, to remain abreast of the trends of teens replacing conventional cigarettes with e-cigarettes. His second major area of aortic research is translational in nature and involves device innovation and development. Specifically, through collaboration with the military and the use of patented technologies, Dr. Eliason has helped develop an aortic occlusion balloon designed as a life-saving intervention for the management of patients with hemorrhagic shock in the field without the need for x-ray. This work has been seminal in the management of battlefield vascular trauma and civilian trauma. His research has resulted in significant Department of Defense funding, as well as collaborations with other researchers at Michigan Medicine. The balloon catheter is FDA-approved for use in the United States, and has CE Mark approval for use in Europe. Dr. Eliason has over 100 publications in peer-reviewed journals, of which he is first author or senior author in over 20. He has written 30 book chapters, and has presented at numerous professional society meetings.

#### Recent and Significant Publications:

Eliason JL, Rasmussen TE, Stannard A: Resuscitative endovascular balloon occlusion of the aorta (REBOA) as an adjunct for hemorrhagic shock. *J Trauma* 71:1869-1872, 2011.

Ghosh A, Pechota LV, Upchurch GR Jr, Eliason JL: Cross-talk between macrophages, smooth muscle cells, and endothelial cells in response to cigarette smoke: the effects on MMP2 and 9. *Mol Cell Biochem* 410:75-84, 2015.

Eliason JL, Coleman DM, Criado E, Stanley JC: Surgical treatment of abdominal aortic aneurysms in infancy and early childhood. *J Vasc Surg* 64:1252-1261, 2016.

Eliason JL, Coleman DM, Criado E, Kershaw DB, Blatt NB, Williams DM, Dasika NL, Cho KJ, Stanley JC: Remedial operations for failed endovascular therapy of 32 renal artery stenosis in 24 children. *Pediatr Nephrol* 31:809-817, 2016.

Hage AN, Krause W, Mathues A, Krasner L, Kasten S, Eliason JL, Ghosh A: Comparing the effects of electronic cigarette vapor and cigarette smoke in a novel in vivo exposure system. *J Vis Exp* 123:e55672, 2017.

Service: Dr. Eliason has served our country in active duty in the Air Force, having spent time in the combat zone of the Middle East. He continues to serve on numerous national societal committees. Notably, he is the president-elect of the Vascular and Endovascular Surgical Society, a national forum for fellowship-trained vascular surgeons, and a member of the American Surgical Association, the nation's oldest and most prestigious surgical organization. Other noteworthy roles include: Membership Committee chair (Midwestern Vascular Surgical Society), former secretary (Vascular and Endovascular Surgery Society), Membership Committee (Society for Vascular Surgery), Grants and Scholarships Committee chair (Vascular and Endovascular Surgery Society), and Society Councilor (Frederick A. Collier Surgical Society). In addition to his participation in societies, within Michigan Medicine, Dr. Eliason serves as the MPLAN director for CVC5, and the medical director for the Diagnostic Vascular Units (DVUs). He is a co-director

of the Multidisciplinary Aortic Program (MAP), and serves on institutional committees including; Heart, Vessel, Blood Clinical Trials Support Unit Executive Committee, MPLAN Partner Committee, CVC Clinical Operations Committee, and the CHIP Biobank Steering Committee. He is the section's lead for endovascular services.

Professional Work: Dr. Eliason is widely regarded as an outstanding physician and vascular surgeon. He demonstrates exceptional clinical judgement and technical skills in the clinic and operating room, performing some of the most complex surgery in the vascular field. Two clinical areas of emphasis where Dr. Eliason has gained national prominence are the management of pediatric patients with aortic, renal, or mesenteric arterial disease, and the management of aortic aneurysm disease. As the CVC 5 M-PLAN director, he has exhibited exemplary leadership of the inpatient unit, while being actively involved in addressing operational challenges. As the medical director for the Diagnostic Vascular Unit, he has led the expansion of diagnostic ultrasound services across Michigan Medicine, and is also is a reader of diagnostic studies. Over the years, Dr. Eliason has built a significant, regional, national, and international practice in both adult and pediatric vascular surgery and often receives referrals from across the nation for complicated aortic pathologies.

External Reviewers:

Reviewer A: "In addition to his scholarly activity, he is being recognized as a leader in the field of vascular surgery. He holds a number of leadership roles at institutional, regional and national levels, a natural evolution for most prominent academic vascular surgeons who achieve the rank of Professor....Dr. Jonathan Eliason has continued his excellent track record of clinical prowess, academic productivity, and advancement of the art and science of vascular disease and vascular surgery. He is one of a rare few academic vascular surgeons recognized both for his clinical expertise, and clinical and basic science research."

Reviewer B: "His trajectory of work is excellent, is sustained, and is recognized nationally and internationally.... My review of Dr. Eliason's dossier as sent to me for review, reflects an Associate Professor's activities that have continued in rank in a robust fashion, who has a trajectory of increasing productivity and who is known on a national/international front for his clinical and investigative research endeavors."

Reviewer C: "Dr. Eliason has made nice contribution to the field of vascular surgery and is among the next generation of leaders in our discipline. His scholarly activities have centered on complex aortic diseases, trauma and renovascular hypertension in children. He has developed a national reputation in these areas."

Reviewer D: "Dr. Eliason is a nationally and internationally respected vascular surgeon who has helped represent the University of Michigan's vascular department over the past ten years.... Dr. Eliason is one of the top scholars in his field and I think he is a tremendous asset for the University of Michigan....He has held numerous positions in regional and national societies and has helped maintain his group in the forefront of vascular surgery education and academics."

Reviewer E: "...Dr. Jonathan L. Eliason is a superb clinical vascular surgeon, and accomplished and recognized research investigator, a devoted teacher and mentor, and an exceptional administrator, and a highly productive member of the Vascular Surgery faculty at the University of Michigan. He has been highly successful in his academic and clinical career and is nationally recognized as a leader in the field."

Summary of Recommendation:

Dr. Eliason has exhibited outstanding academic, educational and clinical productivity. He has published cutting edge research and has garnered extramural funding for research from the Department of Defense. He is recognized as an outstanding teacher, he is one of the best clinical vascular surgeons in the country, and he has provided tremendous service to our institution in multiple ways. I am therefore pleased to recommend Jonathan L. Eliason, M.D. for promotion to professor of surgery, with tenure, Department of Surgery, Medical School.



---

Marschall S. Runge, M.D., Ph.D.  
Executive Vice President for Medical Affairs  
Dean, Medical School

May 2018