67th Clinical Meeting

of the

FREDERICK A. COLLER SURGICAL SOCIETY

Ann Arbor, Michigan

November 10-11, 2023

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Frederick A. Coller Surgical Society
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Frederick A. Coller, MD, FACS
(1887 - 1964)

Frederick A. Coller Surgical Society

The Frederick A. Coller Surgical Society was founded in 1947 by his former University of Michigan residents as an expression of the esteem, respect, and affection for Dr. Coller. The Society currently has approximately 400 members representing many geographic areas of the United States and several foreign countries. Educational endeavors supported by the Society since its inception have been energetic and notable.

> The annual October Clinical Meeting, commencing in 1955, embodies the Society's founding Principles to:
>
> - promote the art and science of surgery
> - foster education
> - perpetuate friendships

In 1949 the Coller Clinical Tour for residents was established with eight residents selected each year. The Frederick A. Coller Professorship in Surgery at the University of Michigan was endowed by the Society membership in 1974 and is the Surgery Department Chairman's Professorship. The Coller Research Fellowship award, which was endowed in 1993, is granted each year for surgery resident research. In 2000 the Richard E. Fry Memorial Lectureship was first inaugurated at the annual clinical meeting. The first of many International Coller Tours for members began in 1979.

The Jobst Vascular Surgery Award (1972) and the Resident Research Award (1985) are presented to resident presenters at the annual clinical meeting.

Dr. Coller came to the University of Michigan Department of Surgery in 1920 from Harvard, and was appointed Chairman of Surgery in 1930 serving in that position until 1957. He then continued practicing surgery at St. Joseph Mercy Hospital in Ann Arbor, Michigan until his death in 1964.

Dr. Coller's career was highlighted by his surgical skills, dedication to improving the general surgery residency training programs, and enhancing the expansion of post-graduate education.

He enriched medical students with lectures on the history of medicine. Notably, numerous renowned surgeons throughout the world were invited by Dr. Coller to Ann Arbor. Many honors were bestowed upon Dr. Coller during his life. Especially significant ones were: President of the American Surgical Association in 1943, President of the American College of Surgeons in 1949, and the first Chairman of the RRC for Surgery in 1954. Members of the Frederick A. Coller Surgical Society continue to honor Dr. Coller by the excellence of their educational programs through the annual clinical meeting, their perpetual friendships, and their enduring fellowship.

Past Officers

President

1948-49	Jack Farris (pro tem)
1949-52	Jack Farris
1952-55	Henry Ransom
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1961-64	Kenneth Maclean
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1965-66	Jim Musselman
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1968-69	Bill DeWeese
1969-70	Jack Gustafson
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1971-72	George Block
1972-73	Robert Sweet
1973-74	John Orebaugh
1974-75	Dick Kraft
1975-76	Chuck Hershey
1976-77	Don Williams
1977-78	William Fry
1978-79	E. Thurston Thieme
1979-80	Sherwood Winslow
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1982-83	Jerry Turcotte
1983-84	Richard Thirlby
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1989-90	Paul Hodgson
1990-91	William Olsen
1991-92	James Mackenzie
1992-93	Tom Dent
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1994-95	Jim Stanley
1995-96	William W. Coon
1996-97	Milton F. Bryant
1997-98	Ralph A. Straffon
1998-99	William O. Myers
1999-00	Verne L. Hoshal, Jr.
2000-01	William D. Blessing
2001-02	Melvin W. Twiest
2002-03	Lawrence A. Danto
2003-04	Jack Pickleman
2004-05	Terry L. Sinclair
2005-06	Jack L. Kelley
2006-07	Walter M. Whitehouse, Jr.
2007-08	Daniel B. Walsh
2008-09	John S. Kukora
2009-10	John S. Kirkland
2010-11	Thomas W. Wakefield
2011-12	Michael E. Daugherty
2012-13	Gerald B. Zelenock
2013-14	P. Terrence O'Rourke
2014-15	Bruce Brink
2015-16	Vincent Cimmino
2016-17	Bruce Gewertz
2017-18	Debra Koivunen
2018-19	Darrell "Skip" Campbell
2019-20	John Mahaffay

Secretary – Treasurer

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1949 - 1971	E. Thurston Thieme
1971 - 1972	Norman Thompson
1972 - 1974	E. Thurston Thieme (pro tem)
1974 - 1980	James M. Winkler
1980	E. Thurston Thieme (pro tem)
1980 - 2000	Errol. E. Erlandson
2000 - 2005	Verne L. Hoshal, Jr.
2005 - 2013	Vincent M. Cimmino
2013 - 2017	Paul Gauger
2017 - 2021	Brian Saunders
2021 -	Amir Ghaferi

Executive Secretary & Meeting Coordinator

1974 - 2014	Vicki Pope
2014 - 2020	Corey Jessop
2020 -	Tedi Anne Engler

Assistant Meeting Coordinator

1987 - 2005	Marcia Brown
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John Eggenberger
Robert Cowles
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Coller Traveling Fellowship Committee

Justin Dimick – *Chair*
Paul Gauger
Marjorie Arca
Ed Kreske

The content of the program is targeted to physicians, residents, and other healthcare personnel interested in general surgery, vascular surgery, plastic surgery and surgical research. The objectives of the Coller Scientific Session are to familiarize participants in such a manner as:

1. Discuss information presented on the research activities of the members of the Society and integrate this information into clinical practice
2. Apply information gained from the meeting into future basic and clinical research activities
3. Utilize result of the research presented to improve patient outcomes

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the University of Michigan Medical School and the Frederick A. Coller Surgical Society. The University of Michigan Medical School is accredited by the ACCME to provide continuing medical education for physicians.

The University of Michigan Medical School designates this live activity for a maximum of 7 *AMA PRA Category 1 Credit™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

PROGRAM OF EVENTS

FRIDAY, NOVEMBER 10, 2023

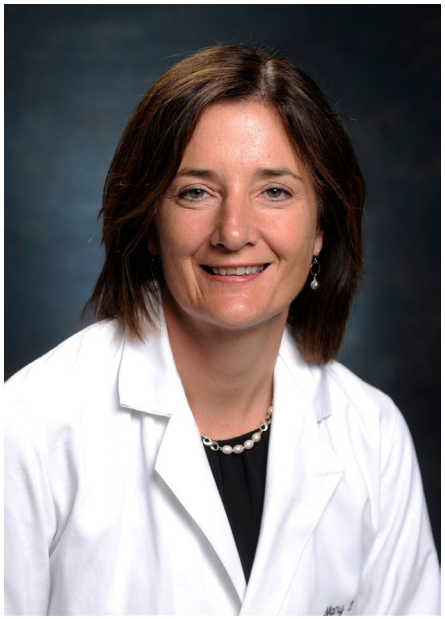
8:00-8:15 a.m.	**Welcome** Steven Hughes, University of Florida & Erika Newman, Michigan Medicine
8:15-8:35 a.m.	**Michigan Medicine Update** Justin Dimick, Michigan Medicine
8:35-8:55 a.m.	**Trinity Health Update**
8:55-9:15 a.m.	**Break**
9:15-10:15a.m.	**Presidential Address** Steven J. Hughes, University of Florida
10:15-10:30 a.m.	**Break**
10:30 a.m.	**SCIENTIFIC SESSION I**
10:35 a.m.	**A rare case of Pneumoretroperitoneum after laparscopic oophorectomy** Courtney Whitelock, Sparrow Hopsital
10:42 a.m.	**Association of opioid prescribing and consumption with patient-reported experiences and satisfaction following emergency surgery in Michigan** Lindsay Rosenthal, Michigan Medicine
10:57 a.m.	**Adjuvant Interferon Therapy is Independently Associated With Improved Outcomes in Cutaneous Melanoma With Parotid Involvement** Erin Kim, Michigan Medicine
11:12 a.m.	**Intrathoracic Humeral Head Fracture Resulting in Emergent Thoracotomy** Kalvin Zee, MercyOne Medical Center
11:19 a.m.	**A Pilot Study to Inform Strategies for Reducing Low-Value Preoperative Care** Ruby Kazemi, Michigan Medicine
11:34 a.m.	**Long-term Outcomes Following Open, Laparoscopic, and Robotic-assisted Ventral Hernia Repair** Brian Fry, Michigan Medicine
11:49 a.m.	**Resident Research Award**
12:15-1:45 p.m.	**Lunch**
1:45 p.m.	**SCIENTIFIC SESSION II**
1:50 p.m.	**When the first try fails: re-implementation of SIMPL in a general surgery residency** Philip Hsu, Michigan Medicine
1:58 p.m.	**Perioperative Increase in Interpersonal Violence Among Surgical Trauma Patients** Anam Ehsan, Brigham and Women's Hospital
2:06 p.m.	**Ventral and Incisional Hernia Recurrence Up to 2 Years After Initial Repair in a Population-Based Registry** Brian Fry, Michigan Medicine
2:14 p.m.	**Understanding Treatment Decision-Making in Older Women with Breast Cancer: A Survey-Based Study** Ruby Kazemi, Michigan Medicine

2:22 p.m.	**Rates of Emergency Lower Extremity Amputations in the United States among Medicare Beneficiaries** Shukri Dualeh, Michigan Medicine
2:30 p.m.	**Measuring the Impact of Vacuum Bell Therapy on Pectus Excavatum Using White Light Scanning** Pamela Nina Scalise, Boston Children's Hospital
2:38 p.m.	**The Availability of Parental Leave Policies Among US Surgical Residency Programs** Coral Katave, Texas Tech University Health Sciences Center
2:46 p.m.	**Bronchoscopic Localization in Newborns with Suspected Tracheoesophageal Fistula: Intubate Above or Below the Fistula?** Donna Koo, Boston Children's Hospital
2:54 p.m.	**Milton Bryant-Arnold Award**
3:30 p.m.	**SCIENTIFIC SESSION III**
3:35 p.m.	**Long-Term Complications of Penetrating Trauma: Diagnosis and Surgical Management of a Complex Gastrocolonic Fistula** Joy Obayemi, Michigan Medicine
3:42 p.m.	**Optimizing Efficacy of Vacuum Bell Therapy for Pectus Excavatum: Compliance is Key** Donna Koo, Boston Children's Hospital
3:54 p.m.	**A Cause for Concern: Causal discovery reveals neoadjuvant radiation leads to increased operative time and blood transfusion in pancreatic cancer** Kelly Herremans, University of Florida College of Medicine
4:06 p.m.	**Optimal Intraoperative Parathyroid Hormone Decline for Normohormonal Primary Hyperparathyroidism: A Multi-Institutional Validation Study** Timothy Kravchenko, Michigan Medicine
4:18 p.m.	**Cancer-related Fear and Worry in Patients with Low-Risk Thyroid Cancer: A Longitudinal Study** Alexis Antunez, Brigham and Women's Hospital
4:30 p.m.	**Vascular Deformation Mapping of Abdominal Aortic Aneurysms** Drew Braet, Michigan Medicine
4:42 p.m.	**Jobst Award**
6:30 p.m.	Dinner at The Raven's Club for all registered conference attendees. 207 S. Main Street, Ann Arbor, MI

SATURDAY, NOVEMBER 11, 2023

8:00 a.m.	**Welcome**
8:15 - 9:12 a.m.	**SCIENTIFIC SESSION IV**
8:15 a.m.	**Ischemic Necrosis of the Abdominal Wall Secondary to Aortic Occlusion** Sarah Morris, Michigan Medicine
8:22 a.m.	**A protein-based machine learning approach to the identification of inflammatory subtypes in pancreatic ductal adenocarcinoma** Kelly Herremans, University of Florida College of Medicine
8:32 a.m.	**Novel Technique for Testing Drug-Coated Balloons (DCB) in Deep Veins In** Vivo Oscar Moreno, Michigan Medicine
8:42 a.m.	**Do We Have the Capacity to Close Inpatient Care at Rural Hospitals?** Sara Schaefer, Michigan Medicine
8:52 a.m.	**Failed Extubation After Primary Repair of Type C Esophageal Atresia: Frequency and Risk Factors** Pamela Nina Scalise, Boston Children's Hospital
9:02 a.m.	**Essential Investments for Surgeon Well-Being: Augmenting Resources to Improve Camaraderie and Spaces** Nikhil Shah, Michigan Medicine
9:12 a.m.	**Break**
9:35 a.m.	**Coller History Lecture** Michael Mulholland, Michigan Medicine
10:05 p.m.	**Fry Memorial Lecture** **"The Life and Legacy of Frederick Coller"** Mary Hawn, MD, MPH Emile Holman Professor of Surgery Chair, Department of Surgery Stanford Medicine
11:20 p.m.	**Adjorn to Grayline** Join us at Zingerman's Greyline for the University of Michigan vs. Penn State Watch Party 100 N. Ashley Street, Ann Arbor, MI

Annual Richard E. Fry Memorial Lecturer



Mary T. Hawn, MD, MPH
Emile Holman Professor of Surgery
Chair, Department of Surgery
Stanford Medicine

The Life and Legacy of Frederick Coller

Dr. Mary T. Hawn is the Emile Holman Professor of Surgery and Chair of the Department of Surgery at Stanford University. Dr. Hawn, a native of Michigan, received her education and general surgical training at the University of Michigan. She completed her minimally invasive surgical fellowship at Oregon Health and Sciences University. Her clinical area of specialty is minimally invasive foregut surgery. In addition, she has earned a Masters in Public Health from the University of Michigan and her Certificate in Healthcare Quality and Safety from the University of Alabama at Birmingham. Dr. Hawn has extensive research in surgical quality measurement and national policy affecting surgical populations. Her work has changed guidelines for noncardiac surgery in patients with coronary stents and also informed policy about national surgical quality measurement. She is the past Chair of the American Board of Surgery and also serves on the editorial board of the Annals of Surgery and as an Associate Editor of the Journal of the American College of Surgeons. Dr. Hawn has several additional national leadership roles including Secretary of the American Surgical Association, Past President of the Halsted Society, President vof the Association of VA Surgeons, 1st Vice President for the Western Surgical Association and Treasurer for James IV Society. In recognition of her scientific leadership and contributions, she was elected to the National Academy of Medicine in 2021. She is the co-Editor of the surgical textbooks *Operative Techniques in Surgery* and *Mulholland* and *Greenfield Surgery: Scientific Principles and Practice.*

Richard E. Fry, MD
(1959-2000)

Richard (Dick) Fry was an ardent and dedicated participant of the Frederick A. Coller Surgical Society since he presented his first paper in 1979. Since that time, he was able to attend all but two annual meetings. Dick was the recipient of a Coller Tour in 1982. In 1986, Dick was awarded a Royal College of Surgeons Fellowship Grant to Cambridge, Oxford, and Edinburgh. He also served as a Councilor of the Coller Society from 1996-1999. He and his wife, Michelle, felt the Coller Society granted him the opportunity for professional growth, personal enrichment, and a plethora of friends and colleagues. In the event of his demise, Michelle and Dick requested the establishment of the Richard E. Fry Memorial Lectureship.

Dick graduated from DePauw University in 1974 with high distinction where he was elected to Phi Beta Kappa. He received his medical degree with clinical honors from the University of Michigan Medical School in 1978. He served his internship and residency in General Surgery and his Vascular Surgery Fellowship under the tutelage of his father, William J. Fry, at the University of Texas Health Science Center in Dallas, Texas. He was Assistant Professor of Surgery at the University of Texas Southwestern Medical School from 1984 through 1989. In 1989, he entered private practice with the Cardiac and Vascular Surgical Associates, P.C. in Beech Grove, Indiana, with staff privileges at St. Francis Hospital. Dick held the position of Clinical Assistant Professor of Surgery at Indiana University Medical School at the time of his death. Throughout his career, Dick authored several book chapters and wrote dozens of scientific articles. He frequently presented papers at the annual meetings of the Frederick A. Coller Surgical Society.

Dick was a Fellow of the American College of Surgeons. He was a member of the Midwestern Vascular Surgeon Society, Southwestern Surgical Congress, Southern Association for Vascular Surgery, International Society for Cardiovascular Surgery, North American Chapter Society for Vascular Surgery, and the Indiana State Medical Association.

The Frederick A. Coller Surgical Society and all others who knew Dick Fry feel a profound loss on the untimely passing of this compassionate and well respected surgeon.

Richard E. Fry Memorial Lecturers

2000	Bruce L. Gewertz, MD
2001	Richard O. Kraft, MD
2002	G. Patrick Clagett, MD
2003	Darrell A. Campbell, Jr., MD
2004	William H. Baker, MD
2005	Christopher K. Zarins, MD
2006	James D. Geiger, MD
2007	George B. Mychaliska, MD
2008	Jack L. Cronenwett, MD
2009	Gerald B. Zelenock, MD
2010	P. Terrence O'Rourke, MD
2011	Walter M. Whitehouse, Jr. MD
2012	James C. Stanley, MD
2013	Thomas S. Huber, MD
2014	Richard Thirlby, MD
2015	Robert W. Thompson, MD
2016	Lazar J. Greenfield, MD
2017	Eddie Erlandson, MD
2018	Michael W. Mulholland, MD, PhD
2019	Jeffrey Punch, MD
2020	Paused
2021	John Niederhuber, MD

My Brother

Reading, remembering
Knowing so much
That's important
Calloused fingers plucking steel string guitars
Tender hands caressing his loves, and the sick
You wanted him on your team
The drive down the middle of the fairway
Sometimes as elusive as the cure
Never enough time for either to be perfected
Life treated him like baseball
Undeserved curveballs
We witnessed the Umpire's call in disbelief
Yet, instead of leaving the stadium for good
We return, to remember and to say goodbye
Somehow the light never really goes out
He just moved out of sight

Will Fry, MD

A rare case of pneumoretroperitoneum after laparoscopic oophorectomy

C Whitelock MD; L Kwasny DO

A common diagnostic and therapeutic challenge is the incidental identification of residual gas within the body following laparoscopic procedures. The natural course of benign residual pneumoperitoneum has been well described and usually lasts from 1-3 days [1,2,3]. However, the natural course of benign iatrogenic pneumoretroperitoneum has not been well established. Most reports focus on pathologic causes requiring intervention such as duodenal, biliary, and rectal perforation [4,5]. Benign causes of pneumoretroperitonum have been rarely reported, previously described for lung pathology, after acupuncture, after reduction and internal fixation of a femur, following vaginal exam, vaginal laceration, and even water jet insufflation of the vagina [6,7,8,9,10]. There are no reported cases pneumoretroperitoneum after laparoscopic oophorectomy.

A 30-year-old female presented to the Emergency Department 3 days after a laparoscopic left oophorectomy with flank pain, nausea, and abdominal pain. Initial imaging demonstrated expected residual pneumoperitoneum. Unexpectedly, there was extensive free air in the retroperitoneum. A repeat CT scan with enteral contrast demonstrated no perforation. She was discharged home after <24 hours of observation without complications.

This case highlights a rare case of pneumoretroperitoneum after a laparoscopic oophorectomy that was successfully managed without antibiotics or surgical intervention.

1. Fredman B, Jedeikin R, Olsfanger D, Flor P, Gruzman A. Residual pneumoperitoneum: a cause of postoperative pain after laparoscopic cholecystectomy. Anesth Analg. 1994 Jul;79(1):152-4. PMID: 8010427.

2. Stanley IR, Laurence AS, Hill JC. Disappearance of intraperitoneal gas following gynaecological laparoscopy. Anaesthesia. 2002;57(1):57-61. doi:10.1046/j.1365-2044.2002.02358.x.

3. Chapman BC, McIntosh KE, Jones EL, Wells D, Stiegmann GV, Robinson TN. Postoperative pneumoperitoneum: is it normal or pathologic?. J Surg Res. 2015;197(1):107-111. doi:10.1016/j.jss.2015.03.083.

4. Yarze JC. Asymptomatic retroperitoneal air after endoscopic sphincterotomy. Am J Gastroenterol. 2000 Feb;95(2):553. doi: 10.1111/j.1572-0241.2000.t01-1-01802.x. PMID: 10685772.

5. Goenka AH, Shah SN, Remer EM. Imaging of the retroperitoneum. Radiol Clin North Am. 2012;50(2):333-vii. doi:10.1016/j.rcl.2012.02.004.

6. Hwang JK, Kim J, Lee BJ, Park JJ, Kim JS, Bak YT. Pneumoretroperitoneum following acupuncture. J Altern Complement Med. 2008 Dec;14(10):1299-301. doi: 10.1089/acm.2008.0261. PMID: 19032075.

7. Maldjian PD, Nusbaum AO. Pneumoretroperitoneum secondary to an open reduction and internal fixation of a femoral fracture: case report. Am Surg. 1997 Jun;63(6):504-5. PMID: 9168762.

8. Prêtre R, Robert J, Mirescu D, Witzig JA, Rohner A. Pathophysiology, recognition and management of pneumoretroperitoneum. Br J Surg. 1993;80(9):1138-1140. doi:10.1002/bjs.1800800923.

9. Min KJ, Im H, Lee S, Hong JH, Song JY, Lee JK, Lee NW. Delayed retropneumoperitoneum following vaginal laceration in a 7-year-old girl. Obstet Gynecol Sci. 2016 May;59(3):249-52. doi: 10.5468/ogs.2016.59.3.249. Epub 2016 May 13. PMID: 27200319; PMCID: PMC4871945.

10. Azimi-Ghomi, Obteene; Brummund, Dieter; Ovakimyan, Vasiliy; and Kahane, Gerardo (2021) "Jacuzzi-Induced Pneumoperitoneum: Case Report and Literature Review," HCA Healthcare Journal of Medicine: Vol. 2: Iss. 6, Article 3. DOI: 10.36518/2689-0216.1263.

Association of opioid prescribing and consumption with patient-reported experiences and satisfaction following emergency surgery in Michigan

L Rosenthal, MS; V Gunaseelan, MBA, MS, MHA; C Brummett, MD; J Waljee, MD, MPH, MS; MC Bicket, MD, PhD; M Englesbe, MD; R Howard, MD, MS

Objective: The opioid epidemic in the US is a public health crisis that continues to escalate. Opioids prescribed by surgeons have been shown to impact patient opioid consumption and subsequent risk of adverse events after general surgery. Current guidelines have yet to address prescribing in acute care and emergency surgical procedures, which often differ from other general surgery procedures in case severity, acuity of pain, and recovery time. To address this gap, we investigated the relationships between opioid prescribing, consumption, and patient reported outcomes (PROs) in acute care surgery patients.

Methods: Our data source was the Michigan Surgical Quality Collaborative (MSQC), a statewide registry that collects clinical outcomes and PROs across 70 hospitals. We included all adults (18+) who underwent emergency surgery between 1/1/2018 and 12/31/2020 and received a discharge opioid prescription. A linear regression model with robust standard errors was used to evaluate the association between opioid prescription size at discharge (in number of 5 mg oxycodone pills) and postoperative opioid consumption (primary outcome). Separate logistic regression models were used to evaluate the association between prescription size and high satisfaction, pain score, and quality of life.

Results: During the study period, a total of 3,742 patients (mean age 47.7 years; 2,169 (42%) female) underwent an emergency operation. The most common operations were laparoscopic appendectomy (56.3%), laparoscopic cholecystectomy (20.6%), and minor hernia repair (4.9%). The mean number of opioid pills prescribed was 9.6 (SD 6.1) and the mean number of opioid pills consumed was 4.6 (6.08). In the adjusted analysis, prescription size was significantly associated with opioid consumption, such that consumption increased by 0.58 (95% CI 0.41-0.76) pills for every 1 additional pill prescribed (Figure 1). Prescription size was not significantly associated with pain (aOR 1.012, 95% CI 1.002-1.022), high satisfaction (aOR 0.99, 95% CI 0.98-1.01), no regret (aOR 0.98, 95% CI 0.97-1.00), or best quality of life (aOR 0.99, 95% CI 0.98-1.00).

Conclusion: In this study of opioid prescribing, consumption, and PROs for patients undergoing emergency surgical procedures, patients only consumed half of the opioids they were prescribed after surgery. Additionally, patients who were given larger prescriptions consumed more opioids, but did not experience less pain, higher satisfaction, better quality of life, or less regret to undergo surgery. Overall, this suggests that opioids may be excessively prescribed to patients undergoing emergency surgical procedures, and that larger prescriptions do not improve the patient experience after surgery. An important aspect of combating the opioid epidemic in the setting of acute care and emergency surgery will be responsibly prescribing opioids post-operatively to limit patient consumption for nonsurgical pain and possible adverse events following discharge.

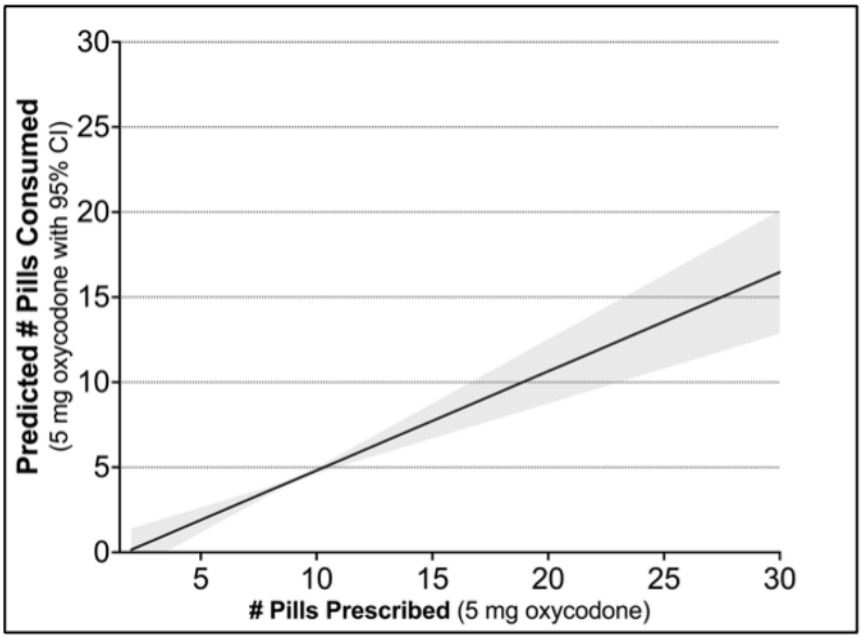


Figure 1– Association between opioid prescription size and patient-reported opioid consumption after emergency surgery.Pres

Adjuvant Interferon Therapy is Independently Associated with Improved Outcomes in Cutaneous Melanoma with Parotid Involvement

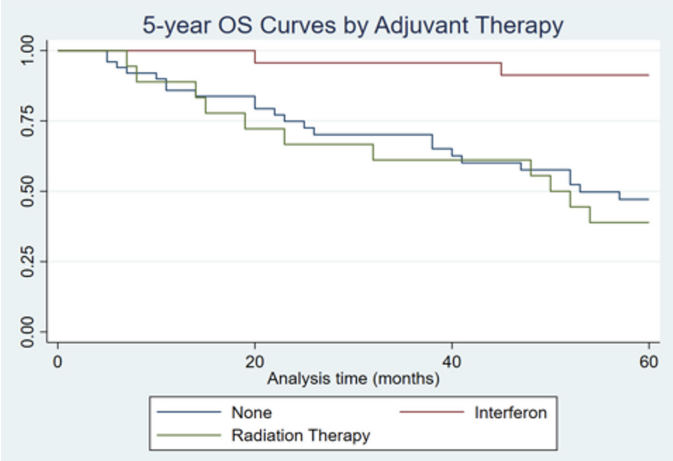
E Kim BS; S Raven MS; N Lenze MD MPH; J Farlow MD PhD; S McLean MD PhD

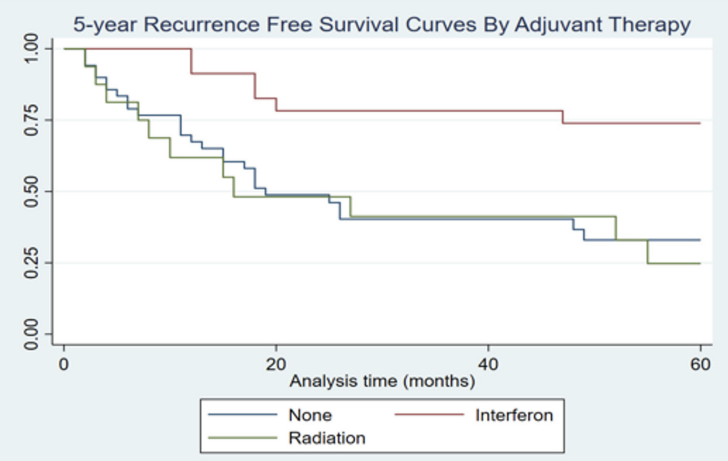
Objective: The parotid bed has rich lymphatic drainage and is a common site of nodal metastases for cutaneous head and neck melanoma. Interferon is an FDA-approved adjuvant therapy for stage IIB to III cutaneous melanoma and is an immunomodulator, but its effects on melanoma involving the parotid gland have not been elucidated. This study aims to determine the relative 5-year overall survival (OS) and 5-year recurrence free survival (RFS) outcomes for adjuvant therapy in the treatment of head and neck cutaneous melanoma with parotid gland involvement.

Methods: This was a retrospective cohort study at a single tertiary-care institution aimed at analyzing patients undergoing parotidectomy for cutaneous head and neck melanoma involving the parotid gland from 2000 to 2014. Time-to-event analyses were performed using Kaplan Meier Curves with log-rank p-values and Cox proportional hazards models.

Results: There were 95 patients with head and neck cutaneous melanoma with parotid gland involvement included in this sample. Twenty-four patients (25.3%) received adjuvant interferon therapy, 18 patients (18.9%) received adjuvant radiation therapy, and 53 patients (55.6%) received no adjuvant therapy. All patients were classified as overall stage 3 disease. Patients receiving adjuvant interferon therapy were less likely to be stage 3c compared to those receiving radiation therapy or no adjuvant therapy (17% vs. 50% vs. 28%, respectively; p=0.040). Crude 5-year overall survival (OS) rates for no adjuvant therapy, interferon therapy, and radiation therapy were 47.1%, 91.3%, and 38.9%, respectively. Crude 5-year recurrence-free survival (RFS) rates were 33.0%, 73.9%, and 24.8%, respectively. After adjusting for T stage, N stage, and overall stage, interferon therapy was associated with significantly improved 5-year overall survival compared to no adjuvant therapy (HR 0.04, 95% CI 0.01 to 0.29; p=0.002) and radiation therapy (HR 0.08, 95% CI 0.01 to 0.60; p=0.015). Interferon therapy was also associated with significantly improved 5-year recurrence free survival compared to both no adjuvant therapy (HR 0.19, 95% CI 0.07 to 0.52; p=0.001) and radiation therapy (HR 0.30, 95% CI 0.10 to 0.91; p=0.033) in the adjusted model.

Conclusion: Interferon as an adjuvant therapy for cutaneous melanoma with parotid gland involvement appears to have robust effect on both recurrence free survival and overall survival, which may be related to its immunomodulatory properties.





Intrathoracic Humeral Head Fracture Resulting in Emergent Thoracotomy

Patel S, Zee K, Ismail O, Losh J, Franko J

Intrathoracic humeral head fracture is a rare injury caused by a high energy force to the shoulder, resulting in medial displacement of the humeral head. This injury can be severe and life threatening due to the proximity of fractured bone to vital intrathoracic structures. There are no current published guidelines for the treatment of such injuries. Our patient presented hemodynamically stable with an intrathoracic humeral head fracture and bone fragments near the thoracic aorta. Initial management with thoracostomy tube placement produced only modest output, which tapered off without evidence of ongoing bleeding. The patient was assessed by multiple surgical services. Given the patient's initial stability, operative management was planned but not performed emergently. Acute clinical decompensation on hospital day three resulted in the need for cardiopulmonary resuscitation, massive transfusion protocol activation, and an emergent left-sided thoracotomy for a previously undiagnosed laceration of the anterolateral descending thoracic aorta. The patient's spectrum of injuries, clinical status, imaging, and the immediate resources available were all factors when considering timing for surgery. The decision for delayed versus immediate intervention is difficult, and we consider whether immediate intervention is the best course of action for patients with this injury pattern.

A Pilot Study to Inform Strategies for Reducing Low-Value Preoperative Care

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Objective: Patients with an American Society of Anesthesiologists (ASA) physical classification of I or II undergoing low risk surgeries should not routinely undergo preoperative laboratory or imaging studies unrelated to their surgical pathology. The results of these "low value" tests do not improve patient safety and often lead to unnecessary follow up care. Prior analysis of claims data identified the University of Michigan as a high utilizer of preoperative testing. This study aimed to validate these reports and to explore the appropriateness of tests based on recommendations from Choosing Wisely and multiple national societies.

Methods: Three researchers performed a chart review of patients from February 2022-September 2022 undergoing outpatient preoperative evaluation for partial mastectomy, inguinal hernia repair, or laparoscopic cholecystectomy. Testing appropriateness was designated using ASA class and comorbidities. All preoperative testing was considered unnecessary for patients classified as ASA I or II, and only circumstantially appropriate for those with an ASA III or above, based on the guideline criteria. For instance, if a patient was ASA III and was greater than 70 years old, an electrocardiogram was considered appropriate. Based on the findings of this chart review, an intervention strategy for de-implementation of low value tests was designed to target inappropriate testing. Further analysis will be performed through an interrupted time series and a difference-in-difference estimation comparing pre- and post- intervention preoperative testing rates to evaluate efficacy of the intervention.

Results: Of 300 patients, 36.7% (n=110) received at least one low-value test. Of the 120 patients who received a preoperative CBC, 69.2% (n=83) of these were deemed unnecessary. Of the 135 patients who received a preoperative basic or comprehensive metabolic panel (BMP/CMP), 59.3% (n=80) of the tests were unnecessary. Of 76 preoperative EKGs performed, 43.4% (n=33) of those were unnecessary. The top three highest utilizing surgeons were in the same division and were responsible for 56% of all unnecessary tests. Initial analysis informed an interventional strategy which will be distributed to Minimally Invasive Surgery, Surgical Oncology, and the Pre-Operative Clinic at this institution

Conclusion: Pre-intervention data analysis demonstrated high utilization of low-value preoperative testing at this institution. These findings informed a pilot intervention within the Department of Surgery to reduce unnecessary pre-operative testing rates. This intervention focuses on inter and intra-division stakeholder education to reduce unnecessary pre-operative testing rates. Post-intervention data will provide insights into the effectiveness of our de-implementation strategy.

Long-term Outcomes Following Open, Laparoscopic, and Robotic-assisted Ventral Hernia Repair

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Objective: The use of robotic-assisted ventral/umbilical hernia repair has increased dramatically in recent years despite lack of clear evidence for patient benefit. Whether long-term recurrence rates following robotic repairs are better than open or laparoscopic approaches remain unknown.

Methods: Using 100% Medicare claims, we retrospectively studied adults age >18 undergoing elective, inpatient, ventral/incisional and umbilical hernia repair from 2010-2020. Our primary outcome was operative recurrence up to 10 years after the index procedure. We used a Cox proportional hazards model to calculate the risk-adjusted cumulative incidence of recurrence, controlling for patient age, sex, race/ethnicity, comorbidities, hernia type (ventral/incisional or umbilical), and approach (open, laparoscopic, or robotic).

Results: The study period included 143,987 hernia operations (132,285 ventral/incisional and 11,702 umbilical). Of these, 101,783 were open, 32,779 were laparoscopic, and 9,425 were robotic. From 2010-2020, the proportion of open procedures decreased from 72% to 66%; laparoscopic procedures decreased from 27% to 13%, while robotic-assisted procedures increased from 1% to 21%. Patients undergoing index repair via robotic-assisted approach had a higher 10-year risk-adjusted cumulative incidence of operative recurrence (17.45%, 95% CI 17.4-17.5%, HR 1.15 (1.05-1.27)) compared with both laparoscopic (14.80%, 95% CI 14.77-14.83%, HR 0.96 (0.92-1.00)) and open (15.32%, 95% CI 15.3-15.4%, HR 1.0 (reference)) approaches (**Figure**). Results were similar when stratified by high and low volume robotic surgeons.

Conclusion: Long-term recurrence was higher for patients undergoing robotic ventral hernia repair compared to either open or laparoscopic approaches. These findings highlight the potential harms associated with practice patterns shifting away from laparoscopic/open approaches and towards robotic hernia repair.

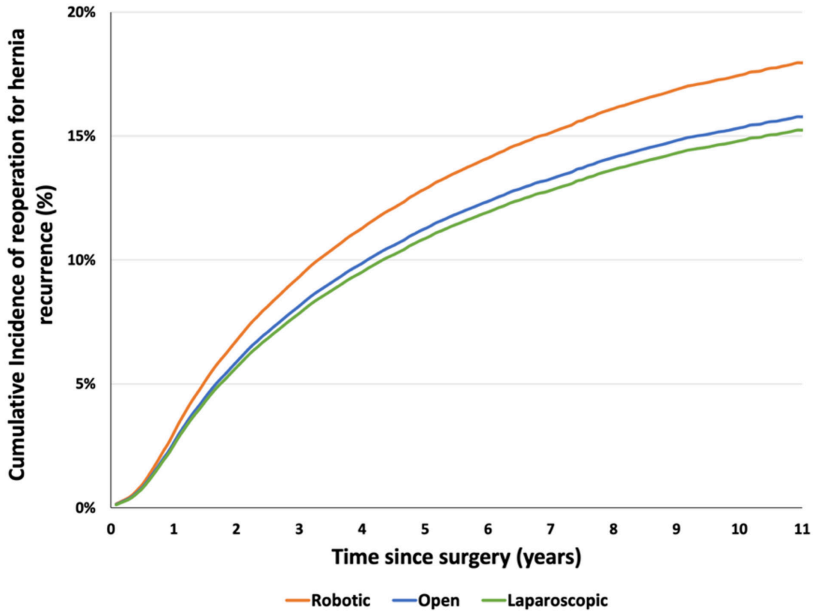

Figure: Cumulative Incidence of Reoperation for Hernia Recurrence Stratified by Surgical Approach Following Ventral, Incisional, and Umbilical Hernia Repair.

When the first try fails: re-implementation of SIMPL in a general surgery residency

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Background:
Workplace-based assessment (WBA) can facilitate evaluation of operative performance; however, implementation of WBA is sometimes unsuccessful. The American Board of Surgery Entrustable Professional Activities WBA project will launch in July 2023. Some programs will face the challenge of re-implementation of a WBA following previous failures. It is unknown what interventions are most effective for WBA re-implementation. Our goal is to identify barriers and facilitators to re-implementing SIMPL, an operative performance WBA.

Methods:
The System for Improving and Measuring Procedural Learning (SIMPL) was implemented at our residency in 2018, but usage rates were low. We interviewed residents to identify barriers to usage and opportunities for improvement. We then utilized Kotter's Model of Change to design a plan for re-implementation. The re-implementation included a short but tailored presentation at grand rounds by the General Surgery Program Director communicating the expectation that SIMPL should be used for all cases, as well as brief monthly updates promoting usage. To evaluate impact, we analyzed rates of SIMPL usage when it was first implemented, as well as before and after the date of re-implementation.

Results:
Residents reported that SIMPL usage declined because of several factors, including a low faculty response rate and minimal support from chief residents. However, residents appreciated the dictated feedback and the ability to review old feedback. In September 2022, we re-implemented SIMPL at our program with measures addressing the aforementioned barriers. We found that, in the six months after reimplementation, an average of 145.8 evaluations were submitted by residents per month, compared with 73.8 evaluations per month at the start of the original implementation and 5.8 evaluations per month just prior to re-implementation. Faculty completed 60.6% of evaluations and dictated feedback for 59.1% of these evaluations, compared with 39% at implementation (33% dictated) and 43% prior to re-implementation (53% dictated).

Conclusions:
After identifying barriers to implementation of a workplace-based assessment tool, we re-implemented the tool with significantly higher usage by faculty and residents. Future opportunities exist to re-implement assessment tools within a multi-institutional setting. These opportunities may have a significant impact in the setting of national standardization of workplace-based assessment among general surgery residencies.

Perioperative Increase in Interpersonal Violence Among Surgical Trauma Patients

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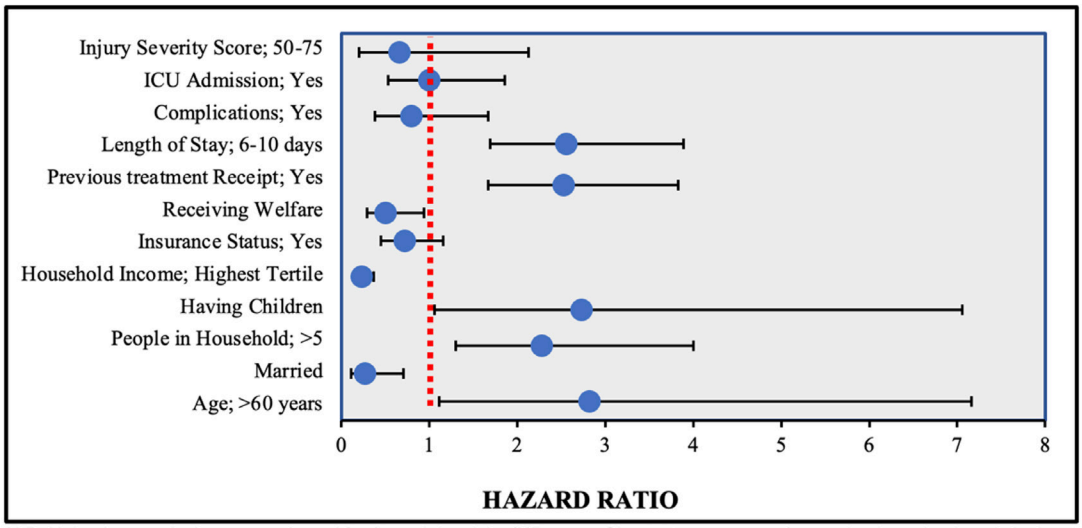
Objective:
Rates of interpersonal violence (IPV), defined as physical, sexual, or psychological harm, range from 10-70% in the general population. Despite evidence demonstrating increased financial and emotional challenges perioperatively, IPV incidence and risk factors in surgical patients is unknown. The goal of this study was to evaluate incidence and prevalence of IPV in surgical patients and identify risk factors for worsening IPV post-operatively.

Methods:
A multicenter, prospective, longitudinal study was conducted to screen for IPV in adult surgical trauma patients at baseline and one, three, and six months post-operatively. A positive IPV screen was defined using a validated measure of IPV. Multivariate time-to-event analysis was used to identify sociodemographic, clinical, and financial factors affecting IPV.

Results:
Of the 806 patients, 9% reported IPV preoperatively. Positive IPV screen increased to 23%, 37% and 35% at 1-,3- and 6- months postoperatively. Incidence of new IPV was 32% within six months following surgery. Presence of new IPV was significantly associated with greater age (HR=2.8;p=0.03), employment as a daily wage laborer (HR=2.2;p=0.08), more people in the household (HR=2.6;p=<0.001), having children (HR=2.7;p=0.04), and increased length of hospitalization (HR=2.7;p=<0.001). Those experiencing hospitalization associated financial toxicity were fifteen times more likely to develop IPV than those without financial toxicity (HR=15.5;p=<0.001). Increased total household income was a protective factor (HR=0.2;p=<0.001). (**Figure 1**)

Conclusion:
The incidence and prevalence of IPV increased substantially after surgery, especially among those experiencing financial toxicity. Universal screening, integration of community-based resources, and targeted interventions against financial toxicity are important to support victims of IPV perioperatively.

Figure 1 – Multivariable, Time-to-Event Analysis (Hazard Ratio) to Evaluate Predictors of Interpersonal Violence Development Post-Operatively



N.B. Univariate analysis was conducted for financial toxicity (HR=15.5; CI:9.6-24.9; p=<0.001) to maintain optimal statistical standards given collinearity between income and other risk factors predicting IPV

The Clinical Readiness Program: Assuring Currency and Competency

M. Knudson MD; M. Bowyer MD, E. Elster MD

Objective: To develop validated measures to assure readiness for the deploying expeditionary surgeon.

Methods: Through a partnership between the American College of Surgeons (ACS) and the Military Health Service, a four-part program to assure readiness for deployment for a general surgeon was developed. Using the Military's Clinical Practice Guidelines and actual case logs from the Department of Defense Trauma Registry (2002-2015) a blueprint of Knowledge points, Skill sets, and Abilities (KSA) was created, containing 487 items in 8 critical domains. Based on this blueprint an on-line knowledge assessment test was developed (400 multiple choice questions; 200/exam). For skills testing, the ACS ASSET course was expanded into a 2-day course (ASSET+) with 1:1 student: instructor ratios. The course utilizes perfused cadavers as well as simulators for sub-specialty emergency procedures (i.e., craniotomy; orthopedics, ophthalmology; obstetrics). An aligned multi-media, on-line curriculum was also developed for areas found to be deficient or for just-in-time learning. Finally, actual case logs from a surgeons' garrison practice are evaluated as to their relevance to the KSA blueprint.

Results: To date, 238 active-duty general surgeons have taken the Knowledge Assessment exam with a mean score of 72%. The exam has been shown to have psychometric integrity (Measurement Validity Confirmed-7 Factor structure; Reliability confirmed,-Cronbach alpha> 0.7). Pre and Post results from the ASSET+ courses are displayed in the table below.

Conclusions: This comprehensive KSA program assures readiness for a surgeon deploying to a far-forward (Role 2) facility. While designed for the military, this methodology has relevance in assuring competency and currency for civilian global surgeons, rural surgeons, surgeons returning to practice after a hiatus, as well as trauma fellows in training.

Table: ASSET+ Pre/Post Results

	Pre-training Score (mean/SD)	Post-training score (mean/SD)	Statistical significance	Effect size (Cohen's d)
Procedural confidence	3.02/0.61	4.44/0.37	p<.001	.61
Procedural knowledge	26.42/4.38 (66%)	31.63/2.99 (79%)	p<.001	4.52
Procedural independence	0.76/0.17	1.00/0.17	p<.001	1.41

Understanding Treatment Decision-Making in Older Women with Breast Cancer: A Survey-Based Study

RJ Kazemi, BA; CM Pesavento C, MD, MBA; C VanWinkle, BA; LA Dossett, MD, MPH

Objective: For older women with early-stage, hormone receptor-positive (HR+) breast cancer, sentinel lymph node biopsy (SLNB) and post-lumpectomy radiotherapy offer no survival benefit and national recommendations support their omission. Despite these recommendations, older women undergo these treatments at high rates. Patient-level factors contributing to low-value cancer treatments are not fully understood. We utilized a survey-based approach to explore the factors most important to older women when making treatment decisions.

Methods: We recruited women ≥70 years old with early-stage HR+ breast cancer within 6 months of surgery. Surveys were administered electronically or via postal mail, capturing information on offered and pursued treatments, the importance of outcomes (rated 1 to 10), and the influence of each outcome on treatment decision-making. Descriptive statistics were used for analysis.

Results: 17 patients (30 planned) have completed the survey. Despite meeting criteria to omit radiation, 75% were offered radiation, and 60% underwent or had plans for radiation. Among lumpectomy patients, 60% were offered SLNB, and 31% underwent the procedure, while 15% did not recall whether they had undergone SLNB. When considering treatment options, breast-specific survival, overall survival, avoiding negative side effects, reducing local recurrence risks, and overall quality of life were most important in decision-making. The financial cost of care, avoiding the need for endocrine therapy, the ability to keep their breast, breast appearance, and avoiding radiation were rated least important (Table 1).

Conclusion: Patients' treatment decisions align with their values, as demonstrated by this study. Despite lower rates of SLNB compared to previous years, high rates of radiation were consistent with patients' preferences to reduce the risks of local recurrence. Other factors that may be contributing to the high use of radiation therapy include its shorter course and provider recommendations. Correlation between patient values and treatment decisions can inform targeted efforts to de-implement low-value care in breast cancer through patient-focused tools and provider education.

AVERAGE	MOST IMPORTANT VARIABLES	AVERAGE	LEAST IMPORTANT VARIABLES
8.0	Preventing death from my breast cancer specifically (breast-specific survival)	**5.1**	How often / how far I have to travel to receive treatments and medical care
7.9	Preventing death from any cause, cancer or non-cancer (overall survival)	**4.6**	Avoiding the need for radiation
7.9	Avoiding negative side-effects of treatments	**4.5**	Other
7.7	Preventing my breast cancer from coming back in my breast (local recurrence)	**4.1**	How my breast looks after treatment
7.6	Impact on my overall quality of life	**4.1**	Ability to keep my breast
5.4	Minimizing surgical complications	**4.0**	Avoiding the need for taking pills
5.3	Avoiding the need for additional surgery	**3.6**	Financial cost of my treatment and medical care

Table 1. Influence of factors on breast cancer treatment decision-making in older women. Participants ranked how important the following factors were on a scale from 0-10 when considering a particular treatment. 0 being not at all important and 10 being most important/extremely important.

Rates of Emergency Lower Extremity Amputations in the United States among Medicare Beneficiaries

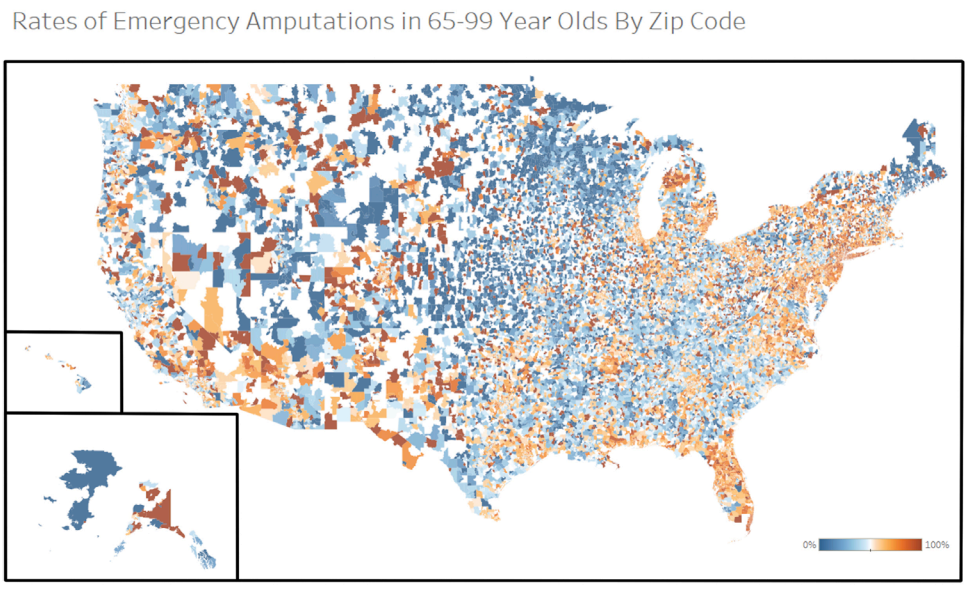
S. Dualeh, MD; C. Powell, MD MSc; N. Kunnath, MS; M. Corriere, MD; A. Ibrahim, MD MSc

Objective: Lower extremity amputations are commonly performed in the United States as a result of advanced diabetes and peripheral vascular disease. While the procedure is ideally performed electively, patients with limited access may not present until sepsis or critical ischemia occur and mandates an emergent operation. To what extent rates of emergency amputation for lower extremity vary across the United States is unknown. Furthermore, the underlying mechanisms that contribute to the likelihood of receiving an emergent versus elective lower extremity amputation is unclear.

Methods: Evaluation of 233,084 Medicare beneficiaries who underwent lower extremity amputation between 2015-2020. Toe amputations, transmetatarsal amputations, and Beneficiaries younger than 65 years or older than 99 years were excluded. The rate of lower extremity amputations was determined for each zip code in the United States and placed into rank order from lowest to highest rate of emergency amputations. We then calculated patient travel distance and time from the beneficiary's living zip code to the hospital zip code determined by the American Hospital Association Annual survey.

Results: The median age (SD) was 74 years (8), and 66.3% of patients were Male. Compared to those in the lowest rate quintile of zip codes, those in the highest rate quintile had more Black and Hispanic patients (27.2% versus 8.8% for Black patients and 6.9% versus 1.1% for Hispanic patients) and lived in more urban settings (90.2% versus 42.4%). There was wide variation in the rates of emergency lower extremity amputation across the United States. Specifically, the lowest quintile of zip codes demonstrated an emergency amputation rate of 3.7% while the highest quintile demonstrated 90.3%. Median travel distance in the lowest emergency surgery rate quintile was 34.6 miles compared to 10.5 miles in the highest quintile of emergency surgery ($p<0.001$). For the lowest quintile, 33.1% of patients traveled less than 30 minutes compared to 66.1% for the highest quintile ($p<0.001$).

Conclusion: There is wide variation in rates of emergency lower extremity amputations among Medicare beneficiaries, suggesting variable access to essential vascular care. Both travel distance and time have an inverse relationship with the rate of emergency lower extremity amputation, suggesting that barriers other than travel are playing a role.



Measuring the Impact of Vacuum Bell Therapy on Pectus Excavatum Using White Light Scanning

PN Scalise, MD; DC Koo, MD, K Barkus, MSN; J Gironda, PA; CW Lillehei, MD; DP Mooney, MD MPH; FR Demehri, MD

Objective: The Haller Index (HI) as derived from chest radiography (CXR) or computed tomography (CT) is the standard for measuring severity in pectus excavatum (PE). Alternative methods of optical scanning may reduce exposure to ionizing radiation. This study assessed the reliability of a handheld 3D White Light Scanner (WLS) in the clinic setting to obtain external chest wall measurements and indicators of PE severity. We hypothesized that WLS-derived severity indices are highly correlated to standard measures and can objectively measure therapeutic success with vacuum bell treatment.

Methods: A prospective cohort study was conducted of pediatric patients with PE who were prescribed vacuum bell therapy at our institution from April 2022-February 2023. A baseline WLS was performed on each patient, from which an "external" Haller index (WLS_EHI) was calculated by dividing the mediolateral diameter by the anteroposterior diameter of a 2-dimensional cross-section through the chest at the deepest point of PE depression. A novel WLS-derived maximal funnel depth (WLS_FD) was calculated as the distance between the deepest point of the depression and a coronal plane across the most anterior portion of the chest. Pearson regression analysis assessed correlation between CXR-derived HI, manual physician-measured Pectus Excavatum Depth (PED), and WLS_FD. Manual and WLS chest measurements were repeated at each follow-up visit and compared to baseline.

Results: Forty-four patients with PE initiated vacuum bell therapy and were scanned with WLS. The cohort consisted of 38 males (86%), had a median age of 14 years (IQR 13-15), and BMI of 18.4 kg/m2 (IQR 17.3-19.9). Developing breast tissue in four female patients precluded calculation of WLS_FD. For 42 patients with complete baseline imaging, WLS_EHI moderately correlated with HI ($r = 0.42$, $p = 0.006$) and PED ($r = 0.58$, $p<0.0001$). Notably, baseline WLS_FD demonstrated strong correlation with PED ($r = 0.95$, $p<0.0001$).

Seven patients had both baseline and follow-up chest wall measurements at an average follow-up of 5.7 months. All patients had stable or improved PE defects, as measured by manual PED. Patients had an average 10% decrease (0.26cm) in their PED. This corresponded to an 8% decrease in WLS_FD (with predicted 0.18cm decrease in PED). Percent change in PED also strongly correlated with percent change in WLS_FD ($r = 0.89$, $p=0.007$).

Conclusion: Our current data suggest that WLS is a feasible means of objectively quantifying the severity of PE deformities and reliably monitoring defect progression in response to vacuum bell therapy. A WLS-derived maximal funnel depth best correlates with physician-measured PED, while WLS_EHI moderately correlates with PED and HI.

The Availability of Parental Leave Policies Among US Surgical Residency Programs

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Objective:
For many surgical trainees, residency is a key time to start or expand families. Several studies have focused on the development of maternal leave policies. However, few studies characterize program-specific paternal leave policies, which can perpetuate the idea that only women surgeons prioritize parenthood or that women are primarily responsible for parenting. The goal of this study is to define public availability of paternal leave policies across surgical training programs.

Methods:
We acquired program lists for general surgery, integrated vascular surgery, integrated plastic surgery, neurosurgery, orthopedic surgery, and obstetrics-gynecology using either ACGME or surgical professional societies. Each residency program and corresponding graduate medical education website was reviewed for resident and leadership demographics and availability of general leave, maternal leave, paternal leave, non-birthing parent leave, and universal leave policies. Descriptive statistics were performed in Microsoft Excel.

Results:
A total of 1001 training programs were evaluated. Of these, 12.5% (126) of programs publicly advertised their parental leave policies, 5.09% (51) advertised their paternal leave policies, and 4.89% (49) advertised their non-birthing parent leave policies. Of the 880 programs with information available,67.04% (590) had male program directors (PD). In this data set, 74.93% (16189/21605) of surgical residents were men. Neurosurgery had the greatest number of programs that publicly advertised paternal leave with 11.67% (14/120). Demographic and program data are shown in Table 1.

Conclusion:
Few surgical training programs have publicly available paternal or non-birthing parental leave policies. Publicly available non-birthing parent leave policies support men and women attempting to balance a surgical career with family obligations and promotes gender parity both in the workplace and at home. Incoming residents may value such programs over others. Furthermore, engaging fathers early translates to longitudinal involvement, and promotes equality irrespective of family composition.

	General Surgery (N=355)	Plastic & Reconstructive Surgery (N-80)	Integrated Vascular Surgery (N=69)	Neurosurgery (N=120)	Orthopedic Surgery (N=162)	Obstetrics & Gynecology (N=215)
Website included parental leave policies	12.68%	8.75%	0%	12.5%	27.78%	6.51%
Website included paternity leave policies	6.48%	7.5%	0%	11.67%	4.32%	0.47%
Website included non-birthing leave policies	5.63%	7.5%	0%	10.67%	4.32%	0.47%
Website included universal parental leave policies	4.23%	0%	0%	2.5%	17.28%	2.32%
Paternity leave policies available on GME website	7.89%	12.5%	14.49%	82.5%	23.46%	10.7%

Table 1. Breakdown of parental leave policy availability on residency program or GME websites by surgical specialty training program.

Bronchoscopic Localization in Newborns with Suspected Tracheoesophageal Fistula: Intubate Above or Below the Fistula?

DC Koo, MD; PN Scalise, MD; S Izadi, MD; A Kamran, MD; S Mohammed, MD MPH; B Zendejas, MD; FR Demehri, MD

Objective:
Classic critical care teaching advocates for attempted "deep" or distal-to-fistula intubation in neonates with suspected type C esophageal atresia and tracheoesophageal fistula (EA/TEF) who require preoperative intubation. However, this can lead to gastric distension and ventilatory compromise if a distal fistula is accidentally intubated. We examined the distribution of TEF location in neonates with type C EA/TEF as determined by intraoperative bronchoscopy. We hypothesized that the majority of neonates with suspected type C EA/TEF have distal fistulas that are not amenable to blind "deep" distal-to-fistula intubation.

Methods:
This was a single-center retrospective review of neonates with suspected type C EA/TEF who underwent primary repair with intraoperative bronchoscopy between 2010-2020. Data were collected on demographics and fistula location during bronchoscopic evaluation. Fistula location was categorized as amenable to blind deep intubation (>2 cm above carina) or not amenable to blind deep intubation intubation (<1cm above carina or carinal).

Results:
Sixty-nine neonates underwent primary repair of type C EA/TEF with intraoperative bronchoscopy during the study period. Of these, 3 patients did not have clearly documented fistula locations and were excluded from analysis (n=66). The majority of patients (n=49, 74%) had fistulas <1 cm from the carina that were not amenable to blind deep intubation. Of these, 24 patients (36.4%) had fistulas <1cm above carina, and 25 (38%) had carinal fistulas. Only 17 patients (26%) had fistulas >2cm above carina amenable to blind deep intubation. Of these, 9 (13.6%) had fistulas >2cm above carina and eight (12%) had fistulas 2cm above carina..

Conclusions:
Most neonates in our study had fistulas arising from the distal trachea located at the carina or <1 cm above the carina. Thus, the majority of such patients are not amenable to distal-to-fistula intubation without bronchoscopic guidance due to increased risk of accidental fistula intubation. Hence, we do not recommend blind deep intubation in this cohort of neonates.

Long-Term Complications of Penetrating Trauma: Diagnosis and Surgical Management of a Complex Gastrocolonic Fistula

Obayemi JE, Eton R, Vercruysse G

A 29 year old man with a BMI of 12 presented with failure to thrive. He had a remote history of an abdominal GSW requiring numerous operations at an outside hospital, including multiple small bowel resections, Roux-en-Y gastrojejunostomy, primary duodenorrhaphy, partial colectomy, cholecystectomy, CBD exploration, retroperitoneal exploration, loop ileostomy and takedown. Over the past year, he had weakness, abdominal pain, watery diarrhea, and weight loss despite adequate intake prompting presentation to us for second opinion. Upper GI revealed a large gastrocolic fistula bypassing the entire small bowel. Upon exploration, the colon was densely adhered to the stomach and small bowel. Upper endoscopy was used to identify two lumens: the gastrojejunostomy and a wide, mature gastrocolic fistulous tract, which were in very close proximity. The transverse colon was divided to the right and left of the fistula, leaving a small defunctionalized segment of transverse colon and its mesentery in communication with the stomach. We performed a right hemicolectomy with ileum to distal transverse colostomy. UGI on POD3 confirmed exclusion of the colon without leak. The patient was discharged on POD7 and reports improved symptoms with 30+ pound weight gain.

Optimizing Efficacy of Vacuum Bell Therapy for Pectus Excavatum: Compliance is Key

DC Koo, MD; PN Scalise, MD; E Banda, BS; G Murtadi, MPA; SJ Staffa, MS; K Barkus, MSN; J Gironda, PA; S Pillen BSN; KA Papadakis, MD; CW Lillehei, MD; DP Mooney, MD MPH; FR Demehri, MD

Objective:
Pectus excavatum (PE) is the most common congenital chest wall deformity. The vacuum bell (VB) is a non-operative alternative to repair, though factors impacting efficacy are unclear. We reviewed our center's experience with vacuum bell (VB) therapy for Pectus Excavatum (PE) to identify variables associated with therapeutic success. We hypothesized that compliance to prescribed VB usage was significantly associated with improved outcomes.

Methods:
This was a single-center retrospective review of patients with PE who initiated VB therapy from August 2020 to February 2023. Data were collected on demographics, severity, and patient-reported hours of usage. A PED correction percentage was calculated for each patient at each follow-up visit. Multivariable linear regression was used to identify factors predictive of PED correction.

Results:
Forty-five patients (38, 84.4% male) initiated VB therapy and were seen for a total of 71 follow-up visits. At initiation of treatment, patients were 14.2 ± 2.8 years old, 167.1 ± 14.8cm tall, weighed 51.9±13.6kg, had a Haller Index of 3.9±1.3 and an initial PED of 2.5 ± 0.8cm. Patients wore their VB for 20.5 ± 8.2 hours/week for 187.4 ± 142.2 days. The average percent PED correction at last visit was 19.7±22.5%. On multivariable linear regression modeling, hours of VB usage per week was found to be the strongest predictor of PED correction ($p<0.001$). Patient height, weight, age, sex, Haller Index, initial PED, and days of therapy were not found to be predictors of PED correction.

Conclusions:
Compliance with VB therapy is the key factor in successful nonoperative treatment of PE. Though younger age and less severe PE depth have been previously reported as predictors of improved VB treatment outcomes, our data demonstrate that when patient compliance is taken into account, age and PE severity do not significantly predict response to VB therapy. Therefore, for a highly compliant patient, VB may be appropriate to consider regardless of age or severity.

A Cause for Concern: Causal discovery reveals neoadjuvant radiation leads to increased operative time and blood transfusion in pancreatic cancer

Kelly Herremans MD, Steven Hughes MD

Introduction: Perioperative blood transfusion is associated with increased 30-day morbidity and mortality as well as overall survival in patients undergoing pancreaticoduodenectomy (PD). As the treatment paradigm shifts toward neoadjuvant therapy in the treatment of pancreatic cancer, little remains known about how this may impact perioperative transfusion rates.

Methods: The American College of Surgeons National Surgical Quality Improvement Project (ACS-NSQIP) database was utilized to identify patients undergoing PD for PDAC from 2014-2019. Patients were divided into groups based on the type of initial treatment they received (neoadjuvant chemoradiation, neoadjuvant chemotherapy, neoadjuvant radiation or surgery first. Univariate analysis (Mann-Whitney and Fisher's exact) and Multivariate (Logistic regression) were performed. Causal discovery was conducted using the rCausalMGM package in RStudio.

Results: A total of 13,404 patients with PDAC underwent PD, with 2745 (20.5%) receiving neoadjuvant chemotherapy only, 154 (1.1%) receiving neoadjuvant radiation only, 1557 (11.6%) receiving neoadjuvant chemoradiation and 8948 (66.8%) undergoing surgery first. Compared to patients who underwent surgery first, those that received neoadjuvant chemoradiation (26.5% vs. 19.2%, $p<0.0001$), radiation only (31.8 vs. 19.2%, $p=0.0002$) and chemotherapy only (22.4 vs. 19.2%, $p=0.0002$) were more likely to receive a blood transfusion intraoperatively or within 72 hours of surgery. Neoadjuvant chemoradiation and radiation alone were independently associated with blood transfusion (OR 1.8 (1.24,2.63), $p=0.0004$ and OR 1.3 (1.13, 1.52), $p=0.002$) based on multivariate analysis. Causal discovery was performed, showing that preoperative radiation leads to increased transfusion rates through increased operative time. Further, transfusion was shown to be independently associated with in- hospital death (OR 3.7 (2.7,5.13), $p<0.0001$), discharge destination other than home (OR 2.0 (1.75,2.25) $p<0.0001$), complications (OR 1.7 (1.56,1.88), $p<0.0001$) and readmission (1.2 (1.04, 1.33), $p<0.0001$).

Conclusions: Neoadjuvant chemoradiation and neoadjuvant radiation alone are independently associated with perioperative blood transfusion in patients with PDAC undergoing PD. This is likely caused by increased operative times, which may reflect increased difficulty of resection. Future efforts to mitigate the need for perioperative transfusion in these patients is warranted to ultimately reduce the negative short and long-term consequences of perioperative blood transfusion.

Optimal Intraoperative Parathyroid Hormone Decline for Normohormonal Primary Hyperparathyroidism: A Multi-Institutional Validation Study

T Kravchenko, MD; CB Finn, MD; DL Fraker, MD; RR Kelz, MD MSCE MBA; C Cunningham, MD MPH; H Wachtel, MD MS; LN Krumeich, MD MS

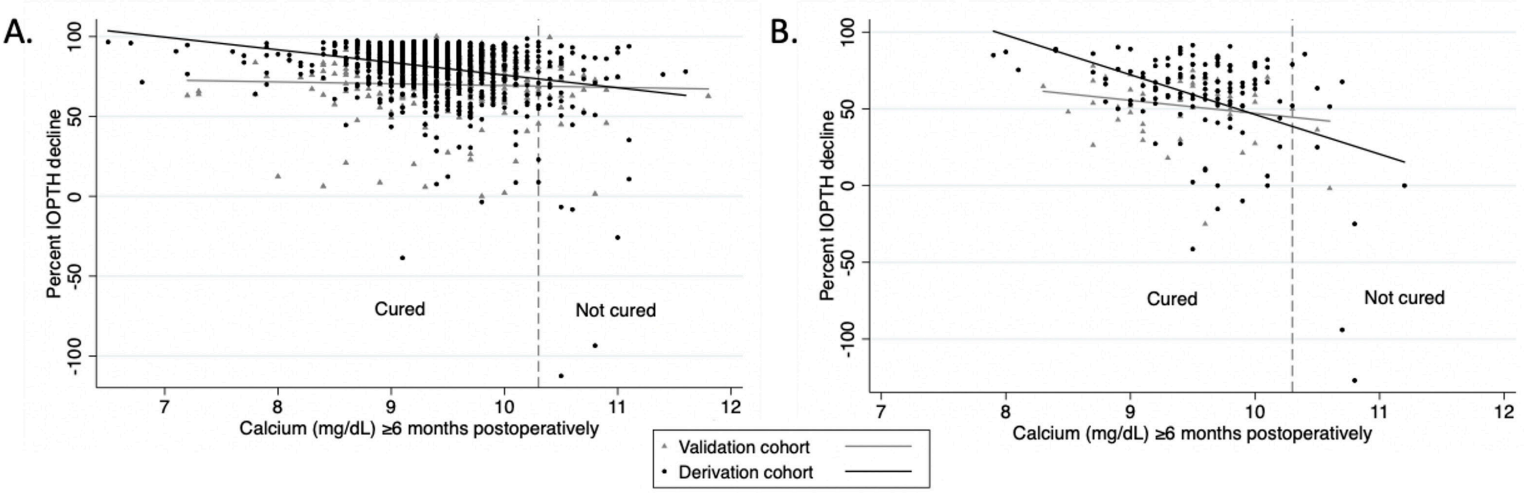
Objective: Our group previously reported that cure is achieved with lower intraoperative parathyroid hormone (IOPTH) decline in normohormonal versus classic primary hyperparathyroidism (PHPT, 52 vs. 75%). We aimed to externally validate these parameters using a multi-institutional cohort.

Methods: We performed a retrospective cohort study of patients with PHPT undergoing parathyroidectomy (2002-2019) at two tertiary institutions (validation cohort) and the previously reported derivation cohort. Normohormonal PHPT was defined as calcium ≥10.3 mg/dL and PTH ≤65 pg/mL. Patients underwent PTH testing preoperatively and ≥15 minutes after parathyroidectomy. The primary outcome was biochemical cure (calcium <10.3 mg/dL) ≥6 months postoperatively. Wilcoxon rank-sum, proportion tests, and receiver operating characteristic (ROC) analysis were performed.

Results: 55 (13.5%) of 398 validation cohort patients had normohormonal PHPT. Median follow-up was 95.6 months (IQR:43.3-140.5). Cure rates were similar for normohormonal and classic PHPT (96.0 vs. 89.6%, p=0.16). The median IOPTH decline in cured patients (56.8 vs. 73.3%, p<0.0001, Figure) and the optimal IOPTH cutoff by ROC to achieve cure (50.5 vs. 69.1%) were lower in normohormonal compared to classical PHPT. IOPTH decline correlated well with cure for normohormonal and classic PHPT (AUC:0.84 and 0.62). When optimal ROC cutoffs 52% and 75% from the derivation cohort were applied, positive predictive values were 100.0% and 90.3% for normohormonal and classical PHPT, respectively.

Conclusion: This multi-institutional study externally validated previous findings that normohormonal PHPT is cured with lower IOPTH decline, suggesting that IOPTH parameters should be adjusted in this population.

Figure. Scatter plots and lines of best fit demonstrate inverse relationships between IOPTH decline and postoperative calcium for the derivation (N=1,087) and validation (N=398) cohorts in patients with (A) normohormonal and (B) classic primary hyperparathyroidism (PHPT).



Cancer-related Fear and Worry in Patients with Low-Risk Thyroid Cancer: A Longitudinal Study

A.G. Antunez, MD, MS; B. Sinco, MS; M.C. Saucke, MA; K.J. Bushaw, MA; S. Dream, MD; A. Fingeret, MD; M.J. Livhits, MD; A. Mathur, MD, PhD; A. McDow, MD; S. Roman, MD; C.I. Voils, PhD; J. Sydnor, PhD; S.C. Pitt, MD, MPHS

Objective: Patients' emotions are known to influence the decision between lobectomy or total thyroidectomy (TT) for low-risk papillary thyroid cancer (PTC) treatment. This study investigated the experience of patients with low-risk PTC with respect to thyroid cancer-related fear and worry.

Methods: Adults with biopsy-proven low-risk PTC (cT1-2N0M0) or ≥70% risk of PTC on molecular testing were identified by their surgeon for this prospective, multi-institutional (n=15) study from November 2019-June 2021. Participants completed two validated scales of cancer-related fear and worry at the time of the treatment decision and again 9 months later that were developed for breast cancer and adapted to thyroid cancer. Patients undergoing lobectomy were compared to those undergoing TT with or without prophylactic central neck dissection (TT±CND) using independent samples t-tests. Changes in preoperative and postoperative scores were evaluated using paired t-tests.

Results: Of 177 eligible patients, 125 completed the initial survey (70.6% response); of those, 114 completed the 9-month follow-up (92% retention). Overall, 83.3% were female and 82.5% were White; 45 participants chose lobectomy (36.0%) and 77 chose TT±CND (61.6%). At the time of the treatment decision, there were no differences between patients choosing TT±CND and those who selecting lobectomy in thyroid cancer-related fear or worry (fear score 26.1±6.5 vs 25.1±6.4, on a scale of 8-40, p=0.42; worry score 8.4±2.5 vs 7.9±2.4, on a scale of 3-13, p= 0.34). At follow-up, there were still no differences in fear or worry scores between the two groups, respectively (fear 23.0±7.2 vs 23.3±7.8, p= 0.85; worry 6.5±1.7 vs 6.2±1.2, p= 0.43). Across all participants, thyroid cancer-related fear and worry decreased significantly after surgery (fear 25.8±6.4 to 23.1±7.4; worry 8.2±2.4 to 6.4±1.5, each p<.001).

Conclusion: Patients with low-risk PTC report similarly high levels of thyroid cancer-related fear or worry at the time of their treatment decision and 9 months later that decrease slightly to high-intermediate levels over time regardless of the extent of surgery. These data suggest that surgical treatment of low-risk PTC with either lobectomy or TT provides an emotional benefit to patients.

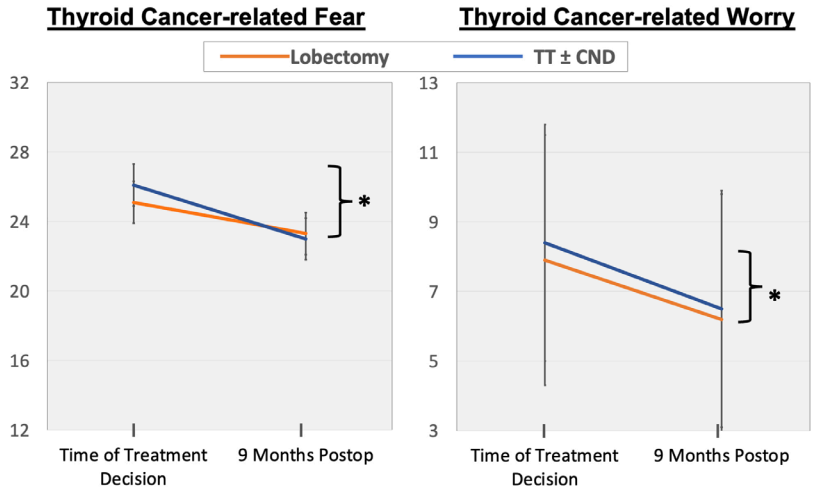


Figure. No differences were observed in fear or worry between lobectomy and TT±CND patients at either time point. Fear and worry decreased significantly within each group from the Time of Treatment Decision to 9 months post-operatively (*p<0.05).

Friday 4:30 p.m.

Vascular Deformation Mapping of Abdominal Aortic Aneurysms

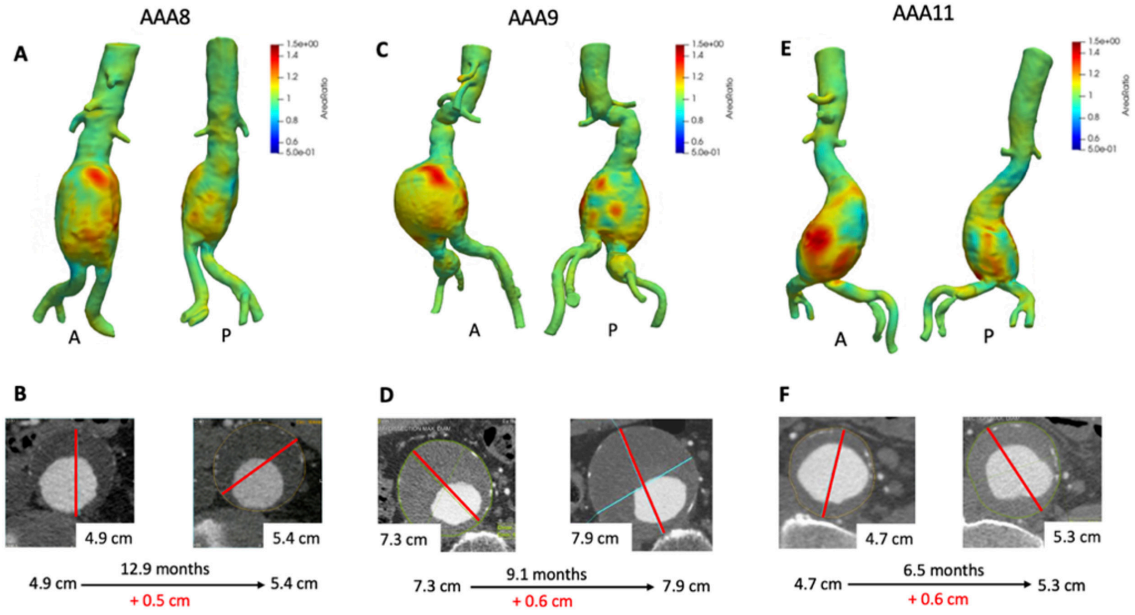
D Braet MD; J Eliason MD; CA Figueroa PhD; N Burris MD

Objective: Vascular deformation mapping (VDM) is a novel technique that uses deformable image registration to quantify three-dimensional changes in aortic wall geometry from computed tomography angiography (CTA). The objective of this study was to investigate the feasibility of the VDM technique for 3D assessment of growth of abdominal aortic aneurysm (AAA) dimensions using routine clinical CTA data from patients undergoing imaging surveillance.

Methods: Patients with infrarenal AAAs between June and August 2020 were identified. Patients were included if they had infra-renal AAAs and ≥2 available good quality CTAs. Patients were excluded if they suboptimal imaging, non-contrast CT scans, and/or non-infrarenal AAA. AAA volume was segmented using from the sub-diaphragmatic abdominal aorta to the iliac bifurcation and VDM analysis was then completed. VDM involves a multi-step image registration of aortic CTA studies to generate a deformation field which is then used to quantify localized aortic growth in a 3D fashion. Patient characteristics, maximum diameter, and AAA volume were obtained. Pearson's correlation coefficient was used to assess correlation between continuous variables (p-value of <0.05 was considered significant for all statistical tests).

Results: Ten patients with infrarenal AAA and adequate imaging were identified. Seven patients had VDM analyses that were deemed reliable. A majority of patients were male (8/9, 89%%) and either former or current smokers (8/9, 89%%). Average age was 65.1 ± 9.6 years (range: 56-82 years). One patient had a history of peripheral artery disease (PAD) and 4 patients had a history of coronary artery disease (CAD). Three patients had minimal to no growth (0.0-0.3 cm), three patients had mild to moderate interval growth (0.4-0.9 cm), and one patient had large interval growth (≥1.0 cm). VDM growth maps identified regions of aortic growth which were not captured with maximum AAA diameter (Figure 1).

Conclusion: VDM is a feasible technique to measure changes in the size of infrarenal AAAs using routine CTA data acquired in patients undergoing routine imaging surveillance. VDM may be a useful adjunct for pre-surgical imaging surveillance and planning and yields both a quantitative measurement of localized changes in aortic surface area and a qualitative assessment of the unique growth patterns in AAA in a manner that is not achievable by existing techniques.



Ischemic Necrosis of the Abdominal Wall Secondary to Aortic Occlusion

S Morris, BA; R Beaulieu, MD; J Eliason, MD

Chronic aortic occlusion typically manifests with claudication, rest pain or ischemic tissue loss. Treatment, whether open or endovascular, aims to restore normal perfusion to the lower extremities and pelvis. A 62-year-old female with a history of smoking, hypertension and stroke presented with a 4-month history of progressive, painful necrotic ulcerations of the infraumbilical abdominal wall. She also described a one-year history of progressive claudication and burning in the feet. ABIs were less than 0.2 bilaterally and CTA demonstrated infrarenal aortic occlusion with thrombosis of a small abdominal aortic aneurysm. Celiac and superior mesenteric arteries were patent, while an aberrant origin of the middle colic artery arising from the infrarenal aortic neck reconstituted flow to the pelvis via collateralization to an occluded inferior mesenteric artery. A 14 mm x 7 mm Rifampin-soaked Hemashield aorto-bi-femoral bypass with middle colic re-implantation resulted in normalization of ABIs (1.17 R, 1.20 L) and interval healing of the abdominal wall ulcers within 2 months of operation. 12-year clinical follow-up revealed no recurrent symptoms of claudication, rest pain or abdominal wall ulcers.

A protein-based machine learning approach to the identification of inflammatory subtypes in pancreatic ductal adenocarcinoma

Kelly M. Herremans, MD, Steven J. Hughes, MD

Background/Objectives: The inherently immunosuppressive tumor microenvironment along with the heterogeneity of pancreatic ductal adenocarcinoma (PDAC) limits the effectiveness of available treatment options and contributes to the disease lethality. Using a machine learning algorithm, we hypothesized that PDAC may be categorized based on its microenvironment inflammatory milieu.

Methods: Fifty-nine tumor samples from patients naïve to treatment were homogenized and probed for 41 unique inflammatory proteins using a multiplex assay. Subtype clustering was determined using t-distributed stochastic neighbor embedding (t-SNE) machine learning analysis of cytokine/chemokine levels. Statistics were performed using Wilcoxon rank sum test and Kaplan-Meier survival analysis.

Results: t-SNE analysis of tumor cytokines/chemokines revealed two distinct clusters. In pancreatic head tumors, patients in group 2 (N=26) were more likely to be diabetic (p=0.027), but experienced less intraoperative blood loss (p=0.0008). Though there were no significant differences in survival (p=0.161), the inflammatory group trended toward longer median survival by 9.205 months (11.28 vs. 20.48 months).

Conclusion: A machine learning algorithm identified two distinct subtypes within the PDAC inflammatory milieu, which may influence diabetes status as well as intraoperative blood loss. Opportunity exists to further explore how these inflammatory subtypes may influence treatment response, potentially elucidating targetable mechanisms of PDAC's immunosuppressive tumor microenvironment.

Ventral and Incisional Hernia Recurrence up to 2 Years After Initial Repair in a Population-Based Registry

Brian T Fry, MD, MS; Alexander K Hallway, BA; Ryan A Howard, MD, MS; Anne P Ehlers, MD, MPH; Sean M O'Neill, MD, PhD; Michael A. Rubyan, PhD, MPH; Dana A Telem, MD, MPH; Jenny M Shao, MD

Introduction: Current estimates of long-term ventral hernia recurrence fail to capture non-operative recurrence and undesirable symptoms following repair. Moreover, contemporary work is limited by the inability to pair these outcomes with clinically nuanced, population-based data. Thus, we incorporated the Ventral Hernia Recurrence Inventory (VHRI) patient reported outcome tool into our state-wide clinical registry to better understand this relationship.

Methods: We analyzed patients from the Michigan Surgical Quality Collaborative's Core Optimization Hernia Registry who underwent ventral or incisional hernia repair between January 1, 2020 - October 31, 2021. Patients were surveyed 1-2 years postoperatively using the VHRI, a validated patient reported outcome tool with a sensitivity for clinical recurrence of 85-96%. Multivariable logistic regression was used to evaluate patient reported symptoms of recurrence while adjusting for patient, operation, and hernia specific characteristics.

Results: Complete data were available for 1,094/4,137 patients (26.4% response rate). Responders were similar overall to non-responders. A total of 16.6% answered yes to "Do you feel your hernia has come back?", while 21.0% answered yes to "Do you feel or see a bulge?", and 26.6% answered yes to "Do you have pain or symptoms at the site?" Age (aOR 0.96 [95% CI 0.94-0.98], 0.96 [0.94-0.98], 0.95 [0.93-0.97]) and prior hernia repair (aOR 3.2 [1.8-5.8], 2.6 [1.5-4.5], 2.6 [1.5-4.4]) were the only variables associated with answering "yes" to each of the 3 VHRI questions.

Conclusion: This study is the first to our knowledge that pairs clinically nuanced hernia data with patient reported recurrence at the population level. Concerningly, we found that up to 1 in 4 patients reported symptoms of ventral hernia recurrence 1-2 years after repair, a 5-fold increase over established reoperative recurrence rates.

Question	Yes	95% confidence interval
"Do you feel your hernia has come back?"	16.6%	(14.4-19.9%)
"Do you feel or see a bulge?"	21.0%	(18.6-23.6%)
"Do you have pain or symptoms at the site?"	26.6%	(24.0-29.3%)

Novel Technique for Testing Drug-Coated Balloons (DCB) in Deep Veins In Vivo

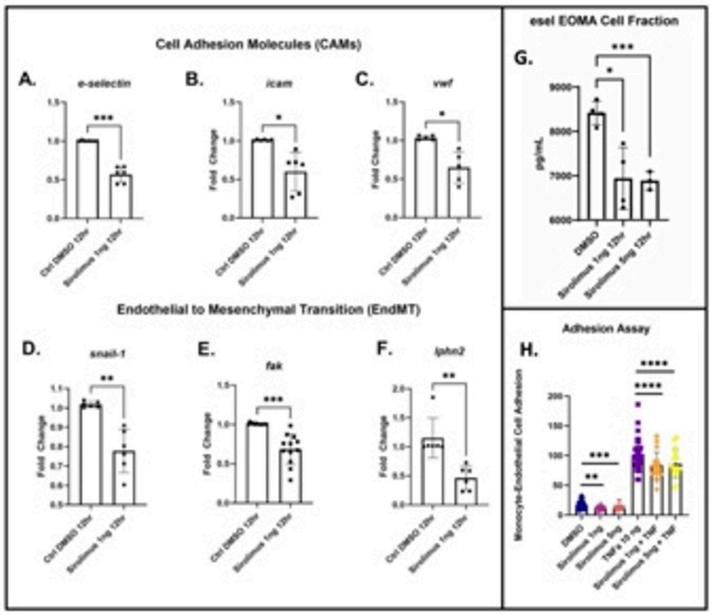
OY Moreno Rocha, MD; K Kumar, BS; S Rocco, MS; S Sharma, MD, PhD; CE Luke, LVT; L Durham, LVT; A Clay, RVT, RDCS; DD Myers, DVM, MPH; T Wakefield, MD; P Henke, MD; AT Obi, MD.

Objective: Chronic deep venous occlusions, leading to outflow obstruction in dialysis patients and post-thrombotic syndrome (PTS) in DVT patients, are often treated with balloon venoplasty and stenting to restore flow and improve limb outcomes. In-stent restenosis (ISR) and occlusion are primary reasons for late intervention failure and are hypothesized to be partly driven by venous endothelial cells (VECs). mTOR inhibitors might impact thrombotic and fibrotic pathways on VECs.

Methods: Immortalized murine VEC (EOMA, ATTC #CRL-2586) were stimulated with sirolimus (1ng) and vehicle (DMSO) performing quantitative real-time PCR (qRT-PCR) panel for cellular adhesion molecules (CAMs), P selectin, E selectin, vWF and endothelial to mesenchymal transformation (EndMT) markers, snail-1, FAK, and lphn1. Confirmatory ELISA was performed as indicated. Functional adhesive properties of endothelial cells were tested with an adhesion assay. For the in vivo portion, Sprague Dawley rats (n=4, 250-400g) were anesthetized (isoflurane). IVC diameter measured by ultrasound. Infrarenal IVC was exposed using a midline laparotomy, side branches ligated, posterior venous branches cauterized, and micro-clips temporarily placed. A 0.014 sharpened guidewire with a drug-coated balloon (DCB, nominal sirolimus dose of 3.0 μg/mm^2) back-loaded was inserted retrograde into the infrarenal IVC. 3x10 mm DCB were inflated for 3 minutes based on ultrasound AP IVC diameter (19 to 35 mm) up to 15% overstretch between 6.5 to 16 atm. After DCB inflation/deflation, the entire system was removed, and U-stitch was tightened for hemostasis. IVCs were harvested after 24 hours to measure the concentration of locally delivered Sirolimus (μg/mm2) on the IVC.

Results: Sirolimus significantly blunted transcription of cellular adhesion molecules (CAMs) and mediators of EndMT, protein expression of E-Selectin, and monocyte-endothelial cell adhesion in vitro up to 12 hours after a single stimulation with 1 ng. Figure 1. We established a new in vivo model with 75% survival in initial proof-of-concept experiments. Local IVC sirolimus concentration was 0.45 ± 0.20 μg/mm2 in vivo.

Conclusion: IVC retrograde cannulation via U-stitch and a sharpened guidewire is a viable animal model for testing venous DCBs. Sirolimus inhibits VEC CAMs critical for thrombus initiation and EndMT mediators involved in PTS remodeling. Sirolimus significantly reduces E-selectin protein levels and monocyte-endothelial cell adhesion. Future DCB research on adhesive and fibrotic phenotypes is required.



Do We Have the Capacity to Abandon Inpatient Care at Rural Hospitals?

SL Schaefer, MD; AM Ibrahim MD, MSc

Objective: In the face of an alarmingly high rate of rural hospital closures, on January 1, 2023, Congress created a new hospital designation for struggling rural hospitals – the rural emergency hospital (REH). Rural emergency hospitals receive enhanced federal funding to maintain outpatient and emergency care but must close their inpatient units in exchange. Little is known about whether nearby hospitals have adequate capacity to absorb inpatient services from rural emergency hospitals and what the additional travel burden might be for rural patients to receive inpatient care.

Methods: We identified 1,447 REH-eligible hospitals (critical access hospitals or rural hospitals with less than 50 beds) and their corresponding hospital characteristics using the American Hospital Association Annual Survey. We then identified the nearest non-REH-eligible hospital by driving distance. We obtained the weekly inpatient census of REH-eligible hospitals and the weekly number of available staffed inpatient beds at the neighboring hospital from the Department of Health and Human Services from 4/1/2020 to 3/14/2023.

Results: The median daily inpatient census at REH-eligible hospitals was 7.6 (IQR 5.3-12.1) and the next nearest hospital had a median of 23.1 available beds (IQR 13.3-42.2) (Table). The next nearest hospital was a median of 31.5 miles (IQR 22.6-49.0) driving distance and 41 minutes (IQR 31-59) driving time away from the REH-eligible hospital. For 625 (43%) REH-eligible hospitals, the nearest hospital did not have the capacity to accommodate their inpatient census for at least one week each year. Of these, there were 262 (13%) REH-eligible hospitals where the next nearest hospital did not have the capacity to accommodate their inpatient census for at least 20 weeks each year. A median of one and up to 18 REH-eligible hospitals relied on the same non-REH hospital as the nearest hospital.

Conclusion: As policymakers and hospital leaders consider REH adoption, a regional understanding of hospital inpatient bed capacity may guide where the reallocation of inpatient resources is feasible. For some REH-eligible hospitals, the high capacity of neighboring hospitals may limit transfer availability.

Table. Weeks per Year with Insufficient Bed Capacity at the Next Nearest Hospital to REH-Eligible Hospitals.

	Total	0 weeks	0-9 weeks	10-20 weeks	>20 weeks	P-value
	N=1,445	N=552	N=448	N=183	N=262	
No. REH Beds Occupied	8 (5-12)	6 (5-9)	7 (5-11)	9 (6-13)	13 (9-18)	<0.001
No. Empty Beds at Nearest Hosp.	23 (13-42)	42 (26-72)	23 (15-35)	16 (11-23)	9 (5-14)	<0.001
Occupancy of Nearest Hosp. (%)	67% (50-81%)	57% (43-73%)	68% (52-81%)	77% (59-87%)	77% (64-89%)	<0.001
Insufficient Capacity at Nearest Hosp., % weeks per year	6% (0-29%)	0 (0-1%)	8% (4-13%)	30% (25-35%)	62% (49-78%)	<0.001
Travel Time to Nearest Hospital, minutes	41 (31-59)	43 (33-60)	42 (31-62)	41 (32-58)	37 (28-51)	<0.001
Travel Distance to Nearest Hosp., miles	32 (23-49)	34 (25-52)	32 (22-51)	32 (23-49)	27 (20-40)	<0.001

*All values presented as median (IQR)

Failed Extubation After Primary Repair of Type C Esophageal Atresia: Frequency and Risk Factors

PN Scalise, MD; DC Koo, MD; A Kamran, MD; S Izadi; S Mohammed, MD; B Zendejas, MD; FR Demehri, MD

Objective: Early extubation following esophageal atresia and tracheoesophageal fistula (EA/TEF) repair is generally desired to reduce ventilator-associated morbidity, though some patients fail initial extubation. We sought to establish the frequencies of early extubation and reintubation, and identify risk factors associated with extubation failure in newborns after primary repair of EA/TEF. We hypothesized that concomitant cardiac anomalies and prematurity would be associated with extubation failure in this cohort.

Methods: We conducted a single-center retrospective review of all consecutive newborns with EA/TEF (Gross type C) who underwent primary repair between 2010-2020. Long-gap EA and reoperative patients were excluded. Data were collected on patient characteristics, intraoperative details, and postoperative course - focusing on respiratory outcomes, ventilation status, and relevant complications. Patients who were extubated early (defined as postoperative day [POD] 0-1) were compared to patients who underwent delayed extubation (POD ≥2). Patients who were successfully extubated initially were also compared to patients who required reintubation.

Results: During the study period, 69 newborns underwent primary repair of Type C EA/TEF. Of these, 62 patients were successfully extubated on first attempt and seven patients required a total of 10 reintubation episodes. Failed extubation was attributed to tracheobronchomalacia (n=4), mucous plugging (n=2), and pneumothorax (n=1). All reintubations occurred within 3 days of initial extubation.

The presence of concomitant congenital anomalies was found to be a significant predictor of reintubation. Patients who failed initial extubation had a mean of 3.1 congenital malformations in addition to EA/TEF, compared to 2.1 in those who were definitively extubated (p=0.05). Within the VACTERL association, anorectal and renal anomalies were significantly more prevalent in the reintubation group. There were no significant differences in gestational age, surgical approach, operative time, or incidence of steroid administration between the successful extubation and reintubation groups.

Within our cohort, 24 patients were extubated early on POD 0-1 (34.8%) and the remaining 45 were extubated on POD2 or later. There was no significant difference in reintubation, or incidence of postoperative anastomotic leak or stricture between neonates who underwent early compared to delayed extubation; however, significantly more delayed extubation patients were born premature and had lower birth weights.

Conclusion: Failed extubation occurs in roughly 1 in 10 newborns after primary repair of Type C EA/TEF. Patients with a greater number of concomitant congenital anomalies were more likely to experience extubation failure. In patients who meet clinical criteria for extubation, early extubation on POD 0-1 was not associated with increased risk of reintubation.

Essential Investments for Surgeon Well-Being: Augmenting Resources to Improve Camaraderie and Spaces

N Shah, MD; G Sandhu, PhD; C Vemuri, MD; J Evans, MS; L Rivard, MHA; C Hubbard, MEd; B Palazzolo, PA-C; K Cuthbert, MHSA; EE Perrone, MD

Objective: Action to support well-being in the Michigan Medicine Department of Surgery is a matter of utmost urgency. Data from the Press Ganey, LLC 2022 Employee Engagement report indicates that faculty, trainees, and Advance Practice Providers (APPs) are experiencing high levels of post-pandemic burnout and negative attrition trends. Executive leadership recognizes well-being as a top institutional priority, and the Department of Surgery is at the forefront of exploratory efforts to learn how to create the greatest impact on a positive climate and retention of our clinicians.

Methods: The Department of Surgery Culture Crew exists to: (1) foster a workplace in which individuals are supported to advance and thrive, (2) intentionally promote and protect an environment which cultivates and supports individual differences and honors our shared values of inclusion, collaboration, and wellness, and (3) encourages a sense of pride and excellence in our daily work. In April 2023, the Culture Crew hosted a retreat with a focus group of 24 participants (faculty, staff, trainees, and APPs) from across the department. Teams reviewed the 2022 Employee Engagement data, focusing specifically on key drivers of burnout which was characterized by physical or emotional exhaustion, detachment, or a low sense of personal accomplishment.

Results: According to 2022 survey data, 45% of clinical faculty and 59% of APPs exhibit signs of burnout. Faculty showed a decrease in the percentage of respondents who "would stay with Michigan Medicine if offered a similar position elsewhere" with only 56% agreeing in 2022 while 70% agreed in 2021 (the sample size also decreased 26%, signaling decreased faculty engagement). On a positive note, Department of Surgery members reported great pride in the impact of their work and upwards of 80% of faculty, staff, and APPs feel empowerment and trust in their immediate supervisors. Staff well-being is strong and there is incredible opportunity and demonstrated commitment to galvanize and care for our extraordinary practitioners. At the Retreat, areas of immediate need to improve well-being were identified and included work unit connection, nutritional access, and clinical rest spaces.

Conclusion: Further investigation and investment in restorative programming and team camaraderie will be critical to achieve distinguished clinical excellence, discovery, and innovation, and to continue to deliver compassionate patient care of the highest caliber. Decompression is a key metric in the Press Ganey, LLC survey; studies of burnout and resilience suggest that the ability to decompress may be more critical to engagement than meaningful impact. Used across industries, Decompression Zones are spaces designed to assist in the transition and psychological adjustment from the outside world into the work or operative spaces, and vice versa. A need identified is the creation of multiple Decompression Zones where clinicians can nourish themselves, rest, connect, and destress with others.

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	William J. Melvin, MD	University of Michigan
	Poojah A. Shah, MD	Yale University
	Sriganesh B. Sharma, MD, PhD	University of Michigan
2021	Ryan Howard, MD, MS	University of Michigan
	Stan Kalata, MD	University of Michigan
	Kerry Madison, MD	University of Michigan
2022	Drew Braet, MD	University of Michigan
	Alexis Antunez, MD	Brigham and Women's Hospital
	Neil Blok, MD, PhD	University of Michigan
	Isabelle Curran, MD	Maine Medical Center
	Shukri Dualeh, MD	University of Michigan
	Brian Griffith, MD	University of Michigan
	Kevin Mangum, MD, PhD	University of Michigan
	Nathaniel Parchment, MD	University of Michigan
	Ashley Siegel, MD	Brigham and Women's Hospital
	Chien-Wei Wang, MD	University of Michigan

Milton Bryant-Margaret Arnold Coller Meeting Award

1998	Douglas Turner, MD	University of Michigan
1999	Peter Henke, MD	University of Michigan
2000	Matthew J. Eagleton, MD	University of Michigan
2001	Daniel D. Myers, Jr., DVM	University of Michigan
2002	Vladimir Grigoryants, MD	University of Michigan
2003	Jonathan L. Eliason, MD	University of Michigan
2004	Derek Woodrum, MD	University of Michigan
2005	Kevin Hannawa, MD	University of Michigan
2006	Brian Knipp, MD	University of Michigan
2007	Dawn Barnes MD	University of Michigan
2008	Nick Osborne, MD	University of Michigan
2009	Barry Deatrick, MD	University of Michigan
2010	Paul DiMusto, MD	University of Michigan
2011	Frank C. Vandy, MD	University of Michigan
2012	Sean English, MD	University of Michigan
2013	Micah Girotti, MD	University of Michigan
2015	Andrea Obi, MD	University of Michigan
2016	Anna Boniakowski, MD	University of Michigan
2016	Frank Davis, MD	University of Michigan
2016	Benjamin Jacobs, MD	University of Michigan
2016	Alex Kim, MD, PhD	University of Michigan
2016	Alyssa Mazurek, BS	University of Michigan
2016	Joshua Underhill, BS	University of Michigan
2017	Andrew Kimball, MD	University of Michigan
2017	Benjamin Jacobs, MD	University of Michigan
2018	Andrew Kimball, MD	University of Michigan
2019	Anna Boniakowski, MD	University of Michigan
2021	Jame Melvin, MD	University of Michigan

Jobst Awards

1972 Fate of Autogenous Saphenous Vein Aortorenal Grafts
James C. Stanley, MD — *University of Michigan*

1973 Xenon 133 Clearance in the Diagnosis of Arterial Occlusive Disease
Thomas A. Miller, MD — *University of Michigan*

1974 Viability of Vein Segments Preserved with Dimethysulfoxide in Liquid Nitrogen
Thomas R. Weber, MD — *University of Michigan*

1975 Tissue Hydrogen Ion Concentration in Ischemic Muscle: Effects of Gradual and Acute Arterial Occlusion with and without Acute Venous Insufficiency
Bruce L. Gewertz, MD — *University of Michigan*

1976 Multiple Subcritical Arterial Stenosis Effect on Poststenotic Pressure and Flow
D. Preston Flanigan, MD St. Joseph Mercy Hospital — *University of Michigan*

1977 Hemodynamic Effects of Sympathectomy in Ischemic Canine Hind Limbs
Jack L. Cronenwett, MD — *University of Michigan*

1978 Antigenicity of Venous Allografts
Stephen Axthelm, MD — *Oregon*

1979 Cultured Autogenous Endothelial Cells Seeding Prosthetic Vascular Grafts
Linda M. Graham, MD — *University of Michigan*

1980 Clinical Implications of Altered Central and Peripheral Microcirculatory Hemodynamic During Continuous Nitroglycerin Infusion in a Canine Model
Andris Kazmers, MD — *University of Michigan*

1981 Myocardial Blood Flow and Aortic Occlusion: Effect of Sodium Pentobarbital Depression and Nitroglycerin Infusion
Daniel H. Raess, MD and Brian W. Hummel, MD
University of Texas Health Science Center at Dallas

1982 Adverse Cardiovascular Responses and Platelet Kinetics Following Systemic Administration of Heparin-Protamine Sulfate
Thomas W. Wakefield, MD — *University of Michigan*

1983 A Comparison of Retrograde Cardioplegia Versus Antigrade Cardioplegia in the Presence of Coronary Artery Obstruction
Steven R. Gundry, MD — *University of Michigan*

1984 Capillary Blood Flow - Videodensitometry in the Atherosclerotic Patient
Richard W. Schwartz, MD — *University of Kentucky*

1985 Interaction of Ischemic and Mechanical Injury in the Pathogensis of Acute Aortic Dissection
Michael A. Zatina, MD — *University of Chicago*

1986 Glucose Administration Increases Neurologic Deficit Following Aortic Occlusion in the Rabbit Spinal Cord Ischemia Model
Edward F. Lundy, MD — *University of Michigan*

1987 Hemodilution and Intestinal Reperfusion Injury
Charles L. Mesh, MD — *University of Chicago*

1988 The Use of Magnetic Resonance Imaging in the Diagnosis of Superior Mesenteric Artery Occlusion
Robert M. Moglia, MD — *UMDNJ Robert Wood Johnson (Princeton)*

1989 In Vivo Studies of Polyurethane and Polyetrafluroethylene Aortoiliac Grafts in a Canine Model
Thomas E. Brothers, MD — *University of Michigan*

1990 Arterial Wall and Vein Graft Response to Blood Flow Reduction in Rabbits
Spencer W. Galt, MD — *Dartmouth-Hitchcock Medical Center*

1991 Delayed Wound Complications Following In-Situ Bypass
William B. Schroder, MD — *UMDNJ Robert Wood Johnson (Princeton)*

1992 Antiphospholipid Antibodies in General Vascular Surgery: A Cross-Sectional Study
Richard W. Chitwood, MD — *St. Joseph Mercy Hospital*
Oregon Health Sciences University

1993 Neutrophil Depletion Attenuates Human Intestinal Reperfusion Injury
Amy Sisley, MD — *University of Chicago*

1994 Cell Cycle-Specific Effects of Nitric Oxide on Cell Proliferations: Implications for Vascular Healing
Rajabrata Sarkar, MD — *University of Michigan*

1995 Nitric Oxide Inhibits Smooth Muscle Cell Proliferation and Alters Polyamine Metabolism
Michael J. Buckmaster, MD — *University of Kentucky*

1996 Insulin-Like Growth Factor-1 and Peripheral Vascular Disease
Sandhya K. Balaram, MD — *Creighton University*

1997 Neutrophil (PMN) Secretion of IL-6 Precedes Loss of Endothelial Barrier Function
Benjamin C. Marcus, MD — *University of Chicago*

1998 Inhibition of Endothelial Migration by Oxidized LDL: Differential Protection by Vitamin E.
John A. VanAalst, MD — *Cleveland Clinic*

1999 Oxidative Stress Causes Increased Collagen Production by Vascular Smooth Muscle Cells
Jeffry D. Cardneau, MD — *University of Michigan*

2000 Proinflammatory Chemokine Administration Enhances Venous Thrombosis Resolution
Peter K. Henke, MD — *University of Michigan*

2001 Decrease in Fibrin Content of Venous Thrombi in Selectin and IL-10 Deficient Mice
Vita V. McCabe, MD — *St. Joseph Mercy Hospital*

2002 A Nonintrinsic Regional Basis for Increased Infrarenal Aortic MMP-9 Expression and Activity
Gorav Ailawaid, MD — *University of Michigan*

2003 Covered Stents for Injuries of the Subclavian and Axillary Arteries
Eleftherios Xenos, MD — *University of Tennessee*

2004 Tamoxifen Attenuates Development of Experimental Abdominal Aortic Aneurysms by Upregulating Catalase
Vladimir Grigoryants, MD — *University of Michigan*

2005 CCR2-/-Knock-out Mice are Protected from Elastase Induced Aortic Aneurysm Formation
Christopher Longo, MD — *University of Michigan*

2006 Differential Regulation of Aortic Growth in Male and Female Rodents During Experimental Abdominal Aortic Aneurysm Development
Brenda Cho, PhD — *University of Michigan*

2007 Use of a Regional Prospective Vascular Surgery Database to Predict Stroke Following Carotid Endarterectomy
Philip P. Goodney, MD — *Dartmouth-Hitchcock Medical Center*

2008 Predicting One Year Mortality After Elective AAA Repair: When NOT to Operate
Adam Beck, MD — *Dartmouth-Hitchcock Medical Center*

2009 Inflammatory Biomarkers Are Associated with DVT
Eduardo Ramacciotti, MD — *University of Michigan*

2010 Post Thrombotic Syndrome: Evaluation with Ultrasound and Circulating Markers of Inflammation
K. Barry Deatrick, MD — *University of Michigan*

2011 Increased PAI-1 in Females Compared to Males is Protective for Abdominal Aortic Aneurysm Formation in a Rodent Model
Paul D. DiMusto, MD — *University of Michigan*

2012 Increased 18F-FDG Uptake in the Aortic Wall of B-aminopropionitrile Exposed Rats Is Predictive of Rupture in a Novel AAA Rupture Model
Sean J. English, MD — *University of Michigan*

2013 PAI-1 and Vitronectin as Potential Therapeutic Targets in the Treatment of DVT: Insights from Gene Deleted Mice
Andrea Obi, MD — *University of Michigan*

2014 Healthcare Delivery Redesign for EVAR Leads to Quality Improvement and Cost Reduction
Courtney Warner, MD, MS — *Dartmouth-Hitchcock Medical Center*

2015 Histone Methylation in Type 2 Diabetic Macrophages Influences IL-1B Levels and Wound Healing
Andrew S. Kimball, MD — *University of Michigan*

2016 Human mesenchymal stem cell-derived microvesicles mitigate aortic smooth muscle cell activation via miR-147 and attenuate aortic aneurysm formation
Ashish K. Sharma, MBBS, PhD — *University of Virginia*

2017 Ly6CLo Monocyte/Macrophages are Essential for Thrombus Resolution in a Murine Model of Venous Thrombosis
Andrew S. Kimball, MD — *University of Michigan*

2018 Prolonged Partial Resuscitative Endovascular Balloon Occlusion of the Aorta (pREBOA) Is Safe In Severe Hemorrhagic Shock Model Without Traumatic Brain Injury
Aaron Williams, MD — *University of Michigan*

2019 High mortality following post-operative myocardial infarction after major vascular surgery despite use of evidenced based therapies
Robert Beaulieu, MD — *Michigan Medicine*

2021 Coronavirus Infection may Induce a Hyperfibrinolytic State Through Upregulation of the Epigenetic Enzyme MLL1/KMT2A in Monocytes and Macrophages
Sriganesh Sharma, MD, PhD — *University of Michigan*

Frederick A. Coller Surgical Society
Resident Research Awards

1985 Cardiopulmonary Effects of the Pneumatic Anti-Shock Garment (PASG) on Swine with Diaphragmatic Hernia
Grace Rozycki, MD — *University of Tennessee*

1986 Myocardial and Serum Calcium Flux During Hemorrhagic Shock and Resuscitation: Effects of Cardiovascular Performance
William R. Fry, MD — *University of Texas Health Science Center at Dallas*

1987 Factors Affecting Rapid Fluid Resuscitation with Large-Bore Catheter Introducers
Scott Stevens, MD — *University of Tennessee*

1988 Hypothermia Induced Blood Coagulopathy in Pigs
David Staab, MD, Victor Sorenson, MD — *Henry Ford Hospital*

1989 The Role of TNF in the Pathophysiologic Alterations Following Hepatic Ischemia/Reperfusion
Lisa Colletti, MD — *University of Michigan*

1990 31p NMR Spectroscopy in Transient Warm Hepatic Ischemia Following Glucocortoid Administration
William F. Marterre, Jr., MD — *University of Kentucky*

1991 Hypoxia-Induced Bacterial Translocation in the Puppy
Joseph L. Lelli, Jr., MD — *St. Joseph Mercy Hospital University of Michigan*

1992 Dual Pathways Regulate Neurite Outgrowth in Enteric Neurons
Diane M. Simeone, MD — *University of Michigan*

1993 Perfluorocarbon Ventilation Improves Alveolar Recruitment and Pulmonary Compliance in the Setting of Atelectasis
Richard N. Tooley, MD — *St. Joseph Mercy Hospital University of Michigan*

1994 Insulin-Like Growth Factor 1 (1GF-1) Enhances Reversal of Diabetes by Fetal Pancreas Isografts (FP)
Gregg A. Adams, MD — *Stanford University*

1995 Fluconazole Increases Bactericidal Activity of Neotrophils
Siddharth Bass, MD — *University of South Florida*

1996 Perfluorocarbon Partial Liquid Ventilation Improves Gas Exchange While Increasing Diminished Functional Residual Capacity in an Animal Model of Acute Lung Injury
Paul G. Gauger, MD — *University of Michigan*

1997 Loss of Expression of the Apoptosis Mediating Protein FAS in Esophageal Adenocarcinoma
Steven J. Hughes, MD — *University of Michigan*

1998 Evaluation of an Extracorporeal Liver Assist Device Utilizing Selective Hemodiafiltration in an Animal Model of Hepatic Failure
Samir S. Awad, MD — *University of Michigan*

1999 Partial Respiratory Supoprt with an Artifical Lung Perfused by the Right Ventricle: Chronic Studies in an Active Animal Model
William Lynch, MD — *University of Michigan*

2000 High Pressure Ventilation Injury Results in Increased Lung Cytokine Production
Steven R. Posner, MD — *University of Michigan*

2001 An Oncolytic Herpes Virus Selectively Destroys Colon Carcinoma
Timothy Pawlik, MD, MPH — *University of Michigan*

2002 Enhancement of Human Dendirtic Cell-Based Tumor Vaccines through Chemokine Gene Modification
Alicia Terando, MD — *University of Michigan*

2003 Induction of Angiogenesis by a Truncated Recombinant PAI-l Protein
Erin Rowell, MD — *Dartmouth-Hitchcock Medical Center*

2004 Survival of Severe Congenital Diaphragmatic Hernia has Morbid Consequences
Raul A. Cortes, MD — *University of California San Francisco*

2005 Breast Cancer Management Changes Resulting from Case Review at a Comprehensive Cancer Center
Erika A. Newman, MD *University of Michigan*

2006 Ketone Resuscitation Improves Survival and Decreases Ischemic Reperfusion (I/R) Injury in the Intestine after Hemorrhagic Shock in a Rat Model
Nabil Tariq, MD *William Beaumont Hospital Wayne State University*

2007 Platelet Function Normalizes Sooner than Expected Following Discontinuation of Chronic Clopidogrel or Aspirin Prophylaxis
Zulfiqar Cheema, MD *William Beaumont Hospital*

2008 Ketone Resuscitation Improves Cardiac Contractility After Hemorrhagic Shock in a Swine Model
Rachit D. Shah, MD *William Beaumont Hospital*

2009 Improving Outcomes in Sepsis by Implementation of a Sepsis Initiative
L. Marco Hoesel, MD *St. Joseph Mercy Hospital*

2010 The Serotonin Re-Uptake Transporter Alters Intestinal Mucosal Architecture in Mice
Erica R. Gross, MD *Morgan Stanley Children's Hospital-Columbia Univ.,New York, NY*

2011 MiR-675 Overexpression in AFP-secreting HCC
Whalen Clark, MD *Moffitt Cancer Center*

2012 Postoperative Surgical Site Infections after Incisional Ventral Hernia Repair – A Propensity Matched Comparison of Open and Laparoscopic Techniques
Christoldoulos Kaoutzanis, MD *St. Joseph Mercy Hospital*

2013 A Randomized Trial of Pain Control with Continuous Wounds Catheters Versus Epidural Analgesia in Colorectal Surgery
Stephan W. Leichtle, MD *St. Joseph Mercy Hospital*

2014 Development of a Clinically Applicable Fully Endoluminal Small Bowel Device for Intestinal Lengthening
Farokh Demehri, MD *University of Michigan*

2015 Generation of Functional Insulin-Producing cells from Pluripotent Stem Cell Derived Human Intestinal Tissue
Priya Dedhia, MD *University of Michigan*

2016 The Artificial Placenta: Does Lung Development Continue During Extracorporeal Support?
Joseph T. Church, MD *University of Michigan*

2017 Predicting Post-Surgical Survival in Pancreatic Adenocarcinoma Using a Tumor Protein Immune Signature
Michael H. Gerber, MD *University of Florida Health*

2018 Profile of the High Value Colectomy: Outcomes and Efficiency
Joceline Vu, MD *University of Michigan*

2019 Improved therapeutic efficacy of T-cells derived from human pancreatic cancer draining lymph nodes in combination with immune modulators in a xenograft model of metastatic human pancreatic cancer
Zachary Senders, MD *University Hospitals, Cleveland*

2021 Coronavirus Induces Diabetic Macrophage-Mediated Inflammation via IFNβ Regulation of SETDB2
William James Melvin, MD *University of Michigan*

Frederick A. Coller Surgical Society
Traveling Fellowships Awardees

1977- 1978

Campbell, Darrell A.
Dempsey, Paul
Hopkins, Sidney
Jordan, Frank
Kirkland, John
Peterson, Al
Whitehouse, W.
Zelenock, Gerald

1978- 1979

Cronenwett, Jack
Feldman, Joel
McGregor, D. Byron
Manders, Ernest
Quinn, Tom
Rose, Scott
Weese, James

1979- 1980

Arneson, Wallace
Benner, Jon
Fink, Aaron
Girardy, James
Gunter, Jack
Hubbard, Steve
Polley, Theodore
Watkins, Wayne

1981- 1981

Allo, Maria
Fosdick, David
Graham, Linda
Lazar, Harold
Lee, Raphael
McLeod, Michael
Rush, Daniel
Scott, Pam

1981- 1982

Brogren, Neil
Edgcomb, Leslie
Ganzel, Brian
Kazmers, Andris
Knudson, Mary
Margaret
Mueller, George
Schouten, Jeffrey
Walsh, Daniel

1982- 1983

Benitez, Pamela
Fry, Richard
Gundry, Steven
Kanter, Kirk
Mazzeo, Robert
Procter, Charles
Williams, Larry
Zwischenberger, Joseph

1983- 1984

Lee, Robert
Lober, Marc
Rustad, David
Sugimoto, Jeffrey
Thirlby, Richard
Thornton, James
Wakefield, Thomas
Walker, William

1984- 1985

Botham, Mark
Ilgenfritz, Frederick
Kern, Kenneth
Lemmer, John
Nielsen, John
Schwartz, Richard
Stirling, Mark
Zwolak, Robert

1985- 1986

Buss, Randall
Endean, Eric D.
Desrochers, Randal
Horowitz, Glenn
Kresowik, Timothy
Merion, Robert M.
Orringer, Jay S.
Udekwu, Anthony O.

1986- 1987

Cilley, Robert
Davis, Garnett J.
Grewe, Bradley
Harper, Steve
Lunday, Edward F.
Noble, Walter C.
Pomerantz, Richard A.
Vincent, Dennis

1987- 1988

Carp, Ned
Cook, Peter
Drake, Daniel
Fry, William
Justice, Jeffrey
Manning, P.
Starkey, Thomas D.
Tagge, Edward P.

1988- 1989

Bentz, Michael
Brothers, Thomas E.
Heiss, Kurt F.
Hirschl, Ronald B.
Ranval, Timothy
Reames, Mark
Turnage, Richard
Yuschak, James V.

Frederick A. Coller Surgical Society
Traveling Fellowships Awardees (Cont.)

1989-1990

Attorri, Robert
Cunningham, John
Munfakh, Nabil
McKee, Thomas
Podrazik Rachel
Schmeling, David
Stovroff, Mark
Zainea, George

1990-1991

Anderson, Harry
Bech, Fritz
Campana, Thomas
Caty, Michael
Colletti, Lisa
Hennein, Hani
Johnson, Steven
Showers, Donna

1991-1992

Bothwell, William
Huber, Tom
Lein, Brian
Lelli, Jr., Joseph L.
Mendeloff, Eric N.
Punch, Jeffrey D.
Smith, Wesley
Steimle, Cynthia

1992-1993

DeMeester, Steven
Flowe, Kenneth
Galt, Spencer
Geiger, James
Hamby, Leigh
McCurry, Kenneth
Moursi, Mohammed
Thomas, Scott

1993-1994

Chitwood, Richard
DeLucia, Al
El-amir, Nabeel
Gerndt, Steven
Pofahl, Walter
Shanley, Charles J.
Tooley, Richard
Wahl, Wendy L.

1994-1995

Buckmaster, Michael
Hain, Jon
Hansen, Nora
Shilyansky, Joel
Simeone, Diane
Sussman, Jeffrey
Sweeney, John
VanCamp, Joan

1995-1996

Alexa, William
Bliss, David
Bongiorno, Philip
Fazzalari, Franco
Fernandez, Forest
Hill, Bradley
Jejarajah, Rohan
Magee, John

1996-1997

Arca, Marjorie
David, Lisa
Few, Julius W.
Fu, Eric
Kimball, Beth
Sherick, Daniel
Waterford, Robert

1997-1998

Gauger, Paul
Geraghty, Patricia
Hawn, Mary
Lee, W. Anthony
Polidor, David
Quick, Rhonda
Smith, Jeffrey
Yood, Steven

1998-1999

Barnhart, Douglas
Benedict, Mary
Downing, LaMiere
Gaffield, James
Killa, Srinivas
Sarosi, Jr., George
Siffring, Isabelle
Zervos, Emmanuel

1999-2000

Awad, Samir
Henderson, E. Lynne
Hughes, Steven
Klein, Peter (Fritz)
Preston, Rich
Scovell, Sherry
Wilkie, Lee

2000-2001

Casetti, Alfredo
Diehl, Kathleen
Griggs, Chauncey
Grossmann, Rafael
Hemmila, Mark
Kreske, Edward
Newman, Seth
Turner, Douglas

Frederick A. Coller Surgical Society
Traveling Fellowships Awardees (Cont.)

2001-2002

Bernard, Andrew
Connors, John
Cowles, Robert
Melnick, David
Myerson, Shari L.
Pawlik, Timothy
Posner, Steven
Starnes, Sandra

2002-2003

Axelrod, David
Blansfield, Joseph
Graziano, Kathleen
Haft, Jonathan
Hirsch, Jennifer
Skelley, Chris
Sullivan, Vita
Young, Curtis

2003-2004

Alessi, Chris
Bloomston, Mark
Boules, Tamer
Buchanan, Claire
Curi, Michael
Englesbe, Michael
Magliocca, Joseph
Miskulin, Judiann

2004-2005

Ailawadi, Gorav
Araim, Omara
Binkley, Charles
Charles, Anthony
Chen, Steven
Lin, Theodore
Rowell, Erin
Welling, Theodore

2005-2006

Blazer, Trey
DuBay, Derek
Franko, Jan
Gupta, Ajay
Lin, Jules
Rivers, Aeisha
Sanger, Claire
Terando, Alicia

2006-2007

Goldfaden, Aaron
Ly, Truc
Osborne, Dana
Saunders, Brian
Schaub, Timothy
Shaikh, Almaas
Segura, Bradley

2007-2008

Ammori, John
Cole, Karin
Fader, Jason
Finan, Kelly
Heidt, David
Huffmann, Lynn(Chip)
Kumer, Sean
Newman, Erika

2008-2009

Almond, Brett
Cannon, Jennifer
Dishinger, Brian
Kapur, Seema
Olson, Annelise
Paquette, Ian
Suryadevara, Sree
White, Matthew

2010-2011

Agle, Steve F
Frankel, Timothy
Harting, Matthew
Hoesel, Marco
Kim, Anne
Lynch, Ray

2011-2012

DiMusto, Paul
Ghaferi, Amir
Hernandez, Jonathan
Mathur, Amit
Mouawad, Nicholas
Osborne, Nick

2012-2013

Bednar, Fillip
Culbertson, Eric
Durling, Luke
Leichtle, Stefan
Martin, Thomas
Rhee, Daniel

2013-2014

Clark, Whalen
Gray, Brian
Hambley, Jana
Kaoutzanis, Christodoulos
Krell, Robert
Obi, Andrea
Sucandy, Iswanto

Frederick A. Coller Surgical Society
Traveling Fellowships Awardees (Cont.)

2014-2015

Halaweish, Ihab
Hambley, Jana
Kavanagh, Crystal
Teman, Nicholas

2015-2016

Iskander, Kendra
Arman, Krikor
Ranganathan, Kavitha
Rose, John
White, Peter

2016-2017

Dedhia, Priya
Kulaylat, Audrey

2017-2018

Carr, Benjamin
Harbaugh, Calista
Kimball, Andrew
Nikolin, Vahagn

2018-2019

Columbo, Jesse
Sheetz, Kyle
Williams, Aaron

2019-2020

Biesterveld, Ben
Felsted, Amy

2020-2021

Calderon, Esteban
Sharma, Sriganesh
Wakam, Glenn

2021-2022

Stan Kalata
Valeria Valbuena
Felix Orelaru

2022-2023

John Mark Becker
Sidra Bonner
Jessica Millar
Andrew Millis
Nathaniel Parchment
Chloe Powell

List of Members

Elected to Membership Fall, 2021

William Joseph Curtiss III
James Melvin
Victoria Sharp
Jeffrey C. Walker

Elected to Membership Spring, 2022

Angela Bailey
Benjamin Biesterveld
Ana DeRoo
Jared Dietze
Ana Felsted
Brian Fry
Patrick Kato
Marian Khalili
Rhami Khorfan
John Montgomery
Matthew Nehs
Robert O'Rourke
Samik Patel
Amanda Price
Daniel Schnurr
Ton Wang
Emily Welker

Elected to Membership Fall 2022

Shailesh Agarwal
John Mark Becker
Drew Braet
Brian Griffith
Philip Hsu
Clare Jacobson
Robert Krell
Jessica Millar
Andrew Millis
Joshua Payne
Roger Ramcharan
Asha Shah
Patrick Suggs
Lee Wilke
Kristen Westfall

Elected to Membership Spring 2023

Michaela Bamdad
Brooke Bredbeck
Craig Brown
Brian Fallon
Michael Kemp
Samantha Rivard
Seth Waits
Glenn Wakam

Family of Dr. Coller

Children

Jean Coller Allen (deceased)

Grandchildren

Leslie Allen Willison (deceased)
Darcy Allen-Young
Arthur W. Allen III
Frederick Coller Allen
Sally Ladd Farley
Christie Ladd Caradonio

Eleven Great Grandchildren
Seven Great Great Grandchildren

Future Meetings

Ann Arbor, Michigan - 2025

Past Meeting Sites

1955 Ann Arbor, Michigan
1956 Salt Lake City, Utah
1957 Richmond, Virginia
1958 Ann Arbor, Michigan
1959 Baltimore, Maryland
1960 Reno, Nevada
1961 Milwaukee, Wisconsin
1962 New Haven, Connecticut
1963 Las Vegas, Nevada
1964 Ann Arbor, Michigan
1965 New York City, New York
1966 Carmel, California
1967 New Orleans, Louisiana
1968 Philadelphia, Pennsylvania
1969 Gearhart, Oregon
1970 Ann Arbor, Michigan
1971 Grand Bahama Island
1972 Lake Tahoe, Nevada
1973 Oglebay Park, W. Virginia
1974 Atlanta, Georgia
1975 Coronado Beach, California
1976 Lexington, Kentucky
1977 Lakeway, Texas
1978 Sunriver, Oregon
1979 Ann Arbor, Michigan
1980 Nags Head, N. Carolina
1981 Tucson, Arizona
1982 Colorado Springs, Colorado
1983 Lake Buena Vista, Florida
1984 Carmel, California
1985 Ann Arbor, Michigan
1986 Lexington, Kentucky
1987 Oakland, California
1988 Grand Rapids, Michigan
1989 Pine Mountain, Georgia
1990 Napa Valley, California
1991 Traverse City, Michigan
1992 Princeton, New Jersey
1993 Las Vegas, Nevada
1994 Ann Arbor, Michigan
1995 Bolton Landing, New York
1996 Colorado Springs, Colorado
1997 Osage Beach, Missouri
1998 Williamsburg, Virginia
1999 Philadelphia, Pennsylvania
2000 Ann Arbor, Michigan
2001 Galena, Illinois
2002 Sea Island, Georgia
2003 Asheville, North Carolina
2004 Nashville, Tennessee
2005 Santa Barbara, California
2006 Ann Arbor, Michigan
2007 Whitefish, Montana
2008 Indianapolis, Indiana
2009 Tampa, Florida
2010 Ann Arbor, Michigan
2011 Napa, California
2012 Annapolis, Maryland
2013 Ann Arbor, Michigan
2014 Branson, Missouri
2015 Amelia Island, Florida
2016 Ann Arbor, Michigan
2017 La Jolla, California
2018 Chatham, Massachusetts
2019 Ann Arbor, Michigan
2021 Ann Arbor, Michigan (Virtual)
2023 Ann Arbor, Michigan

Past International Sites

1979 England
1982 Scandinavia
1985 New Zealand, Australia, Singapore, Hong Kong
1988 Vienna, Budapest, Munich
1995 Italy
1997 Spain, Portugal
1999 France
2001 Greece, Aegean Sea, Turkey
2003 Scandinavia and Russia

Deceased Members

Terry Sinclair - November 26, 2021
Bob Hastings - February 5, 2022
Marty Lindauer - April 19, 2022
Irving Feller - August 13, 2022
Mary East - October 25, 2022
Ray Wojtalik - May 24, 2023

Frederick A. Coller Surgical Society

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