

SESC 2023 ANNUAL MEETING

Feb. 11 - 14, 2023

Savannah, GA

The Westin Savannah Harbor, GA

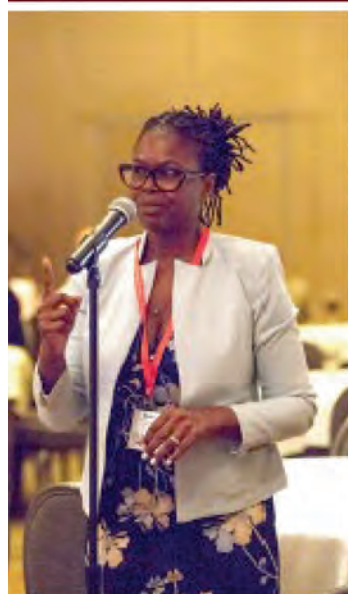


Southeastern Surgical Congress

America's largest regional organization for general surgeons

FINAL PROGRAM

#SESC23



CONTACT

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MONDAY, FEBRUARY 13TH

JOIN US AT 12:15 PM IN THE HARBOR BALLROOM FOR AN
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EDUCATIONAL OBJECTIVES:

Tax Strategies: A novel approach to Research and Development tax strategies that will work for you and put money back in your practice and family's pocket.

Asset Protection: Essential tools to ensure that your practice and family's assets are protected from the threat of lawsuits.

License Protection: Proven strategies to protect your License.

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SESC MISSION STATEMENT

The mission of the Southeastern Surgical Congress (SESC) is to serve as the premier regional surgical organization for general surgeons and sub-specialists.

The SESC is dedicated to the presentation, evaluation, and dissemination of current knowledge and research in all phases of general surgery through an annual meeting and “The American Surgeon” journal. Fellowship and collegiality for all members, professional development for young surgeons, and presentation opportunities for trainees are core principles of the SESC.



PAST PRESIDENTS AND MEETING LOCATIONS

Meeting #	Year	President	Location
1	15-May-30	First Business Meeting	August
2	1930-1931	Edgar G. Ballenger	Atlanta (Biltmore Hotel)
3	1931-1932	Charles W. Roberts	Birmingham
4	1932-1933	Willis C. Campbell	Atlanta
5	1933-1934	Frank K. Boland, Jr.	Nashville
6	1934-1935	Gerry R. Holden	Jacksonville
7	1935-1936	William D. Haggard	New Orleans
8	1936-1937	C. Jeff Miller (died in office)	Charlotte
9	1937-1938	Fred N. Rankin	Louisville
10	1938-1939	T.C. Davidson	Atlanta
11	1939-1940	R.L. Sanders	Birmingham
12	1940-1941	Irvin Abell, Jr.	Richmond
13	1941-1942	Julian Rawls	Atlanta
	1942-1943	WORLD WAR II	
	1943-1944	WORLD WAR II	
	1944-1945	WORLD WAR II	
14	1945-1946	Alton Ochsner	Memphis
15	1946-1947	Elmer L. Henderson	Louisville
16	1947-1948	Herbert Acuff	Hollywood
17	1948-1949	Gilbert F. Douglas	Biloxi
18	1949-1950	R.L. Wilkinson	Washington
19	1950-1951	C.C. Howard	Hollywood
20	1951-1952	Joseph S. Stewart	Atlanta
21	1952-1953	Harry L. Claud	Louisville
22	1953-1954	J.R. Young	Birmingham
23	1954-1955	J. Duffy Hancock	Atlanta (Biltmore)
24	1955-1956	Donald S. Daniel	Richmond (John Marshall Hotel)
25	1956-1957	J.O. Morgan	St. Petersburg (Vinoy Park Hotel)
26	1957-1958	Howard Mahorner	Baltimore
27	1958-1959	Murray M. Copeland	Miami
28	1959-1960	B.T. Beasley	New Orleans
29	1960-1961	Willard Parsons	Miami (Deauville Hotel)
30	1961-1962	Walter C. Jones	Louisville (Brown Hotel)
31	1962-1963	Harwell Wilson	Miami Beach (Americana)
32	1963-1964	J.D. Martin, Jr.	Atlanta (Hilton)
33	1964-1965	Amos R. Koontz (died in office) /Harvey Johnson	Washington DC (Statler Hotel)
34	1965-1966	Robert J. Coffey	Atlanta (Marriott Motor Hotel)
35	1966-1967	Curtis P. Artz	Miami (Americana)
36	1967-1968	George H. Yeager	Washington (Sheraton Park)
37	1968-1969	Benjamin F. Byrd, Jr.	New Orleans (Roosevelt)
38	1969-1970	Felda Hightower	Atlanta (Marriott Downtown)
39	1970-1971	William H. Moretz	Miami (Americana)
40	1971-1972	W.C. Sumner	Washington DC (Shoreham)
41	1972-1973	Isidore Cohn, Jr.	New Orleans (Marriott)
42	1973-1974	William C. Cantey	Atlanta (Marriott Downtown)
43	1974-1975	Robert M. Miles	Atlanta (Hyatt Regency)
44	1975-1976	William S. McCune	New Orleans (Marriott)
45	1976-1977	J. Alex Haller	Miami (Americana)

PAST PRESIDENTS AND MEETING LOCATIONS CONTINUED

Meeting #	Year	President	Location
46	1977-1978	Thad M. Moseley, III	New Orleans (Fairmont)
47	1978-1979	C. Melvin Bernhard	Miami (Americana)
48	1979-1980	John L. Sawyers	Atlanta (Marriott Downtown)
49	1980-1981	William R. Sandusky	New Orleans (Fairmont)
50	1981-1982	A. Eugene Hauck	Miami/Bal Harbour (Sheraton)
51	1982-1983	George A. Higgins, Jr.	Atlanta (Marriott Downtown)
52	1983-1984	Frank J. Johnston	Nashville (Opryland)
53	1984-1985	Roger T. Sherman	Washington DC (Hilton)
54	1985-1986	Gardner W. Smith	New Orleans (Fairmont)
55	1986-1987	William T. Ramage, Jr.	Atlanta (Marriott Marquis)
56	1987-1988	Benjamin F. Rush, Jr.	Buena Vista (Buena Vista Palace)
57	1988-1989	Arlie R. Mansberger, Jr.	Tarpon Springs (Innisbrook)
58	1989-1990	Leslie E. Rudolph, Jr.	Naples (Registry)
59	1990-1991	William C. McGarity	New Orleans Inter-Continental)
60	1991-1992	Timothy C. Pennell	Atlanta (Westin Peachtree Plaza)
61	1992-1993	William H. Edwards, Sr.	Tarpon Springs (Innisbrook)
62	1993-1994	Richard J. Field, Jr.	Lake Buena Vista (Buena Vista Palace)
63	1994-1995	Hiram C. Polk	New Orleans (Sheraton)
64	1995-1996	F. Carter Nance	Tampa (Hyatt Regency)
65	1996-1997	J. Patrick O'Leary	Nashville (Opryland)
66	1997-1998	Henry L. Laws, II	Atlanta (Westin Peachtree Plaza)
67	1998-1999	J. David Richardson	Tampa (Hyatt Regency)
68	1999-2000	John B. Hanks	Lake Buena Vista (Windham Palace)
69	2000-2001	James A. O'Neill, Jr.	New Orleans (Intercontinental)
70	2001-2002	Edward M. Copeland, II	Nashville (Opryland)
71	2002-2003	Thomas R. Gadacz	Savannah (Westin Savannah Harbor)
72	2003-2004	Kenneth W. Sharp	Atlanta (Omni Centennial Park)
73	2004-2005	William C. Wood	New Orleans (Fairmont)
74	2005-2006	J. Wayne Meredith	Lake Buena Vista (Windham Palace)
75	2006-2007	R. Phillip Burns	Savannah (Westin Savannah Harbor)
76	2007-2008	L.D. Britt	Birmingham (Sheraton)
77	2008-2009	Kirby I. Bland	Atlanta (Marriott Marquis)
78	2009-2010	Kelly M. McMasters	Savannah (Westin Savannah Harbor)
79	2010-2011	Anthony A. Meyer	Chattanooga (Marriott)
80	2011-2012	Grace F. Rozycki	Birmingham (Sheraton)
81	2012-2013	Alexander S. Rosemurgy	Jacksonville (Hyatt Regency)
82	2013-2014	Frederick L. Greene	Savannah (Westin Savannah Harbor)
83	2014-2015	Don K. Nakayama	Chattanooga (Marriott)
84	2015-2016	David J. Cole	Atlanta (Hyatt Regency)
85	2016-2017	David V. Feliciano	Nashville (Renaissance)
86	2017-2018	David B. Adams	Tampa (Marriott Waterside)
87	2018-2019	Kevin E. Behrns	Charlotte (Westin)
88	2019-2020	Rebecca C Britt	New Orleans (Sheraton)
89	2020-2021	William O. Richards	Atlanta (InterContinental Buckhead)
90	2021-2022	Richard Field III	Nashville (Renaissance)
91	2022-2023	Bryan Richmond MD, MBA	Savannah (Westin)

DISTINGUISHED SERVICE AWARD RECIPIENTS

1967	Alton Oschner	New Orleans, LA
1968	Harvey Stone	Baltimore
1969	Howard R. Mahorner	New Orleans, LA
1971	Murray M. Copeland	Houston, TX
1973	Curtis P. Artz	Jackson, MS
1974	George H. Yeager	Baltimore, MD
1975	J.D. Martin, Jr.	Atlanta, GA
1976	Harwell Wilson	Memphis, TN
1978	J. Duffy Hancock	Louisville, KY
1980	William S. McCune	Petoskey, MI
1982	A. Hamblin Letton	Atlanta, GA
1990	Arlie R. Mansberger, Jr.	Augusta, GA
1992	Richard J. Field, Jr.	Centreville, MS
1998	William E. Matory	Washington, DC
2000	R. Benton Adkins	Nashville, TN
2002	Talmadge A. "Joe" Bowden, Jr.	Augusta, GA
2004	Jannette L. Crosby	Atlanta, GA
2007	John E. Skandalakis	Atlanta, GA
2010	Hiram C. Polk	Louisville, KY
2011	R. Phillip Burns	Chattanooga, TN
2012	Henry L. Laws, II	Clanton, AL
2013	J. Patrick O'Leary	Miami, FL
2014	John B. Hanks	Charlottesville, VA
2015	J. David Richardson	Louisville, KY
2017	Kenneth W. Sharp	Nashville, TN
2018	Frederick L. Greene	Charlotte, NC
2019	L.D. Britt	Suffolk, VA
2020	Grace Rozycki	Baltimore, MD
2021	David V. Feliciano	Baltimore, MD



SESC 2023 YOUNG INVESTIGATOR AWARD RECIPIENT

Congratulations!

**SESC 2023
Young Investigator Award**

LaDonna Kearse
Stanford University

GENERAL SURGERY PROGRAM DIRECTOR
PERCEPTIONS OF PGY5 RESIDENTS'
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ENTRUSTMENT



CONTINUING MEDICAL EDUCATION

CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

Accreditation

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American College of Surgeons and the Southeastern Surgical Congress. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA Category 1 Credits™

The American College of Surgeons designates this Other activity (live meeting with simultaneous internet live stream as well as internet enduring recordings for a period of 6 months after the event has taken place) for a maximum of **31.5** *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Of the *AMA PRA Category 1 Credits™* listed above, a maximum of **18.25** credits meet the requirements for Self-Assessment.



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AMERICAN COLLEGE OF SURGEONS
DIVISION OF EDUCATION

CONTINUING MEDICAL EDUCATION

PROGRAM OBJECTIVES

This activity is designed for physicians and advanced practice providers. Upon completion of this course, attendees will be able to:

- Analyze data with regard to new/novel surgical procedures and the impact this has on patient care
- Describe best surgical practices in care of obese patients with cancer
- Identify areas in individual practices where change could be implemented
- Recognize how to utilize risk assessment indexes to improve patient outcomes both in and out of the operating room.

DISCLOSURE INFORMATION

In accordance with the ACCME Accreditation Criteria, the American College of Surgeons must ensure that anyone in a position to control the content of the educational activity (planners and speakers/authors/discussants/moderators) has disclosed all financial relationships with any ineligible company held in the last 24 months.

Please note that first authors were required to collect and submit disclosure information on behalf all other authors/contributors, if applicable.

Please [click here](#) to view the complete disclosure list.

GENERAL INFORMATION

Westin Savannah Harbor | 1 Resort Drive, Savannah, GA | 912-201-2000

REGISTRATION HOURS

Location	Grand Ballroom Foyer
Saturday	8:00am – 6:00pm
Sunday	6:45am – 5:00pm
Monday	6:45pm – 5:30pm
Tuesday	6:45am – 11:45am

EXHIBIT HALL HOURS

Location	Grand Ballroom DEF
Sunday	6:45am – 7:30pm
Monday	6:45pm – 3:30pm



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SCHEDULE AT A GLANCE

SATURDAY, FEBRUARY 11

8:00am – 8:30am	Attendee Coffee Harbor Ballroom Foyer
8:30am - 11:20am	Resident Forum Harbor Ballroom
10:00am – 10:10am	Morning Break Harbor Ballroom Foyer
11:30am - 1:00pm	Education & Training Luncheon Harbor Ballroom
1:00pm - 3:00pm	Postgraduate Course Controversies & Nuances in Surgical Care Grand Ballroom ABC
3:00pm – 4:00pm	Quickshot Orals 1-7 Grand Ballroom Foyer & Grand Ballroom DEF
5:00pm – 6:00pm	SESC Crazy Videos Grand Ballroom ABC
6:00pm – 7:30pm	SESC Leadership & Young Surgeons Reception

SUNDAY, FEBRUARY 12

7:00am- 8:00am	Attendee Breakfast Grand Ballroom DEF
7:00am - 8:00am	Quickshot Orals 8-14 Grand Ballroom Foyer & Grand Ballroom DEF
7:00am - 7:45am	Women in Surgery Networking Breakfast Riverscape
8:00am - 8:30am	Opening Session Grand Ballroom ABC
8:30am – 9:10am	A. Hamblin Letton Lecture Grand Ballroom ABC
9:10am - 10:05am	Plenary Session 1 Grand Ballroom ABC
10:05am - 10:45am	SESC Presidential Address Grand Ballroom ABC
10:45am – 11:00am	Morning Break Grand Ballroom DEF
11:00am – 11:30am	Feliciano-Rozycki Historical Lecture Grand Ballroom ABC
11:30am - 1:00pm	Surgical Practice Luncheon Harbor Ballroom
1:00pm – 2:30pm	Plenary Session 2 Grand Ballroom ABC
2:30pm – 4:00pm	American College of Surgeons Session Grand Ballroom ABC
4:00pm – 5:00pm	SESC Sharks Grand Ballroom ABC
5:00pm – 6:00pm	SESC Feud Grand Ballroom ABC
6:00pm – 7:30pm	SESC Reception Grand Ballroom DEF

MONDAY, FEBRUARY 13

7:00am - 8:00am	Attendee Breakfast Grand Ballroom DEF
7:00am – 8:00am	Quickshot Orals 15-21 Grand Ballroom Foyer & Grand Ballroom DEF
7:00am – 7:45am	Surgical Palliative Care Networking Breakfast Riverscape
8:00am - 8:30am	State-of-the-Art Lecture Grand Ballroom ABC
8:30am – 9:10am	Roger T. Sherman Lecture Grand Ballroom ABC
9:10am - 10:00am	Challenges for New Surgery Chairs Grand Ballroom ABC
10:00am – 10:15am	Morning Break Grand Ballroom DEF
10:15am - 11:00am	Henry L. Laws II Lecture Grand Ballroom ABC
11:00am - 12:00pm	Parallel Plenary Sessions 3 Grand Ballroom ABC
11:00am - 12:00pm	Parallel Plenary Sessions 4 Harbor Ballroom
12:15pm- 1:00pm	LUNCH-Proper Use of Legal Entities for Lawsuit Protection & Tax Reduction Harbor Ballroom
1:30pm - 3:10pm	Plenary Session 5 Grand Ballroom ABC
3:10pm - 3:30pm	Afternoon Break Grand Ballroom DEF
3:30pm - 4:40pm	Plenary Sessions 6 Grand Ballroom ABC
4:40pm - 5:40pm	Ergonomics and Wellness Grand Ballroom ABC
5:45pm - 6:30pm	Business Meeting Grand Ballroom ABC

TUESDAY, FEBRUARY 14

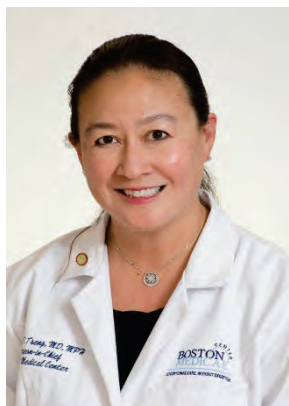
7:00am - 8:00am	Attendee Breakfast Grand Ballroom Foyer
7:00am – 8:00am	Quickshot Orals 22-27 Grand Ballroom Foyer
8:00am – 9:45am	Parallel Plenary Session 7 Grand Ballroom ABC
8:00am – 9:45am	Parallel Plenary Session 8 Harbor Ballroom
9:45am – 10:00am	Morning Break Grand Ballroom Foyer
10:00am – 12:00pm	Plenary Session 9 Grand Ballroom ABC



FEATURED LECTURES

A. HAMBLIN LETTON LECTURE

This lecture is named for Dr. A. Hamblin Letton to recognize his contributions to the Congress and the field of surgery. His special surgical interest was oncology and, more specifically, breast cancer, which led to the creation of the Breast Center at Georgia Baptist Medical Center, now Atlanta Medical Center. His interest extended to the national forum by service on the Advisory Committee on Cancer Control for the National Cancer Institute and as President of the National American Cancer Society. Dr. Letton's service to the Congress began as a young surgeon, and he succeeded Dr. B. T. Beasley, the original Secretary of the Congress, in 1960. He retired as the Secretary-Director of the Congress in 1986. Dr. Letton passed away on January 13, 2010, at the age of 93.



Choosing What Is Better: One Woman's Journey to Becoming a Cancer Surgeon

Sunday, February 12

8:30am – 9:10am

Grand Ballroom ABC

Jennifer F. Tseng MD, MPH
Boston University

Dr. Jennifer F. Tseng was born in Berkeley and grew up in San Jose, California. She attended Stanford, majoring in English and biological sciences, followed by UCSF medical school. Dr. Tseng did her surgery residency at Massachusetts General Hospital, where she also served as staff surgeon (super-Chief), followed by surgical oncology fellowship at UT MD Anderson Cancer Center. Dr. Tseng began her faculty career at the University of Massachusetts in 2005; while there, she obtained her MPH at the Harvard T.H. Chan School of Public Health. Dr. Tseng was recruited to Beth Israel Deaconess Medical Center and Harvard Medical School as Chief of Surgical Oncology in 2011, where she rose to Professor of Surgery at Harvard. In 2017, she was appointed as the James Utey Professor and Chair of Surgery at Boston University School of Medicine and Surgeon-in-Chief at Boston Medical Center.

Dr. Tseng is a surgical oncologist whose practice includes pancreas, hepatobiliary, and gastric surgery. She is a health services researcher focusing on risk prediction and prevention, disparities in surgical and cancer care, and models to build health equity. Dr. Tseng founded the Surgical Outcomes Analysis & Research (SOAR) initiative in 2007; SOAR is now the hub of outcomes research for the BUSM/BMC Department of Surgery. She is the 2022-2023 President of SSAT, is a founder and Past President of the Society of Asian Academic Surgeons. Dr. Tseng sits on the executive councils of the SSO and the SUS and serves as a Councilor of the American Board of Surgery. Dr. Tseng is a deputy editor for JAMA Surgery and serves on a number of editorial boards.

Dr. Tseng has mentored multiple trainees to great success in national and international meetings, funded grants, and peer-reviewed publications, and their achievements are her source of greatest pride.

PRESIDENTIAL ADDRESS



Finding Your Own Unique Place in the House of Surgery

Sunday, February 12

10:05am – 10:45am

Grand Ballroom ABC

Bryan Richmond MD, MBA

West Virginia University

Dr. Bryan Richmond was born in the town of Beckley, West Virginia in 1968. After graduating high school in 1986, he attended Marshall University where earned a bachelor's degree in organic chemistry. He then attended the West Virginia University school of medicine where he earned the MD degree, as well as a Master's in Business Administration. He completed his general surgical training at the Charleston division of West Virginia University located at Charleston Area Medical Center in Charleston, West Virginia. Dr. Richmond joined the faculty there in 2005, rising to the rank of full professor and general surgery division chief. In 2017 he was awarded the title of the William J Maier Endowed Chair of Research, and in February of 2020 he became the Bert Bradford Professor and Chair of the WVU Department of Surgery, a position that he holds today.

Dr. Richmond has previously served as the President of the West Virginia chapter of the American College of surgeons, the ACS Governor at large from West Virginia, the American College of Surgeons board of governors communications pillar lead, and as a member of the American College of surgeons board of governors executive committee, and the second VP of the Southern Surgical Association. He has also served as treasurer of the Southeastern Surgical Congress and is currently serving a 6 year term as a council member on the American Board of Surgery.

Dr. Richmond is married to Linda, his wife of 25 years. They have two children Jaxson (14) and Hailey (21). In his spare time, Dr. Richmond enjoys spending time with family, travel, cooking, and outdoor sports including rock climbing and white-water kayaking.

FELICIANO-ROZYCKI HISTORICAL LECTURE

The Feliciano-Rozycki Historical Lecture is named after SESC past presidents, and spouses, dedicated to the growth and future of SESC and its mission. David Feliciano served as SESC President in 2016-2017, and Grace Rozycki served as SESC President in 2011-2012.



Asa Yancey MD FACS : A Quiet Giant in American Surgery

Sunday, February 12

11:00am – 11:30am

Grand Ballroom ABC

Edward Cornwell MD

Howard Univ. Hospital & Howard Univ. College of
Medicine

Dr. Edward E. Cornwell III was born and raised in Washington, D.C. He attended Sidwell Friends School and then received his undergraduate education at Brown University in Providence, Rhode Island graduating with a degree in Biology in 1978. He then attended Howard University College of Medicine and graduated with honors (AOA Medical Honor Society) and as class President in 1982.

Dr. Cornwell received his surgical training (internship and residency) at the Los Angeles County University of Southern California Medical Center (1982-1987) and his trauma/critical care fellowship at the Maryland Institute for Emergency Medical Services Systems in Baltimore, Maryland (1987-1989). He has been certified and re-certified in both General Surgery and Surgical Critical Care by the American Board of Surgery. He has risen through the academic ranks through teaching and clinical appointments at Howard University (1989-1993), the University of Southern California (1993-1997), and Johns Hopkins School of Medicine (1998 to 2008). He is former Professor and Chairman, Department of Surgery at Howard University Hospital and former Interim Dean, Howard University College of Medicine. Dr. Cornwell's career interest is in the prevention, treatment, and outcome disparities of traumatic injuries, and their critical care sequelae. He has authored or co-authored over 260 articles and chapters and has given over 340 invited presentations in the field. He has delivered the named lecture or keynote address at over 35 institutions and conferences. He is a reviewer for several surgical journals and is the past deputy editor of JAMA-Surgery (formerly Archives of Surgery).

Among his activities in numerous surgical and critical care societies, Dr. Cornwell is the former Chief Editor of the Multidisciplinary Critical Care Knowledge Assessment Program sponsored by the Society of Critical Care Medicine; served as President of the Society of Black Academic Surgeons, President of the Surgical Section of the National Medical Association,

FELICIANO-ROZYCKI

HISTORICAL LECTURE

Continued...

and Chairman of Trauma Net of Maryland. He has served as head of committees, panels, or as moderator for scientific sessions of the American Association for the Surgery of Trauma (AAST), American Board of Surgery, Society of Critical Care Medicine, the American Surgical Association, and the American College of Surgeons. He is past Secretary of the American College of Surgeons and was on the Board of Managers of the AAST. He is currently the President of the Southeastern Surgical Congress.

Dr. Cornwell has received numerous awards and citations for his efforts in education, outreach, and violence prevention. He has received major teaching awards in every faculty position he has held, and was selected as the Commencement speaker at the USC School of Medicine in 1996, and at the Howard University College of Medicine in 2002. In 1998 he was given the "What's Right with Southern California" community service award by KCBS television in Los Angeles. He received the 1999 Martin Luther King Jr. Community Service Award for his violence prevention activities in Baltimore, as well as the 2000, Maryland Governor's Volunteer Service Award. He was repeatedly named "Best Physician" by Black Enterprise and several local magazines (2009, 2010 & 2014). He received the 2003 Champion of Courage Award, Fox 45 TV, Baltimore, as well as the 2005 Whitney M. Young, Jr. Award by the Greater Baltimore Urban League; and the Speaker's Medallion by the Speaker of the Maryland House of Delegates in 2006. He received the Distinguished Alumni Award from Howard University College of Medicine in 2014 and from Sidwell Friends School in 2019; and Distinguished Service Award from NMA – Surgical Section (2020).

STATE-OF-THE-ART LECTURE



Finding Joy and Community in Surgery

Monday, February 13

8:00am – 8:30am

Grand Ballroom ABC

Gilbert Upchurch Jr., MD

University of Florida

Gilbert R. Upchurch Jr., MD, is the Edward M. Copeland, III, MD and Ann & Ira Horowitz Chair of the University of Florida (UF) Department of Surgery. He joined UF in 2017 with an international reputation as an acclaimed clinician, researcher and educator in the study and treatment of vascular disease, especially aortic disease. In addition to his role as Chair, he serves on the Shands Hospital Board and is President of the Faculty Group Practice.

Earning his medical degree at the University of North Carolina Chapel Hill, Dr. Upchurch trained at Harvard University's Brigham and Women's Hospital, as well the Cleveland Clinic. Before joining UF, Dr. Upchurch served as the chief of vascular and endovascular surgery in the department of surgery and the medical director of the Heart and Vascular Center at the University of Virginia. He also spent 11 years at the University of Michigan. He is an exemplary teacher, having received multiple teaching awards over the course of his career.

As a clinician scientist currently with four NIH R01's to study aortic aneurysms and dissections, he has served as a permanent member of the BTSS at the NIH. He has given over 425 invited and extramural lectures, while also publishing over 415 papers in refereed journals and 95 book chapters. Dr. Upchurch is a fellow of the American College of Surgeons, the American Heart Association, and the Society of Vascular Surgery. In addition to his various medical association memberships, Dr. Upchurch is past president of the Virginia Vascular Society, the Society for Clinical Vascular Surgery and the Southern Association for Vascular Surgery. He recently served as Chair of the Vascular Surgery Board as well as Chair of the Nominating Committee of the American Board of Surgery. Dr. Upchurch was recently elected to the National Academy of Medicine.

ROGER T. SHERMAN LECTURE

This lecture is named for Dr. Roger T. Sherman to honor his contributions to the Congress, the field of surgery and trauma. Dr. Sherman became a member of the Congress while still a resident and presented one of the first Gold Medal Forum papers. He was President of the Congress in 1984-1985, and was named Secretary-Director in 1986. He served in that capacity until 1993. Dr. Sherman was Whitaker Professor of Surgery at Piedmont Hospital and Emory University School of Medicine when he retired in October 1997. Dr. Sherman passed away on April 9, 2006, at the age of 82.



How Healthcare Professionals Drive Social Change

Monday, February 13

8:30am – 9:10am

Grand Ballroom ABC

Joseph Sakran MD, MPH, MPA
Johns Hopkins University

Dr. Joseph V. Sakran is a trauma surgeon, coalition builder, policy advisor, public health practitioner, and nationally recognized advocate for gun violence prevention. He is currently Director of Emergency General Surgery, Associate Professor of Surgery and Nursing, Associate Chief of the Division of Acute Care Surgery, and Vice Chair of Clinical Operations at The Johns Hopkins Hospital in Baltimore, Maryland. Dr. Sakran is also a Senior Fellow at the Satcher Health Leadership Institute at Morehouse School of Medicine.

A survivor of gun violence himself, Dr. Sakran's interest in medicine and trauma surgery began after a stray bullet nearly killed him during his senior year of high school. He has subsequently dedicated his life to treating the most vulnerable, reducing health disparities among marginalized populations, and advancing public policy that alleviates structural violence in low-income communities.

Dr. Sakran has been recognized for his public health research, specifically on firearm injury prevention. He has been honored by the Agency for Healthcare Research and Quality (AHRQ) and Academy Health. In 2019, Dr. Sakran was named a Presidential Leadership Scholar in which he furthered his research on safe gun storage. Selected by the National Academy of Medicine to be a Robert Wood Johnson Foundation Health Policy Fellow, he was honored to serve in the U.S. Senate in the office of New Hampshire Senator Maggie Hassan of New Hampshire, where he worked on health policy and regulatory issues from 2019-2020.

Dr. Sakran makes frequent appearances in print and on television. He has written numerous opinion pieces for The Atlantic and CNN.com, and his work has been featured on NPR's Fresh Air with Terry Gross, MSNBC, CNN, The Israeli Times, O Magazine, and The Pell Center's Story in the Public Square. He has also testified multiple times in front of Congress on gun violence prevention.

HENRY L. LAWS, II LECTURE

This lecture is named after Henry L. Laws, II to honor his contributions to the Congress and the field of surgery. Dr. Laws joined the Congress in 1967 and served as President in 1997-1998. He received the Distinguished Service Award in 2012. During his surgical career, Dr. Laws was in private practice, served on the faculty of University of Alabama-Birmingham, was Director of Surgical Residency at Carraway Methodist Medical Center and was a surgeon at the Norwood Clinic. Dr. Laws had a passion for not only clinical care but also for medical education. Dr. Laws passed away on February 25, 2014, at the age of 81.



The Quantified Surgeon: A Glimpse into the Future of Surgical Metrics and Outcomes

Monday, February 13

10:15am – 11:00am

Grand Ballroom ABC

Carla Pugh MD, PhD

Stanford University School of Medicine

Carla Pugh, MD, PhD is the Thomas Krummel Professor of Surgery at Stanford University School of Medicine and Director of the Technology Enabled Clinical Improvement (T.E.C.I.) Center. Her clinical area of expertise is Acute Care Surgery. Her research involves the use of simulation, advanced engineering technologies, and artificial intelligence to develop new approaches for assessing and defining mastery in clinical procedural skills. Dr. Pugh is considered to be a leading, international expert on the use of sensors and motion tracking technologies for performance measurement.

Dr. Pugh obtained her undergraduate degree at U.C. Berkeley in Neurobiology and her medical degree at Howard University School of Medicine. Upon completion of her surgical training at Howard University Hospital, she attended Stanford University to obtain her PhD in Education. She has over 150 peer reviewed publications, is an Associate Editor for Annals of Surgery and has had over 20 Million dollars in research funding throughout her career.

Dr. Pugh holds multiple patents on the use of sensor and data acquisition technology to measure and characterize hands-on clinical skills. Currently, over two hundred medical and nursing schools are using one of her sensor-enabled training tools for their students and trainees. Her work has received numerous awards from medical and engineering organizations, including the Presidential Early Career Award for Scientists and Engineers from President Barack Obama at the White House. She was invited to give a TEDMED talk on the potential uses of technology to transform how we measure clinical skills in medicine. Dr. Pugh was inducted into the American Institute for Medical and Biological Engineering, the American College of Surgeons Academy of Master Surgeon Educators, and the National Academy of Medicine. She is a Councilor and General Surgery Board Director for the American Board of Surgery and President of the Society of Black Academic Surgeons.



NEW MEMBERS

NEW MEMBERS

Fellows

Carlton Adams MD, FACS | Nolensville, Tennessee
Ellen Caparosa MDd | Atlanta, Georgia
Jennifer Catlin MD, MPH | Richmond, Virginia
Wade Christopher MD | Jackson, Mississippi
Melissa Danko MD | Nashville, Tennessee
Jacob Edwards MD | Knoxville, Tennessee
Mira Ghneim MD | Baltimore, Maryland
Kelly Hewitt MD | Nashville, Tennessee
Maggie Hodges MD, MPH | Chapel Hill, North Carolina
James Kasiewicz MD, MBA | Fort Myers, Florida
Stephen McBride MD | Roswell, Georgia
Dustin Nowotny DO | Fargo, North Dakota
John Rinkliff MD | Greenville, South Carolina
Keelin Roche MD, MPH | Johnson City, Tennessee
Catherine Ronaghan MD | Savannah, Georgia
Andrew Schneider MD | Seneca, South Carolina
Kristina Shaffer MD | Charlotte, North Carolina
Mrinal Shukla MD | Augusta, Georgia
Alexa Soult MD | Norfolk, Virginia
Lauryn Ullrich DO | Bethlehem, Pennsylvania
Andrew Walker MD | Charleston, West Virginia
Matthew Yanoff MD | Richmond, Virginia

Advanced Practice Provider

Lindsay Fowkes RN, MS, FNP-BC | Morgantown, West Virginia

Residents

Ali Aamna MD | University of Tennessee College of Medicine - Chattanooga
Mustafa Abid MD | University of North Carolina
Jonathan Aboagye MD | Howard University College of Medicine
Ursula Adams MD MBA | University of North Carolina
Gabriela Aguilo-Seara MD | Atrium Health Wake Forest Baptist
Lerone Ainsworth MD | Howard University College of Medicine
Jennifer Alejo MD | Atrium Health Wake Forest Baptist
Julian Aliche MD | Prisma Health
Luke Anders MD | ETSU
Keith Anderson MD | MAHEC
Kiah Andrews MD | University of North Carolina
Jerome C. Anyalebechi MD | Emory University School of Medicine
Lavanya Arora MD | CA Healthcare-Mercer Univ. School of Medicine-Trident Medical Center
Aaron Arroyave MD | University of Tennessee College of Medicine - Knoxville
Arham Aslam MD | CA Healthcare-Mercer Univ. School of Medicine-Trident Medical Center
Kathryn Atkins MD, MPH | University of North Carolina
Jeffrey Austin MD | Charleston Area Medical Center

NEW MEMBERS

Residents (continued)

Adam Awe MD | University of North Carolina
Marco Ayad MD | Howard University College of Medicine
Tariq Ayubi MD | ETSU
Bernice Badu MD | Atrium Health Wake Forest Baptist
Kirsten Baecher MD | Emory University School of Medicine
Anoosh Bahraini MD | University of North Carolina
Zain Baig MD | Howard University College of Medicine
Justin Bailey MD | University of Tennessee College of Medicine - Chattanooga
Saagar Bakshi MD | Emory University School of Medicine
Joseph Balaban MD | University of Tennessee College of Medicine - Knoxville
Xavier Baldwin MD | University of North Carolina
Mary Ball MD | Charleston Area Medical Center
Jacob Balmer MD | University of Tennessee College of Medicine - Knoxville
Jude Barber MD | University of North Dakota
Ashley Barbour MD | ETSU
Reid Bartholomew MD | University of North Dakota
Ryan Bates MD | Prisma Health
Ryan Beard MD | University of North Dakota
Luke A. Beardslee MD | Emory University School of Medicine
Justin Beasley MD | University of Tennessee College of Medicine – Chattanooga
Jessica Bilz Dr. | Atrium Health
Seth Beeson DO | New Hanover Regional Medical Center
Andrew Blair MD | Atrium Health Wake Forest Baptist
Jessica M. Blandford MD | Emory University School of Medicine
Samuel Bloomsburg MD | University of North Dakota
Brice Blum MD | Atrium Health Wake Forest Baptist
Bernard Boateng MD | Howard University College of Medicine
Smadar Bogardus MD | University of Tennessee College of Medicine - Knoxville
Maggie Bosley MD | Atrium Health Wake Forest Baptist
Monica Boyd MD | MAHEC
Andrea Boyd Tressler MD | Atrium Health Wake Forest Baptist
Ian Brastauskas MD | Atrium Health Wake Forest Baptist
Salomon Brett MD | University of Tennessee College of Medicine - Knoxville
Eric Brisco MD | University of Tennessee College of Medicine - Chattanooga
Dallin Broberg MD | Atrium Health Wake Forest Baptist
Kate Brod DO | Reading Hospital
Arthur Brooks MD | Charleston Area Medical Center
Alyssa Brown MD | ETSU
Peter Buccini MD | Prisma Health
Laura Burkbauer MD | University of North Carolina
Victoria Burton MD | University of North Carolina
Ashley Cairns MD | Atrium Health Wake Forest Baptist
Gabriel Cambronero MD | Atrium Health Wake Forest Baptist
Ben Caputo MD | MAHEC
Taylor Carter MD | University of North Carolina
Ikttesh Chahal MD | University of North Dakota
Kevin Chen MD | University of North Carolina

NEW MEMBERS

Residents (continued)

Lucas Claiborne MD | Prisma Health
Victoria Clancy MD | ETSU
Devin Clegg MD | University of Tennessee College of Medicine - Knoxville
Jesse A. Codner MD, MSc | Emory University School of Medicine
Thomas Coleman MD | Prisma Health
Christine Collins MD | Atrium Health Wake Forest Baptist
Rebecca Cook MD | University of Tennessee College of Medicine – Knoxville
Margaret Costa DO | Reading Hospital
Deanna Cotsalas MD | Atrium Health Wake Forest Baptist
Cooper Coty MD | ETSU
Luke Couch MD | University of Tennessee College of Medicine – Chattanooga
Caroline Cox MD | Spartanburg Regional Medical Center
Chase Cox MD | University of North Carolina
Phillip Cox MD | MAHEC
Jacob Creighton MD | University of Tennessee College of Medicine - Knoxville
Emma S. Crichton MD | Emory University School of Medicine
Taylor Crismon MD | University of Tennessee College of Medicine - Knoxville
Caitlin Crosier MD | Prisma Health
Eric Curto MD | University of North Dakota
Guilherme Czelusniak-DeOliveira MD | University of North Carolina
Nic Dahlgren MD | Prisma Health
Elena Danielson MD | University of North Dakota
Daoud Daoud MD | CA Healthcare-Mercer University School of Medicine-Trident Med Ctr
Noah DeAngelo MD | University of North Carolina
Kathryn Decker MD | MAHEC
Jessica DeLallo MD | Prisma Health
Jennifer Dennison MD | Atrium Health Wake Forest Baptist
Shivani Desai MD | Prisma Health
Harielle Deshommes MD | Atrium Health Wake Forest Baptist
Lindsay Devereux MD | ETSU
Kody Dhaliwal MD | CA Healthcare-Mercer University School of Medicine-Trident Med Ctr
Abdul-Rahman Diab MD | University of South Florida
Crystal Diaz MD | Atrium Health Wake Forest Baptist
Laritzia Diaz MD | University of North Carolina
Natalie Dixon MD | ETSU
Erica Dobbs MD | Charleston Area Medical Center
Will Donelson MD | University of Tennessee College of Medicine - Knoxville
Soderstorm Dresden MD | University of Tennessee College of Medicine – Chattanooga
Cristian Dumitru MD | University of Tennessee College of Medicine - Knoxville
Anthony Duncan MD | University of North Dakota
Nancy Edwards MD | Atrium Health Wake Forest Baptist
Matthew Edwards MD | University of Tennessee College of Medicine - Knoxville
Akam Eftikhar MD | Howard University College of Medicine
Sarah Eikenberry MD | ETSU
Juma Einstein MD | MAHEC

NEW MEMBERS

Residents (Continued)

Kobina Enchill MD | Howard University College of Medicine
Richard Erali MD | Atrium Health Wake Forest Baptist
Hayley Everett MD | University of Tennessee College of Medicine – Chattanooga
Andrea Fa MD | Vanderbilt University Medical Center
David A. Faber MD | Emory University School of Medicine
Levin Fairchild MD | University of Tennessee College of Medicine - Chattanooga
Elissa A. Falconer MD | Emory University School of Medicine
Haddad Faud MD | Charleston Area Medical Center
Lauren Favors MD | University of Tennessee College of Medicine - Chattanooga
Kristina Fioretti MD | Atrium Health Wake Forest Baptist
Allison Foster MD | ETSU
Evan Foulke MD | University of Tennessee College of Medicine - Knoxville
Charles E. Frank MD, MBA | Emory University School of Medicine
Nathan Fravor MD | Charleston Area Medical Center
Curtis Frederick MD | Howard University College of Medicine
Kevin Friedrich MD | University of Tennessee College of Medicine - Chattanooga
Nadia Froehling MD | University of Tennessee College of Medicine - Chattanooga
Olivia Fukui MD | Atrium Health Wake Forest Baptist
Alex Funkhouser MD | University of Tennessee College of Medicine - Knoxville
James Galloway MD | Emory University School of Medicine
Adriana C. Gamboa MD | Emory University School of Medicine
Lauren Gammel MD | University of Tennessee College of Medicine - Chattanooga
Aravindh Ganapathy MD | Atrium Health Wake Forest Baptist
Christopher Garcia MD | Atrium Health Wake Forest Baptist
Diego Garrido MD | CA Healthcare-Mercer University School of Medicine-Trident Med Ctr
Jeffrey Gaskins MD | MAHEC
Natalie Gaughan MD | Atrium Health Wake Forest Baptist
Kaylan Gee MD | University of Tennessee College of Medicine - Knoxville
Davalos Gerardo MD | ETSU
Andrea Gerberding MD | University of North Dakota
Aaron Gilani MD | Atrium Health Wake Forest Baptist
Austin Gilchrist MD | University of Tennessee College of Medicine - Chattanooga
Cameron Gill MD | ETSU
Bo Godwin MD | Prisma Health
Dantes Goeto MD | Emory University School of Medicine
Kalie Goodman MD | Prisma Health
Adlin Gordian-Arroyo MD | Atrium Health Wake Forest Baptist
Dillon Graham MD | Prisma Health
Maxwell Grant MD | University of Tennessee College of Medicine - Knoxville
Robert Greer MD | MAHEC
Amanda Grigoli MD | ETSU
Jennifer Grimm MD | CA Healthcare-Mercer University School of Medicine-Trident Med Ctr
Paula Grisales MD | Prisma Health
Chris Groark MD | University of Tennessee College of Medicine - Knoxville
Sam Groot MD | Prisma Health
Conner Haase MD | University of North Carolina

NEW MEMBERS

Residents (Continued)

Kirsten Hager MD | University of North Dakota
Salamah Hanaan MD | University of North Carolina
Jeduthun Harris MD | Howard University College of Medicine
Taylor Harris MD | Prisma Health
Syed S. A. Hasan MD | Emory University School of Medicine
Monalisa Hassan MD | Howard University College of Medicine
Charlotte Hawkins MD | ETSU
Travis Hawkins MD | Atrium Health Wake Forest Baptist
Caudill Hayden MD | Charleston Area Medical Center
Benjamin J. Hazen MD | Emory University School of Medicine
Alice He MD | Reading Hospital
Matthew Heard DO, MHS | ETSU
Elise Heidorn MD | Reading Hospital
Cord Helmken MD | Prisma Health
Hussein Helweh MD | CA Healthcare-Mercer University School of Medicine-Trident Medical Center
Joshua Herb MD | University of North Carolina
Vanessa Hernandez MD | Prisma Health
Reinaldo Hernandez-Soto MD | Howard University College of Medicine
Chace Hicks MD | University of Tennessee College of Medicine – Chattanooga
Joseph Hlopak DO | Crozer Health
Van Hoang MD | University of North Carolina
Carson T. Hoffmann MD | Emory University School of Medicine
Laura Holder MD | University of Tennessee College of Medicine - Chattanooga
Neil Horsley MD | ETSU
Deena Hossino MD | Charleston Area Medical Center
Amy Howk MD | University of Tennessee College of Medicine - Knoxville
Justin Hughes MD | ETSU
Bailey Humphreys MD | University of Tennessee College of Medicine - Knoxville
William Hunt MD | University of Tennessee College of Medicine - Chattanooga
Lucas Hunter MD | Atrium Health Wake Forest Baptist
Michael Hurst MD | University of Tennessee College of Medicine - Chattanooga
Kathleen Iles MD | University of North Carolina
Martha-Conley Ingram MD | Emory University School of Medicine
Syed Jaffery DO | Reading Hospital
Anish Jain MD | Howard University College of Medicine
Mahin Janjua MBBS | Howard University College of Medicine
Roxane Javadi MD | Reading Hospital
Malcolm Jefferson MD | University of North Carolina
Diana Jiang MD | Atrium Health Wake Forest Baptist
Aileen Johnson MD | Emory University School of Medicine
Justin Jong MD | University of Tennessee College of Medicine - Knoxville
Selina Juarez MD | Prisma Health
Buerster Kay MD | University of Tennessee College of Medicine - Chattanooga
Katherine Kazen MD | ETSU
Joseph Kearney MD | University of North Carolina
Ladonna Kearse MD | Howard University College of Medicine
Darien Keeling MD | Howard University College of Medicine

NEW MEMBERS

Residents (Continued)

Jessica M. Keilson MD | Emory University School of Medicine
Mark Khalil MD | MAHEC
Ben Kiesling MD | University of Tennessee College of Medicine - Chattanooga
Richard Killeen MD | University of Tennessee College of Medicine - Chattanooga
Cecelia Kim MD | ETSU
Esther Kim DO | Reading Hospital
Daniel Kindell MD | University of North Carolina
Audra King MD | University of North Dakota
Chase King MD | Emory University School of Medicine
Steve Komorian MD | University of North Carolina
Katie Korneffel MD | MAHEC
Alizatu Koroma MD | CA Healthcare-Mercer University School of Medicine-Trident Medical Center
Ian Kratzke MD | University of North Carolina
Escar Kusema MD | University of North Dakota
Duaa Kuziez MD | Atrium Health Wake Forest Baptist
Katia Kyriakoulis MD | MAHEC
Michelle LaBella MD | University of North Carolina
Jessica Y. Labib MD | Emory University School of Medicine
Sylvonne Layne MD | Howard University College of Medicine
DJ Lee MD | Prisma Health
Kevin Lee MD | MAHEC
Nicole Lee MD | University of North Dakota
Rachel M. Lee MD | Emory University School of Medicine
Alison Lehane MD | Atrium Health Wake Forest Baptist
Robert Lightfoot MD | Charleston Area Medical Center
Anna Lin MD | Howard University College of Medicine
Megan Lombardi MD | University of North Carolina
Chip Long MD | Prisma Health
Sebastian Lopez MD | Charleston Area Medical Center
Ricardo Lopez-Hanson MD | ETSU
Brendan P. Lovasik MD | Emory University School of Medicine
Claiborne Lucas MD | Prisma Health
Erica K. Ludi MD | Emory University School of Medicine
William Luo MD | University of North Carolina
Major Lynch MD | University of Tennessee College of Medicine - Chattanooga
Mia MacDonald MD | University of North Carolina
Cressida Mahung MD | Howard University College of Medicine
Bigyan Mainali MD, MPH | Atrium Health Wake Forest Baptist
Nicholas Major MD | Atrium Health Wake Forest Baptist
Amanda Malnikoff MD | Charleston Area Medical Center
Elizabeth Mannino MD | ETSU
Alaa Mansour MD | Howard University College of Medicine
Abraham J. Matar MD | Emory University School of Medicine
David V. Mathews MD | Emory University School of Medicine
Daniel Maxwell MD | Emory University School of Medicine

NEW MEMBERS

Residents (Continued)

Thomas Mazonas MD | University of Tennessee College of Medicine - Knoxville
Callie McAdams MD | University of Tennessee College of Medicine - Knoxville
Mary McBride MD | ETSU
Saudia McCarley MD | Reading Hospital
Christopher McCauley MD | University of North Carolina
Michelle McCullers MD | Advent Health Orlando
Sasha McEwan MD | University of North Carolina
Clay McGeehan MD | University of Tennessee College of Medicine - Chattanooga
Caroline Medin MD | Emory University School of Medicine
Adam Metzger MD | Prisma Health
Courtney Meyer MD | Emory University School of Medicine
Jessica Millard MD | Prisma Health
Rosina Millevolte MD | MAHEC
Jacob Minor DO | Charleston Area Medical Center
Jonathan Mitchell MD | Howard University College of Medicine
Eli Mlaver MD | Emory University School of Medicine
Riley Moore MD | University of North Dakota
Jac Morris MD | Prisma Health
J.Brent Moss MD | University of Tennessee College of Medicine - Chattanooga
Murphy Mostellar MD | University of North Carolina
Peyton Murdock MD | University of Tennessee College of Medicine – Knoxville
Yuki Nakao MD | Marshall University School of Medicine
Christopher Neal DO | Reading Hospital
Rachel M. Niehuus MD | Emory University School of Medicine
Dana Nielsen MD | University of North Dakota
Wasay Nizam MD | Howard University College of Medicine
Siobhan Nnorom MD | Howard University College of Medicine
Valentine Nofong MD | Howard University College of Medicine
Cory Nonnemacher MD | Navicent Health, Mercer University School of Medicine
Mohammad Noubani MD | University of North Carolina
Olubode Olufajo MD | Howard University College of Medicine
Catlin Orschel MD | ETSU
Bismarck Osumo MD | Inspira Health Network
Stephen Owen MD | ETSU
Mitch Parker MD | University of Tennessee College of Medicine - Chattanooga
Hunter Parmer MD | University of Tennessee College of Medicine - Chattanooga
Achintya Patel MD | Atrium Health Wake Forest Baptist
Ana Patel MD | Atrium Health Wake Forest Baptist
Dhruv Patel MD | University of North Carolina
Nathan Patel MD | Atrium Health Wake Forest Baptist
Cameron W. Paterson MD | Emory University School of Medicine
Valerie Pendleton MD | University of North Dakota
Sara Perregaux MD | Prisma Health
Preston Perry MD | MAHEC
Colton Petty MD | University of Tennessee College of Medicine - Chattanooga
John Pickering MD | University of Tennessee College of Medicine - Chattanooga
Kayla Piehler MD | Charleston Area Medical Center

NEW MEMBERS

Residents (Continued)

Alyssa Pittman MD | Prisma Health
Aaron Pollock MD | University of Tennessee College of Medicine - Chattanooga
Iryna Popiv MD | ETSU
Jaclyn Portelli Tremont MD | University of North Carolina
Christopher Porter MD | University of Tennessee College of Medicine - Knoxville
Nima Pourhabibi Zarandi MD | Atrium Health Wake Forest Baptist
Aaron Price MD | Prisma Health
Lawrence Prince-Wright MD | Howard University College of Medicine
Jordan Raine MD | University of Tennessee College of Medicine - Chattanooga
Julie Rajotte-Caron MD | MAHEC
Lahiru Ranasinghe MD | Atrium Health Wake Forest Baptist
Jessica Rauh MS | Atrium Health Wake Forest Baptist
Mary Read MD | University of Tennessee College of Medicine - Knoxville
Hitesh Reddy MBBS | Howard University College of Medicine
Rachel F. Reed MD | Emory University School of Medicine
Ruth Reed MD | MAHEC
Kristen Reede MD | University of North Dakota
Alexandra C. W. Reitz MD, MPH | Emory University School of Medicine
Ricardo Rendel MD | Eastern Virginia Medical School
Alan Reyes Cruz MD | Atrium Health Wake Forest Baptist
AJ Rhodes MD | Prisma Health
Shanique Ries MD | Howard University College of Medicine
Miriannie Rivera-Valerio MD | Howard University College of Medicine
Colin Robbins MD | Atrium Health Wake Forest Baptist
Darnell Robin MD | Howard University College of Medicine
Connor Roche MD | University of North Dakota
Heidi Roeber MD | Atrium Health Wake Forest Baptist
Kathryn Rooney MD | University of Tennessee College of Medicine - Knoxville
Madeline D. Roorbach MD | Emory University School of Medicine
Brando Rotelli MD | Atrium Health Wake Forest Baptist
Jessica Rouan MD | University of North Carolina
Hunter Row MD | University of North Dakota
Oleg Ryabinin MD | MAHEC
Jain Sachin MD | Charleston Area Medical Center
Gloria Sanin MD | Atrium Health Wake Forest Baptist
Aparna Sankar MD | Reading Hospital
Adrian Sarli MD | University of North Dakota
Christian Schroeder DO | Grand Strand Medical Center
Alissa Schuh MD | ETSU
Jillian Scott MD | University of Tennessee College of Medicine - Chattanooga
Christopher Scott MD | University of Tennessee College of Medicine - Knoxville
Michael Sears MD | ETSU
Audry Sebikali-Potts MD | Atrium Health Wake Forest Baptist
Joclyn Seiler MD | University of North Dakota
An Selena MD | University of North Carolina
Claire Seo MD | Atrium Health Wake Forest Baptist
Thomas Seward MD | Prisma Health

NEW MEMBERS

Residents (Continued)

Khanna Shefali MD | Charleston Area Medical Center
Maysa Shemmiyeva MD | Howard University College of Medicine
Megan Shepherd MD | University of Tennessee College of Medicine - Knoxville
Constance S. H. Shreckengost MD | Emory University School of Medicine
Rebecca Shuford MD | Atrium Health Wake Forest Baptist
Kiera Sibbald MD | Atrium Health Wake Forest Baptist
Michael E. Silverman MD | Emory University School of Medicine
Savannah Smith MD | Emory University School of Medicine
Benji Smith MD | Prisma Health
Mary Sok MD | Emory University School of Medicine
Alessandra Spagnolia MD | University of North Dakota
Zachery Staskywicz MD | University of North Dakota
Amanda Stastny MD | MAHEC
Pulliam Steven MD | University of Tennessee College of Medicine - Chattanooga
Shai Stewart MD | Howard University College of Medicine
Jonathan Sticca MD | University of North Dakota
Michael Stolz MD | Northeast Georgia Medical Center
Lucas Stone MD | University of North Carolina
Christine Suchy MD | Prisma Health
Ashley Sunkel MD | Atrium Health Wake Forest Baptist
John Swetenburg MD | Prisma Health
David A. Swift MD | Emory University School of Medicine
Lily Tam MD | University of North Dakota
DeAndre Tate-Drummer MD | Howard University College of Medicine
Ryan Taylor MD | University of Tennessee College of Medicine - Knoxville
Caleb Thrash MD | Charleston Area Medical Center
Lucas Tidwell MD | MAHEC
Tishina Tittley MD | Howard University College of Medicine
Edward Tobin MD | Charleston Area Medical Center
Stephanie Tom MD | Emory University School of Medicine
Hannah Trembath MD | University of North Carolina
Michael K. Turgeon MD | Emory University School of Medicine
Taylor Turnbull MD | Prisma Health
Celuck Tyler MD | Charleston Area Medical Center
Alexandar Urevick MD | University of Tennessee College of Medicine - Chattanooga
Alexandra Van Horn MD | Atrium Health Wake Forest Baptist
David Velez MD | University of North Dakota
Miles Victoria MD | University of Tennessee College of Medicine - Chattanooga
Matthew Wagner MD | MAHEC
Alexandria Waler MD | Atrium Health Wake Forest Baptist
Morgan Walker MD | University of Tennessee College of Medicine - Knoxville
John Walsh MD | University of North Dakota
Emerald Walsh MD | Charleston Area Medical Center
Nathaniel Walter MD | University of Tennessee College of Medicine - Chattanooga
Emilie Warren MD | Emory University School of Medicine
Ben Watson MD | Prisma Health

NEW MEMBERS

Residents (Continued)

Sarah Weiner MD | University of North Carolina
Terhas Weldeslase MD | Howard University College of Medicine
Anna E. West MD | Emory University School of Medicine
Wyatt Whicker MD | ETSU
John Whitaker MD | Atrium Health Wake Forest Baptist
Hunter White MD | University of Tennessee College of Medicine - Knoxville
Matthew Whitmill MD | Atrium Health Wake Forest Baptist
McKayla Wieczorek MD | University of North Dakota
Lauren M. Willcox MD | Emory University School of Medicine
Sydney Willhite MD | University of Tennessee College of Medicine - Knoxville
Brittney Williams MD | University of North Carolina
Jeroson Williams MD | Emory University School of Medicine
Sarah Williams MD | CA Healthcare-Mercer Univ. School of Medicine-Trident Medical Center
Seth Williams MD | Charleston Area Medical Center
Sigrid Williamson MD | Reading Hospital
George Wilson MD | Charleston Area Medical Center
Aziza Win MD | CA Healthcare-Mercer Univ. School of Medicine-Trident Medical Center
Kelly Winter MD | University of Tennessee College of Medicine - Chattanooga
Elizabeth Wood MD | Atrium Health Wake Forest Baptist
Grant Woodruff DO | UF Health – Jacksonville
Jessica Wright MD | ETSU
Tanner Wright MD | University of Tennessee College of Medicine - Knoxville
Jennifer Wylie MD | Atrium Health Wake Forest Baptist
Wenjia Xu MD | University of Tennessee College of Medicine - Knoxville
Katherine Yared MD | University of Tennessee College of Medicine - Knoxville
Mesgana Yimer MD | Howard University College of Medicine
Athina Yoham MD | Florida Atlantic University
Avital Yohann MD | University of North Carolina
Rachel Yoo MD | Reading Hospital
Jeein Yoon MD | University of Tennessee College of Medicine – Knoxville
Jee Yoonsen MD | University of Tennessee College of Medicine - Knoxville
Chandler Young MD | MAHEC
Bernice Yu DO | Reading Hospital
Nawaz Zaid MD | Howard University College of Medicine
Daniel Zaki MD | Atrium Health Wake Forest Baptist
Buttress Zander MD | University of Tennessee College of Medicine - Chattanooga
Alaina Zappas MD | University of North Carolina
Michael Zaskey MD | ETSU
Ahmad Zeineddin MD | Howard University College of Medicine
Mark Zelmanski MD | Charleston Area Medical Center
Jacqueline Zimmerman MD | MAHEC
Matthew Zweerink MD | University of North Dakota
Maaz Zuberi MD | Howard University College of Medicine



SCHEDULE



Indicates Gold Medal Award Finalist

**Please reference the “Quickshot Orals” section
for a complete list of presentations within each session*

SATURDAY, FEBRUARY 11

8:30am – 11:20am

Resident Forum

Harbor Ballroom

Moderator(s):

Sunil Geevarghese MD, MSCI | Vanderbilt University Medical Center

William Hope MD | Novant Health

RF 1. WELCOME TO OUR TEG TALK: PLATELET MAPPING THROMBOELASTOGRAPHY ABNORMALITIES IN TRAUMA

S Quinn, S Gregg, N Garcia, Y Fu, W Irish, E Toschlog

Seth Quinn MD | East Carolina University, Brody School of Medicine

Discussant: Lou Smith MD | University of Tennessee Medical Center- Knoxville

RF 2. ANALYSIS OF NSQIP PUF IDENTIFIES TARGET AREAS FOR VTE PREVENTION

E Mlaver, J Sharma

Eli Mlaver MD | Emory University

Discussant: Alexa Soult MD | Eastern Virginia Medical School

RF 3. AN ANALYSIS OF THE TIMING FOR CLOSURE OF A DIVERTING LOOP ILEOSTOMY

N Hussein, A Stevenson, C Lawton, J Burton, A Elmayan, E Hills, and G Fuhrman

Nadia Hussain MD | Ochsner Clinic Foundation

Discussant: Mihir Shah MD | Emory University

RF 4. CHOLECYSTECTOMY AFTER PERCUTANEOUS CHOLECYSTOSTOMY FOR ACUTE CHOLECYSTITIS: EXPERIENCE AND OUTCOMES IN AN ACADEMIC PRACTICE

S. Giannopoulos, K. Makhecha, S. Maddurid, F. Garcia, T.C. Baumgartner, D. Stefanidis

Spyridon Giannopoulos MD | Indiana University School of Medicine

Discussant: Wesley Giles MD | University of Tennessee College of Medicine - Chattanooga

RF 5. TRENDING: LIVER FUNCTION TESTS AFTER LAPAROSCOPIC COMMON BILE DUCT EXPLORATION ARE NOT SIMILAR TO POST-ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY LAB TRENDS

G Cambroner, G Sanin, M Bosley, A Ganapathy, A Perko, J Niebler, J Patterson, C Westcott, A Nunn, P Miller, L Neff

Gabriel Cambroner MD | Wake Forest University School of Medicine

Discussant: TBD

RF 6. COVID-INDUCED ALTERATIONS IN SURGICAL CARE: PERFORATED DIVERTICULITIS AS A MODEL

EA Grimsley, HM Janjua, M Read, PC Kuo

Emily Grimsley MD | University of South Florida

Discussant: Ashley Parker MD | GVMC

RF 7. MULTIDISCIPLINARY BREAST CANCER CLINIC: OUR EXPERIENCE DECREASING TIME TO INTERVENTION

A Alongi, WD Mitchell, G Fuhrman, A Rivere

Ashlyn Alongi MD | Ochsner Clinic Foundation

Discussant: Kristina Shaffer MD | Novant Health

RF 8. EVALUATING SURGICAL RESIDENTS' ATTITUDE TOWARD LAPAROSCOPIC COLORECTAL SIMULATION: A PORCINE MODEL

GE Cambroner, GD Sanin, LD Galli, C Garcia, JH Ashburn, MS Powell, JE Jordan

Gabriel Cambroner MD | Wake Forest University School of Medicine

Discussant: TBD

RF 9. THE IMPACT OF OBESITY ON EARLY COMPLICATIONS FOLLOWING TRACHEOSTOMY: AN EVALUATION OF A NATIONWIDE REGISTRY

J Aboagye, T Weldeslase, B Hartmann, O Akinyemi, M Williams

Jonathan Aboagye MBChB | Howard University Hospital and College of Medicine

Discussant: Pascal Udekwu MBBS, MBA/MHA | WakeMed Health & Hospitals

RF 10. PREDICTIVE HEMORRHAGIC DEATH WITH INCREASING INJURY SEVERITY HIGHEST AMONG MOTORCYCLE COLLISIONS

R Olson, H Rhodes, A Pepe

Robert Olson MD | Grand Strand Medical Center

Discussant: Nicholas Bandy MD | Guam Regional Medical City

10:00am – 10:10am

Morning Break

Harbor Ballroom Foyer

11:30am – 1:00pm

Education & Training Luncheon | EPA

Harbor Ballroom

Moderator(s):

Laura Johnson MD | Emory University School of Medicine

Jyotirmay Sharma MD | Emory University School of Medicine

Panelists:

Jacob Greenberg MD | Duke University

Brenessa Lindeman MD, MEHP | University of Alabama at Birmingham

George Sarosi MD | University of Florida

1:00pm – 3:00pm

Postgraduate Course | Controversies and Nuances in Surgical Care

Grand Ballroom ABC

Moderator(s):

Virginia Shaffer MD | Emory University School of Medicine

Sunil Geevarghese MD | Vanderbilt

Controversies in Colorectal Surgery

Seth Rosen MD | Emory University School of Medicine

Controversies in Liver Cancer and Transplantation

Sunil Geevarghese MD | Vanderbilt

Controversies in Breast Cancer

Kandace McGuire MD | Virginia Commonwealth University

Controversies in Palliative Care

Buddy Marterre MD, Mdiv | Wake Forest University School of Medicine

3:00pm – 4:00pm

Quickshot Orals (See *Quickshot Orals* section for Presentation listing)

Grand Ballroom DEF & Foyer

Quickshot Oral Session 1, Kiosk 1

Moderator(s):

TBD

Quickshot Oral Session 2, Kiosk 2

Moderator(s):

Michelle Fillion MD | NH NHRMC

Frederick Greene MD | Levine Cancer Institute

Quickshot Oral Session 3, Kiosk 3

Moderator(s):

Seth Rosen MD | Emory University School of Medicine

Quickshot Oral Session 4, Kiosk 4

Moderator(s):

Jonathan Overcash MD | Coosa Valley Medical Center

Ashley Parker MD | GVMC

Quickshot Oral Session 5, Kiosk 5

Moderator(s):

Tarik Wasfie MD | Ascension Genesis Hospital

Quickshot Oral Session 6, Kiosk 6

Moderator(s):

Richard Gonzalez MD | Loyola University Medical Center

Pascal Udekwu MBBS, MBA/MHA | WakeMed Health & Hospitals

Quickshot Oral Session 7, Kiosk 7

Moderator(s):

TBD

5:00pm – 6:00pm

SESC Crazy Videos

Grand Ballroom ABC

Moderator(s):

Jessica Burgess MD | Eastern Virginia Medical School

Virginia Shaffer MD | Emory University School of Medicine

C 1. FLUORESCENCE GUIDED ROBOTIC SEGMENT 8 SUPERIOR LIVER RESECTION. TECHNICAL APPROACH TO SECTORAL INFLOW OCCLUSION

M Touadi, K Guenoun, S Ross, I Sucandy

Melissa Touadi BS | AdventHealth Tampa

C 2. INTRA-HEPATIC GALLBLADDER PERFORATION CAUSING CHOLECYSTO-HEPATIC FISTULA MANAGED WITH ROBOTIC-ASSISTED SURGERY

F Jabbar

Christian Lalonde MD | Medical City Plano

C 3. ROBOTIC CENTRAL PANCREATECTOMY

PS Ajay, DA Kooby, MM Shah

Pranay Shah Ajay MD | Emory University

C 4. ROBOTIC INGUINAL HERNIA FOLLOWING PROSTATECTOMY WITH ARTIFICIAL URINARY SPHINCTER

Z Boucher

Zachary Boucher MD | Lakeland Regional Health

C 5. ROBOTIC PANCREATODUODENECTOMY FOR DUODENAL ADENOCARCINOMA

s Rayman, I Sucandy, A Rosemurgy

Vincent Butano MD | Florida Hospital Tampa

C 6. ROBOTIC RIGHT COLECTOMY FOR ASCENDING COLON NEOPLASM INVOLVING ABDOMINAL WALL

A Fa, J Bradley, A Khan

Andrea Fa MD | Vanderbilt University Medical Center

6:00pm – 7:30pm

SESC Leadership & Young Surgeons Reception

Harbor Lawn



SUNDAY, FEBRUARY 12

7:00am – 8:00am

Quickshot Orals (See *Quickshot Orals* section for Presentation listing)

Grand Ballroom DEF & Foyer

Quickshot Oral Session 8, Kiosk 1

Moderator(s):

Nicholas Bandy MD | Guam Regional Medical City

Quickshot Oral Session 9, Kiosk 2

Moderator(s):

Brian Daley MD, MBA | UGS

Allison Smith MD, PhD | Louisiana State University

Quickshot Oral Session 10, Kiosk 3

Moderator(s):

Joel Bradley MD | Vanderbilt University Medical Center

Stephen McNatt MD | Atrium Health Wake Forest Baptist

Quickshot Oral Session 11, Kiosk 4

Moderator(s):

Paul Dale MD | Atrium Health Navicent

Emmanuel Zervos MD | East Carolina University

Quickshot Oral Session 12, Kiosk 5

Moderator(s):

Sunil Geevarghese MD, MSCI | Vanderbilt University Medical Center

Quickshot Oral Session 13, Kiosk 6

Moderator(s):

Amy Hildreth MD | Atrium Health - Wake Forest Baptist

John Kepros MD | HonorHealth

Quickshot Oral Session 14, Kiosk 7

Moderator(s):

James Chambers MD | NGPG

7:00am – 7:45am

Women in Surgery Networking Breakfast

Riverscape

8:00am – 8:30am

Opening Session

Grand Ballroom ABC

Convocation

David Adams MD | Charleston, SC

8:30am – 9:10am

A Hamblin Letton Lecture

Grand Ballroom ABC

Introduction:

Bryan Richmond MD, MBA | West Virginia University

Choosing What Is Better: One Woman's Journey to Becoming a Cancer Surgeon

Jennifer F. Tseng MD, MPH | Boston University

9:10am – 10:05am

Plenary Session 1

Grand Ballroom ABC

Moderator(s):

Bryan Richmond MD, MBA | West Virginia University

Roxie Albrecht MD | University of Oklahoma

****GM FINALIST**1. INCIDENTAL FINDINGS PROTOCOL IMPLEMENTATION AT A LEVEL-I TRAUMA CENTER: A REVIEW OF PATIENT FOLLOW UP**

S Martin, A LoPolito, L Whitney, A Fenninger, K Bonneville, R Ward, S Graeff, L Saint-Fort, C Brown, V Miller, L Perea

Sarah Martin DO | Penn Medicine Lancaster General Health

Discussant: Jason Sciarretta MD | Emory University

****YIA Winner**2. GENERAL SURGERY PROGRAM DIRECTOR PERCEPTIONS OF PGY5 RESIDENTS' OPERATIVE SELF-EFFICACY AND ENTRUSTMENT**

L Kearse, R Jensen, A Anand, D Dent, J Korndorffer

LaDonna Kearse MD | Stanford University

Discussant: Valentine Nfonsam MD | LSU Health Sciences Center

V1. ROBOTIC SPLEEN PRESERVING DISTAL PANCREATECTOMY

L Mena-Albors, I Sucandy, A Rosemurgy

Vincent Butano MD | Florida Hospital Tampa

3. INTERVAL CHOLECYSTECTOMY; ARE THEY NECESSARY IN ACUTE CHOLECYSTITIS MANAGED WITH PERCUTANEOUS CHOLECYSTOSTOMY TUBES?

J Shillinglaw, C Nonnemacher, D Christie, P Escobar

John Shillinglaw MD | Medical Center of Central Georgia- Navicent Health

Discussant: Peter Hallowell MD | University of Virginia

10:05am – 10:45am

Presidential Address

Grand Ballroom ABC

Introduction:

Edward E. Cornwell MD | Howard University Hospital & Howard University College of Medicine

Finding Your Own Unique Place in the House of Surgery

Bryan Richmond MD, MBA | West Virginia University

10:45am – 11:00am

Morning Break

Grand Ballroom DEF

11:00am – 11:30am

Feliciano-Rozycki Historical Lecture

Grand Ballroom ABC

Introduction:

Bryan Richmond MD, MBA | West Virginia University

Asa Yancey MD FACS : A Quiet Giant in American Surgery

Edward E. Cornwell III, MD | Howard University Hospital & Howard University College of Medicine

11:30am – 1:00pm

Surgical Practice Luncheon | Surgical Coaching

Harbor Ballroom

Moderator(s):

Stefan Leichtle MD | Inova Health System

Joel Bradley MD | Vanderbilt University Medical Center

Keynote: Caprice C. Greenberg MD, MPH | UNC School of Medicine

1:00pm – 2:30pm

Plenary Session 2

Grand Ballroom ABC

Moderator(s):

Edward Cornwell, III MD | Howard University Hospital & Howard University College of Medicine

John Sweeney MD | Emory University School of Medicine

4. WHOLE BLOOD RESUSCITATION IS SAFE IN PEDIATRIC TRAUMA PATIENTS: A MULTICENTER STUDY

LL Perea, K Moore, U Nguyen, C Doucherty, MJ Seamon, JP Byrne, DH Jenkins, MA Braverman, JM Porter, IG Armento, C Mentzer, GC Leonard, AJ Luis, MR Noorbakhsh, JE Babowice, HMA Kaafarani, A Mokhtari, MJ Martin, J Badiie, C Mains, RM Madayag, SA Moore, K Ma

Lindsey Perea DO | Penn Medicine Lancaster General Health

Discussant: Leah Sieren MD | Wake Forest Baptist Health

****GM FINALIST**5. THE INTERSECTION OF RACE AND RURALITY AND ITS EFFECT ON COLORECTAL CANCER SURVIVAL**

E Tobin, N Nolan, S Thompson, B Richmond

Edward Tobin MD | West Virginia University

Discussant: Virginia Shaffer MD | Emory University

V2. ROBOTIC TECHNIQUE FOR BILE DUCT INJURY RECONSTRUCTION ACCORDING TO BISMUTH-STRASBERG CLASSIFICATION

I Sucandy, K Crespo, S Ross, A Rosemurgy

Vincent Butano MD | Florida Hospital Tampa

6. EXPANDED LOOK: OPIOID USE AFTER INGUINAL AND VENTRAL HERNIA REPAIR

JL Millard, E Schumann, L Ina, R Moraney, JC Childs, AM Carbonell, WS Cobb, JA Warren

Jessica Millard DO | Prisma Health Upstate

Discussant: Michael Edwards MD | Mayo Clinic Florida

****GM FINALIST**7. ARE BREAST CANCER PATIENTS PRESENTING WITH HIGHER STAGE SINCE THE COVID-19 PANDEMIC?**

A Cairns, I Inman, A Perko, T Martin, M Howard-McNatt

Ashley Cairns MD | Wake Forest University School of Medicine

Discussant: TBD

8. THE SAFE CHOLECYSTECTOMY: EVALUATING USE OF LAPAROSCOPIC SUBTOTAL CHOLECYSTECTOMY BETWEEN JUNIOR AND SENIOR FACULTY

MC Smith, MF Nordness, J Fogel, JR Streams, BM Dennis, OL Gunter

Michael Smith MD | Vanderbilt University Medical Center

Discussant: Mark Choueiri MD | Charleston Area Medical Center

2:30pm – 4:00pm

American College of Surgeons Session

Grand Ballroom ABC

Moderator(s):

Bonnie Simpson Mason MD, FAAOS | American College of Surgeons

Colin Martin MD, FACS | University of Alabama at Birmingham

DEI Panel

Angelis Vazquez-Perez MD | LSU Health Sciences Center New Orleans

Jeroson Williams MD | Emory University School of Medicine

Gloria Sanin MD | Wake Forest School of Medicine

Kay Ann Simmons MD | LSU Health Sciences Center New Orleans

ACS Update

Patricia Turner MD, FACS | American College of Surgeons

4:00pm – 5:00pm

SESC Sharks

Grand Ballroom ABC

Moderator(s):

Michael C Lowe MD | Emory Winship Cancer Institute

James McLoughlin MD | University of Tennessee Medical Center, Knoxville

Judge Panelists:

Bryan Richmond MD, MBA | West Virginia University

Jahnavi Srinivasan MD | Emory University

Patricia Turner MD, FACS | American College of Surgeons

Emmanuel Zervos MD | East Carolina University

Demonstration of a Novel Thrombolytic Agent: An In-Vitro and In-Vivo Study

Saagar Bakshi MD | Georgia Institute of Technology; Emory University School of Medicine

ASSESSING THE IMPACT OF TENSION ON COLONIC ANASTOMOSIS

Aimal Khan MD | Vanderbilt University Medical Center

INFLAMMATORY AND MICROBIAL PROFILE OF PERITONEAL FLUID FROM TRAUMA PATIENTS FOLLOWING DAMAGE CONTROL LAPAROTOMY

Alison Smith MD, PhD | Louisiana State University Health Sciences Center

REAL-TIME INTRAVASCULAR MODELING WITH ULTRASOUND DERIVED DATA FOR USE IN COMPLEX ENDOVASCULAR SURGERY

Ryan Gedney MD | Medical University of South Carolina

5:00pm – 6:00pm

SESC Feud

Grand Ballroom ABC

Host: Frederick Greene MD | Levine Cancer Institute

6:00pm – 7:30pm

SESC Reception

Grand Ballroom DEF



MONDAY, FEBRUARY 13

7:00am – 8:00am

Quickshot Orals (See *Quickshot Orals* section for Presentation listing)

Grand Ballroom DEF & Foyer

Quickshot Oral Session 15, Kiosk 1

Moderator(s):

Wesley Giles MD | University of Tennessee College of Medicine – Chattanooga

David Skarupa MD | University of Florida College of Medicine - Jacksonville

Quickshot Oral Session 16, Kiosk 2

Moderator(s):

David Feliciano MD | University of Maryland

Quickshot Oral Session 17, Kiosk 3

Moderator(s):

James Elsey MD | Medical University of South Carolina

Philip Ramsay MD | Emory University School of Medicine

Quickshot Oral Session 18, Kiosk 4

Moderator(s):

Jason Clark MD | HCA

Michael Smith MD | Vanderbilt University Medical Center

Quickshot Oral Session 19, Kiosk 5

Moderator(s):

Michael Champney MD | Dekalb Surgical Associates

Greg Champney MD | James H. Quillen VA Medical Center

Quickshot Oral Session 20, Kiosk 6

Moderator(s):

Adrian Ong MD | Reading Hospital

Lindsey Perea DO | Penn Medicine Lancaster General Health

Quickshot Oral Session 21, Kiosk 6

Moderator(s):

Matt Mancini MD | University Surgeons

7:00am – 7:45am

Surgical Palliative Care Networking Breakfast

Riverscape

7:00am – 8:00am

Attendee Breakfast

Grand Ballroom DEF

8:00am – 8:30am

State-of-the-Art Lecture

Grand Ballroom ABC

Introduction:

Bryan Richmond MD, MBA | West Virginia University

Finding Joy and Community in Surgery

Gilbert Upchurch Jr., MD | University of Florida

8:30am – 9:10am

Roger T. Sherman Lecture

Grand Ballroom ABC

Introduction:

Bryan Richmond MD, MBA | West Virginia University

How Healthcare Professionals Drive Social Change

Joseph Sakran MD, MPH, MPA | Johns Hopkins University

9:10am – 10:00am

Challenges for New Surgery Chairs

Grand Ballroom ABC

Moderators:

Don Nakayama MD | University of North Carolina at Chapel Hill

William Richards MD | University of South Alabama

Caprice C. Greenberg MD, MPH | UNC School of Medicine

Valentine Nfonsam MD, MS | LSU Health Sciences Center New Orleans

10:00am – 10:15am

Morning Break

Grand Ballroom DEF

10:15am – 11:00am

Henry L. Laws II Lecture

Grand Ballroom ABC

Introduction:

Bryan Richmond MD, MBA | West Virginia University

The Quantified Surgeon: A Glimpse into the Future of Surgical Metrics and Outcomes

Carla M. Pugh MD, PhD | Stanford University School of Medicine

11:00am – 12:05pm

Parallel Plenary Session 3

Grand Ballroom ABC

Moderator(s):

Amy Hildreth MD | Atrium Health - Wake Forest Baptist

Alexa Soult MD | Eastern Virginia Medical School

9. THE AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA ORGAN INJURY SCALE FOR SPLEEN DOES NOT EQUALLY PREDICT INTERVENTIONS IN PENETRATING AND BLUNT TRAUMA

H Abdel-Aziz, D Roberts, G Capron, F Starr, F Bokhari, W Brigode

Hossam Abdel-Aziz MD | John H Stroger, Jr. Hospital of Cook County

10. COMPARING OUTCOMES OF APPENDECTOMY VERSUS NON-OPERATIVE ANTIBIOTIC THERAPY FOR ACUTE APPENDICITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS

I Zagales, M Sauder, S Selvakumar, J Spardy, RG Santos, J Cruz, T Bilski, A Elkbuli

Adel Elkbuli MD, MPH, MBA | Orlando Regional Medical Center

11. THE AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA ORGAN INJURY SCALE IS ASSOCIATED WITH CYSTOSCOPIC AND PERCUTANEOUS UROLOGIC PROCEDURES IN RENAL INJURIES

W Brigode, D Roberts, G Capron, F Starr, F Bokhari

William Brigode MD | John H Stroger, Jr. Hospital of Cook County

12. POST-OPERATIVE OUTCOMES FOLLOWING MAJOR LOWER EXTREMITY AMPUTATIONS ARE DEPENDENT ON SURGICAL SERVICE LINE AND PATIENT FRAILTY

A Karwoski, E Workneh, M Som, L Pitsenbarger, N Dunlap, SS Fitzpatrick, KH Nagarsheth

Allison Karwoski BS | University of Maryland

13. SMALL AIM, SMALL MISS - TAKING SMALL BITES IMPROVES CONSISTENCY IN FASCIAL CLOSURE SIMULATION

N Cuevas, J Faulkner, C Edgerton, W Hope

Seth Beeson DO | New Hanover Regional Medical Center

14. CONTEMPORARY TREATMENT PARADIGMS INCREASE SURVIVAL IN PANCREATIC CANCER

BN Kelly, L Nicolais, TL Fitzgerald

Bridget Kelly BA | Maine Medical Center

15. PEDIATRIC APPENDICITIS TRANSFERS FROM ADULT CENTERS: CAN ALVARADO SCORES HELP DETERMINE WHICH PATIENTS NEED A CT?

J Williams, M Butchy, K Knapp, L Lau, N Debski, D Katz, M Moront, EB Lindholm

Jennifer Williams MD | Cooper University Hospital

16. A STATEWIDE ANALYSIS OF PREDICTORS OF TRAUMA CENTER TRANSFER: THE BURDEN OF NON-CLINICAL FACTORS

J Aldridge, S Quinn, E Toschlog, W Irish

Joshua Aldridge MD | East Carolina University, Brody School of Medicine

17. RATIO OF ECONOMY OF MOTION: A NEW OBJECTIVE PERFORMANCE INDICATOR TO IDENTIFY THE CORRECT SURGEON DURING DUAL-CONSOLE ROBOTIC PROCTECTOMY

CL Devin, K Eldredge, W Kucera, N Shibeena, A Jarc, M Shields, M Rupji, TJ Paul Olson, Y Liu, SA Rosen

Courtney Devin MD | Emory University

11:00am – 12:05pm

Parallel Plenary Session 4

Harbor Ballroom

Moderator(s):

Akiko Chiba MD | Duke University Medical Center

Nathaniel McQuay Jr MD | University Hospitals Cleveland Medical Center

18. COMPARING PAYMENTS TO SURGEONS FROM DRUG AND MEDICAL DEVICE CORPORATIONS REVEALS INEQUALITIES BETWEEN GENDER AND SPECIALTIES

C Spector, J Hernandez, Z Shatawi, L Quintero, A Rosenthal, H Bahna, J Parreco

Chelsea Spector MD | Memorial Regional Hospital

19. VALIDATING THE AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA PANCREAS INJURY GRADE USING TRAUMA QUALITY IMPROVEMENT PROGRAM DATA

W Brigode, D Roberts, G Capron, F Starr, F Bokhari

William Brigode MD | John H Stroger, Jr. Hospital of Cook County

20. OUTCOMES OF SMALL BOWEL OBSTRUCTIONS BY ADMITTING SPECIALTY AND HOSPITAL TYPE

A Licata, R Britt

Molly Sternick BS | Eastern Virginia Medical School

21. UNDERSTANDING HEAD CT SCAN USAGE AMONGST ADOLESCENT BLUNT TRAUMA PATIENTS TREATED AT ADULT TRAUMA CENTERS

L Parker, L Villamor, L Groszman, L Xiang, D Koganti, R Smith, R Sola Jr.

Laurel Parker BS | Morehouse School of Medicine

22. MANAGEMENT OF SUSPECTED CHOLEDOCHOLITHIASIS IN PATIENTS WITH FRAILTY

R Gelbard, S Scarlet, S Srinivas, B Tracy

Katherine Bergus MD | The Ohio State University

23. COMPARING SEVERELY INJURED TRAUMA PATIENTS ADMITTED TO INVESTOR-OWNED VERSUS PUBLIC AND NOT-FOR-PROFIT HOSPITALS REVEALS OPPORTUNITIES FOR IMPROVEMENT IN US

J Hernandez, CL Spector, LA Quintero, ZN Shatawi, AA Rosenthal, J Parreco

Jennifer Hernandez MD | Memorial Regional Hospital

24. ANALYSIS OF CLINICAL OUTCOMES AFTER ROBOTIC HEPATECTOMY APPLYING THE WESTERN-MODEL SOUTHAMPTON LAPAROSCOPIC DIFFICULTY SCORING SYSTEM. AN EXPERIENCE FROM A TERTIARY US HEPATOBILIARY CENTER

I Sucandy, S Ross, S Godwin, H Goodall, C Syblis, K Crespo, A Rosemurgy

Vincent Butano MD | Florida Hospital Tampa

25. EARLY USE OF EXTRACORPOREAL MEMBRANE OXYGENATION IN TRAUMATICALLY INJURED PATIENTS: A TRAUMA QUALITY IMPROVEMENT PROGRAM DATABASE ANALYSIS

R Uhlich, P Hu, E Baird, S Rakestraw, D Hardin, T Bozzay, R Betzold, J McClellan, M Eckert

Daniel Lammers MD | University of Alabama at Birmingham

26. OUTCOMES AND HISTOLOGICAL VARIATIONS OF PARANEOPLASTIC SYNDROMES OF NEUROBLASTOMA AND GANGIONEUROBLASTOMA

A Mina, G Nashed, H Correa, H Lovvorn

Alexander Mina BS | Vanderbilt University Medical Center

12:15pm – 1:00pm

Lunch: Proper Use of Legal Entities for Lawsuit Protection and Tax Reduction

Space limited

Harbor Ballroom

1:30pm – 3:10pm

Plenary Session 5

Grand Ballroom ABC

Moderator(s):

Kenneth W. Sharp MD | Vanderbilt University Medical Center

27. IDENTIFYING RADIOGRAPHIC AND CLINICAL INDICATORS TO REDUCE THE OCCURRENCE OF NON-THERAPEUTIC LAPAROTOMY FOR BLUNT BOWEL AND MESENTERIC INJURY

S Blackley, W Smith, YL Lee, C Kinnard, AY Williams, C Butts, MI Mbaka, A Haiflich, A Bright, JD Simmons, NM Polite

Shem Blackley MD | University of South Alabama Medical Center

Discussant: Lindsey Perea DO | Penn Medicine Lancaster General Health

28. EFAST LUNG VIEW VS CHEST X-RAY IN TRAUMA PATIENTS: ARE CHEST RADIOGRAPHS NECESSARY?

J DeLoach, R Reif, A Smedley, G Klutts, A Bhavaraju, K Kalkwarf

Joe DeLoach MD | University of Arkansas for Medical Sciences

Discussant: Jay Collins MD | Eastern Virginia Medical School

V3. ROBOTIC SYSTEMATIC PORTAL LYMPHADENECTOMY. DESCRIPTION OF SURGICAL TECHNIQUE

A Younos, S Ross, I Sucandy

Melissa Touadi BS | AdventHealth Tampa

29. MINIMALLY INVASIVE APPROACH MAY MITIGATE THE NEGATIVE IMPACT OF SMOKING IN PATIENTS UNDERGOING LIVER RESECTION HISTORY. ANALYSIS OF CLINICAL OUTCOMES FROM A TERTIARY HEPATOBIILIARY CENTER

I Sucandy, S Ross, N Patel, S App, J Ignatius, C Syblis, K Crespo, A Rosemurgy

Vincent Butano MD | Florida Hospital Tampa

Discussant: James McLoughlin MD | University of TN Medical Center - Knoxville

30. IMPACT OF FLUID BALANCE ON INTENSIVE CARE UNIT LENGTH OF STAY IN CRITICALLY ILL TRAUMA PATIENTS

M Crandall, D Johnson, J Humanez, T Husty, E Shald

Treasure Bright PharmD | University of Florida College of Medicine, Jacksonville

Discussant: Bracken Burns DO | East Tennessee State University

31. YOUR ZIP CODE MATTERS: INFLUENCE OF NEIGHBORHOOD LOCATION ON OUTCOMES IN OLDER ADULTS UNDERGOING EMERGENCY GENERAL SURGERY PROCEDURES

M Ghneim, N Dhillon, J Kufera, J Diaz

Navpreet Dhillon MD | University of Maryland

Discussant: Michael Martyak MD | Eastern Virginia Medical School

32. OBSTETRICAL TRAUMA: REDUCING THE BURDEN OF TRAUMA TRANSFER TO TERTIARY CARE CENTERS

C Kirk, G Ciraulo, R Ciraulo, C Falank, D Ciraulo

Charlotte Kirk MSIII | Maine Medical Center

Discussant: Parker Hu MD | University of Alabama at Birmingham

3:10pm – 3:30pm

Afternoon Break

Grand Ballroom DEF

3:30pm – 4:40pm

Plenary Session 6

Grand Ballroom ABC

Moderator(s):

Marissa Howard-McNatt MD | Wake Forest Baptist Health

William Richards MD | University of South Alabama

33. UTILIZATION OF CIRCULATING TUMOR DNA IN THE SURVEILLANCE SETTING TO DETECT RECURRENT DISEASE

P Dale, J Gibbs, A Conforti

Jennifer Gibbs APN | Atrium Health

Discussant: TBD

34. DURATION OF ANTIBIOTIC PROPHYLAXIS FOR BALLISTIC FRACTURES TO THE EXTREMITIES

N Kathe, J Collins, R Myers

Nathaniel Faber MS | Eastern Virginia Medical School

Discussant: Adrian Ong MD | Reading Hospital

V4. CRYOABLATION AND SURGICAL STABILIZATION OF RIB FRACTURES

S Jensen, JM Green, K Porter, R Sing, S Dieffenbaugher, B Thomas, G Sachdev

Stephanie Jensen MD, MPH | Atrium Health

35. THE VAGUS MEDIATES GUT-BRAIN RESPONSE TO DUODENAL NUTRIENT ADMINISTRATION

RC Ross, Y He, R Townsend, P Schauer, CD Morison, VL Albaugh

Robert Ross MD, MPH | Pennington Biomedical Research Center

Discussant: Jessica Burgess MD | Eastern VA Medical School

36. LONGITUDINAL STUDY OF EMOTIONAL INTELLIGENCE, BURNOUT AND WELLBEING OF SURGICAL AND MEDICAL RESIDENTS

T Wasfie, H Kirkpatrick, K Barber, J Hella, T Anderson, M Vogel

Tarik Wasfie MD | Ascension Genesys Hospital

Discussant: Amy Hildreth MD | Atrium Health - Wake Forest Baptist

4:40pm – 5:40pm

Wellness and Ergonomics Panel

Grand Ballroom ABC

Moderator:

John Stewart IV, MD | LSU Health Sciences Center New Orleans

National Academy of Medicine Wellness Committee Update

Amy N. Hildreth MD | Atrium Health Wake Forest Baptist

Ergonomics in Robotic Surgery: Improved or Worsened

Shaneeta Johnson MD | Morehouse School of Medicine

Recognizing and Mitigating the “Second Victim Syndrome” in Surgery

Valentine Nfonsam MD, MS | University of Arizona

Ergonomics in Surgery: A Personal Perspective

Bryan K. Richmond MD, MBA | West Virginia University

Provider Wellness in the Face of Escalating Violence: A Trauma Surgeon's Perspective

Alison A. Smith MD, PhD | LSU Health Sciences Center New Orleans

5:45pm – 6:30pm

Business Meeting

Grand Ballroom ABC

TUESDAY, FEBRUARY 14

7:00am – 8:00am

Quickshot Orals (See *Quickshot Orals* section for Presentation listing)

Grand Ballroom Foyer

Quickshot Oral Session 22, Kiosk 1

Moderator(s):

Stefan Leichtle MD, MBA | Inova Health System

Quickshot Oral Session 23, Kiosk 2

Moderator(s):

Benjamin Dart MD | University of Tennessee College of Medicine - Chattanooga

Jessica Burgess MD | Eastern VA Medical School

Quickshot Oral Session 24, Kiosk 3

Moderator(s):

Katherine Kelley MD | Crozer Health

Quickshot Oral Session 25, Kiosk 4

Moderator(s):

James Copher MD | Northside Hospital

Quickshot Oral Session 26, Kiosk 5

Moderator(s):

Don Nakayama MD | University of North Carolina at Chapel Hill

Leah Sieren MD | Wake Forest Baptist Health

Quickshot Oral Session 27, Kiosk 6

Moderator(s):

Michael Martyak MD | Eastern Virginia Medical School

8:00am – 9:45am

Parallel Plenary Session 7

Grand Ballroom ABC

Moderator(s): Brian Daley MD, MBA | UGS

Michael Edwards MD | Mayo Clinic Florida

37. SAFETY OF THE TRAUMA QUALITY IMPROVEMENT PROGRAM GUIDELINE FOR VENOUS THROMBOEMBOLISM PROPHYLAXIS IN TRAUMATIC BRAIN INJURY

D Strawn Jr., D Strawn Sr., T Johns, R Parel, D Ashley

Allison Ferenczy MD | Navicent Health, Mercer University School of Medicine

38. DELAYED TRACHEOSTOMY AFTER CERVICAL FIXATION IS NOT ASSOCIATED WITH IMPROVED OUTCOMES: A TQIP ANALYSIS

EM Kelly, AM Fleming, E Lenart, I Howley, P Fischer, AJ Kerwin, D Filiberto, S Byerly

Emma Kelly MD | University of Tennessee Medical Center, Memphis

39. EFFICACY OF THORACIC COMPUTERIZED AXIAL TOMOGRAPHY IN BLUNT TRAUMA PATIENTS WITH HIGH GLASGOW COMA SCALE AND LOW INJURY SEVERITY SCORE

T Wasfie, R Hardy, M Nissan, S Mermar, D Fisher, R Yapchai, B Shapiro

Tarik Wasfie MD | Ascension Genesys Hospital

40. A CLOSER LOOK AT THE RISING EPIDEMIC OF MASS SHOOTINGS IN THE UNITED STATES AND ITS ASSOCIATION WITH GUN LEGISLATION, LAWS, AND SALES

K Newsome, B Sen-Crowe, C Autrey, S Alfaro, M Levy, T Bilski, J Ibrahim, A Elkbuli

Adel Elkbuli MD, MPH, MBA | Orlando Regional Medical Center

41. PREDICTORS OF FACIAL FRACTURES IN TRAUMA PATIENTS: A RETROSPECTIVE REVIEW AT A LEVEL I RURAL TRAUMA CENTER

T Sanders, H Rhodes, J Boscia, S Biswas

Thomas Sanders BS | Grand Strand Medical Center

42. A NATIONAL SURVEY ASSESSING THE VARIABILITY IN THE MANAGEMENT OF TRAUMATIC CARDIAC ARREST

KF Roche, M Quinn, E Mannino, L Ventura, C Brown, C Lawson, JB Burns

Keelin Roche MD, MPH | East Tennessee State University

43. UNDERSTANDING THE IMPACT OF RETAINED BULLETS FROM SURVIVORS OF GUNSHOT INJURY

RN Smith, RM Nedergaard, C Meyer, N DeSouza, S Resnick, M Ghosh, Q Blount, MM Hennink

Rikke Nedergaard MPH | Emory University

44. BLUNT TRAUMATIC ABDOMINAL WALL HERNIAS: AN INDICATOR FOR EMERGENT LAPAROTOMY?

AT Santos, O Jagiella-Lodise, P Kim, M Freedberg, J Nguyen, P Ayoung-Chee, RN Smith, ER Benjamin, SR Todd, JD Sciarretta

Adora Tricia Santos DO | Emory University

45. UNDERTRIAGE RISK AMONG THOSE WITH INTRACRANIAL HEMORRHAGE IN A REGIONAL HOSPITAL TRAUMA NETWORK

T Locklear, H Rhodes, S Anderson, A Pepe, S Biswas, D Courtney

Taylor Locklear MD | Grand Strand Medical Center

46. GRAVITY WARRIORS: OPTIMAL ACTIVATION CRITERIA FOR FOUND DOWN PATIENTS

J Lee, V Brockman, H Finch, E Johnson, J Rodriguez, C Decker, Z Stillman, T Schroepel

Emily Johnson MD, MSc | University of Colorado Health

47. CULTURAL AND LINGUISTIC ADAPTATIONS OF STOP THE BLEED IN MULTI-ETHNIC REFUGEE COMMUNITIES

D Abdullahi, A Zeidan, M Helen O' Connor, I Feinberg, S Asker, C Meyer, J Butler, K Herard, M Roorbach, M Rasheed, D Koganti, K Williams, R Smith

Dirir Abdullahi MD | Emory University

48. HYPOFIBRINOGENEMIC MASSIVE TRANSFUSION TRAUMA PATIENTS EXPERIENCE WORSE OUTCOMES

M Parker, E Crowder, M Miles, K Harrell, R Maxwell

Mitchell Parker MD, MBA | University of Tennessee Medical Center, Chattanooga

49. ANALYSIS OF BICYCLIST INJURIES AND FATALITIES IN THE UNITED STATES: THE NEED FOR EFFECTIVE & SUSTAINABLE PREVENTION POLICIES

M Ngatuvai, A Rosander, R Zagales, A Khan, L Kornblith, A Elkbuli

Adel Elkbuli MD, MPH, MBA | Orlando Regional Medical Center

50. POOR OUTCOMES OF PATIENTS FROM DELAYED CARE AFTER GROUND LEVEL FALLS

M Heard, S Suresh, M Leonard, JB Burns

Matthew Heard DO, MHS | East Tennessee State University

51. OUTCOMES OF HAND-SUTURED VERSUS STAPLED BOWEL ANASTOMOSIS IN HIGH AND LOW-RISK ADULT TRAUMA AND EMERGENCY SURGERY PATIENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

M Ngatuvai, R Andrade, I Zagales, M Sauder, G Beeton, D Ang, R Santos, T Bilski, A Elkbuli

Adel Elkbuli MD, MPH, MBA | Orlando Regional Medical Center

8:00am – 9:45am

Parallel Plenary Session 8

Harbor Ballroom ABC

Moderator(s):

Stephen McNatt MD | Atrium Health Wake Forest Baptist

52. A NOVEL PREOPERATIVE PATIENT SURVEY PREDICTS ADVERSE PATIENT OUTCOMES – IMPLEMENTATION AND PRELIMINARY RESULTS OF THE TENNESSEE PERIOPERATIVE ASSESSMENT TOOL (TPAT)

R Schmocker, K Gray, RE Heidel, S Vanterpool, JM McLoughlin

James McLoughlin MD | University of Tennessee Medical Center, Knoxville

53. MANAGEMENT OF PENETRATING CARDIAC INJURIES WITH PERICARDIAL WINDOW, LAVAGE, AND DRAINAGE IN SELECT PATIENTS

B Czarkowski, S Byerly, EK Lenart, DM Filiberto

Brian Czarkowski MD | University of Tennessee Medical Center, Memphis

54. PROFILE AND OUTCOMES OF PROSTATE MALIGNANCY AMONG PATIENTS YOUNGER THAN FIFTY YEARS

O Akinyemi, T Weldeslase, F Abodunrin, K Elleissy-Nasef, T Andine, E Cornwell, A Metwalli

Oluwasegun Akinyemi MD, MS | Howard University Hospital and College of Medicine

55. THE PREVALENCE AND PREDICTORS OF LONG-TERM OPIOID USE AFTER PELVIC FRACTURES

NA Villa, K Shum, A Atkinson, A Muller, A Ong, E Espiridion

Nicole Ann Villa BS | Drexel University College of Medicine

56. EVALUATING THE EFFICACY OF SURGICAL CONSENT

C Delgado, M McCullers, S Bloom

Carlos Delgado MD | AdventHealth Orlando

57. DIFFERENCES IN POST-OPERATIVE OUTCOMES AND PERIOPERATIVE RESOURCE UTILIZATION BETWEEN GENERAL SURGEONS AND PEDIATRIC SURGEONS: A SYSTEMATIC REVIEW AND META-ANALYSIS

A Eakes, L Burkbauer, L Purcell, A Kinkuotu, S McLean, A Charles, M Phillips

Ali Eakes MPH | University of North Carolina

58. CRITICAL VIEW OF SAFETY PLUS: IMPROVING THE SAFETY OF LAPAROSCOPIC CHOLECYSTECTOMY WITH INDOCYANINE GREEN DYE

M Stolz, E Foxhall, B Gibson, S Gill, M McNamee

Michael Stolz MD | Northeast Georgia Medical Center

59. THE ROLE OF PREOPERATIVE MAGNETIC RESONANCE CHOLANGIOPANCREATOGRAPHY/ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY IN THE SETTING OF MIDLY ELEVATED LIVER ENZYMES PRIOR TO CHOLECYSTECTOMY

J Durbin, R Kashup, AD Pinnola

Rachel Groening DO | Grand Strand Medical Center

60. ALL BLOOD IS THE SAME? SURVIVAL BENEFITS OF WHOLE BLOOD COMPARED TO COMPONENT THERAPY ARE OBSERVED IN COMMUNITY TRAUMA CARE

T Johnson, TJ Mack, R Burke, N Damiano, L Heger, N Minner, E Germa, A Wilson, CJ Mentzer

Tyler Johnson DO | Spartanburg Regional Healthcare System

61. COMPARATIVE ANALYSIS OF NSQIP NATIONAL AND INSTITUTIONAL OUTCOMES FOR ROBOTIC GASTRECTOMY: THE FUTURE OF GASTRIC RESECTION

S Ross, M Slavin, I Sucandy, R O'Hare, K Crespo, C Syblis, A Rosemurgy

Vincent Butano MD | Florida Hospital Tampa

62. ACUTE KIDNEY INJURY IN HYPOTENSIVE TRAUMA PATIENTS FOLLOWING RESUSCITATIVE ENDOVASCULAR BALLOON OCCLUSION OF THE AORTA PLACEMENT

I Hunt, L Gold, J Hunt, L Stuke, J Schoen, P Greiffenstein, A Marr, A Smith

Iris Hunt | Louisiana State University Health Science Center - New Orleans

63. PATHOLOGIC TUMOR SIZE VERSUS MAMMOGRAPHY, SONOGRAPHY AND MRI IN BREAST CANCER BASED ON PATHOLOGIC SUBTYPES

C Nonnemacher, P Dale, A Scott, M Bonner

Cory Nonnemacher MD | Medical Center of Central Georgia- Navicent Health

64. CHANGING THE PLAYING FIELD: A PREHOSPITAL BLOOD PRODUCT PILOT PROJECT IN RURAL NORTH GEORGIA

N Creel, J Gibson, K Gibson, C Richart, L Shirley

Nathan Creel MD | Northeast Georgia Medical Center

65. "THE MOST SATISFACTORY PROCEDURE IN THE FIELD OF PEDIATRIC SURGERY" THE HISTORY OF SURGICAL TREATMENT OF HYPERTROPHIC PYLORIC STENOSIS

BP Lovasik, JK Srinivasan, BJ Pettitt

Brendan Lovasik MD | Emory University

66. ANALYSIS OF NEED FOR INTERVENTION FOLLOWING LOW-GRADE TRAUMATIC SPLEEN INJURY

AM Bontrager, T Singh, JK Ewing, AJ Medvecz, RJ Devasahayam, MC Smith, OD Guillamondegui
Alexandria Bontrager BS | Vanderbilt University Medical Center

9:45am – 10:00am

Morning Break

Grand Ballroom Foyer

10:00am – 12:00pm

Plenary Session 9

Grand Ballroom ABC

Moderator(s):

Jyotirmay Sharma MD | Emory University School of Medicine

Emmanuel Zervos MD | East Carolina University

67. OUTCOMES OF PROTOCOL-DRIVEN VENOUS THROMBOEMBOLIC CHEMO-PROPHYLAXIS IN TRAUMA PATIENTS: A TRAUMA QUALITY IMPROVEMENT PROJECT (TQIP) ANALYSIS

P Kyros, FR Sheppard, DL Ciraulo, JB Ontengco, C Falank, J Sawhney, D Cullinane, B Chung, EN Turner, DW Carter, BC Morse

Peter Kyros MD | Maine Medical Center

Discussant: Mrinal Shukla MD, RPVI | Medical College of Georgia at Augusta University

****GM FINALIST**68. NATIONAL CANCER DATABASE SHOWS AA BREAST CANCER PATIENTS HAVE PROPORTIONATELY HIGHER RECURRENCE SCORES AFTER TAILORX RECLASSIFICATION VS CA PATIENTS: RACIAL CONSIDERATIONS IN RS INTERPRETATION**

C Wasserman, K Gogineni, L Postlewait, P Subhedar

Caroline Wasserman | Emory University

Discussant: Marissa Howard-McNatt MD | Wake Forest Baptist Health

****GM FINALIST**69. UTILITY OF ABBREVIATED SMALL BOWEL FOLLOW THROUGH IN THE MANAGEMENT OF SMALL BOWEL OBSTRUCTION**

C Cox, E Unrue, C Currence, C Mentzer, M Mount

Caroline E. Cox MD | Spartanburg Regional Healthcare System

Discussant: Tarik Wasfie MD | Ascension Genesis Hospital

70. THE EFFECT OF AN ENHANCED RECOVERY PROTOCOL ON PEDIATRIC COLORECTAL SURGICAL PATIENT OUTCOMES AT A SINGLE INSTITUTION

A Eakes, L Purcell, L Burkbauer, U Adams, C McCauley, S Mangat, C Lupa, A Akinkuotu, S McLean, M Phillips

Ali Eakes MPH | University of North Carolina

Discussant: Robert Gates MD | Prisma Health System

71. ACCESSIBILITY TO IMMEDIATELY AVAILABLE BALANCED BLOOD PRODUCTS IN A RURAL STATE TRAUMA SYSTEM

WA Smedley, CD Mabry, T Collins, J Tabor, SM Bowman, A Porter, SG Young, G Klutts, J DeLoach, A Bhavaraju, T Maxson, RD Robertson, JB Holcomb, KJ Kalkwarf

Weston Smedley MD | University of Arkansas for Medical Sciences

Discussant: TBD

72. THE PRESENCE OF A CRITICAL CARE FELLOW IN THE SICU LOWERS CENTRAL LINE AND FOLEY LINE DAYS AS WELL AS CAUTI RATES

K Decker, C Raley, K Mastriani

Katie Decker MD | Mountain Area Health Education Center (MAHEC)

Discussant: TBD

73. PATHOLOGIC TUMOR REGRESSION IS ASSOCIATED WITH IMPROVED SURVIVAL IN PANCREATIC CANCER

LM Nicolais, M Caron, N Verdini, TL Fitzgerald

Laura Nicolais MD | Maine Medical Center

Discussant: TBD

74. PREDICTORS OF COMPLETED SUICIDES AMONG EMERGENCY DEPARTMENT VISITS FOR ATTEMPTED SUICIDES

T Weldeslase, O Akinyemi, K Hughes, M Williams, E Cornwell

Terhas Weldeslase MD | Howard University Hospital and College of Medicine

Discussant: Michael Smith MD | Vanderbilt University Medical Center



RESIDENT FORUM ABSTRACTS

RF 1. WELCOME TO OUR TEG TALK: PLATELET MAPPING THROMBOELASTOGRAPHY ABNORMALITIES IN TRAUMA

S Quinn, S Gregg, N Garcia, Y Fu, W Irish, E Toschlog
East Carolina University, Brody School of Medicine

Background: The use of Platelet Mapping Thromboelastography (TEG-PM) to evaluate trauma induced coagulopathy has become more prevalent. The objective of this study was to evaluate associations between TEG-PM values and outcomes in trauma patients, including patients with isolated TBI.

Methods: A retrospective review of adult trauma patients was conducted utilizing the American College of Surgeons National Trauma Database from Aug. 2021 – Dec. 2021. Chart review was conducted to obtain specific TEG-PM parameters. Patients were excluded if they were on anti-platelets, anticoagulation, or received blood products prior to arrival. TEG-PM values and their associations with outcomes were evaluated using generalized linear model and Cox cause-specific hazards model. Outcomes included in-hospital death, hospital length of stay (LOS), and ICU stay. Relative risk (RR) and hazard ratio (HR) and their 95% confidence intervals (CIs) are provided as measures of strength of association and precision, respectively.

Results: A total of 1066 patients (mean [SD] age=49.8[21.5], 64% male, and 37.7% Black) were included, with 151 (14%) diagnosed with isolated TBI. Results for the overall cohort are presented in Table 1. Increasing ADP inhibition was associated with increased hospital and ICU LOS while decreased MA(AA) and MA(ADP) was associated with increased hospital and ICU LOS. The TEG parameters associated with increased risk of mortality were elevated R and Lys30. In the TBI cohort, increased ADP inhibition was associated with increased ICU and hospital LOS while AA inhibition was associated with increased hospital LOS.

Conclusion: Specific TEG-PM abnormalities are associated with worse outcomes in trauma patients, including TBI patients. These results require further investigation to understand associations between traumatic injury and coagulopathy.

RF 2. ANALYSIS OF NSQIP PUF IDENTIFIES TARGET AREAS FOR VTE PREVENTION

E Mlaver, J Sharma

Emory University

Background: Venous thromboembolic (VTE) events remain a leading cause of post-operative morbidity and mortality. It is intuitive that some procedures portend higher VTE risk than others: Prior investigations estimate post-operative VTE rates for hepato-pancreato-biliary surgery of 3.2% and colectomy of 1.9% (Beal 2018), whereas hysterectomy has VTE rate of 0.3% (Kahr 2018). There is, however, a paucity of literature comparing procedures or exploring which procedure types contribute most to the system-wide burden of VTE. Furthermore, many common procedures do not have standardized post-discharge prophylaxis regimens. We thus aimed to identify targets for quality improvement by analyzing which procedures contribute most to the system-wide burden of VTE.

Methods: We analyzed cases of VTE included in the 2020 NSQIP Public User File (PUF), including deep vein thrombosis (DVT) and pulmonary embolism (PE). We counted the prevalence of VTE by CPT code, noting surgical specialty for each procedure, to identify the procedures that contribute most to total VTE burden. We then compared crude VTE counts to total counts of each CPT code in the PUF to quantify a VTE rate for each procedure.

Results: A total of 902,968 patients were included in the PUF, of whom 7385 (0.82%) were diagnosed with post-operative VTE— 4922 with DVT and 3156 with PE (693 patients were diagnosed with both). Mean time to diagnosis was 11 days (SD 7.8) for DVT and 10 days (SD 7.9) for PE.

The twenty procedures with the most VTE outcomes contributed 39% of the total VTE (see Figure). Most of these twenty were General (12) and Orthopedic (4) Surgery procedures. The rates of VTE of each of these procedures varied dramatically, ranging from high-volume procedures with low VTE rates such as laparoscopic cholecystectomy (0.25%) and laparoscopic hysterectomy (0.32%) to relatively low-volume procedures with high VTE rate such as Hartmann's procedure (4.32%), Whipple procedure (3.85%), distal pancreatectomy (3.82%), and hemisectomy (3.01%). While Urology and Thoracic Surgery are relatively under-represented in the PUF sample and as such not as contributory to the top twenty in crude count, we notably identified high VTE rates in cystectomy (3.44%) and esophagectomy (2.78%).

Conclusion: Our findings agree with prior literature in the VTE rates reported and expand on previous conclusions by placing highly contributory procedures in the context of systemic burden of thromboembolic disease. Procedures with high VTE rate are important targets for quality improvement efforts. Surgeons should aim to standardize protocols for perioperative and post-discharge VTE prophylaxis.

RF 3. AN ANALYSIS OF THE TIMING FOR CLOSURE OF A DIVERTING LOOP ILEOSTOMY

N Hussein, A Stevenson, C Lawton, A Elmayan, E Hillis, J Burton, G Fuhrman

Ochsner Clinic Foundation

Background: A diverting loop ileostomy (DLI) is used to protect a distal anastomosis at risk of leakage. While patients typically prefer early DLI take down, surgeons vary in opinion regarding the optimal timing of closure. The objective of this study was to evaluate whether the timing of closure of a DLI impacts outcomes.

Methods: A retrospective review was performed on all patients aged >12 years who underwent DLI creation within a single healthcare system between 2012-2020. Data was extracted from the electronic medical record. Patient characteristics and post-operative outcomes were compared across ileostomies closed in 4 months. Outcomes examined included anastomotic leak, other complications, reintervention, and death within 30 days. Comparison of continuous measures was carried out via Wilcoxon rank-sum test, and categorical measures were compared with the chi-squared or Fisher's exact test as appropriate with a significance level of 0.05 used for all tests.

Results: A total of 500 DLIs were analyzed for the study, 455 (91%) of which were closed. The majority of DLIs were protecting a distal anastomosis (94%). Nearly all (97%) patients undergoing DLI closure underwent evaluation of the distal anastomosis to rule out a leak prior to closure. Postoperative outcomes are summarized in the Table below:

None of the variables analyzed in this study demonstrated a statistically significant difference between groups. Furthermore, the three groups were similar regarding patient characteristics and comorbid conditions.

Conclusion: Early closure of a diverting loop ileostomy results in similar post-operative outcomes to later closure. In patients otherwise fit for surgery, DLI closure can be safely performed within two months of creation.

RF 4. CHOLECYSTECTOMY AFTER PERCUTANEOUS CHOLECYSTOSTOMY FOR ACUTE CHOLECYSTITIS: EXPERIENCE AND OUTCOMES IN AN ACADEMIC PRACTICE

S Giannopoulos, K Makhecha, S Maddurid, F Garcia, TC Baumgartner, D Stefanidis
Indiana University School of Medicine

Background: Percutaneous cholecystostomy (PC) represents an important treatment approach in patients with acute cholecystitis (AC) who are unfit for laparoscopic cholecystectomy (LC). However, the optimal timing to perform LC for definitive treatment after PC is unknown. This study aimed to investigate the effect of the interval between PC and LC on perioperative complications.

Methods: This retrospective cohort study included adult patients diagnosed with AC who underwent PC followed by LC at a single academic center between 2016 and 2020. Patients with a history of hepatobiliary surgery, common bile duct stones, cirrhosis, active malignancy, or chronic immunosuppressive therapy were excluded. Additionally, baseline demographics, PC and LC hospitalization data, and perioperative outcomes following LC were collected. Linear and logistic regression models were used to analyze the impact of the interval between PC and LC on perioperative outcomes.

Results: One hundred twelve patients (60% male) with a mean age of 64.6 ± 1.4 (mean $\pm$ SD) years were diagnosed with AC (55% mild, 37% moderate, 9% severe), and underwent PC on average 1.8 days following diagnosis. The interval between PC and LC was 93.7 ± 12.5 days and was not associated with procedure duration, estimated blood loss, or length of hospitalization (Table1). The timing of LC also did not influence the 30-day readmission (OR 0.988, $p=0.602$), reintervention (OR 0.994, $p=0.469$), emergency department visits (OR 0.994, $p=0.370$), biliary injury (OR 0.987, $p=0.679$), leak (OR 0.99, $p=0.831$), intraoperative events (OR 0.979, $p=0.164$) or the rate of conversion to open (OR 0.989, $p=0.267$). However, delayed LC after PC increased the intensive care unit (ICU) stay significantly (Coef 0.003, $p<0.001$).

Conclusion: While the timing of LC after PC did not influence the perioperative outcomes longer intervals were associated with significantly increased length of ICU stay. Based on these findings, patients may benefit from early LC after percutaneous cholecystostomy for AC. Multi-institutional studies are necessary to confirm these results.

RF 5. TRENDING: LIVER FUNCTION TESTS AFTER LAPAROSCOPIC COMMON BILE DUCT EXPLORATION ARE NOT SIMILAR TO POST-ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY LAB TRENDS

G Cambroner, G Sanin, M Bosley, A Ganapathy, A Perko, J Niebler, J Patterson, C Westcott, A Nunn, P Miller, L Neff

Wake Forest University School of Medicine

Background: Choledocholithiasis treatment is often a two-stage process consisting of endoscopic retrograde cholangiopancreatography (ERCP) followed by laparoscopic cholecystectomy (LC). Increasingly, a single stage approach consisting of LC with laparoscopic common bile duct exploration (LCBDE) is gaining traction, with equivalent safety profiles and shorter hospitalizations. Clinical presentation of choledocholithiasis is typically associated with elevated liver function tests (LFTs). Yet, it is unknown whether the choice of therapeutic intervention impacts LFT trends in similar fashions. We compared periprocedural LFTs in ERCP vs LCBDE.

Methods: We retrospectively reviewed 115 patients over the age of 18 who underwent either ERCP or LC+LCBDE for choledocholithiasis. We excluded 28 patients due to insufficient laboratory data, a diagnosis of cholangitis, or unsuccessful LCBDE or ERCPs. eighty-seven patients were included, 53 of which had ERCPs and 34 had successful LC+LCBDEs. Biochemical data obtained included total bilirubin (Tbili), aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP). All patients had one LFT prior to the procedure. All patients had at least one pre- and one post-procedural LFTs, while all of the ERCP patients and 20 of 34 LC+LCBDE patients had a second set of post-procedural LFTs. Statistical analysis was done using Wilcoxon signed-rank tests.

Results: In patients undergoing ERCP, there was a consistent and significant decrease in all LFTs post procedure ($n = 53$; $p = < 0.001$ for all) with a continued downtrend on the second set of LFTs ($n = 53$; $p = < 0.001$ for all). For successful LC+LCBDEs, the Tbili, AST, ALT, ALP did not consistently downtrend and were similar between the preoperative baseline and 1st post-operative labs ($n = 34$; $p = 0.505$, $p = 0.694$, $p = 0.151$, and $p = 0.675$, respectively) and the 2nd post operative labs ($n = 20$; $p = 0.227$, $p = 0.412$, $p = 0.246$, and $p = 1.000$, respectively).

Conclusion: These two therapeutic approaches for choledocholithiasis have different post-procedural LFT profiles. After ERCP, LFTs consistently downtrend. In contrast, there is no consistent direction in LFTs following LC+LCBDE, which may be explained by increased pressurization of the biliary system during LCBDE due to flushing and the lack of sphincterotomy. This is an important distinction to note as clinicians may be expecting a rapid LFT normalization after LC+LCBDE similar to the one observed with ERCPs. This appreciation will decrease reliance on laboratory tests and shorten length of stay.

RF 6. COVID-INDUCED ALTERATIONS IN SURGICAL CARE: PERFORATED DIVERTICULITIS AS A MODEL

EA Grimsley, HM Janjua, M Read, PC Kuo

University of South Florida

Background: COVID-19 caused healthcare systems to alter traditional processes of care. Literature on the pandemic's effect on healthcare processes and resulting surgical outcomes is lacking. Using COVID prevalence as a surrogate for different healthcare processes during the pandemic, this study aims to determine outcomes of open colectomy in patients with perforated diverticulitis (PDiv).

Methods: Using CDC data, COVID mortality per three-month quarter was calculated in Florida. The quarters with the three highest and three lowest mortality rates were used to establish the COVID-heavy (CH) and COVID-light (CL) timeframes, respectively. Three quarters of 2019 were used for the pre-COVID (PC) timeframe. Florida AHCA database was queried using ICD-10 codes to identify PDiv patients who underwent open colectomy and/or colostomy creation. Primary outcomes were length of stay (LOS), morbidity, and mortality. Stepwise linear and logistic regression and gradient boosting machine (GBM) models with 10-fold cross-validation determined pre-operative factors most impacting outcomes. A parallel analysis excluding COVID+ patients was performed to differentiate COVID-infection from processes of care.

Results: There were 3,814 patients total, evenly distributed per timeframe: PC 1,238, CH 1,283, CL 1,293. Mortality was significantly higher during COVID: PC 2.4%, CH 4.9%, CL 3.8% ($p=0.004$). Stepwise regression revealed COVID+ led to longer LOS ($p2$ (OR 2.47, $p2$ (OR 6.2, $p<0.001$), history of myocardial infarction (OR 5.01, $p<0.001$) and CHF (OR 2.58, $p<0.001$); these three variables account for 87% of the relative influence on mortality. For mortality, regression accuracy was 0.97 (95% CI 0.96-0.97, F1 0.02), GBM accuracy was 0.97 (95% CI 0.96-0.97, F1 NA).

Conclusion: Outcomes following colectomy for PDiv were worse for COVID+ patients. Despite increased stress on the healthcare system during the COVID-19 pandemic, outcomes were unchanged for COVID-negative patients. Our results indicate that despite COVID-associated change in delivery of care, acute care surgery can still be performed in COVID-negative patients without increased morbidity or mortality.

RF 7. MULTIDISCIPLINARY BREAST CANCER CLINIC: OUR EXPERIENCE DECREASING TIME TO INTERVENTION

A Alongi, WD Mitchell, G Fuhrman, A Rivere
Ochsner Clinic Foundation

Background: Invasive breast cancer often utilizes multidisciplinary strategies for management. Multidisciplinary clinics (MDC) were created at high-volume surgical oncology centers to optimize care, in which patients are seen by multiple sub-specialists at one visit. The efficacy of MDC has been difficult to quantify in the literature due to variance amongst teams, timing delays, and differences in targeted outcomes.

Methods: We conducted a retrospective chart analysis of 492 patients with invasive breast cancer from Jan 1, 2020 to September 1, 2022. Patients seen in clinic by a breast surgeon, medical oncologist, and radiation oncologist were included. Patients seen at our MDC were selected into the experimental cohort. Patient demographic data was examined and patients were subdivided by type of breast cancer, date of diagnosis, date of clinic visit, and date of first intervention (either surgery or chemotherapy). Patients were excluded if they did not complete care at our institution, or did not have invasive breast cancer. We hypothesize the time interval from biopsy to intervention is shortened by consolidating separate subspecialty visits into a MDC.

Results: Population demographics include 490 females and 2 males, with a median age of 63. MDC group included 37 patients. Subtypes of breast cancer include 328 invasive ductal carcinoma, 73 invasive lobular carcinoma, 1 malignant phyllodes, and 89 invasive mammary carcinoma. Average tumor size was 1.7 cm with a median histologic grade of 2. There were 55 patients with triple negative breast cancer, 275 estrogen receptor positive cancer, and 51 HER2neu receptor positive cancer. Fifty-four patients presented with biopsy-proven lymph node involvement at initial consultation. Ninety-seven patients underwent neoadjuvant chemotherapy, 163 patients completed adjuvant chemotherapy, and 169 patients completed radiation therapy.

Mean time from biopsy to surgery clinic visit is 13 days across all patients, versus 10 days for MDC patients. This difference is statistically significant [t Sat > t critical two tail: 2.09 > 1.99]. Mean time to chemotherapy is 28 days for all patients versus 23 days in MDC patients, which is statistically significant [t Sat > t critical two tail: 5.12 > 2.019]. Mean time from clinic to surgery is 45 days for all patients versus 24 days in MDC patients [t Sat > t critical two tail: 6.63 > 2.00].

Conclusion: Although early in our experience, we have shown that our multidisciplinary approach to breast cancer care significantly decreases time to intervention, either surgery or chemotherapy. Future directions include meta-analysis to explore patient outcomes and survival.

RF 8. EVALUATING SURGICAL RESIDENTS' ATTITUDE TOWARD LAPAROSCOPIC COLORECTAL SIMULATION: A PORCINE MODEL

GE Cambroner, GD Sanin, LD Galli, C Garcia, JH Ashburn, MS Powell, JE Jordan
Wake Forest University School of Medicine

Background: Minimally invasive surgical techniques have replaced open approaches in many of the most commonly performed surgical procedures. Several factors pose challenges in mastering laparoscopic techniques during resident surgical training, such as: 80 hour work week restrictions, decreased autonomy, case competition with fellows, and the steep learning curve associated with laparoscopic techniques. Therefore, with our study, we aimed to determine the effectiveness of utilizing porcine models to improve surgical resident comfort with standard hemostatic and laparoscopic colorectal techniques.

Methods: Nine surgical residents between PGY2 and 5 completed a course focused on colorectal laparoscopic technique and the proper use of hemostatic agents. The course was designed by colorectal faculty with input from industry sponsors who also assisted with funding and supplementation of laparoscopic instruments and hemostatic agents. The course started with a pretest evaluation, followed by a didactic lecture, and a skills session using a porcine model to practice laparoscopic hemostatic and colorectal techniques. Participants performed laparoscopic procedures such as a right hemicolectomy and sigmoidectomy with a variety of laparoscopic staplers and energy devices. Then, residents attempted hemostatic techniques utilizing hemostatic agents after a structured series of bleeding injuries occurred. The lab concluded with the completion of a post-test survey focusing on competency and confidence surrounding laparoscopic colorectal techniques and hemostasis adjuncts.

Results: Nine residents completed training using the porcine model. There was a 100% pretest and 100% posttest evaluation completion. Pretest surveys demonstrated that 8/9 residents had an intermediate level of confidence in using hemostatic adjuncts in laparoscopic surgery, while 1/9 had a beginner level. Regarding laparoscopic bowel resection and anastomosis, 6/9 residents had a beginner level of experience with the remaining 2/9 reporting an intermediate level. Post-test surveys showed that 8/9 residents strongly agreed that porcine models were useful for resident training in laparoscopic colorectal and hemostatic techniques. All residents (9/9) felt the lab provided valuable improvements to their surgical abilities and would recommend the lab to their peers.

Conclusion: Our study shows that surgical residents' level of comfort with laparoscopic and hemostatic technique is often suboptimal regardless of the post graduate year of the resident. A paired didactic and porcine lab model for laparoscopic colorectal and hemostatic techniques is a valuable method for improving resident knowledge and skills in a low-stakes environment.

Funding: This work was supported by Ethicon US, LLC, Cincinnati, OH

RF 9. THE IMPACT OF OBESITY ON EARLY COMPLICATIONS FOLLOWING TRACHEOSTOMY: AN EVALUATION OF A NATIONWIDE REGISTRY

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Background: To evaluate the association between obesity and early complications following tracheostomy using a nationwide registry.

Methods: Adult patients who underwent tracheostomy from 2007 to 2017 were analyzed using the Nationwide Inpatient Sample (NIS). The population was stratified into obese and non-obese groups. Early complications following tracheostomy were identified and compared between the two groups. Multivariable logistic regression analyses were performed to assess the association between obesity and early complications following tracheostomy.

Results: Data pertaining to 205,032 adult patients were evaluated. Obese patients accounted for 12.1% (n=21,816) of the entire cohort. The most common complication in the cohort was perioperative bleeding [4316(2.1%)] A total of 1382(0.67%), 949(0.46%) and 134(0.07%) patients developed pneumothorax, surgical site infection and tracheal injury following tracheostomy respectively. In multivariable analyses there was no difference in the odds of developing perioperative bleeding [OR=1.03(0.93-1.13), p=0.61], pneumothorax [OR=0.91(0.76-1.09), p=0.32], and tracheal injury [OR= 0.7(0.33-1.49), p=0.36] following tracheostomy in the obese and non-obese group. However, obesity was associated with 66 % increased odds of developing surgical site infection following tracheostomy. [OR 1.66 (1.33-1.92), p< 0.01]

Conclusion: Obesity is associated with an increased risk of developing surgical site infection following tracheostomy. This adds to the growing need for measures to help curb the obesity epidemic in a bid to improve surgical outcomes.

RF 10. PREDICTIVE HEMORRHAGIC DEATH WITH INCREASING INJURY SEVERITY HIGHEST AMONG MOTORCYCLE COLLISIONS

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Grand Strand Medical Center

Background: The leading cause of preventable traumatic death is uncontrolled bleeding. This study aimed to better identify those most likely to experience in-hospital mortality with increasing injury severity scoring (ISS).

Methods: This is a single-center study of Trauma Registry data, from July 3, 2016, to February 24, 2022. The inclusion criteria were based upon age (≥ 18 years) and in-hospital mortality. A linear regression was performed to ascertain the effects of predictor variables on the likelihood that an expired adult trauma patient will experience increasing ISS.

Results: 546 patients (mean age 58) were included in the analysis based on the methods section's requirements. A significant linear regression equation was found ($F(33,295)=4.11$, $p<.01$), with an R^2 of 0.23. The most notable significant impact on increasing ISS included shock index ratio ($\beta=5.95$, $p<.01$, Mean=.74), activation of massive transfusion protocol ($\beta=8.21$, $p<.01$), GSW ($\beta=6.37$, $p=.01$), MCC ($\beta=8.62$, $p<.01$), and MVC ($\beta=4.82$, $p=.01$).

Conclusion: There were several significant associations with increasing ISS among those who experienced in-hospital mortality, which included a rising shock index ratio, activation of the massive transfusion protocol, and, most notably, MCC trauma. This research reiterates the importance of the "Stop the Bleed" campaign as vital for training laypersons in the life-saving technique for hemorrhage control.



CRAZY VIDEOS

C 1. FLUORESCENCE GUIDED ROBOTIC SEGMENT 8 SUPERIOR LIVER RESECTION. TECHNICAL APPROACH TO SECTORAL INFLOW OCCLUSION

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Background: Hepatic adenoma a premalignant tumor of the liver commonly seen in young women with hormonal contraceptive use. Complete surgical resection is recommended for adenoma >4cm to reduce the likelihood of harboring hepatocellular neoplasm. Tumors located in difficult to reach liver segments (segment 7,8,4A) often create hesitancy from surgeons to resect, even with a traditional open hepatectomy. In this case, we describe our robotic approach of segment 8 adenoma resection with anatomical inflow vascular control. We also showed a method of portal venorrhaphy during the hilar dissection.

Methods: A 39-year-old woman presented with symptomatic enlarging 7.8 x 6.5cm hepatic adenoma against the right hemidiaphragm. The mass is mainly located in segment 8 liver dome, which enabled an anatomical inflow vascular control of the right anterior liver sector. The operation began with a partial right lobe mobilization, followed by individual isolation of the right anterior portal pedicle. A portal venorrhaphy was necessary using a monofilament suture. The right anterior hepatic artery and the right portal vein were then each clamped using a robotic vascular bulldog, showing lines of demarcation bordering segment 5 & 8. Indocyanine green (ICG) fluorescence angiography was performed to confirm the ischemic demarcation lines. Under a temporary right anterior sectoral inflow control, the segment 8 adenoma was resected. At the end of the operation, the reperfusion of the right anterior sector was resumed. A complete ICG fluorescence of the entire liver was confirmed prior to closing.

Results: Final pathology report showed a hepatic adenoma (7.2 x 6.8 x 2.6cm) without any evidence of carcinoma. The postoperative recovery was uneventful.

Conclusion: We demonstrated a robotic technique of difficult liver segment resection under an anatomical sectoral inflow vascular occlusion. The robotic platform enables delicate dissection and vascular repair when necessary within the porta hepatis. We believe that robotic approach provides an alternative method for liver resection of difficult segments.

C 2. INTRA-HEPATIC GALLBLADDER PERFORATION CAUSING CHOLECYSTO-HEPATIC FISTULA MANAGED WITH ROBOTIC-ASSISTED SURGERY

F Jabbar

Medical City Plano

Background: Acute and chronic cholecystitis can lead to the uncommon complication of gallbladder perforations with rupture of biliary content into the peritoneal cavity or the rarer complication of intrahepatic perforations with hepatic abscess formation. There is a limited number of cases of intrahepatic gallbladder perforations with liver abscess formation described, and therefore, there is no standardized management of this condition. The prevalence of mortality associated with this complication is high, even after aggressive management, making it a diagnostic and surgical challenge. Many of these patients are sick with multiple comorbidities, so they are often managed non-surgically with cholecystostomy tube placement, percutaneous drainage of the liver abscess, and broad-spectrum antibiotic coverage. The intrahepatic nature of the gallbladder perforation can lead to difficulties in laparoscopic cholecystectomy, with a high prevalence of conversion to open cholecystectomy. Due to the limited number of cases, each one is relatively informative. There is no video presentation of this minimally-invasive robotic-assisted approach to treat this rare complication, and we present you with such a case.

C 3. ROBOTIC CENTRAL PANCREATECTOMY

PS Ajay, DA Kooby, MM Shah

Emory University

Background: This video demonstrates the feasibility of robotic central pancreatectomy

C 4. ROBOTIC INGUINAL HERNIA FOLLOWING PROSTATECTOMY WITH ARTIFICIAL URINARY SPHINCTER

Z Boucher

Lakeland Regional Health

Background: Minimally invasive inguinal hernia repair following prostatectomy is a controversial and challenging clinic scenario. Additionally, as the field of urology advances, more artificial reservoir devices are being implanted throughout the world. This is a video submission of a robotic bilateral inguinal hernia repair (TAPP) following prostatectomy with an artificial urinary sphincter in place. This video highlights challenges of re-do surgery in the space of retzius, in addition to management strategies for intra-peritoneal reservoir management during inguinal hernia repair.

Methods: This is a single surgeon video submission of a robotic TAPP inguinal hernia repair following prostatectomy with lymph node dissection and radiation. It highlights tips for management of medial dissection after prostatectomy as well as management strategies for intra-peritoneal reservoir management during inguinal hernia repair.

Results: As described in recent literature, minimally invasive pre-peritoneal robotic inguinal hernia repair is safe and effective following prostatectomy. Management strategies for balloon reservoirs in either the pre-peritoneal or intra-peritoneal space during herniorrhaphy.

Conclusion: As described in recent literature, minimally invasive pre-peritoneal robotic inguinal hernia repair is safe and effective following prostatectomy. Management strategies for balloon reservoirs in either the pre-peritoneal or intra-peritoneal space during herniorrhaphy.

C 5. ROBOTIC PANCREATICODUODENECTOMY FOR DUODENAL ADENOCARCINOMA

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Background: This video depicts a robotic pancreaticoduodenectomy undertaken in a 57-year-old woman who presented with worsening anemia and has a personal medical history of GERD.

Methods: The patient was referred for an EGD which revealed abnormal findings of a 10-centimeter bleeding duodenal ulcer in the second portion of the duodenum. Further duodenal ulcer biopsy revealed a moderately differentiated adenocarcinoma.

Results: The operation began with a diagnostic laparoscopy which showed no evidence of carcinomatosis or liver lesions. Lysis of adhesions occurred in the right upper quadrant as the patient had a history of cholecystectomy. The tumor mass was bulky in nature and encompassed the duodenum and head of the pancreas. The duodenum was carefully mobilized despite a large quantity of inflammatory process and a strong adherence to the mesentery. The jejunum was brought up into the right upper quadrant and the gastrohepatic ligament was opened in a stellate fashion. The duodenum was divided allowing the stomach to be retracted to the left upper quadrant. Dissection along the duodenum, uncinate process and neck of the pancreas occurred allowing for the transection of the pancreas. Peripancreatic lymph nodes were excised and collected. Reconstruction began with the hepaticojejunostomy anastomosis with two absorbable V-Loc sutures. Next, the two-layer pancreaticojejunostomy anastomosis was undertaken with non-absorbable V-Loc sutures for the outer layer and absorbable V-Loc sutures for the inner layer. Lastly, the transverse colon was elevated to allow for the duodenojejunostomy anastomosis. A fibrin-sealant was injected over all three anastomoses and a 10-French flat JP drain was brought to the axillary line and sutured to the skin.

Conclusion: Operative duration was 9 hours with an estimated blood loss of 100 milliliters. Final pathology confirmed duodenal adenocarcinoma with presence of lymphovascular invasion with 10 of the 28 excised lymph nodes showing involvement. The patient tolerated the operation well and had an uneventful postoperative course. This video demonstrates how a pancreaticoduodenectomy, a difficult HPB procedure, may be successfully completed utilizing a robot platform while still maximizing the advantages of a minimally invasive procedure.

C 6. ROBOTIC RIGHT COLECTOMY FOR ASCENDING COLON NEOPLASM INVOLVING ABDOMINAL WALL

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Vanderbilt University Medical Center

Background: We present a case of an en-bloc resection of a perforated ascending colon cancer and abdominal wall using minimally invasive techniques.

Case Presentation: Our patient is a 67-year-old woman who presented to her PCP for a 6-month history of right-sided abdominal pain, decreased appetite, and approximate 25 lb weight loss. A CT abdomen/pelvis revealed a cecal mass that had perforated into the abdominal wall resulting in a large multiloculated abscess measuring 5x7x6cm. Colonoscopy showed a nearly obstructing, fungating mass in the cecum. Her staging workup was negative for distant metastases. Pathology returned as tubulovillous adenoma with high-grade dysplasia. During her workup, she was admitted via ED due to signs of sepsis. She underwent percutaneous drainage of the abdominal wall abscess and was started on antibiotics. The IR approach was direct as possible to minimize the potential seeding along the drainage tract. Her case was discussed at multidisciplinary conference. Given her overall clinical picture, the decision was made to proceed with en-bloc resection of the cecal mass, abdominal wall, and IR drain tract. Intraoperative findings were encouraging as there was no evidence of peritoneal or liver surface disease. Complete resection was performed, and all frozen sections from the abdominal wall margins were negative. The ileocolonic anastomosis was performed intracorporeally. The resulting abdominal defect was 14cm in length by 6cm in width. Given the contaminated nature of the case and the potential risk of recurrent tumor in the abdominal wall, mesh was avoided. The defect was repaired primarily after mobilization of subcutaneous flaps. . She recovered well from the surgery and was discharged home on POD 2.

Final pathology demonstrated moderately differentiated adenocarcinoma of the cecum (T2N0M0, stage 1). All margins were negative. She was seen post-operatively and was progressing well. She will follow up with a repeat colonoscopy in 1 year. No adjuvant chemotherapy was recommended after discussion at multidisciplinary tumor board.

Conclusion: At time of presentation, up to 15% of all colon cancers are locally advanced. Historically, an open surgical approach is used in these cases due to concerns for oncological adequacy. However, MIS techniques have shown advantages in early postoperative outcomes, and recent studies have indicated the adequacy of laparoscopic surgery for oncological resection. This case demonstrates a safe approach while minimizing morbidity and preserving oncologic outcomes. Robotic surgery can be safe and overall beneficial for patients presenting with locally advanced colon cancer.



ORAL ABSTRACTS

1. INCIDENTAL FINDINGS PROTOCOL IMPLEMENTATION AT A LEVEL-I TRAUMA CENTER: A REVIEW OF PATIENT FOLLOW UP

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Background: Pan-scanning in trauma patients has become routine, resulting in increased identification of incidental findings. Incidental findings are findings unrelated to the reason for the scan. This has posed a conundrum of ensuring patients have appropriate follow up for these findings. We sought to evaluate our compliance and follow up for patients after implementation of an incidental findings protocol at our level-1 trauma center.

Methods: The trauma registry at our Level-1 Trauma Center was queried from 9/2020-4/2021, to encompass our pre and post implementation period. Patients were separated into PRE and POST groups. Charts were reviewed evaluating several factors including three and six-month follow-up on incidental findings. Data was analyzed comparing PRE and POST groups.

Results: A total of 1989 patients were identified with 31.22% (n=621) having incidental findings. Nine patients were excluded. As a result, 612 patients were included in our study. There was a statistically significant increase in PCP notification, 35% vs 22% ($p < 0.001$), and patient notification, 82% vs 65% ($p < 0.001$) in the POST v. PRE group. As a result, patient follow up regarding incidental findings was significantly higher in the six month follow up interval, 29% PRE vs 44%. There was no statistically significant difference in follow up based on insurance carrier between PRE and POST groups. Of the patients that followed up, most patients had Medicare insurance in both PRE (34.6%) and POST (53.5%) groups. There was no significant difference in patient age for PRE and POST group overall, 63 vs 66 years ($p=0.089$); nor in age of patients who followed up between both groups; 68.8 vs 68.2 years ($p=0.819$).

Conclusion: Implementation of an incidental findings protocol with patient and PCP notification resulted in statistically significant improvement in overall patient follow up for category 1 and 2 incidental findings. Patients who followed up were more often discharged to home. Utilizing the results obtained from the study, the protocol will be further revised to improve patient follow up.

	PRE Implementation (n=382)	POST Implementation (n=230)	p-value
Letter to PCP- Yes (%)	85 (22.3)	80 (34.8)	<0.001
Patient Informed Yes (%)	249 (65.2)	189 (82.2)	<0.001
3 month follow up- Yes (%)	89 (23.3)	53 (23)	0.842
6 month follow up- Yes (%)	109 (28.5)	101 (43.9)	<0.001

Table 1. Breakdown of PRE and POST Implementation Groups.

2. GENERAL SURGERY PROGRAM DIRECTOR PERCEPTIONS OF PGY5 RESIDENTS' OPERATIVE SELF-EFFICACY AND ENTRUSTMENT

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Background: A 2020 survey of graduating PGY5 general surgery residents linked to the American Board of Surgery In-Training Examination (ABSITE) revealed significant deficits in self-efficacy (SE), or personal judgment of how well one can successfully complete a task, for 10 commonly performed operations. However, identifying whether this deficit is similarly perceived by program directors (PDs) has not been well established.

Methods: A survey was distributed through the Association of Program Directors in Surgery listserv. Using a 5-point Likert scale, PDs were queried about their PGY5 residents' ability to perform the same 10 commonly performed operations independently. They were also asked about their PGY5 residents' accuracy of patient assessments and operative plans for several core general surgery entrustable professional activities (EPAs) to establish an entrustment index. Results of this survey were compared to PGY5 residents' perceptions of their self-efficacy and entrustment based on the 2020 post-ABSITE survey. Chi-squared tests were used for statistical analysis.

Results: 101 responses were received, which represents ~30% of general surgery programs (342 total per 2022 Match data). Survey responses from PGY5 residents in 2020 represented 296 general surgery programs. Perceptions from PDs of PGY5 residents' operative SE were highly concordant with resident perceptions, with no significant differences in SE observed for 9 of 10 procedures (Table 1). Both PGY5 residents and PDs perceived adequate levels of resident entrustment with no significant difference between the two groups for 6 of 8 EPAs.

Conclusion: These findings show concordance between PDs and PGY5 residents in their perceptions of operative SE and resident entrustment. Though both groups perceive adequate levels of entrustment, these findings also provide PD corroboration of a clear training deficit regarding operative SE for many core general surgery procedures, illustrating the importance of improved preparation for independent practice.

Table 1: PD vs. PGY5 Perceptions of Self-Efficacy for 10 Commonly Performed Procedures

Operation	% Self-Efficacious (PDs)	% Self-Efficacious (PGY5s)	P-value
Laparoscopic cholecystectomy	77.1% (64/83)	84.1% (1001/1190)	.095
Laparoscopic appendectomy	88.0% (73/83)	89.8% (1068/1189)	.588
Laparoscopic right hemicolectomy	36.1% (30/83)	26.5% (315/1187)	.057
Diagnostic laparoscopy	86.7% (72/83)	86.8% (1030/1187)	.995
Wide local excision	84.1% (69/82)	90.2% (1072/1188)	.077
Breast biopsy	78.0% (64/82)	77.0% (913/1186)	.824
Inguinal hernia	56.6% (47/83)	67.1% (799/1190)	.050
Thyroidectomy	26.2% (22/84)	19.6% (233/1190)	.143
Trauma exploratory laparotomy	69.9% (58/83)	60.7% (722/1190)	.096
Trauma thoracotomy	32.1% (27/84)	30% (357/1190)	.679

V1. ROBOTIC SPLEEN PRESERVING DISTAL PANCREATECTOMY

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Background: This video describes our technique of a spleen preserving distal pancreatectomy with cholecystectomy for a solid pseudopapillary neoplasm and gallstones.

Methods: A 53-year-old woman who presented with chronic diarrhea and was found to have a pancreatic tail mass. Preoperative workup included triple phase CT scan and EUS showing 6.53 cm hypodense mass in the tail of the pancreas and 9.5 mm gallstone in the gallbladder.

Results: The operation began by taking down gastrocolic omentum in a stellate fashion and carried the dissection toward the spleen. The short gastric vessels were taken down and the stomach retracted. An intraoperative ultrasound was utilized to identify the location of the tumor mass and the pancreas was dissected along its inferior edge. We took down the splenic flexure of the colon and then began the dissection from the body to the tail along the dorsal attachments from the retroperitoneum. Next the splenic artery and vein were identified and dissected off the pancreatic body and tail. Intraoperative ultrasound was once again utilized to identify the exact location of transection. The pancreas was divided with hook cautery carefully to avoid injuring the splenic artery and vein. Branches off the splenic vein were then divided with very minimal blood loss. The specimen was placed into a laparoscopic catch bag and sent to pathology. At this point, we injected fibrin sealant over the pancreatic stump. The stump was sutured with V-Loc suture in a running fashion back and forth and then both the falciform ligament and omentum flaps were created to buttress this area and was sutured in place. Finally, a 10-French flat JP drain was also placed along the stump.

Conclusion: Operative duration was 4 hours with 50 ml of estimated blood loss. Final pathology confirmed solid pseudopapillary neoplasm which was negative for vascular invasion, high mitotic index, and malignancy. Patient had an uneventful postoperative stay and was discharged on postoperative day 2. This video shows that the robotic approach is safe and efficacious for spleen preserving distal pancreatectomy with cholecystectomy.

3. INTERVAL CHOLECYSTECTOMY; ARE THEY NECESSARY IN ACUTE CHOLECYSTITIS MANAGED WITH PERCUTANEOUS CHOLECYSTOSTOMY TUBES?

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Background: Management of acute cholecystitis in critically ill patients has been an evolving field over many decades. Percutaneous cholecystostomy tubes (PCT) tubes have been historically used as a temporizing treatment for infectious conditions involving the gallbladder in patients who are poor operative candidates due to the severity of the patient's condition and/or associated medical comorbidities. Traditionally an cholecystectomy would be performed in the interim after improvement in the patient's medical condition. We believe that the interval cholecystectomy is not necessary in a majority of patients and can be managed simply with tube removal and observation. We performed a retrospective analysis for our patient population to assess our current practice and patient outcomes.

Methods: A 4-year retrospective analysis of all patients who received a PCT for acute cholecystitis at our facility was performed. We identified patients who received a PCT during this time and reviewed post placement management until either tube removal or cholecystectomy. We then looked at outcomes that included tube failure, recurrent cholecystitis, surgical technique and any surgical complications. We compared the two groups to look at overall outcomes.

Results: We identified 63 patients who received a cholecystostomy tube. Twenty-six (26) of these ended up undergoing cholecystectomy, 38 did not. Of the 38 that did not receive cholecystectomy, 14 followed up and had confirmed tube removal. We had no instances of recurrent cholecystitis in these patients and no obvious complications secondary to removal. In our surgical population we identified a statistically significant number of perioperative complications, 9/26, including extensive LOA, open cholecystectomy, bowel injuries and diaphragm injuries. We also identified 1 death in the cholecystectomy group during the operative admission and no mortality found in those who underwent tube removal. Of those who underwent tube removal, only 6/14 underwent cholangiogram prior to removal with the rest being removed based on symptomatology.

Conclusion: We reviewed the management in our facility and found that patients managed with cholecystectomy versus tube removal and observation had similar patient characteristics. We found patients overall did well with PCT removal and observation without increased incidence of recurrent cholecystitis. We also found a statistically significant number of surgical complications in those that underwent interval cholecystectomy. Overall, we conclude that PTC removal and observation is a safe management strategy and may reduce complications associated with cholecystectomy in this patient population. Further investigation should be performed to identify factors that would predict successful tube removal.

4. WHOLE BLOOD RESUSCITATION IS SAFE IN PEDIATRIC TRAUMA PATIENTS: A MULTICENTER STUDY

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Penn Medicine Lancaster General Health

Background: Whole blood (WB) resuscitation has been associated with a mortality benefit in trauma patients. Several small series report the use of WB in the pediatric population which demonstrate that WB is safe to use during trauma resuscitation. We performed a subgroup analysis of the pediatric patients from a large multicenter trial comparing patients who received WB or blood component therapy (BCT) during trauma resuscitation. We hypothesized that WB resuscitation would be safe when compared to BCT resuscitation in pediatric trauma patients.

Methods: This prospective observational study included pediatric trauma patients (0-17 years) from ten verified Level-I trauma centers in the US. All pediatric patients who received any blood transfusion during the initial resuscitation were included. Patients were included in the WB group if they received at least one unit of WB during their resuscitation, and patients in the BCT group are patients who received traditional blood product resuscitation. The primary outcome was in hospital mortality with secondary outcomes being pulmonary complications, venous thromboembolism and acute kidney injury. Statistical analysis was performed utilizing Chi square and Fisher's exact tests for categorical variables and independent samples t-tests for continuous variables. Multivariate logistic regression was performed to assess for mortality and complications in those treated with WB versus BCT.

Results: Ninety pediatric patients were enrolled in the study [WB: 62 (69%), BCT: 28 (21%)]. There was a mix of patients with both penetrating and blunt mechanisms of injury (MOI). Patients in the WB were more likely to be male. There were no differences in age, MOI, shock index, or injury severity score between groups. (Table 1) When controlling for age, MOI and shock index, there were no differences in complications between groups. There were no reported transfusion reactions or hemolytic complications in any patient. Mortality was not different between the groups [WB: 22 (35.5%), BCT: 10 (35.7%), $p=0.983$].

Conclusion: To our knowledge this is the largest prospective observational study of the outcomes of pediatric trauma patients receiving WB resuscitation. Our data suggests that WB resuscitation is safe when compared to BCT resuscitation in the care of critically injured pediatric trauma patients.

	BCT (n=28)	WB (n=62)	p-value
Age, median (IQR)	17 (14-17)	16 (15-17)	0.094
Male Sex, n (%)	21 (75.0%)	57 (91.9%)	0.029
MOI Penetrating	19 (67.9%)	39 (62.9%)	0.649
Shock Index ^a	1.183 ± 0.501	1.244 ± 0.646	0.699
ISS, median (IQR)	21 (10-26)	25 (17-38)	0.072
Complications			
ARDS	0 (0.0%)	1 (1.6%)	0.541
DVT	1 (3.6%)	3 (4.8%)	0.787
PE	0 (0.0%)	2 (3.2%)	0.336
AKI	2 (7.1%)	6 (9.7%)	0.680

Table 1. Characteristics of groups. ^aMean ± Standard Deviation (SD). (IQR- Interquartile range; ISS- Injury Severity Score; MOI- Mechanism of Injury; ARDS- Acute Respiratory Distress Syndrome; DVT- Deep Vein Thrombosis; PE- Pulmonary Embolism; AKI- Acute Kidney Injury)

5. THE INTERSECTION OF RACE AND RURALITY AND ITS EFFECT ON COLORECTAL CANCER SURVIVAL

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Background: Outcomes in colorectal cancer treatment are historically worse in African-Americans and residents of rural areas. Purported reasons include factors such as systemic racism, poverty, lack of access to care, and social determinants of health. We sought to determine whether outcomes worsened when race and rural residence intersected.

Methods: The National Cancer Database was queried for individuals with stage II–III colorectal cancer (2004–2018). Variables included age at diagnosis, sex, race, Charlson–Deyo score, insurance status, stage, and facility type. To examine the intersectionality of race/rurality on outcomes, race (Caucasian/African-American) and rurality (based on zip code) were combined into a single variable. The main outcome of interest was five-year survival. Cox regression analysis was performed to determine variables independently associated with survival.

Results: Of 501,259 patients, 361,974 were urban-Caucasian, 78,056 were rural-Caucasian, 55,034 were urban-African American, and 6,195 were rural-African American. Overall five-year mortality rate was 31.6%. Univariate Kaplan–Meier survival analysis demonstrated race-rurality was associated with overall survival ($p < 0.001$), with Urban-Caucasian having the highest (47.9 months) and Rural-African American having the lowest mean survival (46.7 months). Multivariable analysis found that Rural-Caucasian (HR: 1.05; 95% confidence interval: (1.04–1.07), Urban-African American (1.16 [1.16–1.18]), Rural-African American (1.26 [1.20–1.32]) all had increased mortality when compared to Urban-Caucasian individuals ($p < 0.001$).

Conclusion: Although rural Caucasians fared worse than urban Caucasians, African-Americans fared worst of all, with the poorest outcomes observed in African-Americans in rural areas. This suggests that both African-American race and rurality negatively affect survival, and act synergistically to further worsen outcomes.

Race with Rurality	Frequency	HR	95.0% CI for HR	P value
Urban-Caucasian	324258	-	-	
Urban-African American	48593	1.158	1.138-1.178	<0.001
Rural-Caucasian	70281	1.053	1.038-1.068	<0.001
Rural-African American	5491	1.260	1.204-1.319	<0.001

Table 1: Cox-Hazard analysis demonstrates decreased 5-year mortality among the Urban-Caucasian population when compared with the Rural-Caucasian, Urban-African American, and Rural African American populations.

V2. ROBOTIC TECHNIQUE FOR BILE DUCT INJURY RECONSTRUCTION ACCORDING TO BISMUTH-STRASBERG CLASSIFICATION

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Background: The traditional open approach is the main surgical technique utilized for the repair and reconstruction of bile duct injury after laparoscopic cholecystectomy. In the last decade, minimally invasive surgery has grown in popularity as a new technique in biliary surgery. The laparoscopic approach to creating biliary anastomosis is associated with increased surgical difficulty and a lack of precision needed in fine biliary surgery. Technical description of the robotic approach for bile duct injury reconstruction is very limited in the digital literature.

Methods: In this video, we describe the techniques used in four types of biliary injury repair after laparoscopic cholecystectomy by Roux-en-Y hepaticojejunostomy reconstructions. A running method using 4-0 absorbable barbed sutures was used with TF-1 needles.

The first operation involves an E2 bile duct injury reconstruction. The second is an E3 bile duct injury reconstruction. The third is an E4 bile duct injury repair and the final technique demonstrates an isolated right posterior sectoral bile duct reconstruction.

A closed suction drain was placed after each bile duct reconstruction.

Results: The robotic approach is associated with technical precisions leading to similar technical outcomes to the traditional open approach.

Conclusion: Minimally invasive robotic bile duct reconstruction can be used as an alternative to the traditional open approach. This video depicts the safety and efficacy of this technique for four different types of biliary reconstructions.

6. EXPANDED LOOK: OPIOID USE AFTER INGUINAL AND VENTRAL HERNIA REPAIR

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Background: Recent data on opioid consumption indicates that patients typically require far less than is prescribed. *** adopted standardized postoperative prescribing after hernia repair and began tracking patient reported opioid utilization. The aim of this study is to further evaluate patient opioid use after hernia repair in order to guide future prescribing.

Methods: All patients undergoing primary ventral (umbilical and epigastric), incisional and inguinal hernia repair between February and November 2019 (including previously analyzed data from February and May 2019) were reviewed. All opioid prescriptions that were received from pharmacies was able to be account for by utilizing SCRIPTS PMP. Patients reported the number of opioid pills taken at their first postoperative visit and documented either in the progress note or in the Americas Hernia Society Quality Collaborative (AHSQC) patient reported outcomes (PRO) questionnaire. All demographic, operative, and outcomes data were captured prospectively in the AHSQC. Opioid use reported as milligram morphine equivalents (MME).

Results: A total of 389 surgeries were performed during the study period, and 285 had patient reported opioid use for analysis. Within these groups, opioid use was reported in 79 out of 103 patients having undergone inguinal hernia repair, 36 out 44 primary ventral hernia repairs, and 170 out of 242 incisional hernia repairs. No opioid use was reported in 67% of inguinal hernias (53 patients), 69% of primary ventral hernias (25 patients), and 53% of incisional hernias (91 patients). Inguinal hernia patients consumed a mean of 11.9 MME, primary ventral patients 22.63 MME, and incisional hernia patients 84.74 MME. The average prescribed MME for patients undergoing inguinal hernia repair was 69.15 MME, 68.33 MME for ventral hernia repair, and 288.58 MME for incisional hernia repair.

Conclusion: Patients require little to no opioid after primary ventral and inguinal hernia repair. This data further demonstrates that opioid-free surgery is feasible in regards to ventral and inguinal hernia repair. Incisional hernia is more heterogenous, but the majority of patients still required less opioids than previously anticipated and vastly less than the amount of opioids that are frequently prescribed postoperatively when a prescribing protocol is not in place.

7. ARE BREAST CANCER PATIENTS PRESENTING WITH HIGHER STAGE SINCE THE COVID-19 PANDEMIC?

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Background: The impacts of the COVID-19 pandemic have been far reaching in many aspects of healthcare, particularly oncologic detection and cancer care. As much of the progress in reducing morbidity and mortality related to breast cancer have resulted from screening and public health measures, we analyzed the stage at which patients with breast cancer presented for surgery from 2019 to 2021.

Methods: From 2019-2021, retrospective analysis was performed on breast cancer patients, comparing differences in patient demographics and cancer stage pre- and post-recommendation to postpone mammographic screening on March 26, 2020 (pre- vs. Covid-era). Proportion analysis was performed to identify similar percentages for each stage and a weighed stage severity score with sign test was crafted to compare overall stage for a given timeframe.

Results: Overall, 1,107 breast cancer patients were included in the breast cancer surgery registry. Four hundred and forty-nine patients were included in the pre-pandemic phase from 2019 to March 26, 2020 and 658 patients since the COVID pandemic era from March 26, 2020 to 2021. These groups were similar demographically; the average age was 63 in pre- and 61 in the COVID-era. The majority of patients were female pre- 99.6% and 99.5% Covid-era. In both groups, the majority of patients were white, non-Hispanics 78.2% pre- vs. 79% COVID-era, 19.7% black patients pre- vs. 18.8% COVID-era, 1.36% Asian/other patients in pre- vs. 1.12% COVID-era, 1.0% white, Hispanic patients pre- vs. 0.89% COVID-era. We performed analysis comparing pre-COVID and COVID-era stage severity score. This showed a statistically higher stage presentation of disease when comparing pre-COVID to COVID-era data ($p=0.0027$). Additionally, we identified a higher rate of stage 3 disease presentation or greater in the COVID-era with 7.79% pre- vs. 12.3% COVID-era ($p=0.016$). However, we did not identify a difference in DCIS rates pre- vs. COVID-era, 17.5% vs 14.7% ($p=0.28$).

Conclusion: We found that in comparing pre- to COVID-era data that breast cancer patients presented with higher stages, in particular, stage 3 or more disease. This analysis reveals the impact COVID is having on the multidisciplinary treatment of breast cancer patients. Further efforts are needed to address the stage migration, the disproportionate burden of disease, and the access to care.

8. THE SAFE CHOLECYSTECTOMY: EVALUATING USE OF LAPAROSCOPIC SUBTOTAL CHOLECYSTECTOMY BETWEEN JUNIOR AND SENIOR FACULTY

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Background: Laparoscopic Subtotal Cholecystectomy is a useful technique for performing a safe cholecystectomy in cases where excessive inflammation prevents the exposure of the Critical View of Safety. In a prior study, we noted the need for subtotal cholecystectomy to be associated with increasing age, male sex, and higher ASA class. Several studies have been performed to evaluate perioperative outcomes and complications of laparoscopic cholecystectomy, with mixed results in terms of surgeon experience. It is unclear if the rate of subtotal cholecystectomy is associated with surgeon experience. We hypothesized that the rate of subtotal cholecystectomy would decrease as surgical experience increased.

Methods: We performed a single center, retrospective review of laparoscopic cholecystectomies performed by an Acute Care Surgery service at a tertiary academic medical center. Demographics were analyzed using descriptive statistics. We performed a multivariable logistic regression to examine the relationship between years in practice and performance of subtotal cholecystectomy. We then performed a sensitivity analysis comparing those in their first year on faculty with all others.

Results: Between November 1, 2017, and November 1, 2021, there were 1,222 laparoscopic cholecystectomies performed. 771 patients (63%) were female. 89 patients (7.3%) underwent subtotal cholecystectomy. There were no bile duct injuries requiring reoperation or reconstruction. Controlling for age, sex, and ASA class, there was no difference in the rate of subtotal cholecystectomy by years of experience (OR 0.98, 95% CI 0.94 – 1.01). In a sensitivity analysis comparing first-year faculty to those beyond their first year, there was also no difference (OR 0.76, 95% CI 0.42-1.39).

Conclusion: In this retrospective review, we find no difference in the rate of performance of subtotal cholecystectomy between junior and more experienced faculty. This reflects consistency across seniority levels, in keeping with multi-society best practice guidelines. These results can be confounded by junior faculty requesting assistance during more difficult operations. Further investigation into surgeon and patient factors affecting decision making may shed light on this.

9. THE AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA ORGAN INJURY SCALE FOR SPLEEN DOES NOT EQUALLY PREDICT INTERVENTIONS IN PENETRATING AND BLUNT TRAUMA

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Background: The American Association for the Surgery of Trauma (AAST) Organ Injury Scale (OIS) for the spleen (and other organs) was created in 1989. It has been validated to predict mortality, need for operation, length of stay (LOS), and intensive care unit (ICU) LOS. Our aim was to determine if the Spleen OIS is applied equally to blunt and penetrating trauma.

Methods: We analyzed the Trauma Quality Improvement Program (TQIP) database from 2017-2019, including patients with spleen injuries. Outcomes included the rates of mortality, operation, spleen-specific operation, splenectomy, and splenic embolization. Odds ratios and 95% Confidence Intervals (OR, CI) for outcomes were calculated for each grade compared to the immediately lower grade.

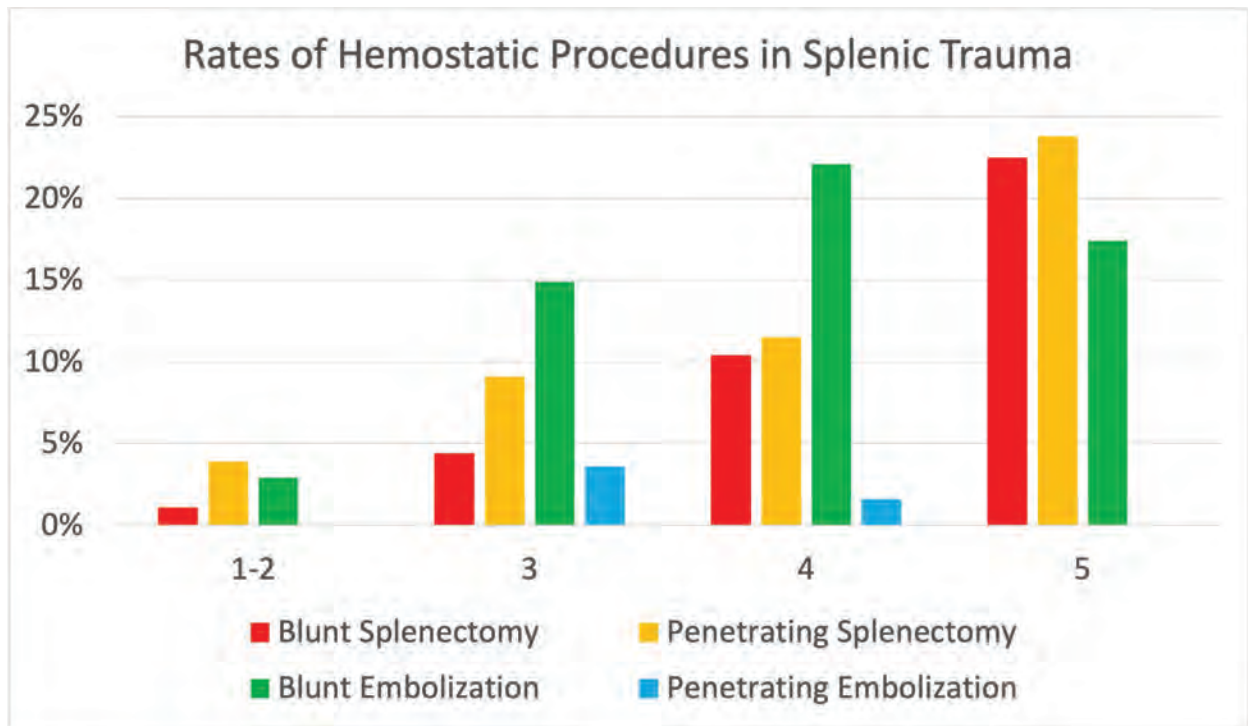
Results: 60900 patients had a spleen injury with an OIS grade. Mortality rates increased in Grades IV and V for both blunt (IV: OR 1.42, 1.28-1.58, V: 2.12, 1.88-2.38) and penetrating trauma (IV: 1.64, 1.13-2.38, V: 1.71, 1.24-2.36).

The odds for any operation, spleen-specific operation, and splenectomy increased, for each increase in grade in blunt trauma (p0.05). The rates of splenectomy were higher in penetrating trauma in grades I-II (OR 4.8, 3.7-6.2), III (OR 3.5, 2.8-4.4), IV (OR 1.9, 1.6-2.3), and V (OR 1.2, 1.0-1.5).

Splenic embolization was most frequent in Grade IV blunt trauma at 25%. Rates in penetrating trauma were significantly lower, most frequent in 2.5% of Grade III injuries. The rates of angioembolization were higher in blunt trauma in grades I-II (OR 3.2, 1.8-5.6), III (OR 7.0, 4.4-11.1), IV (OR 33.3, 15.6-71.4) and V (OR 52.6, 12.8-200).

On multivariate analysis, Grade V was associated with mortality. Grades III to V were significantly associated with operation, splenic operation, splenectomy, and splenic embolization. Mechanism of trauma is a significant factor for all outcomes, independent of AAST-OIS.

Conclusion: AAST-OIS does not equally predict outcomes in blunt and penetrating splenic injuries. Hemostasis is predominantly surgical in penetrating trauma, while it can be achieved with angioembolization more frequently in blunt trauma. Management of penetrating trauma is likely influenced by the potential for injury to peri-splenic organs.



10. COMPARING OUTCOMES OF APPENDECTOMY VERSUS NON-OPERATIVE ANTIBIOTIC THERAPY FOR ACUTE APPENDICITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS

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Background: Acute appendicitis is one of the most common etiologies of an acute abdomen in the emergency department and first-line standard surgical care for the condition has recently been reconsidered. We aim to evaluate the effectiveness and outcomes of surgical intervention versus non-operative antibiotic therapy in the treatment of acute appendicitis in adult and pediatric patients.

Methods: A literature search was conducted using PubMed, Google Scholar, and EMBASE. The search included all studies until January 15th, 2022. Preferred Reporting Items for Systematic reviews and Meta-Analysis guidelines were followed for abstracting data and assessing data quality and validity. Data were independently extracted by the authors of the study. Meta-analysis was performed and Cohen's Q test for heterogeneous effects was performed to determine if fixed or random-effects models were appropriate for use.

Results: Twelve randomized controlled trials investigating a total of 3703 acute appendicitis patients met inclusion criteria and were included in the meta-analysis. In the systematic review, eleven RCTs demonstrated that appendectomy had improved effectiveness compared to non-operative antibiotic management. The meta-analysis demonstrated that patients undergoing appendectomy had significantly higher treatment effectiveness compared with antibiotics-only treatment (98.4% vs. 73.3%, $P < .0001$). The meta-analysis did demonstrate a significant .54-day reduction in hospital length of stay for the appendectomy group compared to the non-operative antibiotic therapy group.

Conclusion: Surgical intervention is associated with increased effectiveness of treatment and reduced in-hospital length of stay among patients with acute appendicitis. Guidelines established by institutions and surgical organizations should indicate appendectomy as the standard and superior treatment option for patients presenting with acute appendicitis.

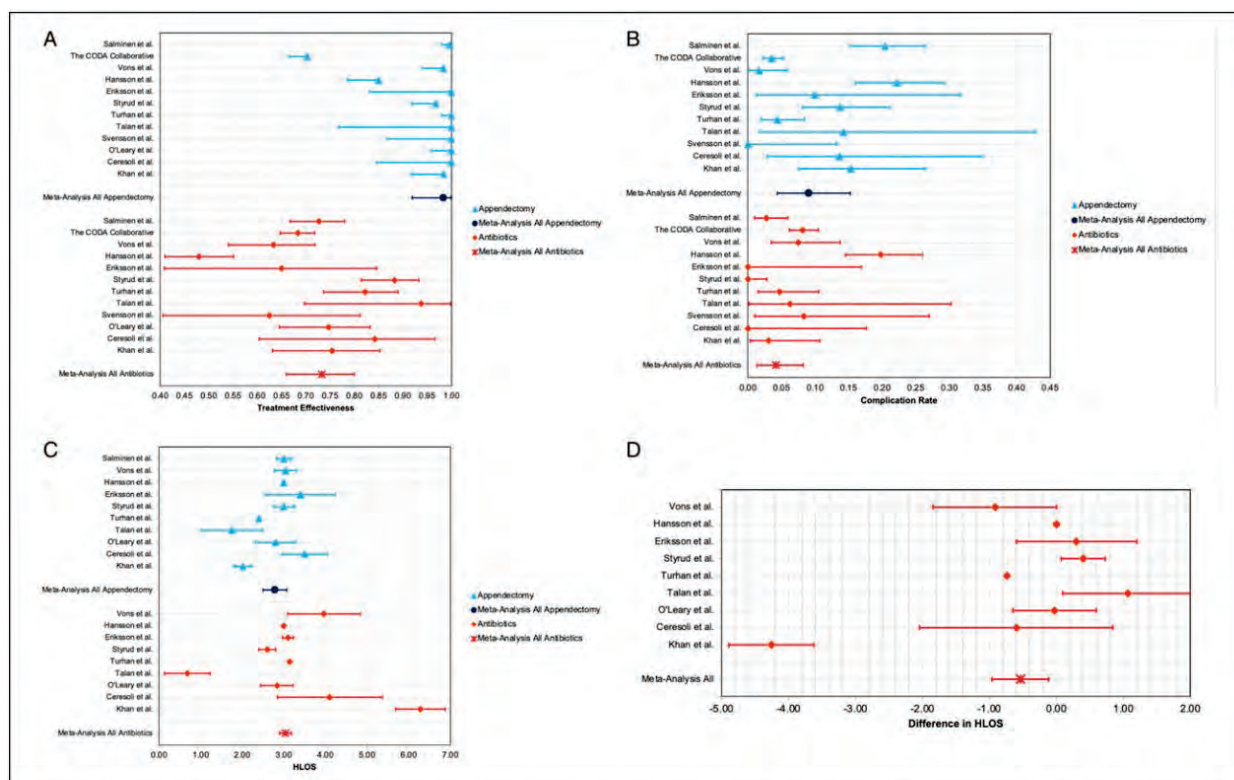


Figure 2. (A) Meta-analysis appendectomy and non-operative antibiotic therapy treatment effectiveness Forest plot. (B) Meta-analysis appendectomy and non-operative antibiotic therapy major complication rates Forest plot. (C) Meta-analysis appendectomy and non-operative antibiotic therapy H-LOS Forest plot. (D) Meta-analysis HLOS among study group Forest plot.

11. THE AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA ORGAN INJURY SCALE IS ASSOCIATED WITH CYSTOSCOPIC AND PERCUTANEOUS UROLOGIC PROCEDURES IN RENAL INJURIES

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Background: The American Association for the Surgery of Trauma (AAST) Organ Injury Scale (OIS) for the kidney (and other organs) was created in 1989. It has been validated to predict mortality, need for operation, length of stay (LOS), and intensive care unit (ICU) LOS. It was updated in 2018 to better predict endourologic interventions, but this change has not been validated. In addition, the AAST-OIS does not consider mechanism of trauma in its interpretation.

Methods: We analyzed the Trauma Quality Improvement Program (TQIP) database from 2017-2019, including all patients with a kidney injury. We recorded rates of mortality, operation, renal-operation, nephrectomy, renal embolization, cystoscopic intervention, and percutaneous urologic procedures. Odds ratios and 95% Confidence Intervals (OR, CI) were calculated for each grade as compared to the immediately lower grade.

Results: 26294 patients had a kidney injury with an OIS grade. In penetrating trauma, mortality ($p < 0.05$), operation ($p < 0.02$), renal-specific operation ($p < 0.02$), and nephrectomy rates ($p < 0.05$) increased at every grade. Renal embolization and cystoscopy rates increased up to grade IV, then decreased in Grade V. Percutaneous interventions were rare across all grades.

In blunt trauma, mortality and nephrectomy rates increased only in grades IV and V ($p < 0.03$). Operation, renal operation, and renal embolization rates increased at every grade level ($p < 0.001$). Cystoscopy rates increased up to grade IV ($p < 0.04$), then decreased in grade V ($p < 0.001$). Percutaneous procedure rates were similar in grades I-III, increased in Grade IV (OR 7.9, 4.2-14.8), and were similar in grade V (vs IV).

When comparing mechanism, penetrating injuries are more likely to require nephrectomy in grades III (OR 10.2, CI 3.8-27), IV (OR 8.0, CI 4.7-13.8), and V (OR 3.2, CI 2.1-4.9). Cystoscopy is used more frequently in Grade III penetrating injuries (OR 4.5, CI 2.8-7.2). Percutaneous procedures are utilized more in Grades I-II (OR 4.9, CI 1.8-12.8) and III (OR 9.0, CI 4.4-18.3).

Conclusion: AAST-OIS is strongly associated with cystoscopic procedures in both blunt and penetrating trauma. These procedures are most utilized in Grade IV injuries. This is pertinent as Grade IV injuries include those with central collecting system injuries. Despite penetrating injuries more frequently requiring nephrectomy, they also more frequently require nonsurgical procedures. Mechanism of trauma should be considered when interpreting the AAST-OIS for kidney injuries.

12. POST-OPERATIVE OUTCOMES FOLLOWING MAJOR LOWER EXTREMITY AMPUTATIONS ARE DEPENDENT ON SURGICAL SERVICE LINE AND PATIENT FRAILTY

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Background: Multiple surgical disciplines are capable of performing and managing urgent or emergent major lower extremity amputations (LEA). It is established that outcomes for this patient population are quite variable based on comorbid conditions and frailty. This study seeks to determine if the primary surgical service performing major LEA affects re-amputation rates, ambulation status, or mortality-based outcomes.

Methods: We conducted a retrospective chart review of 464 patients who received major lower extremity amputations at our institution between November 2015 and October 2021. Frailty was calculated with the 5-factor modified Frailty index (mFI-5) and patients were categorized into frail or non-frail. Post-amputation outcomes including post-operative ambulation with prosthesis, 30-day and 1 year re-amputation, and 30-day and 1 year mortality were recorded and compared between vascular, orthopedic, and trauma surgery services. Statistical analysis was performed for outcome measures and p-value of < 0.05 was considered significant.

Results: Vascular surgeons performed 219 cases (51.4%), orthopedic surgeons performed 75 cases (17.6%), and trauma surgeons performed 132 cases (31%). Open, or guillotine amputations were performed by all services evaluated. There were 361 non-frail patients in this cohort. Within the non-frail group, 68% of trauma surgery patients got re-amputated in 30 days, followed by 61% of orthopedic surgery patients, and 58.7% of vascular surgery patients ($p < 0.001$). Orthopedic surgery had the highest rates of patients who achieved post-operative ambulation with a prosthesis, followed by vascular surgery, and trauma surgery (68.3% vs. 35% vs. 33.7%, $p < 0.001$). There were no differences between surgical specialties in 30-day and 1 year mortality and 1 year re-amputation. There were no differences between surgical specialties in 30-day and 1 year mortality, 30-day and 1 year re-amputation, and post-operative ambulation with a prosthesis in the 103 frail patients.

Conclusion: In non-frail patients, the surgical specialty performing the lower extremity amputation had an effect on post-operative outcomes. In frail patients, post-operative outcomes were dependent on comorbid conditions more so than surgical service.

13. SMALL AIM, SMALL MISS - TAKING SMALL BITES IMPROVES CONSISTENCY IN FASCIAL CLOSURE SIMULATION

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Background: Several studies including the STITCH trial have suggested utilizing small bite (5 mm) closure technique improves outcomes. At our institution we created a felt model to simulate fascial closure and educate residents regarding small bite technique. Despite common knowledge that small bite closure is beneficial, it is not well documented how accurately and consistently surgeons employ this technique. The aim of this study is to gauge accuracy and consistency of bite size in fascial closure and assess if utilizing a templated model could improve technique.

Methods: Two 10 cm incisions were made in different pieces of felt. Residents were instructed to suture the incisions to simulate fascial closure by running the incisions closed with 1 cm and 5 mm bites respectively. The process was then repeated with templated pieces of felt marked with 1 and 0.5 cm to guide bite size. Residents were timed for each closure (Fig 1). The travel and distance from the midline for each bite was measured and statistical analysis performed.

Results: 14 residents participated. Each closure was timed. Paired T test was utilized to compare means and standard deviations of bite size and travel. Taking 5 mm bites took 89 seconds longer than 1 cm bites ($p=0.001$). Standard deviation of travel (0.539, $p<0.001$) and right sided distance from midline (0.508, $p<0.001$) were significantly smaller when a template was utilized. Standard deviation of travel (0.294, $p=0.01$) and right sided distance (0.359, $p=0.001$) from midline were significantly larger in the 1 cm compared to 5mm groups.

Conclusion: There is much discussion about utilizing a small bite technique to close fascia and reasons why this seems to decrease incisional hernia rate are speculated but not proven. In this study, we demonstrated that utilizing a small-bite technique results in a more consistent and uniform closure and that the standard deviation between bites is improved when residents are instructed to take smaller bites. The riflery adage, “aim small, miss small,” seems to hold true in fascial closure and may be one reason why small bite technique improves hernia recurrence after laparotomy. This study also suggests that the use of a template improves accuracy and consistency of closure regardless of bite size intention. This raises the question of should we be templating fascial closure.



14. CONTEMPORARY TREATMENT PARADIGMS INCREASE SURVIVAL IN PANCREATIC CANCER

BN Kelly, L Nicolais, TL Fitzgerald

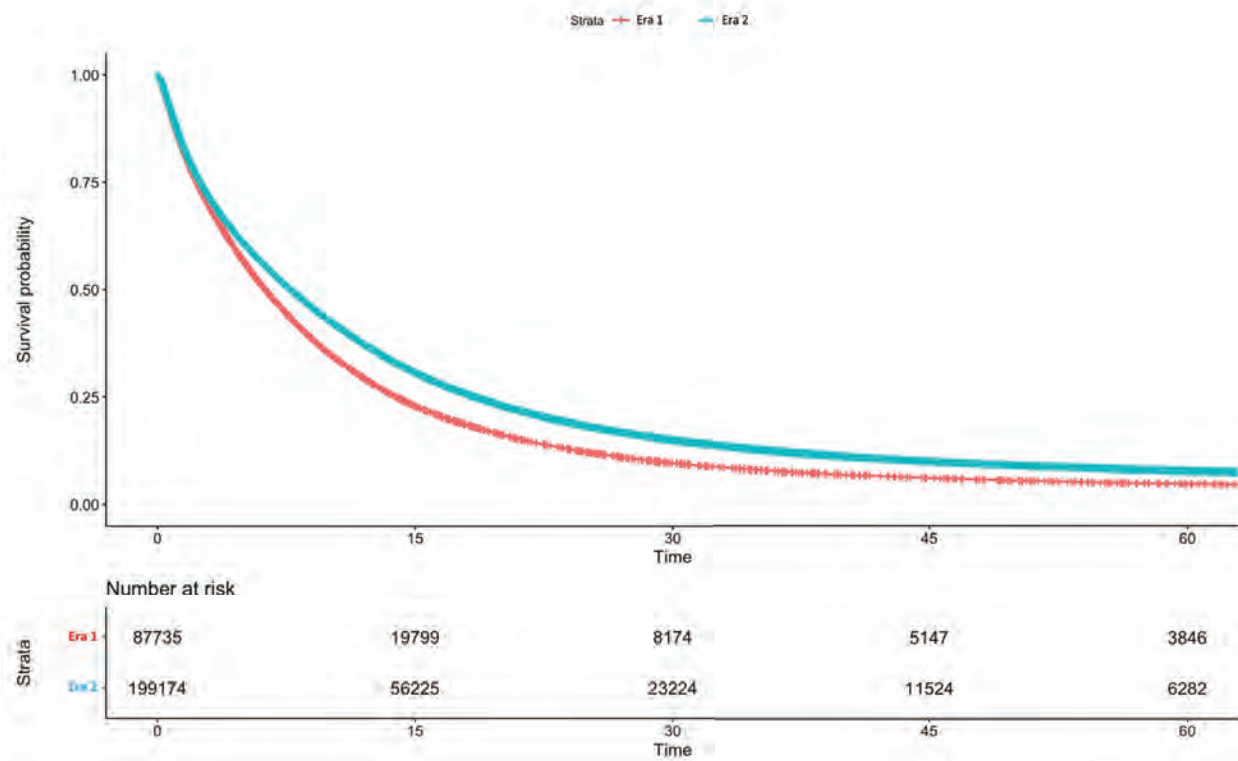
Maine Medical Center

Background: Over the last decade, there have been significant improvements in the diagnosis and treatment of pancreatic cancer. In 2011, the standard of care for timing of delivery and regimen of systemic therapy shifted towards that of neoadjuvant multiagent chemotherapy. However, the implication for survival of pancreatic cancer patients at a population level remains unclear.

Methods: A retrospective study of the National Cancer Database from 2004-2019 was conducted. Patients were deemed "Era 1" if they were diagnosed between 2004-2010, or "Era 2" if diagnosed between 2011-2019. Data analyses were conducted in R.

Results: A total of 316393 patients with pancreatic adenocarcinoma were identified, with 87742 treated during Era 1, and 228651 treated during Era 2. On multivariate analysis, particular socioeconomic factors were significantly associated with increased survival, including private insurance, higher income, and receipt of treatment in the Northeast, and at an academic center. These trends persisted across subset analyses. Across all subset analyses, rates of MA chemotherapy administration significantly increased between Era 1 and Era 2. On multivariate analysis, survival consistently increased in the full cohort (Figure 1) and across subset analyses, including surgical patients (HR 0.85, 95% CI 0.82-0.88, $p < 0.001$), imminently resectable patients (HR 0.90, 95% CI 0.86-0.95, $p < 0.001$), high risk patients (HR 0.82, 95% CI 0.79-0.85, $p < 0.001$), and stage IV patients (HR 0.86, 95% CI 0.84-0.89, $p < 0.001$). Regardless of year of treatment, rates of surgery in imminently resectable patients were about 50%. However, in imminently resectable patients who underwent surgical resection of disease, median survival increased from 22.7 to 26.6 months from Era 1 to Era 2 (HR 0.92, 95% CI 0.87-0.97, $p = 0.001$). A similar increase in median survival was observed in high risk surgical patients, rising from 18.0 to 22.8 months from Era 1 to Era 2 (HR 0.81, 95% CI 0.77-0.85, $p < 0.001$).

Conclusion: The advent of MA chemotherapy has improved outcomes in all patients. Unfortunately, the underuse of surgery in imminently resectable patients persists. Across all subset analyses, outcome disparities are observed with respect to insurance status, location, and facility type.



15. PEDIATRIC APPENDICITIS TRANSFERS FROM ADULT CENTERS: CAN ALVARADO SCORES HELP DETERMINE WHICH PATIENTS NEED A CT?

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Cooper University Hospital

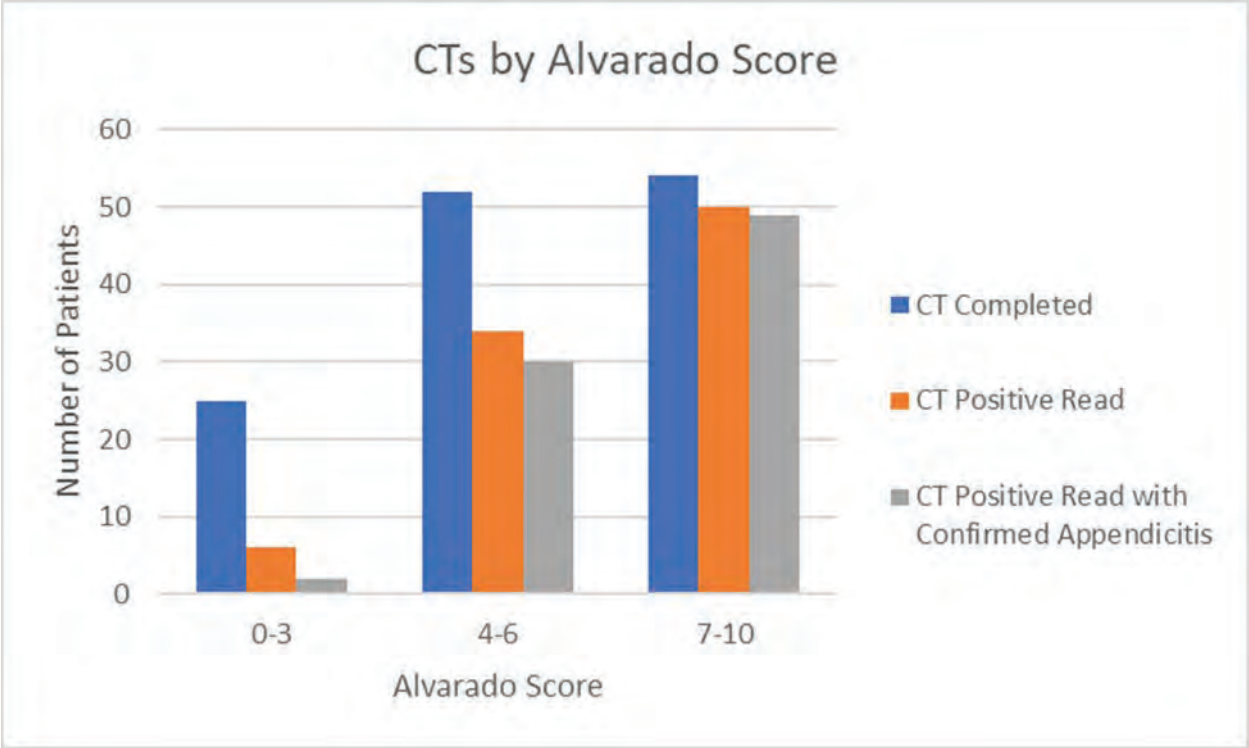
Background: Acute appendicitis is on the list of differential diagnoses for any pediatric patient with abdominal pain. In the past, the diagnosis was largely clinical; however, with the advent of widespread imaging, patients typically undergo one or more studies prior to diagnosis. As a tertiary pediatric hospital, a significant number of patients are transferred from adult emergency departments. Unnecessary or excessive imaging delays transfer of the patient to the treating institution and also exposes the patient to unnecessary radiation. We hypothesize that by using the Alvarado score to clinically stage patients, we can identify patient groups that could be transferred without imaging.

Methods: A retrospective review was performed for pediatric patients (age<18) transferred from adult centers to our pediatric emergency department for abdominal pain with the differential diagnosis including appendicitis between 11/15/2020 – 3/31/2022. Variables collected included the Alvarado score components, imaging results, operative reports, and pathology. Alvarado score was calculated for each patient and patients were grouped into low (0-3), intermediate (4-6), and high (7-10) scores. Results were used to calculate positive predictive values (PPV) for patients who underwent CT.

Results: There were 196 patients (age 2-17, 58% male) transferred to our tertiary care center with suspected appendicitis. The Alvarado score was low in 18% (n=35), intermediate in 38% (n=74), and high in 44% (n=87). Appendicitis was diagnosed in 67% (n=131). In the low score, the rate of appendicitis was 14% and the PPV of a CT 33%. In the intermediate group, the rate of appendicitis was 62% and the PPV 88%. In the high score, the rate of appendicitis was 92% and PPV 98%. One patient from the low group underwent a negative appendectomy.

Conclusion: There is a low rate of appendicitis in patients who have a low Alvarado score. The PPV of CT in this population is also low. While our study is small, the data suggests that patients who are unable to be discharged from the ED could be transferred to a pediatric hospital without a CT. Conversely, the rate of appendicitis is over 90% with high scores, and patients may not need a reflexive CT. We propose that CT in the low and high groups be performed at the discretion of the pediatric center in order to expedite transfer and spare children excess radiation.

Figure 1: CTs by Alvarado score



16. A STATEWIDE ANALYSIS OF PREDICTORS OF TRAUMA CENTER TRANSFER: THE BURDEN OF NON-CLINICAL FACTORS

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Background: There is a perception, with mixed literary support, that patients are transferred from community hospitals to tertiary medical centers for non-clinical reasons (i.e., payor source, race/ethnicity, night/weekend hours). Over-triage risks a concentration of uncompensated care at tertiary medical centers and unequally burdens the trauma system. This study aimed to identify potential non-clinical factors associated with the transfer of injured patients to trauma centers.

Methods: Using the 2018 North Carolina State Inpatient Database, patients with a primary diagnosis of spine, rib, or extremity fractures, or traumatic brain injury were identified using ICD-10 code and admission type of “Urgent”, “Emergency”, or “Trauma”. Patients were divided into cohorts of “retained” (at community hospital) or “transferred” (level-1 or 2 verified trauma centers).

Results: 11,095 patients met inclusion criteria; 2,432 (21.9%) patients made up the transfer cohort. The mean injury severity score (ISS) for all retained patients was 2.2 (± 0.9) and 2.9 (± 1.4) for all transferred patients. The transfer cohort was younger (mean age 66 v 75.8), underinsured, rural, and admitted after 1700 ($p < 0.001$). There was similar significance across each primary diagnosis cohort.

Conclusion: Patients transferred to trauma centers were more likely to be underinsured, live in rural areas, and be admitted outside of normal business hours. These patients had longer lengths of stay and were discharged less frequently to a facility. Across all cohorts, similar ISS suggests that a portion of the transfers had injuries that could be managed at a community hospital. These transfers occurred primarily after hours, suggesting a need for more robust community hospital coverage and funding. Intentional triage of the injured patient encourages appropriate utilization of resources and is crucial to maintaining high-functioning trauma centers and systems.

17. RATIO OF ECONOMY OF MOTION: A NEW OBJECTIVE PERFORMANCE INDICATOR TO IDENTIFY THE CORRECT SURGEON DURING DUAL-CONSOLE ROBOTIC PROCTECTOMY

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Emory University

Background: Our group investigates objective performance indicators (OPIs) to analyze robotic colorectal surgery. OPIs include kinematics, energy use, instrument clutching, camera movement and robotic arm usage. Analyses of OPI data are more difficult in dual-console procedures (DCPs) as there is no distinct surgeon identifier. Currently, there is no reliable, efficient technique to assign console-specific OPIs during a DCP. We developed a metric for assigning tasks to the appropriate surgeon during review of robotic proctectomy videos.

Methods: An experienced robotic colorectal surgeon and colorectal surgery fellow reviewed 21 unedited robotic proctectomy videos. The procedures were all DCPs (attending and trainee working from separate consoles) with no audio or visual information to identify the two surgeons. The two consoles have unique identifiers to discriminate console 1 vs console 2. The videos were annotated to delineate specific surgical tasks based on a previously developed annotation card. The two reviewers watched a small number of tasks for 30 seconds and assigned “attending” or “trainee” to each. Based on this sampling, the remainder of task assignments for the procedure was extrapolated.

For comparison, we defined a novel metric called the ratio of economies of motion (rEOM) as an OPI-based calculation to assign surgical tasks to console 1 or console 2. Conventional economy of motion (EOM) describes total linear distance traveled and is calculated from the console hand controllers and patient cart robotic arms. rEOM is calculated by dividing hand controller EOM by robotic arm EOM. We compared assignments provided by video review with assignments provided by OPI evaluation (Figure 1).

Results: During 21 videos, an average of 86.2 individual surgical tasks (total 1811) were performed. A median of 6.5 tasks were reviewed per video (total 137), resulting in an audit rate of 7.6%. Task assignment agreement was 91.2% (125/137) for video review vs rEOM. There were 13 tasks incorrectly assigned to trainees and all tasks were correctly assigned to attendings. By excluding 27 tasks with incomplete rEOM data, task assignment agreement improved to 99.5% for the remaining 1784 tasks. This contributed to an additional 12 operations having task assignment agreement (137/137).

Conclusion: rEOM is an accurate way to assign tasks to the appropriate surgeon during dual-console robotic proctectomy. This will be useful for ensuring tasks are attributed to the appropriate surgeon in future studies of OPIs. Our next research plans will focus on identifying OPIs that correlate with surgeon experience and patient outcomes.

	Dominant console	SSC1 Ratio MTMs/USMs	SSC2 Ratio MTMs/USMs	SSC2/SSC1	SSC1/SSC2
att	SSC2	0	3.03772791	n/a	0
att	SSC1	3.640899514	0.011246586	0.003088958	323.7337623
att	SSC1	3.469540768	0.210280003	0.060607446	16.49962297
trn	SSC2	0.789173126	3.179761953	4.029232429	0.248186228
trn	SSC2	0	3.181073061	n/a	0
trn	SSC2	0	2.98279992	n/a	0
trn	SSC2	0.001542302	2.96925047	1925.207283	0.000519425
trn	SSC2	0.606733778	3.166869755	5.21953758	0.191587853
trn	SSC2	0.81854908	3.314652384	4.049424116	0.246948695
trn	SSC2	0.98772042	3.262027708	3.302582027	0.302793388
trn	SSC2	0	3.160060763	n/a	0
trn	SSC2	0.000663255	3.339329881	5034.75786	0.000198619
trn	SSC2	0.451566367	3.536550785	7.831740897	0.127685532
trn	SSC2	0.071534935	3.692761759	51.62179533	0.019371663
att	SSC1	3.170200848	0	0	n/a
att	SSC1	3.341072691	0.157709271	0.047203184	21.18501136
att	SSC1	3.077750677	0.018233933	0.005924435	168.7924704
att	SSC1	2.20029365	0.031986147	0.014537217	68.78895595
trn	SSC2	0.53222089	3.512780547	6.600230491	0.15150986
att	SSC1	1.906748612	1.614959496	0.846970327	1.180678907
trn	SSC2	1.320019956	2.83524824	2.147882862	0.465574738
trn	SSC2	1.05900063	3.207126958	3.028446694	0.330202279
trn	SSC2	1.569337485	1.890480295	1.204635914	0.830126338
att	SSC1	3.816038762	0.020940709	0.005487552	182.2306352
att	SSC1	3.383454287	0	0	n/a

- orange rows: tasks assignments to attending based on video review or rEOM are in agreement
- green rows: tasks assigned to trainee based on video review or rEOM are in agreement
- blue row: task assignment for video review and rEOM are not in agreement
- rEOM = ratio of economy of motion, MTM = master tool manipulator, USM = universal surgical manipulator, SSC = surgeon console, att = attending, trn = trainee
- Dominant Console: console assigned to the task based on video auditing
- Ratio MTMs/USM (rEOM): distance moved by console surgeon R and L hand / distance moved by all 4 robotic arms
- Red font indicates actual audited tasks during video review (30 seconds /each)

18. COMPARING PAYMENTS TO SURGEONS FROM DRUG AND MEDICAL DEVICE CORPORATIONS REVEALS INEQUALITIES BETWEEN GENDER AND SPECIALTIES

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Background: Maintaining trust in the patient-doctor relationship requires transparency in the details of the financial relationships between physicians and drug and medical device corporations. These details are publicly available and patients are encouraged to ask surgeons to interpret their implications. The purpose of this study was to better equip surgeons in responding to these inquiries and to compare the distribution of these payments by gender and specialty.

Methods: The 2021 Open Payments dataset was searched for all payments to surgeons from the fourteen different specialties recognized by the American College of Surgeons. The total payments per surgeon were compared by calculating the mean with standard deviation (SD) and a Student's t-test. The median payments with interquartile range (IQR) were compared with a Wilcoxon rank-sum test. The Gini index, a measure of income inequality, was calculated for each specialty.

Results: There were 96,724 surgeons who received over \$755 million from drug and medical device companies. There were 72,245 (74.7%) men and 24,479 (25.3%) women. The total amount of payments to men was \$712 million (94.2%) and to women was \$44 million (5.8%). The mean total payments for men was \$9,855 (SD \$175,189) and \$1,792 (SD \$16,733, $p < 0.001$) for women. The median total payments for men was \$261 (IQR \$79-\$1,156) and for women was \$164 (IQR \$51-\$486, $p < 0.001$). The highest and lowest Gini index was pediatric and cardiothoracic surgery, respectively.

Conclusion: Male surgeons received a disproportionately higher amount of payments from drug and device corporations compared to female surgeons. Pediatric surgeons had the most inequality while payments to cardiothoracic surgeons were the most equally distributed. Surgeons should be aware of their own standing within the Open Payments database in order to respond appropriately to patient inquiries.

Specialty	Gini Index	Mean (SD)	Median (IQR)
Pediatric Surgery	0.984	\$16,319 (\$216,096)	\$87 (\$26-\$464)
Plastic Surgery	0.965	\$8,230 (\$329,394)	\$246 (\$85-\$736)
Orthopaedic Surgery	0.944	\$24,904 (\$260,492)	\$612 (\$125-\$3,093)
Neurological Surgery	0.943	\$19,859 (\$330,864)	\$404 (\$106-\$2,500)
Ophthalmology	0.920	\$2,888 (\$23,049)	\$202 (\$74-\$532)
Urology	0.900	\$3,629 (\$44,419)	\$373 (\$113-\$1,014)
General Surgery	0.896	\$3,252 (\$30,202)	\$173 (\$52-\$904)
Vascular Surgery	0.893	\$4,810 (\$38,052)	\$475 (\$156-\$1,412)
Obstetrics and Gynecology	0.892	\$1,260 (\$10,501)	\$137 (\$42-\$384)
Otorhinolaryngology	0.887	\$1,548 (\$10,992)	\$167 (\$64-\$450)
Gynecologic Oncology	0.886	\$6,174 (\$22,029)	\$203 (\$68-\$1,656)
Oral and Maxillofacial Surgery	0.884	\$1,199 (\$12,666)	\$125 (\$43-\$386)
Colorectal Surgery	0.877	\$3,656 (\$16,181)	\$227 (\$73-\$1,252)
Cardiothoracic Surgery	0.866	\$5,022 (\$19,785)	\$469 (\$126-\$1,916)

19. VALIDATING THE AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA PANCREAS INJURY GRADE USING TRAUMA QUALITY IMPROVEMENT PROGRAM DATA

W Brigode, D Roberts, G Capron, F Starr, F Bokhari

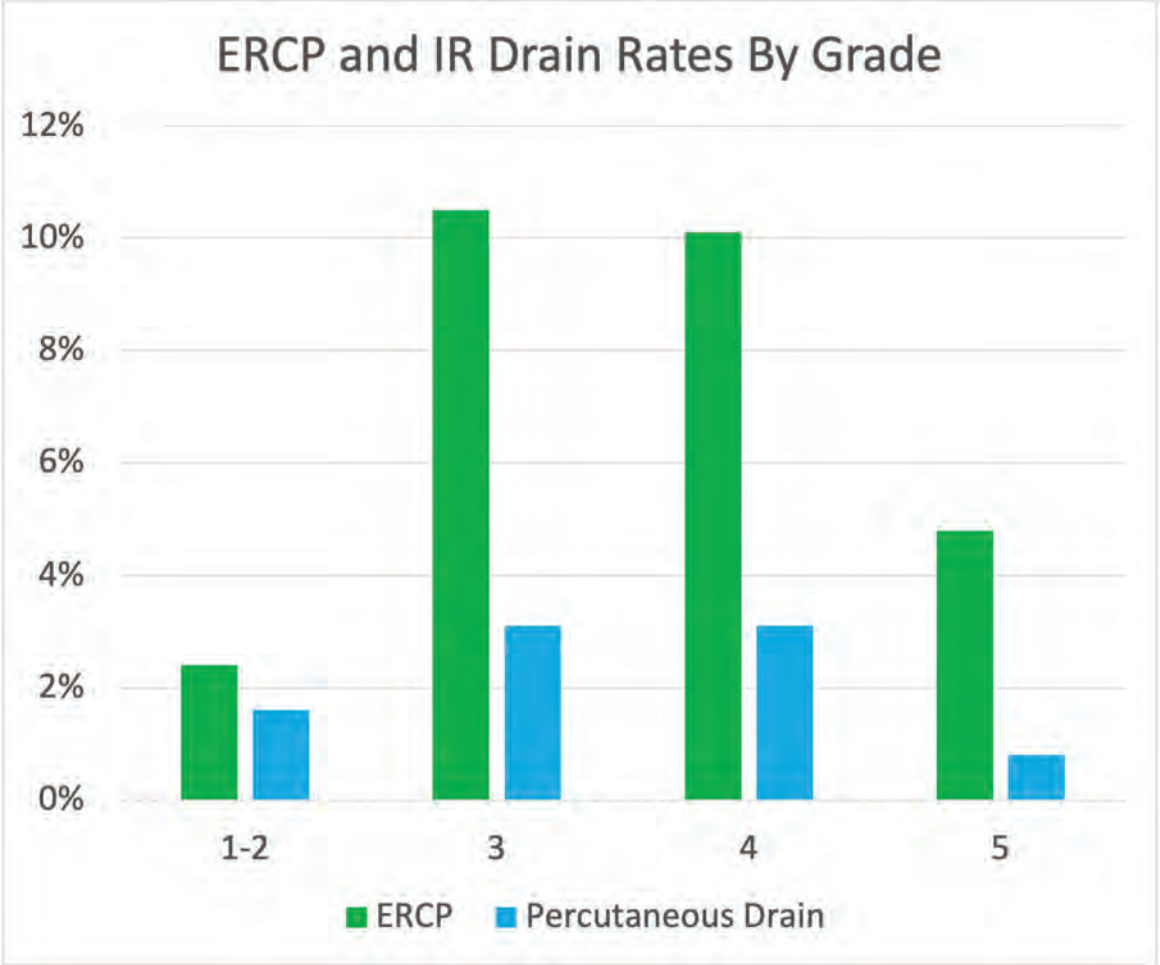
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Background: The American Association for the Surgery of Trauma (AAST) Organ Injury Scale (OIS) for the pancreas was created in 1990. Our aim was to validate the ability of the AAST-OIS pancreas grade to predict adjuncts to operative management, including endoscopic retrograde cholangiopancreatography (ERCP) and percutaneous drain placement.

Methods: We analyzed the Trauma Quality Improvement Program (TQIP) database from 2017-2019, including all patients with a pancreas injury. Outcomes included the rates of mortality, laparotomy, ERCP, and peri-pancreatic or hepatobiliary percutaneous drain placement. Outcomes were analyzed by AAST-OIS, and odds ratios (OR) and 95% Confidence Intervals (CI) were calculated for each.

Results: 3571 patients were included in the analysis. AAST grade was associated with increased rates of mortality and laparotomy at every level ($p < 0.05$), and decreased from grades 4 to 5 (OR 0.443, CI 0.250-0.788). Likewise, rates of percutaneous drain placement increased from grade 2 to 3 (OR 1.999, CI 1.192-3.353), were similar between grades 3 to 4 ($p > 0.05$), and decreased from grades 4 to 5 (OR 0.266, 0.076-0.934).

Conclusion: Increasing pancreatic injury grade is associated with increased mortality and laparotomy rates at all levels. ERCP and percutaneous drainage procedures are used most in mid-grade (3-4) pancreatic trauma. The decrease in nonsurgical procedures in grade 5 pancreatic trauma is likely secondary to increased rates of surgical management (resection and/or wide drainage). The AAST OIS grade for pancreatic injury can predict mortality and interventions.



20. OUTCOMES OF SMALL BOWEL OBSTRUCTIONS BY ADMITTING SPECIALTY AND HOSPITAL TYPE

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Background: Small bowel obstructions (SBO) account for a significant burden on the global healthcare system. Should the ongoing trend of regionalizing medicine extend to these patients? We aimed to find out if there is a benefit to admitting SBO's to larger teaching hospitals and to surgical services.

Methods: We performed a retrospective chart review of 505 patients who were admitted to a Sentara Facility between 2012 and 2019 with a diagnosis of SBO. All patients between the ages of 18 – 89 were included. Patients were excluded if they required an emergent operation. Comparisons were then made between patients admitted either to a teaching hospital or a community hospital as well as the specialty of the admitting service.

Results: Out of 505 patients admitted with a SBO, 351 (69.5%) were admitted to a teaching hospital. 392 (77.6%) of the total patients were admitted to a surgical service. The average length of stay (4 vs 7, $p < 0.0001$) and cost (\$18,069.79 vs \$26,458.20, $p < 0.0001$) were lower at teaching hospitals. The same trends in LOS (4 vs 7, $p < 0.0001$) and cost (\$18,265.10 vs 29,944.82, $p < 0.0001$) were seen with regards to patients admitted to a surgical service. The 30 day readmission rate was higher in patients admitted to a teaching hospital (18.2% vs 11%, $p = 0.0429$) and those patients admitted to medical services were generally older (64 vs 69, $p < 0.0001$). There was no difference seen in operative rate or mortality between the groups.

Conclusion: These data would suggest that there is a benefit to patients with a SBO being admitted to larger teaching hospitals and to surgical services with regards to length of stay and total hospital cost, suggesting that these patients might best be treated at centers with Emergency General Surgery Services.

	Hospital Type		p value		Admitting Specialty		p value
	Teaching Hospital	Community Hospital			General Surgery	Internal Medicine	
N	351	154		N	392	113	
Age				Age			
Median	65	64.5	0.6488	Median	64	69	< 0.0001
IQR	53 - 76	54 - 76		IQR	53 - 76	58 - 79	
Gender				Gender			
Male N (%)	152 (34.3%)	65 (42.7%)	0.8183	Male N (%)	170 (43.4%)	47 (41.6%)	0.113
Female N (%)	199 (56.7%)	89 (57.8%)		Female N (%)	222 (56.6%)	66 (58.4%)	
BMI				BMI			
Median	27	27	1	Median	27	26	0.0099
IQR	23 - 31	23 - 31		IQR	24 - 31	22 - 30	
LOS				LOS			
Median	4	7	< 0.0001	Median	4	7	< 0.0001
IQR	3 - 7	4 - 10		IQR	3 - 7	5 - 11	
Cost				Cost			
Median	\$18,069.79	\$26,458.20	< 0.0001	Median	\$18,265.10	\$29,944.82	< 0.0001
IQR	\$14091.39 - \$11423.31	\$17917.37 - \$11048.13		IQR	\$14118.22 - \$34039.03	\$19618.28 - \$55231.29	
OR				OR			
Yes N (%)	84 (23.9%)	33 (21.4%)	0.5402	Yes N (%)	94 (24%)	23 (20.3%)	0.4208
No N (%)	267 (76.1%)	121 (78.6%)		No N (%)	298 (76%)	90 (79.7%)	
Readmission				Readmission			
Yes N (%)	64 (18.2%)	17 (11%)	0.0429	Yes N (%)	64 (16.3%)	17 (15%)	0.7422
No N (%)	287 (81.8%)	137 (89%)		No N (%)	328 (83.7%)	96 (85%)	
Mortality				Mortality			
Yes N (%)	7 (2%)	2 (1.3%)	0.5896	Yes N (%)	5 (1.3%)	4 (3.5%)	0.1103
No N (%)	344 (98%)	152 (98.7%)		No N (%)	387 (98.7%)	109 (96.5%)	

21. UNDERSTANDING HEAD CT SCAN USAGE AMONGST ADOLESCENT BLUNT TRAUMA PATIENTS TREATED AT ADULT TRAUMA CENTERS

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Background: Trauma is the leading cause of death among adolescents, accounting for approximately 40% of all causes of adolescent mortality. Computed tomography (CT) is considered the optimal imaging modality for assessing head trauma and is the most used imaging modality in the emergency department. Efforts to guide clinical decision-making when ordering head CTs exist, including guidelines by the Pediatric Emergency Care Applied Research Network (PECARN). Although guidelines are present, CTs are still being overutilized especially at adult trauma centers. The aim of our study was to review our use of head CTs in the adolescent blunt trauma patient population.

Methods: Patients aged 11-18 evaluated for blunt trauma who underwent head CT scans from 2016-2019 at our urban level 1 adult trauma center were included in this study. Patient demographics, head CT data, and PECARN head CT guideline criteria were collected via electronic medical records and analyzed through retrospective chart review. Analysis with fisher, chi-square, and ANOVA were utilized.

Results: Of the 285 patients requiring a head CT, 205 had negative head CT (NHCT) results and 80 patients had positive head CT (PHCT) results. There was no statistically significant difference in age, gender, race, and trauma mechanism between the NHCT and PHCT groups. However, the PHCT had a statistically significant higher Injury Severity Scale (ISS) compared to the NHCT (25 ± 13 vs 13 ± 10 ; $p < 0.01$).

When comparing clinical characteristics, PHCT group was found to be with a statistically significant higher likelihood of having a Glasgow Coma Scale (GCS) < 15 (65% vs. 23%; $p < 0.01$), and abnormal head exam (70% vs. 25%; $p < 0.01$), suffered loss of consciousness (85% vs 54%; $p < 0.01$) compared to the NHCT group. By utilizing the PECARN criteria, we identified 44 patients with low risk for head injury yet still received a head CT. Of these 44 patients, none of the patients had a positive head CT. There were 111 patients found to be high risk of head injury and 57 (51%) were found to have a PHCT. Sixteen (20%) patients (14 high risk and 2 intermediate risk) with a PHCT required surgical intervention for their injury.

Conclusion: Our study suggests that reinforcement of the PECARN guidelines should occur for ordering head CTs in the adolescent blunt trauma patient population. Future prospective studies are needed to validate the use of PECARN head CT guideline in this patient population.

22. MANAGEMENT OF SUSPECTED CHOLEDOCHOLITHIASIS IN PATIENTS WITH FRAILTY

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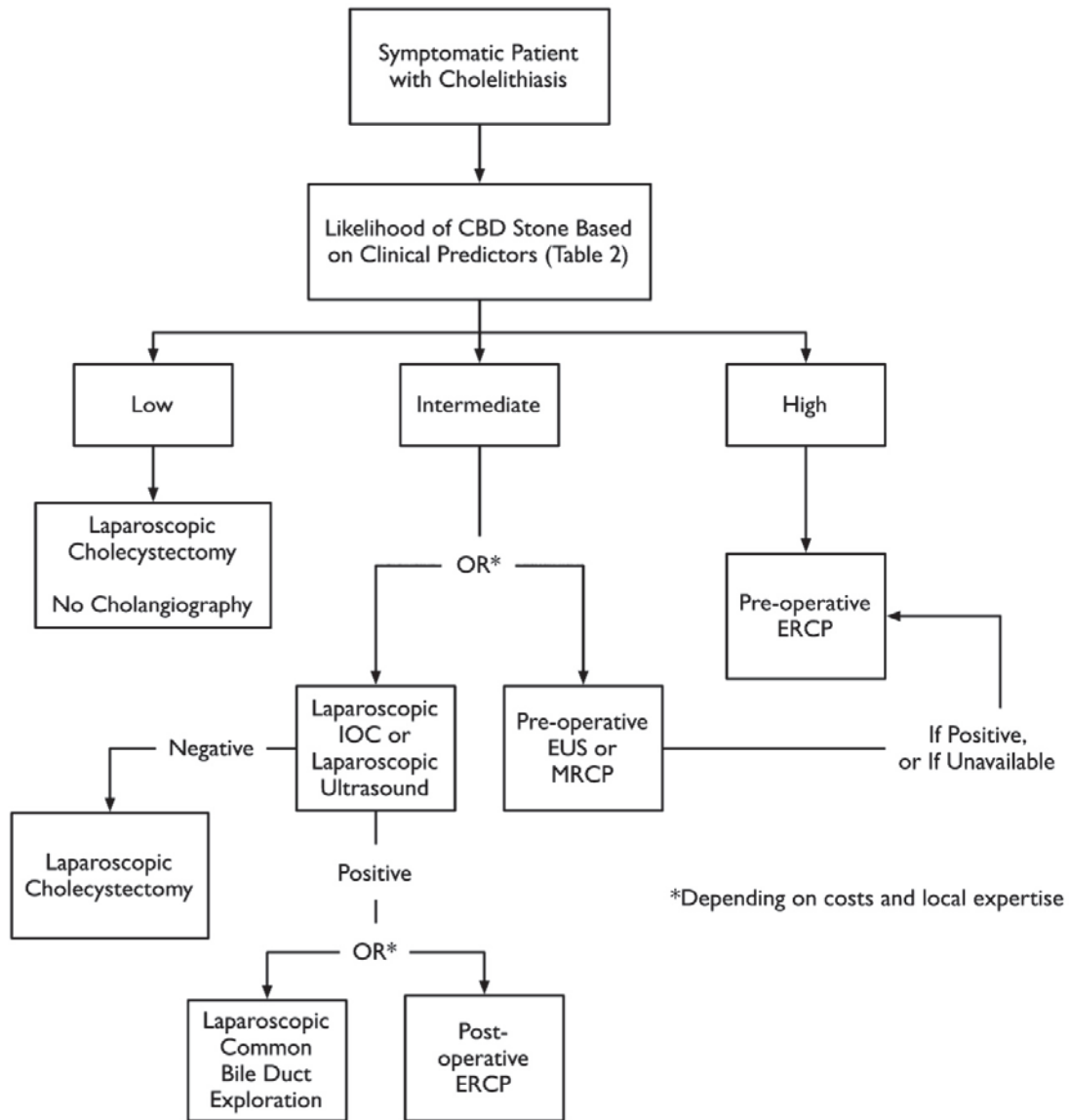
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Background: The American Society for Gastrointestinal Endoscopy provides guidelines for managing choledocholithiasis (CDL) yet does not account for patient-specific factors like frailty. We sought to evaluate how frail patients with common bile duct (CBD) stones undergoing same-admission cholecystectomy were managed within the purview of these guidelines.

Methods: We performed a post-hoc analysis of prospectively collected patients undergoing same-admission cholecystectomy for CDL and/or acute biliary pancreatitis (ABP) from 2016-2019 at 12 US academic medical centers. Patients with cholangitis were excluded. Patients were grouped by Charlson comorbidity index: 0 [non-frail], 1-2 [moderately frail], ≥ 3 [severely frail]. Using the guidelines, each patient's likelihood of CDL (low, intermediate, high) was determined. The actual management was then compared to the suggested management (Figure 1). Our primary outcome was the rate of deviating from guidelines between groups. Secondary outcomes included rates of CDL detection, surgical site infections (SSIs), biliary leaks, and 30-day surgical readmissions between groups. Rates are presented in order of non-frail, moderately frail, severely frail.

Results: 844 patients were included in our analysis. 43.3% (n=365) were non-frail, 25.4% (n=214) were moderately frail, and 31.4% (n=265) were severely frail. There was no difference in rates of concomitant cholecystitis (12.9% vs 16.8% vs 19.3%, $p=0.09$) between groups. Frail patients were older (33 y vs 56.7 y vs 73.5 y, $p<.0001$), more likely to have ABP (32.6% vs 47.7% vs 43.8%, $p=0.0005$), and less likely to have abnormal LFTs (90.7% vs 82.7% vs 84.5%, $p=0.01$). There was no difference in the likelihood of CDL ($p=0.6$), management of CDL ($p=0.1$), or rates of CDL detection (58.5% vs 51% vs 58%, $p=0.2$) between groups. As frailty increased, guideline deviation increased significantly (41.1% vs 43.5% vs 53.6%, $p<.006$). Deviation among non-frail and moderately frail patients was not associated with a difference in rates of CDL detection; however, severely frail patients with deviation had higher rates of CDL detection compared to patients managed according to guidelines. There was no difference in SSIs (2% vs 4.2% vs 2%, $p=0.2$), biliary leaks (0.5% vs 1% vs 1.1%, $p=0.7$), or 30-day surgical readmission (4.1% vs 2.8% vs 3.8%, $p=0.7$) between groups.

Conclusion: Frail patients with CBD stones were more likely to have management that deviated from guidelines yet had higher rates of CDL detection and no difference in rates of adverse outcomes. Future guidelines should consider including frailty to optimize detection of CDL in this population.



23. COMPARING SEVERELY INJURED TRAUMA PATIENTS ADMITTED TO INVESTOR-OWNED VERSUS PUBLIC AND NOT-FOR-PROFIT HOSPITALS REVEALS OPPORTUNITIES FOR IMPROVEMENT IN US

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Background: Severely injured, non-elderly trauma patients represent the largest portion of potentially preventable years of productive life loss in the United States. The purpose of this study was to compare outcomes in these patients admitted to investor-owned versus public and not-for-profit hospitals across the US.

Methods: The Nationwide Readmissions Database for 2018 was queried for all trauma patients with an Injury Severity Score (ISS) of greater than 15 and an age of 18-65 years. The primary outcome was mortality, the secondary outcomes were prolonged length of stay (LOS) greater than 30-days, readmission within 30-days, and readmission to a different hospital. Patients admitted to investor-owned hospitals were identified and compared to public and not-for-profit hospitals. Univariable analysis was performed using chi-squared tests. Multivariable logistic regression was performed for each outcome with all variables significant on univariable analysis.

Results: There were 157,945 patients meeting inclusion criteria with 11.0% (n=17,346) admitted to investor-owned hospitals. The overall mortality rate was 4.7% (n=7,360) while the rate for investor-owned hospitals was 4.8% (n=836, p=0.29). The overall rate of prolonged LOS was 5.8% (n=9,182) and the rate for investor-owned hospitals was 6.0% (n=1,036, p=0.34). The overall readmission rate was 9.2% (n=13,895) with the rate in investor-owned hospitals at 10.5% (n=1,739, p< 0.001). From the readmitted patients, 28.7% (n=3,992) were readmitted to a different hospital while investor-owned hospitals had a different-hospital readmission rate of 35.7% (n=622, p< 0.001). Multivariable logistic regression revealed investor-owned hospitals had an increased risk of readmission (OR 1.2 [1.1-1.3] p< 0.001) and readmission to a different hospital (OR 1.3 [1.2-1.5] p< 0.001).

Conclusion: Severely injured trauma patients admitted to investor-owned hospitals have similar rates of mortality and prolonged length of stay compared to public and not-for-profit hospitals. However, patients admitted to investor-owned hospitals have an increased risk of readmission and readmission to different hospitals. Efforts to reduce readmissions after trauma must consider differences based on hospital ownership.

24. ANALYSIS OF CLINICAL OUTCOMES AFTER ROBOTIC HEPATECTOMY APPLYING THE WESTERN-MODEL SOUTHAMPTON LAPAROSCOPIC DIFFICULTY SCORING SYSTEM. AN EXPERIENCE FROM A TERTIARY US HEPATOBILIARY CENTER

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Background: The ability to recognize liver resections with high risks of intraoperative complications is crucial to help guide patient selection for a minimally invasive approach. Japanese and European laparoscopic difficulty scoring systems have been developed to try to address this issue, but applicability and validity of these laparoscopic scoring systems to robotic hepatectomy seems ambitious without supporting data. We, therefore, undertook this study to evaluate the validity of the Southampton laparoscopic difficulty scoring system with robotic hepatectomy.

Methods: 312 consecutive patients undergoing robotic hepatectomies from 2016 to 2022 were scored based on five clinical risk factors including neoadjuvant chemotherapy status, prior liver resection, tumor type, size, and type of resection. The patients were then grouped into four risk categories: low, moderate, high, and extremely high of developing intraoperative complications; clinical outcomes of the groups were then compared.

Results: Prior liver resection, tumor size, operative duration, estimated blood loss, and major resection were significantly associated with the risk of developing intraoperative complications (all $p < .0001$) based on regression analyses. Postoperatively, however, there were no correlations between the risk category and the clinical outcomes including unplanned conversion to 'open' ($p = 0.78$), Clavien-Dindo complication score $\geq III$ ($p = 0.60$), 30-day mortality ($p = 0.14$), length of stay ($p = 0.65$), and 30-day hospital readmission ($p = 0.51$). There was also no correlation between the risk category and total cost ($p = 0.55$), variable cost ($p = 0.31$), fixed direct cost ($p = 0.11$), fixed indirect cost ($p = 0.94$), as well as hospital reimbursement ($p = 0.27$) (Table). At 1 and 3 years, the overall survival for colorectal liver metastasis was 85%/62%, intrahepatic cholangiocarcinoma 77%/57%, and hepatocellular carcinoma 82%/58%.

Conclusion: Using our large number of patients undergoing robotic hepatectomy, the Southampton difficulty scoring system accurately predicts intra- but not postoperative outcomes after robotic hepatectomy. A dedicated difficulty scoring system should be developed uniquely for robotic hepatectomy.

Patients after assigned operative risk, prior to robotic hepatectomy

	Low Risk	Moderate Risk	High Risk	Extremely High Risk	Total P-Value
Number of Patients (n)	50	73	173	16	312
Age (years)	63(63±13.4)	62(64±13.4)	65(62±14.2)	61(63±13.9)	p=0.69
Sex (M/W)	20/30	27/46	89/84	7/9	p=0.23
BMI (kg/m ²)	29(29±8.4)	28(29±5.4)	28(28±6.5)	28(29±5.1)	p=0.66
Prior Liver Resection	0(0%)	2(3%)	6(4%)	11(69%)	p<0.0001
Previous Abdominal (non-liver) Operation	26(52%)	42(58%)	82(47%)	14(88%)	p=0.79
Neoadjuvant Therapy (Y/N)	0(0%)	39(53%)	32(18%)	10(63%)	p<0.0001
ASA Score	3(3±0.6)	3(2±0.5)	3(3±0.5)	3(3±0.4)	p=0.27
MELD Score	9(9±4.4)	7(9±3.9)	7(8±2.5)	7(9±5.1)	p=0.08
Childs-Pugh Score	5(5±1.0)	5(5±0.7)	5(5±0.6)	5(5±0.9)	p=0.23
Cirrhosis Status	6(12%)	9(12%)	40(23%)	4(25%)	p=0.09
Tumor Type	32 benign 14 malignant 4 premalignant	30 benign 39 malignant 4 premalignant	30 benign 125 malignant 18 premalignant	1 benign 15 malignant	93 benign 193 malignant 26 premalignant
Intraoperative Variables					
Tumor Size (cm)	2(2±0.7)	4(4±2.9)	6(6±3.7)	6(6±2.7)	p<0.0001
Operative Duration (min)	223(223±122.9)	217(258±128.9)	278(299±118.6)	303(312±115.7)	p<0.0001
Estimated Blood Loss (mL)	93(93±98.5)	100(166±291.6)	150(222±220.9)	250(292±226.9)	p<0.0001
Conversions to 'Open' (n)	2(4%)	0(0%)	4(2%)	0(0%)	p=0.78
Major/Minor Resection	11(22%)	41(57%)	162(97%)	16(100%)	p<0.0001
Intraoperative Complications (n)	0(0%)	0(0%)	2(1%)	0(0%)	p=0.60
Postoperative Variables					
Clavien-Dindo Score (≥III)	IIIa (1)	IIIa (5), IIIb (1), IVa(1)	-	IIIa (1)	p=0.60
30-day Mortality (n)	2(4%)	2(3%)	0(0%)	1(6%)	p=0.14
Length of Stay (days)	4(4±5.1)	4(5±4.5)	4(4±2.3)	4(6±5.8)	p=0.65
30-day readmission (n)	9(18%)	10(14%)	35(20%)	3(19%)	p=0.51
Length of Follow Up (up to 5/11/2022)	27(27±13.7)	35(35±22.4)	33(35±21.3)	34(35±20.8)	p=0.007
Last Seen (months)	8(8±14.1)	12(17±17.8)	13(18±18.5)	10(12±14.1)	p=0.13
Cost					
Total Cost	\$25,261 (32,152±22,049.81)	\$24,840 (29,245±17,407.92)	\$29,072 (34,072±30,639.80)	\$29,994 (36,750±27,080.05)	p=0.55
Variable Cost	\$16,467 (19,438±12,948.82)	\$15,728 (17,825±9,692.01)	\$18,817 (21,930±20,451.62)	\$19,250 (22,910±15,672.36)	p=0.31
Fixed Direct Cost	\$1,687 (2,101±1,574.47)	\$2,374 (3,608±3,807.46)	\$2,143 (2,473±1,703.78)	\$2,231 (2,766±1,930.07)	p=0.11
Fixed Indirect Cost	\$7,441 (10,344±8,118.18)	\$7,389 (8,782±5,654.19)	\$12,465 (15,142±11,787.64)	\$8,952 (11,007±9,696.76)	p=0.94
Hospital Reimbursement(s) Received	\$15,352 (29,457±33,771.90)	\$24,791 (38,870±34,253.4)	\$19,305 (42,842±43,380.25)	\$22,724 (33,032±30,548.41)	p=0.27
Profit/Loss	\$-7,605 (-12,695±36,801.30)	\$-1,728 (9,625±34,520.78)	\$-7,383 (8,677±45,000.96)	\$-7,860 (-3,719±34,465.41)	p=0.50

25. EARLY USE OF EXTRACORPOREAL MEMBRANE OXYGENATION IN TRAUMATICALLY INJURED PATIENTS: A TRAUMA QUALITY IMPROVEMENT PROGRAM DATABASE ANALYSIS

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Background: Extracorporeal membrane oxygenation (ECMO) use in trauma patients remains a rare and poorly characterized event. While ECMO most commonly has been deployed for cardiopulmonary or respiratory failure following the initial resuscitative phases, growing levels of evidence for out of hospital cardiac arrest support early ECMO cannulation as part of the resuscitative efforts. The objective of this study was to perform a descriptive analysis evaluating traumatically injured patients who were placed on ECMO during their initial resuscitation period.

Methods: We performed a retrospective analysis of the Trauma Quality Improvement Program Database from 2017 to 2019. All traumatically injured patients who received ECMO within the first 24 hours of their hospitalization were assessed. Descriptive statistics were used to define patient characteristics and injury patterns associated with the need for ECMO, while mortality data represented the primary outcome evaluated.

Results: A total of 810 trauma patients received ECMO during their hospitalization, of which 243 patients were placed on ECMO within the first 24 hours. Patients were on average 32 years old, 83% male, and sustained a penetrating injury 9% of the time. The average ISS was 30.6 and the overall mortality rate was 38.7%. Prehospital cardiac arrest was noted in 17.3% of the patient population resulting in a 64.1% mortality. Of those with prehospital cardiac arrest who underwent early ECMO cannulation for blunt injury patterns, a 37.1% survival rate to discharge was demonstrated.

Conclusion: Early cannulation for ECMO in severely injured patients may provide an opportunity for rescue therapy following severe injury patterns. Further evaluation regarding the safety profile, cannulation strategies, and optimal injury patterns for these techniques should be evaluated.

26. OUTCOMES AND HISTOLOGICAL VARIATIONS OF PARANEOPLASTIC SYNDROMES OF NEUROBLASTOMA AND GANGLIONEUROBLASTOMA

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Background: To characterize the pediatric patient tumor profile in which paraneoplastic syndromes may arise. We aim to focus on the histologic subtypes of tumor and their response to treatment.

Neuroblastomas are the most common extracranial solid malignancy in children, with a prevalence of about 1 in 7,000 births. Neuroblastomas primarily develop in the abdomen but can have variable manifestations depending on whether paraneoplastic syndromes are present. Gross total resection of the tumor is the fundamental treatment modality depending on the final staging of the tumor.

Methods: We performed a single institution retrospective cohort study of all patients less than 18 years old diagnosed with neuroblastoma or ganglioneuroblastoma between January 2002 and July 2022. Patients were identified through the pathology and cancer registry and cross-referenced with pediatric records. Patient demographics, clinical presentation, treatment, and outcomes were collected. A univariate descriptive analysis of the collected data was conducted.

Results: In our study period, 130 children were diagnosed with neuroblastoma, and 15 were diagnosed with ganglioneuroblastoma. There were 12 children with a paraneoplastic syndrome identified, 8 with NBL and 4 with GNBL. The average age at diagnosis was 22 months. All but 1 underwent resection prior to treatment of paraneoplastic syndrome, and 4 children required neoadjuvant therapy. Neurological complications were the most common with 10 children (83%). One child had elevated levels of VIP, and one had positive PTH-RP detected. Seven children had complete resolution of their symptoms after treatment and resection, 3 children recently started treatment within a year, 1 had partial resolution, and 1 died during treatment. The average time from symptom onset to diagnosis of neuroblastoma was 0.7 months. The presence of tumor-infiltrating lymphocytes occurred in 4 children with neurologic paraneoplastic syndromes. Six children with paraneoplastic syndromes had neuropil-rich tumors. The characteristics of the 12 patients are shown in Table 1.

Biological features included favorable histology in 6 patients, unfavorable in 4 and unknown in 2 patients. One patient had MYCN amplification. Two patients had 11q mutations.

Conclusion: The histological profile of paraneoplastic syndromes neuroblastoma and ganglioneuroblastoma as well as their treatment across the nation can be highly variable. The presence of tumor-infiltrating lymphocytes and neuropil may have an impact on paraneoplastic pathology. Our study is limited in size, and a more extensive multi-institutional study may be needed to elucidate the relationship between the pathology and response to treatment in patients with paraneoplastic syndromes of neuroblastoma.

No	PNS type	Site	Age Dx (m)	Sex	Risk	Time (m)	Histology	Tx	Response at 1-year, last fu
1	VIP (AB)	Adrenal	29	M	L	10.3	GNBL Unfavorable +NP,	C, G, SCT	Progressive, died 4 years
2	PTHRP	Adrenal	28	M	H	0.2	NBL PD (?) +NP	C, SCT	Complete Response
3	Cerebellar Degeneration	Paraspinal	19	F	I	2.9	NBL D Favorable +NP, TIL	S, G, R	Partial Response
4	Nonspecific Neurological Symptoms	Adrenal	18	F	L	0.1	NBL PD Unfavorable +TIL	S, G, C	Complete Response
5	OMS	Adrenal	18	M	L	1.1	GNBL Favorable +TIL	S, G, R, C	Partial Response
6	OMS	Pelvic	15	F	L	3.6	GNBL PD Favorable	S, G, C	Complete Response
7	OMS	Thoracic	37	F	L	1.4	NBL D Favorable	S, G	Complete Response
8	OMS	Adrenal	26	F	L	0.8	NBL PD Unfavorable	S, G, R, C	Complete Response
9	OMS	Adrenal	20	F	L	0.1	GNBL PD Favorable	S, G, R	Not yet one year
10	OMS	Adrenal	20	M	L	1	NBL PD Unfavorable +NP	S, G, R	Not yet one year
11	OMS	Adrenal	33	F	I	0.1	NBL PD Favorable +NP	S, G, R, C	Not yet one year
12	2' OMS	Adrenal	20	F	H	-21.8	NBL PD (?) +NP,TIL	S, G, C	Partial Response

Risk: L, Low, I, intermediate, H, High

Time, Time from symptom onset to diagnosis

Histology: GNBL, ganglioneuroblastoma, NBL, neuroblastoma, PD, poorly differentiated, D,

Differentiating, NP, neuropil, TIL, tumor infiltrating lymphocytes

Tx, Treatment, S, steroids (prednisone or dexamethasone), G, IVIG, R, rituximab, C, cyclophosphamide,

27. IDENTIFYING RADIOGRAPHIC AND CLINICAL INDICATORS TO REDUCE THE OCCURRENCE OF NON-THERAPEUTIC LAPAROTOMY FOR BLUNT BOWEL AND MESENTERIC INJURY

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Background: Roughly 5% of patients presenting to the emergency department with blunt abdominal trauma have suffered a blunt bowel and/or mesenteric injury (BBMI). Determining the need for operative versus nonoperative management in this patient population can be quite challenging in the presence of hemodynamic stability. This is especially true given the absence of a current, universally accepted practice management guideline in the trauma surgery literature. Few single center studies have proposed scoring systems based on CT findings to guide clinical decision-making. Our study aimed to determine the predictability of findings on abdominopelvic CT scan (CT A/P) in conjunction with initial clinical exam findings to determine the necessity of operative intervention for BBMI in patients with blunt abdominal trauma.

Methods: Patients presenting from 2017-2022 to our Level 1 trauma center after motor vehicle collision with subsequent CT A/P were retrospectively reviewed using our trauma center registry database. The charts of patients with CT findings suggestive of blunt mesenteric injury were then further analyzed, specifically noting CT findings, admission Glasgow coma scale (GCS), initial shock index, initial abdominal exam, hospital course, presence or absence of surgical management, and when applicable, intra-operative intervention performed.

Results: 1098 patients that presented to our facility for blunt abdominal trauma after motor vehicle collision initially underwent an abdominopelvic CT scan. 139 (12.7%) patients had at least one CT finding suggestive of BBMI. Of those patients, 38 (27%) underwent surgical exploration, and 30 (22%) had a surgically-confirmed BBMI. Only 27 (71%) of the patients who underwent surgical exploration required bowel or mesenteric intervention. Univariate analysis indicated four individual CT findings and one clinical finding that were significantly associated with bowel or mesenteric intervention: pneumoperitoneum ($p < 0.0001$), active extravasation of contrast ($p = 0.0001$), hemoperitoneum without concomitant solid-organ injury (SOI) ($p < 0.0001$), peritonitis ($p < 0.0001$), and mesenteric stranding ($p < 0.05$).

Conclusion: Of 1098 patients meeting study criteria, 30 (2.7%) had a surgically confirmed BBMI. The individual presence of active bleeding, pneumoperitoneum, hemoperitoneum without SOI, mesenteric stranding, and/or peritonitis proved to be significant indications for need for bowel or mesenteric intervention. Without the presence of these findings, a combination of CT and clinical findings cannot reliably predict the need for surgical intervention. To minimize the occurrence of negative laparotomy, strong consideration should be given to initial nonoperative management with serial clinical exams to reduce the rate of nontherapeutic laparotomy in hemodynamically stable patients without these findings.



28. EFAST LUNG VIEW VS CHEST X-RAY IN TRAUMA PATIENTS: ARE CHEST RADIOGRAPHS NECESSARY?

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Background: Historically, chest radiograph (CXR) has been used to quickly diagnose pneumothorax and hemothorax in trauma patients. Over the last decade, lung ultrasound on extended Focused Assessment with Sonography in Trauma (eFAST) has also been described as a modality for diagnosing pneumothorax in trauma patients. Both eFAST lung view and CXR are used for most level 1 and 2 traumas at our institution. We compared pneumothorax detection using both CXR and ultrasonography.

Methods: We queried our institution's trauma databases for all trauma team activations from January 1, 2021, to December 31, 2021. The following data points were tracked: eFAST, initial chest radiography, computerized tomography (CT) scan results, and received a chest tube within 24 hours of hospital arrival. We compared pneumothorax detection rates on initial CXR to those diagnosed on eFAST. True positive results were defined as 1) patients who received a chest tube and had a positive eFAST or CXR and 2) patients with a pneumothorax on the first CT scan and a pneumothorax eFAST lung view or CXR.

Results: There were 2,008 traumas at our center in 2021. 550 patients were included in the analysis after excluding patients with an indeterminate pneumothorax diagnosis on initial CXR or lung view on eFAST and those without an ultrasound and chest radiograph. 54 patients received a chest tube, of which 43.1% had a positive eFAST lung view, and 37.3% had a pneumothorax on CXR. Of the patients who did not receive a chest tube, only 1.7% had a false positive eFAST, and 1.2% had a false positive CXR. Of patients with a pneumothorax on CT scan, 22.7% had a positive eFAST lung view, and 18.4% had a pneumothorax on initial CXR. Only 0.5% of patients had a false positive eFAST.

Conclusion: eFAST lung view and CXR were comparable in predicting the need for a chest tube in the first 24 hours of admission and the presence of a pneumothorax on a CT scan. This suggests that ultrasound may be as accurate as CXR in detecting a large pneumothorax. Moreover, if both studies are comparable, we believe lung ultrasound should be considered for use instead of CXR quickly diagnosing pneumothorax in the bay as it is faster and does not expose patients and the trauma team to radiation.

		<u>PTX on CT scan</u>		
		Y	N	
<u>eFAST</u>	Y	17	2	PPV: 89%
	N	58	427	NPV: 88%
		Sens: 22.7%	Spec: 99.5%	
		Y	N	
<u>CXR</u>	Y	14	1	PPV: 93%
	N	62	442	NPV: 88%
		Sens: 18.4%	Spec: 99.8%	
		<u>Received Chest tube</u>		
		Y	N	
<u>eFAST</u>	Y	22	8	PPV: 73.3%
	N	29	471	NPV: 94.2%
		Sens: 43.1%	Spec: 98.3%	
		Y	N	
<u>CXR</u>	Y	19	6	PPV: 76.0%
	N	32	489	NPV: 93.9%
		Sens: 37.3%	Spec: 98.8%	

V3. ROBOTIC SYSTEMATIC PORTAL LYMPHADENECTOMY. DESCRIPTION OF SURGICAL TECHNIQUE

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Background: Gallbladder cancer and intrahepatic cholangiocarcinoma have known tendency to metastasize to portal lymphnodes. A systematic portal lymphadenectomy is therefore required as a routine part of the oncological operation beside the liver resection. Anatomical complexity of porta hepatic structures create a significant technical challenge in performing aggressive lymphadenectomy via minimally invasive method. In this video, we describe our technique of robotic systematic portal lymphadenectomy as a part of gallbladder cancer resection.

Methods: 71 year old woman presented with a malignant appearing mass at the fundus of her gallbladder. A CT scan confirmed a 4.3 cm arterially enhancing tumor without any evidence of invasion into the adjacent liver parenchyma. A robotic radical cholecystectomy with systematic portal lymphadenectomy was performed using an Xi Da Vinci Robot. After resection of the gallbladder with part of segment 4/5 enbloc, the lymphadenectomy begun along the gastrohepatic ligament, left gastric and common hepatic artery. Lymphnodes and lymphatic channels within the hepatoduodenal ligaments were radically resected and labeled based on their locations according to the Japanese classification of lymphnode stations. The cystic duct stump was also sent for a frozen section examination to excude the need for a common bile duct excision.

Results: The operation was successful with negligible blood loss and an uneventful recovery. The final pathology confirmed T1BN0M0 adenocarcinoma of the gallbladder and the cystic duct margin was negative for neoplasia. 18 lymphnodes were removed without evidence of nodal metastasis.

Conclusion: Robotic systematic portal lymphadenectomy is safe and feasible with excellent lymphnode yield. The short-term oncological outcome using the robotic system appears promising for the treatment of gallbladder cancer.

29. MINIMALLY INVASIVE APPROACH MAY MITIGATE THE NEGATIVE IMPACT OF SMOKING IN PATIENTS UNDERGOING LIVER RESECTION HISTORY. ANALYSIS OF CLINICAL OUTCOMES FROM A TERTIARY HEPATOBILIARY CENTER

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Background: The detrimental effects of tobacco use in patients after major open abdominal operations are well documented especially during the postoperative recovery period. Many surgeons even refuse to offer an operation to such patients. Published literature on the impact smoking has on robotic surgery, specifically in liver resection, is scarce. This study was undertaken to investigate whether tobacco use impacts the postoperative course of patients undergoing robotic hepatectomy.

Methods: We prospectively followed 353 patients that underwent robotic hepatectomy. 125 patients were classified as smokers and 228 patients were classified as nonsmokers. The hepatectomies were categorized into four levels of technical complexity (low, intermediate, advanced, or expert) using IWATE scores. Significance was assigned at a $p\text{-value} \leq 0.05$ and data are presented as median (mean $\pm$ SD). Patients were then propensity-score matched based on patient preoperative variables and IWATE representing liver tumor characteristics.

Results: Prior to matching, differences were found in age, MELD score, and cirrhosis status between the two cohorts. Perioperative variables such as estimated blood loss, pulmonary complications (pneumonia and chronic obstructive pulmonary disease exacerbation), and length of stay were statistically different. The patients who smoked had higher respiratory complications (6% vs 1%; $p=0.02$) and longer hospital stay (4 (5 $\pm$ 4.2) vs 4 (4 $\pm$ 3.6) days; $p=0.02$).

After the propensity score matching, 71 patients were assigned to each cohort. The perioperative variables specifically postoperative complications, length of hospital stay, 30-day hospital readmissions, and mortality were similar (Table).

Conclusion: The minimally invasive robotic approach to liver resection appears to mitigate the adverse effects of smoking history in patients' perioperative course. Future larger multi-institutional studies are needed.

	Before Propensity Score Matching			After Propensity Score Matching		
	Current/Former Smoker	Non-Smoker	Total P-Value	Current/Former Smoker	Non-Smoker	Total P-Value
Number of Patients	125	228	353	71	71	142
Age (years)	65 (64±11.3)	62 (60±15.4)	p=0.01*	64 (63±10.5)	68 (64±13.8)	p=NS
Sex (M/W)	72/54	93/136	p=0.003*	43/28	37/34	p=NS
BMI (kg/m ²)	28 (29±6.1)	28 (29±6.5)	p=NS	29 (29±5.5)	27 (28±4.6)	p=NS
Previous Abdominal Operations (n)	57 (45%)	125 (55%)	p=NS	29 (41%)	39 (55%)	p=NS
ASA	3 (3±0.5)	3 (3±0.5)	p=NS	3 (3±0.5)	3 (3±0.4)	p=NS
MELD Score	7 (9±3.9)	7 (8±2.7)	p=0.005*	8 (9±4.1)	8 (9±3.0)	p=NS
Childs-Pugh Score	5 (5±0.9)	5 (5±0.5)	p=NS	5 (5±0.9)	5 (5±0.6)	p=NS
Cirrhosis (n)	31 (25%)	30 (13%)	p=0.006*	21 (30%)	17 (24%)	p=NS
Intraoperative Variables						
Major Resection (n)	70 (56%)	140 (61%)	p=NS	40 (56%)	50 (70%)	p=NS
Operative Duration (min)	246 (279±134.1)	246 (274±123.9)	p=NS	246 (273±130.5)	278 (291±119.7)	p=NS
Estimated Blood Loss (mL)	100 (101±263.7)	100 (180±199.0)	p=0.002*	140 (211±264.7)	200 (211±177.1)	p=NS
Conversions to 'Open' (n)	1 (1%)	4 (2%)	p=NS	1 (1%)	1 (1%)	p=NS
Intraoperative Complications (n)	0 (0%)	2 (1%)	p=NS	0 (0%)	1 (1%)	p=NS
Lesion Size (cm)	4 (4±3.2)	4 (5±3.5)	p=0.008*	3 (4±3.1)	3 (4±3.0)	p=NS
Postoperative Variables						
Pulmonary Complications (n)	8 (6%)	3 (1%)	p=0.02*	4 (6%)	1 (1%)	p=NS
Postoperative Complications (n)	2 (2%)	4 (2%)	p=NS	1 (1%)	2 (3%)	p=NS
Clavien-Dindo Score (≥III)	1 (IIa), 1 (IVa)	1 (IIa), 1 (IIb), 2 (IVa)	p=NS	1 (IIa), 1 (IIIa)	1 (IIb), 1 (IVa)	p=NS
In-Hospital Mortality (n)	2 (2%)	3 (1%)	p=NS	1 (1%)	1 (1%)	p=NS
Length of Stay (days)	4 (5±4.2)	4 (4±3.6)	p=0.02*	4 (5±3.7)	4 (5±3.7)	p=NS
Readmissions within 30 days (n)	22 (17%)	42 (18%)	p=NS	11 (15%)	15 (21%)	p=NS
IWATE						
Low (0-3)	7 (6%)	9 (4%)	p=NS	4 (6%)	1 (1%)	p=NS
Intermediate (4-6)	36 (29%)	57 (25%)		21 (30%)	12 (17%)	
Advanced (7-9)	49 (39%)	100 (44%)		30 (42%)	38 (54%)	
Expert (10-12)	33 (26%)	62 (27%)		16 (23%)	20 (28%)	

30. IMPACT OF FLUID BALANCE ON INTENSIVE CARE UNIT LENGTH OF STAY IN CRITICALLY ILL TRAUMA PATIENTS

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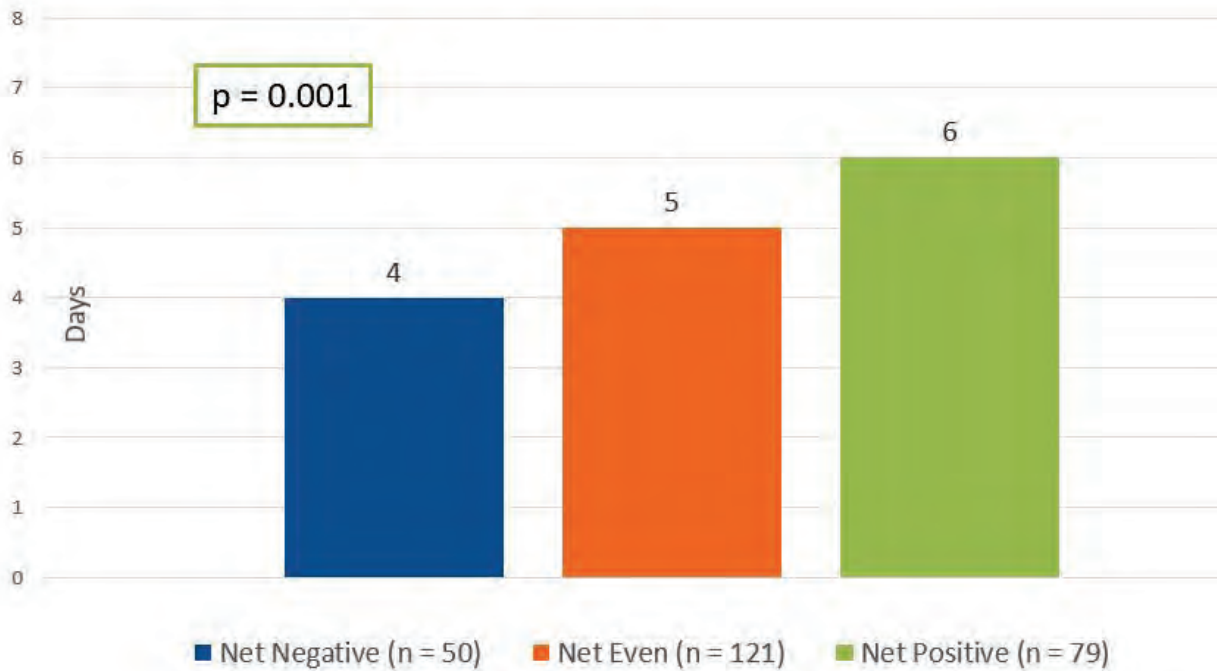
Background: There is significant data in the medical and surgical literature supporting the correlations between positive volume balance and negative outcomes such as AKI, prolonged mechanical ventilation, ICU and hospital length of stay (LOS), and increased mortality. The purpose of this study is to determine the impact of positive volume balance at 72 hours in critically ill trauma patients on total days spent in the ICU.

Methods: This single-center, retrospective chart review included adult patients identified from a Trauma Registry database who survived more than forty-eight hours from hospital presentation, and were admitted to the ICU under the trauma service from 2019 through 2021. The primary outcome was the total ICU LOS. Secondary outcomes include hospital LOS, ventilator-free days, incidence of compartment syndrome, acute respiratory distress syndrome, renal replacement therapy (RRT), and days of vasopressor therapy. The Mann-Whitney U Test was used for continuous non-parametric variables, which were reported as median and 25%-75% interquartile range (IQR). Median reporting was used to decrease bias. For nominal variables, the chi-squared and Fisher's exact test were used. A p-value of < 0.05 was considered to be statistically significant. Multivariate linear regression modeling was utilized to analyze the relationship between volume balance and total ICU days.

Results: Among the 716 patients screened for inclusion, 250 were analyzed, 121 in the even fluid balance group, 50 in the negative fluid balance group, and 79 in the positive fluid balance group. In general baseline characteristics were similar between groups with the exception of mechanism of injury, FAST exam, and disposition from the emergency department. The ICU LOS was shortest in the negative fluid balance, and longest in the positive fluid balance group (4 days vs. 6 days, $p = 0.001$). Hospital LOS was also shorter in the negative fluid balance compared to the positive fluid balance group (7 days vs. 12 days, $p < 0.001$). More patients in the positive fluid balance group experienced ARDS compared to the negative fluid balance group (6.3% vs. 0%, $p = 0.004$). There was no significant difference in the incidence or RRT, days of vasopressor therapy, or ventilator free days.

Conclusion: A negative fluid balance at 72 hours was associated with a shorter ICU and hospital LOS in critically ill trauma patients. Our observed correlation between positive volume balance and total ICU days merits further exploration with prospective, comparative studies of lower volume resuscitation to key physiologic endpoints compared with routine standard of care.

Primary Outcome: *ICU Length of Stay*



31. YOUR ZIP CODE MATTERS: INFLUENCE OF NEIGHBORHOOD LOCATION ON OUTCOMES IN OLDER ADULTS UNDERGOING EMERGENCY GENERAL SURGERY PROCEDURES

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Background: Neighborhood location and its built environment are important social determinants of health that have been shown to contribute to health inequities and significantly impact health outcomes and quality of life. Older adults (OAs) represent the fastest growing population in the United States with an associated increase in the proportion requiring emergency general surgery procedures (EGSPs). The aim of this study was to evaluate whether neighborhood location, represented by zip code, influences mortality, and change in residence at discharge in OAs undergoing EGSPs in Maryland

Methods: A retrospective review of hospital encounters in the Maryland Health Services Cost Review Commission from 2014-2018 of OAs undergoing urgent/emergent EGSPs, was undertaken. Comparisons were made between OAs residing in the 50 most affluent (MANs) and 50 least affluent (LANs) neighborhoods, based on zip codes and census income level data. Data collected included demographics, all patient-refined (APR)-severity of illness (SOI), APR- risk of mortality (ROM), Charlson Comorbidity Index, EGSPs (including partial colectomy, small bowel resection, cholecystectomy, lysis of adhesions, appendectomy, and laparotomy), mortality, and change in residence (discharge to a higher level of care compared to baseline). Univariable and multivariable regression models were utilized to conduct the analysis. P-values ($p < 0.05$) were deemed significant

Results: Of the 8,661 OAs included in the analysis, 2,362 (27.3%) resided in MANs and 6,299 (72.7%) in LANs. Demographics, severity of illness, EGSPs performed, and outcomes are represented in Table 1. OAs in LANs were more likely to undergo EGSPs, presented with higher APR-SOI and APR-ROM, and experienced an increased frequency of complications, discharge to higher level of care, and mortality. (Table 1) After adjusting for confounders, living in LANs was independently associated with discharge to higher level of care (OR 1.56, 95% CI: 1.38-1.77, $p < 0.001$) and increased mortality (OR 1.35, 95% CI: 1.07-1.71, $p = 0.01$).

Conclusion: Mortality and quality of life in OAs undergoing EGSPs are dependent on where they live. Neighborhood variations in the quality of available housing, food, employment, transportation, and access to healthcare may be the driving force behind these differences. Future efforts should focus on developing a better understanding of these factors and incorporating them into clinical predictive models to improve health outcomes. Additionally, public health initiatives should focus on leveraging the built environment to promote health and health equity as the demographic shift unfolds.

Table 1 Characteristics and Outcomes of Older Adults Undergoing Emergency General Surgery Procedures in the Most Affluent and Least Affluent Neighborhoods

	Most Affluent Neighborhoods (N = 2,362)		Least Affluent Neighborhoods (N = 6,299)		p-value
Gender, n (%)					
Male	1,099	46.5	2,646	42.0	<0.001
Female	1,263	53.5	3,653	58.0	
Race, n (%)					<0.001
White	1,782	75.4	3,402	54.0	<0.001
Black	253	10.7	2,219	35.2	
Asian	154	6.5	93	1.5	
APR-SOI^a, n (%)					<0.001
Minor	258	10.9	485	7.7	<0.001
Moderate	832	35.2	1,842	29.2	
Major	857	36.3	2,460	39.1	
Extreme	415	17.6	1,512	24.0	
APR- ROM[†], n (%)					<0.001
Minor	649	27.5	1,334	21.2	<0.001
Moderate	752	31.8	1,728	27.4	
Major	568	24.0	1,810	28.7	
Extreme	393	16.6	1,427	22.7	
CCI[‡], mean (SD)	3.1	2.9	3.4	2.9	<0.001
EGSPs[*], n (%)					
Lysis of adhesions	652	27.6	1,807	28.7	0.32
Cholecystectomy	917	38.8	2,157	34.2	<0.001
Partial colectomy	457	19.3	1,596	25.3	<0.001
Small bowel resection	279	11.8	889	14.1	0.005
Laparotomy	168	7.1	536	8.5	0.03
Appendectomy	198	8.4	352	5.6	<0.001
Outcomes, n(%)					
Hospital length of stay, median (IQR)	6	3-10	7	4-13	<0.001
ICU length of stay*, median (IQR)	3	1-6	3	2-8	<0.001
Mortality	100	4.2	377	6.0	0.002
Any complication	876	37.1	2,796	44.4	<0.001
Discharge to a higher level of care	481	21.4	1,798	30.8	<0.001

^aAll Payer Related Severity of Illness; [†]All Payer Related Risk of Mortality; [‡]Charlson Comorbidity Index; ^{*} Emergency General Surgery Procedures

32. OBSTETRICAL TRAUMA: REDUCING THE BURDEN OF TRAUMA TRANSFER TO TERTIARY CARE CENTERS

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Background: In rural state trauma systems, management of the obstetrical trauma patient often defaults in transfer to Level I Trauma Centers. In the absence of severe maternal injury these transfers displace patients from family and peer support of their community escalating cost to their pre-natal care. We evaluate the necessity to transfer obstetrical trauma patients in the absences of severe maternal injury.

Methods: A retrospective 5 year review of obstetrical trauma patients admitted to a rural states level I Trauma Center was conducted. Patient demographic and outcome measures of both maternal and fetal outcomes were collected. Injury severity measures such as abdominal AIS, ISS, and GCS were correlated with outcomes. Furthermore, the impact of maternal and gestational age on uterine compromise, uterine irritability and the need for cesarean section intervention is also presented.

Results: Twenty one percent of patients were transferred in from outside facilities with a median age of 29 years old, average ISS of $3.9 \pm$ standard deviation (SD) of 5.6, GCS of 13.8 ± 3.6 and maximum abdominal AIS of 1.6 ± 0.8 . Outcomes consisted of maternal fatality of 2%, fetal demise of 4%, 6% experienced premature rupture of membranes, 9% experienced fetal placental compromise, 15% had uterine contractions, 15% ended up with caesarean intervention and fetal decelerations occurred in 4%. Predictors of fetal compromise are strongly associated with high maternal ISS and low GCS. Gestational age of fetus correlates with early cesarean sections and increased uterine contraction following injury. Greater maternal age is correlated with uterine irritability following trauma.

Conclusion: The frequency of traumatic injury in this unique populous of patients is fortunately limited. The best predictor for fetal demise and uterine irritability remains maternal severity of injury as measured by ISS and GCS. With a 96% frequency of fetal monitoring in this population only a 4% frequency of decelerations was noted giving concern for fetal distress in isolation of severe maternal injury. Therefore in the absences of severe maternal trauma obstetrical trauma patients with minor injuries can safely be managed at non-tertiary care facilities with obstetrical capabilities.

33. UTILIZATION OF CIRCULATING TUMOR DNA IN THE SURVEILLANCE SETTING TO DETECT RECURRENT DISEASE

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Background: There is growing evidence in many tumor types that circulating tumor DNA (cTDNA) can be predictive of recurrent cancer in high-risk patients. We present our early experience utilizing cTDNA surveillance in high-risk surgical oncology patients. cTDNA is performed by creating a signature profile using the 16 most prevalent genomic biomarkers from a patient's tumor that had previously been biopsied or removed. The patient then has serial blood draws and utilizing the specific DNA markers a PCR assay is utilized to detect the presence of circulating tumor specific DNA.

Methods: A retrospective study was performed evaluating high-risk patients who had had serial cTDNA follow up. All patients had previously undergone surgical resection of their primary tumor or metastatic disease and were rendered surgically and radiographically disease free. Primary tumor cell blocks were utilized to develop PCR probes to detect cTDNA by Signatera. CTDNA specimens were obtained 1 month after surgery and then monthly. Clinical examination and high-risk screening were also performed per cancer guidelines.

Results: 39 patients were followed with cTDNA, 9 breast cancer, 16 colorectal, 1 pancreatic and 13 melanomas. During follow up 7/39 patients developed positive cDNA, 2/7 were symptomatic at presentation. Of the 7 tests that were positive, 6 were found to have recurrent/metastatic disease by imaging. 1 patient had a positive test 1 month after surgery and the second follow up test was back to 0, they remained disease free. All patients with negative cDNA remain disease free on clinical and radiographic follow-up.

Conclusion: Testing for circulating DNA has been studied to assess for molecular residual disease after surgical resection as well as to help monitor treatment response in patients actively undergoing treatments for cancer. Our study evaluated the utility of cTDNA in a small group of high-risk patients. Elevated cTDNA was the first indicator of recurrence in 6 patients allowing for early detection and treatment. Patients with no evidence of cTDNA remain disease free. This small group of patients represent our ongoing evaluation of the utility of cTDNA to detect recurrent cancer allowing for additional therapy. Additional studies will need to be done utilizing larger volumes of patients; also assessing if this helps with survival outcomes and comparing if it is more cost effective to follow with cTDNA compared to the standard surveillance screening modalities.

34. DURATION OF ANTIBIOTIC PROPHYLAXIS FOR BALLISTIC FRACTURES TO THE EXTREMITIES

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Background: In the U.S. there are thousands of ballistic firearm injuries to the extremities and subsequent infections, yearly. There is a lack of consensus regarding the ideal duration of antibiotic treatment to prevent infection of these wounds. Our study investigated infection rate among ballistic extremity fracture patients based on antibiotic prophylaxis duration, wound severity (Gustilo grade), and fracture location. Our study aimed to:

- 1) Determine if infection rate following ballistic extremity fracture is correlated with antibiotic prophylaxis duration, wound severity, joint involvement, and/or fractured extremity location.
- 2) Determine the optimal and necessary duration of antibiotic prophylaxis for the prevention of infection following ballistic fractures of the extremities.

Methods: Retrospective chart review of ballistic extremity fracture patients from a single trauma center from 01/01/2010-12/31/2020.

Results: 231 of 1,611 fracture cases screened met our inclusion criteria. Infection rate was significantly higher among patients who received antibiotics for ≥ 48 hours (16.6%), compared to those who received antibiotics for < 48 hours (3.6%) ($\text{Chi}^2 = 10.57$, $p = 0.001$). Infection rate was significantly higher among patients with Gustilo grade III wounds (18.5%), compared to Gustilo I & II wounds (5.15%) ($\text{Chi}^2 = 5.09$, $p = 0.024$). When stratified by Gustilo grade, there was no difference in the rate of infection between patients who received antibiotics for ≥ 48 hours and those who received antibiotics for < 48 hours (Gustilo I & II $\text{Chi}^2 = 0.53$, $p = 0.82$; Gustilo III $\text{Chi}^2 = 2.15$, $p = 0.14$). Infection rate was not correlated with joint involvement or fractured extremity location.

Conclusion: Our results indicate that infection likelihood for extremity ballistic fractures is correlated with wound severity and not antibiotic prophylaxis duration, joint involvement, or fracture location. There was no significant difference in infection rate between ballistic extremity fracture patients who received less than 48 hours of antibiotic prophylaxis and those who received greater than 48 hours of antibiotic prophylaxis. Therefore, prophylactic antibiotic administration for greater than 48 hours for most ballistic extremity fractures is likely unwarranted.

V4. CRYOABLATION AND SURGICAL STABILIZATION OF RIB FRACTURES

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Background: Cryoablation has shown significant benefits when performed along with surgical stabilization of rib fractures. We present a case report of a 44-year-old male with a history of opioid use disorder who sustained significant chest wall trauma following a fall from height. Injuries included fractures of right ribs 1 through 12 with a flail segment of ribs 3 through 9. He underwent surgical stabilization of rib fractures and cryoablation with great improvements in his pain control and respiratory status post-operatively. Our video highlights our surgical approach with a focus on cryoablation.

35. THE VAGUS MEDIATES GUT-BRAIN RESPONSE TO DUODENAL NUTRIENT ADMINISTRATION

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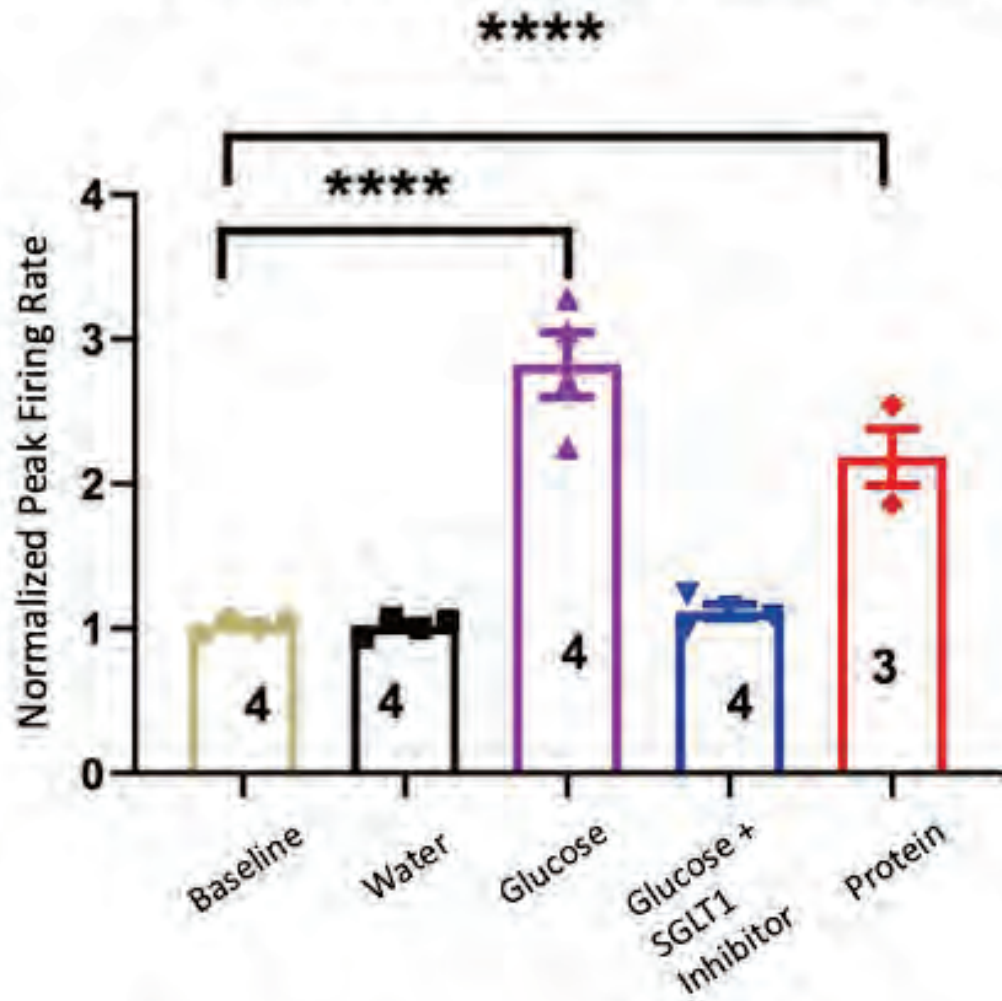
Background: Obesity contributes significant disease burden worldwide, including diabetes, cardiovascular disease, and cancer. While bariatric surgery is the most effective and durable obesity treatment, the mechanisms underlying its effects remain unknown. Although neuro-hormonal mechanisms have been suspected to mediate at least some of the gut-brain axis changes following bariatric surgery, studies examining the intestine and its regionally specific post-gastric alterations to these signals remain unclear. Thus, as autonomic parasympathetics, primarily via the vagus nerve, contribute to food intake and body weight, these signaling mechanisms were examined in response to intestinal nutrient stimuli.

Methods: Vagus nerve recording was performed in mice using a platinum iridium wires technique following recovery from implantation of chronic duodenal feeding tubes in mice. Testing conditions and measurements were made under anesthesia during baseline, nutrient or vehicle solution delivery, and post-delivery. Solutions tested included water, 500mm glucose, 500mm glucose with an inhibitor of glucose absorption (phlorizin), and a hydrolyzed protein solution.

Results: Vagus nerve signaling was detectable from the duodenum and exhibited stable baseline activity without responding to osmotic pressure gradients. Duodenal delivered glucose and protein robustly increased vagus nerve signaling, but increased signaling was abolished during co-administration of glucose and phlorizin.

Conclusion: Gut-brain communication via the vagus nerve emanating from the duodenum is nutrient sensitive and easily measurable in mice. Examination of these signaling pathways may help elucidate how the nutrient signals from the intestine are altered when applied to obesity and bariatric surgery mouse models. Future studies will address quantifying the changes in neuroendocrine nutrient signals in health and obesity, with specific emphasis on identifying the changes associated with bariatric surgery and other gastrointestinal surgery.

Vagal Response to Nutrient Administration



36. LONGITUDINAL STUDY OF EMOTIONAL INTELLIGENCE, BURNOUT AND WELLBEING OF SURGICAL AND MEDICAL RESIDENTS

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Background: Emotional intelligence (EI) as a concept is becoming increasingly relevant in the healthcare industry. In order to examine the relationship between EI, Burnout, and wellness, we administered the related measures quarterly in upcoming medical and surgical residents, and analyzed the changes in each subset to gain an insight of their relationship.

Methods: All residents entering the training programs of the academic years 2017 and 2018 were voluntarily participated in completing the Emotional Intelligence Questionnaire-Short Form (TEIQue-SF), the Maslach Burnout inventory (MBI), and physician Wellness Inventory (PWI) quarterly. Statistical analysis included ANOVA and ANCOVA. IRB approval was obtained prior to the study. Response rate was 100%.

Results: The overall PGY1 (n=80) had a mean EI score of 5.47 (SD=0.59). The domains of burnout and physician wellness were examined across four different time points during the first year. Domain scores changed significantly during the resident's first year. There was 46% relative increase in exhaustion ($p < 0.001$), 48% increase in depersonalization ($p < 0.001$) and 11% decrease in personal achievement between the beginning and end of the year. Physician wellness domains also changed significantly during the same time. There was a relative 12% decrease in career purpose ($p < 0.001$), a 30% increase in distress ($p < 0.001$) and 6% decrease in cognitive flexibility ($p < 0.001$). Each burnout and wellness domain were highly correlated with EI. EI was indecently assessed with each domain at the beginning and end of the year. The lowest EI group reported their distress increased significantly over time ($p = 0.003$) and decline in career purpose ($p < 0.001$) and cognitive flexibility ($p = 0.04$).

Conclusion: Emotional intelligence is associated with the burnout and wellbeing of residents. It is important to identify those who require increased support during residency in order to succeed.

37. SAFETY OF THE TRAUMA QUALITY IMPROVEMENT PROGRAM GUIDELINE FOR VENOUS THROMBOEMBOLISM PROPHYLAXIS IN TRAUMATIC BRAIN INJURY

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Background: The American College of Surgeons (ACS) Trauma Quality Improvement Program (TQIP) provides a guideline for when to initiate pharmacologic venous thromboembolism (VTE) prophylaxis in traumatic brain injury (TBI) patients. We hypothesized that implementation of the ACS TQIP-TBI guideline would not result in progression in intracranial hemorrhage.

Methods: The TBI TQIP guideline was implemented at a Level I Trauma Center. Patients with a stable CT of the brain after 24 hours or 72 hours were started on chemical prophylaxis with low molecular weight heparin or heparin. Computerized tomography (CT) scans after initiation of treatment were retrospectively reviewed by one board-certified radiologist to determine if there was progression of hemorrhage. Patients without a follow up CT scan were evaluated for progression of bleed/neurologic deterioration by review of physician notes, nursing documentation and Glasgow coma scale (GCS). Inclusion criteria for analysis included ≥ 18 years old, length of stay > 2 days, adherence to guideline, and non-pregnant patients.

Results: From July 2017 to December 2020, 12,922 patients were admitted to the trauma service. A total of 552 of these patients had TBI and 257 met inclusion criteria. A total of 43 patients had at least one CT of the brain after initiation of VTE prophylaxis. None of these 43 patients had progression of hemorrhage. 214 patients did not have a CT of the brain after VTE prophylaxis. Chart review showed that none of these patients had a clinical decline. Overall, there was no progression of hemorrhage in the 257 patients that met inclusion criteria.

Conclusion: Initiation of the TQIP TBI VTE prophylaxis guideline was found to be safe with no progression of intracranial hemorrhage.

38. DELAYED TRACHEOSTOMY AFTER CERVICAL FIXATION IS NOT ASSOCIATED WITH IMPROVED OUTCOMES: A TQIP ANALYSIS

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Background: Patients with unstable cervical spine fractures are at significant risk of respiratory failure. Tracheostomy is often delayed for operative cervical fixation (OCF) due to concern for cross-contamination of the spinal surgical site by the tracheostomy. There is no consensus on the optimal timing of tracheostomy in the setting of recent OCF though the most recent Trauma Quality Improvement Project (TQIP) spine guidelines state early tracheostomy does not increase risk of infection or wound complications. This study evaluated the impact of tracheostomy timing on surgical site infections (SSI), length of stay (LOS), morbidity, and mortality for patients undergoing OCF and tracheostomy. We hypothesized delayed tracheostomy would increase LOS without improving outcomes.

Methods: Data from TQIP were used to identify patients with isolated cervical spine injuries, determined by an Abbreviated Injury Score < 3 in all regions other than spine, who underwent both OCF and tracheostomy between 2017-2019. Demographics, injury characteristics, procedures, and outcomes were abstracted. Univariate analysis compared patients who underwent early tracheostomy (< 7 days from OCF) to those who underwent delayed tracheostomy (≥ 7 days from OCF). Bonferroni-corrected alphas of <.002 denoted statistical significance. Logistic regressions were performed for variables associated with SSI, morbidity, and mortality. Pearson correlations were used to evaluate the relationship between OCF to tracheostomy time interval with LOS and ventilator days.

Results: Of the 3,145,734 patients during the study period, 30,529 (1%) underwent concomitant OCF and tracheostomy. Among 1,438 patients who met inclusion criteria, 20 had SSI (1.4%). Median age was 58 years (interquartile range[IQR] 38-70 years), 78.6% male, median Injury Severity Score was 21[16-26]. There was no difference in SSI incidence for patients who underwent early versus late tracheostomy (1.6% vs 1.2%, $p=.5077$). Late tracheostomy was associated with increased median ICU LOS (23.0 vs 17.0 days, $p<.0001$), ventilator days (19.0 vs 15.0, $p<.0001$), hospital LOS (29.0 vs 22.0 days, $p<.0001$), and overall morbidity (69.8% vs 58.8%, $p<.0001$). Only increased ICU LOS was associated with SSI (OR:1.017, 95%CI:0.999–1.032, $p=.0273$; Figure 1A). Increased time from OCF to tracheostomy (OR:1.002/hour, 95%CI:1.001–1.003, $p<.0001$) and increased ICU LOS (OR:1.023/day, 95%CI:1.015–1.033; $p<.0001$) were associated with patient morbidity (Figure 1B), but not mortality (Figure 1C). Time from OCF to tracheostomy correlated with ICU LOS ($r(1354)=.35$, $p<.0001$), ventilator days ($r(1312)=.25$, $p<.0001$), and hospital LOS ($r(1355)=.25$, $p<.0001$).

Conclusion: Delayed tracheostomy after cervical fixation in patients with isolated cervical spine injuries is not associated with improved morbidity and is associated with longer LOS. Tracheostomy, when indicated, should not be delayed for theoretical concern of increased SSI risk.

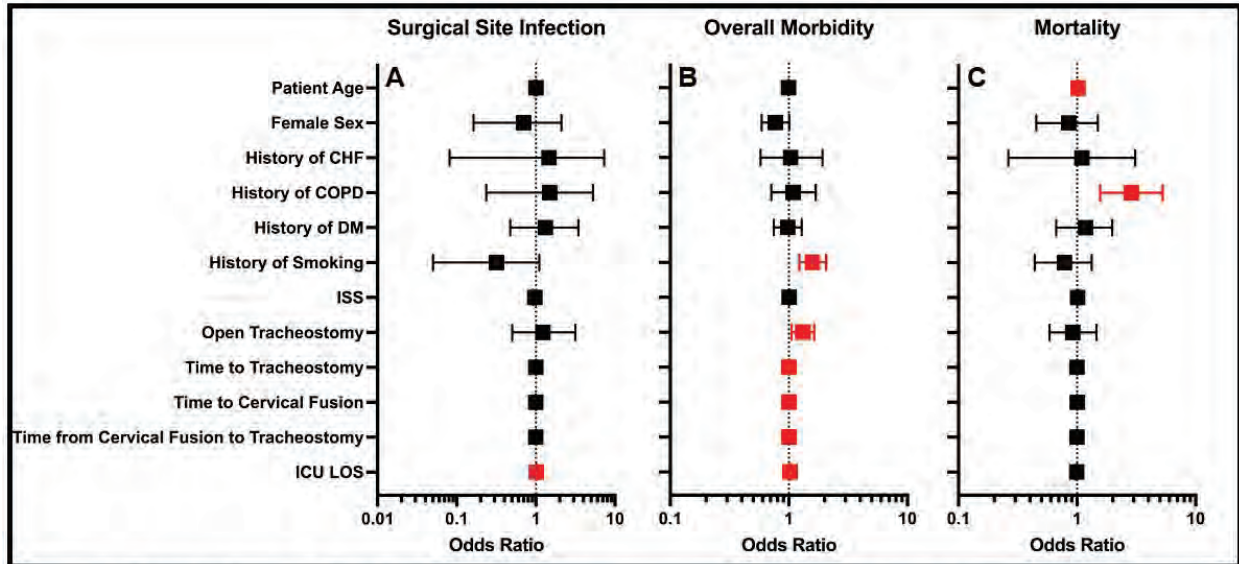


Figure 1. Forest plots of simple logistic regression examining factors associated with (A) surgical site infections, (B) overall morbidity, and (C) mortality in patient with isolated cervical spine fractures undergoing cervical spinal fusion and tracheostomy. Red boxes denote statistically significant variables.

39. EFFICACY OF THORACIC COMPUTERIZED AXIAL TOMOGRAPHY IN BLUNT TRAUMA PATIENTS WITH HIGH GLASGOW COMA SCALE AND LOW INJURY SEVERITY SCORE

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Background: To determine the value of ordering routine chest CT in patients with blunt trauma presented to the Emergency Department (ED) with a high GCS and low ISS , we retrospectively collected data obtained on those patients from the CT scan ,when physical examination and initial chest X- ray were normal in the trauma Bay Area.

Methods: A retrospective data collection of 901 consecutive blunt trauma patients seen in the ED between 2017 and 2019 were analyzed. Data collected included in addition to the physical examination, age, gender, current use of anticoagulant therapy, co- morbid conditions as well as result of Radiological Images. In addition while in the hospital length of stay, surgical intervention and mortality. The patients were divided into two groups: group 1 (included those patients with negative physical examination, chest X- Ray and CT) and group 2 (with negative physical examinations and chest X-Ray and positive CT) . Statistical analysis was done using Student's t-test and Chi- square test . IRB approval was obtained prior to conducting the study.

Results: Of the 901 patients there were 489 male and 412 female (54% vs 46%) with the mean age of 56 Years. Out of the 901 patients 461 patients had physical , chest X-ray ,abdominal and chest CT done. Group 1 included 442 (96%), patients ,with negative physical examination, negative chest and CT scan and group 2 , 19 (4%) patients who had positive CT and or chest X-ray . Both groups were similar in GCS and ISS and other variables . Of the 19 patients, only 6 patients had a positive chest CT ,and 3 of those had a positive chest X-ray. In The 3 patients who had negative physical examination and chest X- ray , the CT finding was 1 with undisplaced 10 th rib fractures, and 2 patients with osteoporotic compression fractures of Dorsal vertebrae. Therefore the probability of both chest X-ray and chest CT being positive among group of screened patients is 16% (3/19) ,and probability of a negative chest X- ray but positive CT is 16% (3/19). The Odd Ratio between the two outcomes is 1 ,therefore the CT would not change the clinical management.

Conclusion: In blunt trauma patients presented to the ED with a high GCS and low ISS score, when initial chest physical examination and X-Ray were negative, routine chest CT is of little value.

40. A CLOSER LOOK AT THE RISING EPIDEMIC OF MASS SHOOTINGS IN THE UNITED STATES AND ITS ASSOCIATION WITH GUN LEGISLATION, LAWS, AND SALES

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Background: Mass shootings pose a considerable threat to public safety and significantly cost the US in terms of lives and expenses. We aim to (1) assess US mass shootings, firearm-related sales, laws, and regional differences from 2015-2021 and (2) investigate changes in mass shootings and firearm sales before and during the Coronavirus Disease 2019 (COVID-19) pandemic.

Methods: A retrospective review of mass shootings, gun sales, and laws regarding the minimum age required to purchase a firearm within the US from 2015-2021. The 10 states/regions with the greatest mean mass shootings/capita from 2015-2021 were selected for further analysis.

Results: Mass shootings correlated significantly with firearm sales from 2015-2021 nationwide ($p < 0.02$ for all). The growth in mass shootings, the number killed/injured, and gun sales were greater in 2020 and 2021 compared to the years prior. The 10 states with the highest mean mass shooting/capita over the study period were Alabama, Arkansas, the District of Columbia, Illinois, Louisiana, Maryland, Mississippi, Missouri, South Carolina, and Tennessee. No significant correlation was found between the number of mass shootings/capita and the minimum age to purchase a firearm.

Conclusion: Firearm sales correlated significantly with mass shootings from 2015-2021. Mass shootings and gun sales increased at greater rates during the COVID-19 pandemic compared to the years before the pandemic. Mass shootings exhibited inconsistent trends with state gun laws regarding the minimum age to purchase a firearm. Future studies may consider investigating the methods by which firearms used in mass shootings are obtained to further identify targets for prevention.

41. PREDICTORS OF FACIAL FRACTURES IN TRAUMA PATIENTS: A RETROSPECTIVE REVIEW AT A LEVEL I RURAL TRAUMA CENTER

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Background: The incidence and causes of facial fractures differ between patients, but patterns arise within populations. These patterns vary by gender, age, and even social differences between countries. While many studies have looked at the rate of facial fractures within different groups, little has been done to assess the risk each of these factors confer. The aim of this study is to determine variables that can be used to identify patients at risk for facial fractures in a United States trauma population.

Methods: This is a single center study of Trauma Registry data, inclusive years July 1, 2016, to January 31, 2022. The inclusion criteria were based upon all trauma patients. The confirmation of a non-isolated facial fracture (dependent variable) was verified by an ICD10 diagnosis code. A logistic regression was performed in SPSS to ascertain the effects of predictor variables on the likelihood that a trauma patient will experience a facial fracture.

Results: 20377 patients were included in the analysis based upon the requirements specified in the methods section; 1575(7%) had a positive facial fracture. The logistic regression model was statistically significant ($N=18507$, $p < 0.01$). Several significant risk-factors for facial fracture were identified, which included helicopter transport ($OR=1.35$, $p < .01$) with increasing injury severity scores ($OR=1.07$, $p < .01$). The mode of injury most likely to predict a facial fracture outcome included assault ($OR=6.62$, $p < .01$), moped and ($OR=2.02$, $p < .01$), motorcycle trauma ($OR=1.55$, $p < .01$). The discharge disposition most likely among facial fracture patients included short-term general hospital ($OR=1.71$, $p < .01$) and intermediate care facility ($OR=4.47$, $p < .01$).

Conclusion: Patients with traumatic injuries from assault, moped, and motorcycle accidents were more likely to present with facial fractures. These patients had more severe injuries, seen as an increased ISS, decreased GCS, a higher likelihood of transport by helicopter, and a need for additional care after discharge. Understanding these differences can help physicians identify patients at risk for facial fractures in a trauma setting.

Table 1. Logistic Regression Analysis of All Trauma Patients, Inclusive Years July 1, 2016 to January 31, 2022: Outcome Facial Fracture (N=20377)

	B	S.E	Wald	df	Sig.	Exp(B)
Gender	-.26	.06	17.40	1	<.01	.77
Mode of Arrival						
Ground					baseline	
HEMS	.30	.11	6.84	1	<.01	1.35
Private Vehicle/Walk-In	-.32	.10	9.12	1	<.01	.72
ISS	.07	.00	365.39	1	<.01	1.07
GCS	-.08	.01	65.35	1	<.01	.91
Mode of Injury						
Assault	1.89	.10	310.12	1	<.01	6.62
Fall					baseline	
Moped	.70	.18	15.20	1	<.01	2.02
MCC	.44	.10	17.43	1	<.01	1.55
MVC	-.20	.08	5.65	1	.01	.81
Mechanism of Injury						
Blunt					baseline	
Penetrating	-.81	.16	24.50	1	<.01	.44
Discharge Disposition						
Expired	-1.18	.19	36.59	1	<.01	.30
Home without Care					baseline	
Home Under Care of Home Health	-.49	.09	24.97	1	<.01	.61
Short-Term General Hospital	.53	.20	6.91	1	<.01	1.71
Intermediate Care Facility	1.49	.52	8.29	1	<.01	4.47
Hospice	-1.18	.25	22.53	1	<.01	.30
Inpatient Rehab	-.80	.12	40.74	1	<.01	.44
Skilled Nursing Facility	-.73	.16	19.77	1	<.01	.48

42. A NATIONAL SURVEY ASSESSING THE VARIABILITY IN THE MANAGEMENT OF TRAUMATIC CARDIAC ARREST

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Background: National guidelines for managing traumatic cardiac arrest do not exist. Some trauma surgeons practice Advanced Trauma Life Support (ATLS)-only models while others utilize Advanced Cardiac Life Support (ACLS). The study aim was to determine trauma surgeon practices in traumatic cardiac arrest activations and to examine differences in the use of ACLS including medications, duration, indications, outcomes and respondent age, gender, years in practice, and state. We hypothesized that the practice of ACLS would vary significantly.

Methods: A mixed-methods approach was applied. A web-based survey was distributed to 1,680 members of the American Association of the Surgery of Trauma over six weeks. Respondent age, gender, years in practice, and region were assessed along with management of traumatic cardiac arrest. Chi-squared tests were completed to determine statistical significance ($p < 0.05$). Qualitative data was obtained via open-ended questions regarding legal, ethical or interpersonal conflicts associated with the use or lack of use of ACLS in traumatic cardiac arrest; coding and analysis were performed by ATLAS.ti.

Results: Two-hundred and three surveys were completed (12% response rate) over six weeks. Overall, 73.4% of respondents reported utilizing ACLS, while 26.6% reported they never utilize ACLS. ACLS was significantly associated with surgeon age ($p=0.049$), years in practice ($p=0.025$) and state of practice ($p=0.006$). The medications utilized, duration, and indications for ACLS application were highly variable. Of those that used ACLS, some utilized a medication-only approach while others performed chest compressions only. There was no difference in self-reported survival rates between those that utilized ACLS and those that did not. Qualitative data analysis revealed themes of futility, the need to “do something” and excessive use of limited resources. Qualitative data also demonstrated ACLS in traumatic cardiac arrest was a significant source of interpersonal conflict both between specialties and between physicians and staff.

Conclusion: These findings show that one quarter of surgeons never utilized ACLS in the setting of traumatic cardiac arrest. Furthermore, the use of ACLS techniques was highly variable with no consistency on indications, duration, or medications utilized. Outcomes appear to be equivalent regardless of use of ACLS. Qualitative data analysis shows this is a highly contentious area and a significant source of interpersonal conflict. While methodologically sound, low response rate was a study limitation. This study shows that the management of traumatic cardiac arrest is entirely surgeon-specific and highlights the need for national guidelines in order to standardize practice in a controversial area.

43. UNDERSTANDING THE IMPACT OF RETAINED BULLETS FROM SURVIVORS OF GUNSHOT INJURY

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Background: Despite increasing knowledge of the prevalence of retained bullet fragments (RBFs) after civilian gunshot injuries, there is limited research on the full spectrum of consequences of RBFs, particularly the psychological effects. Moreover, the experiences and perceptions of the injured are missing from existing literature. Hence, the objective of our study was to understand the impacts of RBFs on individuals who have experienced recent gunshot injuries.

Methods: Study participants were adults (18-65 years) who were survivors of gunshot injuries with radiographically-confirmed retained bullet fragments. Survivors were purposively recruited from an urban Level 1 trauma center in Atlanta, Georgia and invited to participate in a qualitative study between March 2019 and February 2020. Semi-structured in-depth interviews were conducted with 24 participants at least one month following injury. Interview topics included knowledge and life impacts of RBFs as well as coping strategies. Thematic analysis was used to iteratively identify themes, which were then categorized into four domains of impact of RBFs.

Results: The majority of survivors interviewed were male (N=21, 87.5%), Black (N=22, 91.6%) with a mean age of 31.8 years and a mean duration of exposure (time from injury to interview) of 8.6 months. Four domains of impact of RBFs emerged: 1) Physical health effects including pain, limited mobility and poor quality sleep; 2) Emotional consequences of the RBF leading to flashbacks, frustration and shame; 3) Social isolation as a result of the RBFs causing challenges in household and daily activities; and 4) Occupational barriers such as restricted work duties, interpersonal workplace conflicts, extended medical leave or job loss.

Conclusion: Survivors of gunshot injuries are severely impacted by RBFs. These impacts are far-reaching and affect daily activities and future aspirations. Results suggest the need for a more holistic approach to support the recovery of survivors with RBFs. Further, changes to clinical protocols regarding the removal of retained bullets and how patients are informed of the effects of leaving RBF in situ, are warranted.

Table: Quotes illustrating the domains of impact of RBFs

Physical Health	<i>"I really don't sleep. If I roll the wrong way or move my arm wrong, I'm coming out of my sleep instantly. I'm in pain so I just sit up most nights. I don't really sleep that much."</i>
Emotional Wellbeing	<i>"[the bullet] would also make me just kind of paranoid because I felt like it wasn't fully fixed." "It's like a reminder. It's like a trophy. Like somebody got their trophy in me"</i>
Social Isolation	<i>"Nobody else got [a retained bullet] but me. Everybody who I know, personally, who either got shot - they don't have a bullet. I'm the only one, like, who got the bullet in their body. I think that is so horrible. I think that's bad. I think - because nobody can relate to it." "It's [...] like you had a picnic and you got that bee, you know what I mean? And it seemed like you the only person in the room its bothering. That's what a bullet in your leg feel like"</i>
Occupational Welfare	<i>"I really want to quit my job now 'cause it hurts. It hurts to do anything. But I can't. I have to keep working."</i>

44. BLUNT TRAUMATIC ABDOMINAL WALL HERNIAS: AN INDICATOR FOR EMERGENT LAPAROTOMY?

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Background: Traumatic abdominal wall hernias (TLH) are relatively uncommon however the sheering force that results in fascial disruption could indicate an increased risk of visceral injury. The aim of our study was to evaluate whether the presence of a TLH was associated with intra-abdominal injury requiring emergent laparotomy.

Methods: The trauma registry was queried over a 10-year period (7/2012 - 7/2022) for adult patients with blunt thoracoabdominal trauma diagnosed with a TAWH. Those patients who were identified with a TLH and greater than 15 years of age were included in the study. Demographics, mechanism of injury, ISS, BMI, length of stay, TAWH size, type of TAWH repair and outcomes were analyzed.

Results: Overall, 38,749 trauma patients were admitted over the study period, of which 37 (0.09%) had a TLH. Patients were commonly male (n=20, 54%); the median age was 36 years (range 16–73 years) and a mean ISS of 22 ± 17 and AIS-abdomen = 2. Forty-percent had + seatbelt sign. The majority were left sided TLHs (n=33, 66%) with mean size 3 ± 2 cm. Sixteen patients (32%) went emergently to the operating room, the majority for perforated viscus (n=9, 18%) with 18 requiring bowel resection (36%). Mean ventilator day 7 ± 15 days, with a mean ICU LOS 9 ± 16 and mean hospital LOS 23 ± 31 days. A minority of TLHs (16%) were repaired at index operation, primary repair (10%), and mesh 18%. Two of the three deaths were directly related to head injury and the remaining from ARDS.

Conclusion: TLHs are associated with increased intra-abdominal injury requiring emergent laparotomy for other life-threatening injuries. Further investigation is needed to identify which seriously injured patients benefit from immediate or delayed repair of a TLH.

45. UNDERTRIAGE RISK AMONG THOSE WITH INTRACRANIAL HEMORRHAGE IN A REGIONAL HOSPITAL TRAUMA NETWORK

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Background: The process of interfacility transfer may cause a delay in the necessary medical treatment, which could lead to poor outcomes and increased mortality rates. The ACS-COT considers an acceptable undertriage rate of < 5%.

Methods: This is a single-center study of Trauma Registry data, from July 1, 2016, to October 31, 2021. The inclusion criteria were based upon age (≥ 40 years) and interfacility transfer. Under triage using the Cribari Matrix Method was the dependent variable. A logistic regression was performed to ascertain the effects of predictor variables on the likelihood that an adult ICH trauma patient experienced undertriage.

Results: 878 patients were included in the analysis based on the methods section's requirements; 168 (19%) experienced an undertriage. The logistic regression model was statistically significant ($N=3837$, $p < 0.01$). In addition, several significant increases in odds for undertriage were identified, which included increasing ISS ($OR=1.41$, $p < 0.01$), increasing AIS head region ($OR=6.088$, $p < 0.01$), and mental health disorders ($OR=4.188$, $p=.02$). In addition, a reduction in odds in ICH adult trauma undertriage is the comorbidity of anticoagulant therapy ($OR=.256$, $p < 0.01$).

Conclusion: The likelihood of undertriage in the adult ICH trauma population is associated with increasing AIS head injuries, increasing ISS, and among those with mental health comorbidities. This evidence, along with additional protective factors, such as patients on anticoagulant therapy, may aid in education and outreach efforts to reduce undertriage among the regional referring centers.

Table 6. Logistic Regression Analysis of Transferred-In Adult (>40 years) Trauma Patients Diagnosed with an ICH, Inclusive Years July 1, 2016 to October 31, 2021 (N=878)

Outcome/Dependent Variable: Cribari Under Triage						
	B	S.E	Wald	df	Sig.	Exp(B)
Age	-.004	.016	.074	1	.785	.996
Subdural Hemorrhage	-.480	.507	.897	1	.344	.619
Ground Transport	-.208	.364	.327	1	.567	.812
Full Activation	-28.012	1938.239	.000	1	.988	.000
Glasgow Coma Scale	-.104	.131	.630	1	.427	.901
Shock Index Ratio	-.585	1.298	.203	1	.652	.557
Injury Severity Score	.344	.072	22.940	1	<.001	1.411
AIS Head Region	1.806	.532	11.54	1	<.001	6.088
Fall Injury	.622	.598	1.081	1	.299	1.863
ICU Stay	-.016	.099	.025	1	.875	.985
Vent Days	.078	.122	.406	1	.524	1.081
Hospital Length of Stay	.023	.053	.184	1	.668	1.023
Disposition						
Expired	1.576	1.070	2.170	1	.141	4.837
Home without Care	.043	.380	.013	1	.910	1.044
Comorbidity						
Anticoagulation Therapy	-1.363	.501	7.384	1	.007	.256
Dementia	-.051	.489	.011	1	.917	.950
Hypertension	.021	.354	.003	1	.953	1.021
Advanced Directive Limiting Care	-.443	.605	.537	1	.464	.642
Alcohol Use Disorder	-1.321	.789	2.80	1	.094	.267
CVA	-.539	.656	.677	1	.411	.583
COPD	-1.177	.642	3.36	1		
Chronic Renal Failure	.472	1.117	.179	1	.673	1.603
Cirrhosis	1.166	1.426	.668	1	.414	3.208
CHF/MI/PAD	.405	.603	.451	1	.502	1.499
Current Smoker	.228	.668	.117	1	.733	1.256
Diabetes	.023	.381	.004	1	.951	1.024
Functionally Dependent Health Status	-.658	.627	1.100	1	.294	.518
Mental Health Disorders	1.43	.642	4.97	1	.026	4.188
Substance Use Disorder	.972	.939	1.072	1	.300	2.644
Complication						
Any	1.962	1.459	1.810	1	.179	7.117
DVT/PE	-2.229	4.009	.309	1	.578	.108
Unplanned Intubation	-3.897	2.018	3.731	1	.053	.020
Unplanned ICU	-1.783	1.955	.832	1	.362	.168
VTE Administration						
LMWH	-1.008	.591	2.912	1	.088	.365
Unfractionated Heparin	-1.812	.845	4.598	1	.032	.163
Constant	-11.453	2.928	15.295	1	<.001	.000

Included 837; p<0.01; 70% correct cases; Nagelkerke R Squared 0.79

46. GRAVITY WARRIORS: OPTIMAL ACTIVATION CRITERIA FOR FOUND DOWN PATIENTS

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Background: Patients who are found down (FD) with unknown mechanism of injury pose a triage dilemma. At the study institution, this population with suspicion of trauma were previously triaged as the highest-level trauma team activation (TTA). Due to high rates of over-triage, this criterion was modified to include signs of trauma. The purpose of this study is to compare injured FD patients to uninjured FD patients and identify patient characteristics and outcomes associated with injury.

Methods: A retrospective review was conducted on adult patients with the cause code “found down” between 1/2019—4/2021. Injured patients were compared to uninjured patients. Injury was defined as an injury severity score (ISS) of 1 or higher. The criteria for suspicion of trauma included altered mental status, confusion, seizures, intoxication, or dementia. Signs of trauma were defined as abrasions, lacerations, ecchymosis, contusions, hematomas, deformity, pain, and crepitus.

Results: 415 patients were identified during the study period with 273 (65.8%) sustaining injury and 142 (34.2%) were uninjured. There were no differences in age, gender, and arrival Glasgow Coma Scale (GCS) score. No differences were seen in arrival vital signs. Mean ISS of the injured patients was 5.4. 84.3% of the injured patients had an ISS 10 or less and 12.8% had an ISS greater than 15. The injured group was more likely to have signs of trauma (96.0% vs 17.6%, $p < 0.0001$) whereas the uninjured group was more likely to have suspicion of trauma (2.2% vs 62.7%, $p < 0.0001$). There was no difference in the rate of highest-level TTA between two groups. Patients who were injured had a higher rate of admission to the trauma service (40.3% vs 7.8%) and patients without injury had higher rates of discharge from the ED (28.6% vs 43.0%) and admission to the nonsurgical services (30.8% vs 47.9%) ($p < 0.0001$). The two groups had similar hospital length of stay (LOS). The injured group had a longer median ICU LOS (0 (0,1) vs 0 (0,0), $p = 0.033$) and mortality rate (18.3% vs 8.5%, $p = 0.008$). Independent predictors of mortality were DNR status and older age while dementia and higher GCS were protective.

Conclusion: Injured and uninjured FD trauma patients had similar arrival GCS and hemodynamic parameters, making it challenging to identify those with injury who require trauma evaluation. Signs of trauma can be a valuable indicator of injury in the FD population.

47. CULTURAL AND LINGUISTIC ADAPTATIONS OF STOP THE BLEED IN MULTI-ETHNIC REFUGEE COMMUNITIES

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Background: Stop the Bleed (STB), community-based education in basic hemorrhage control techniques, is offered in only English and Spanish despite 27 million US households who report having limited English proficiency. Cultural linguistic discordance exacerbates challenges faced in accessing emergency and preventive healthcare and may contribute to inequities in health outcomes. Our study aims to determine the feasibility and effectiveness of culturally and linguistically adapting STB training in Arabic, Burmese, Somali and Swahili.

Methods: This study took place in Clarkston, GA, a multi-ethnic refugee resettlement community with over 60 languages spoken. Written STB materials were adapted in four languages with the help of community members to ensure cultural and linguistic responsiveness. In-person 90-minute STB trainings were held using adapted materials; trainings were led by surgeons/ER physician dyads and were assisted by community-based interpreters. In-language pre- and post-surveys were administered in native languages to evaluate change in knowledge and beliefs.

Results: Arabic, Burmese, Somali and Swahili speakers were trained (n=46). Overall knowledge of emergency techniques and behaviors in an emergency improved $t(45) = -3.532$, $p < .001$, contributing to change in confidence to use STB. Six STB skills questions; showed significant improvement using McNemar chi-square (p 's range .003-.031). Qualitative analysis showed that In-language training was critical for skills improvement and appreciated by attendees.

Conclusion: Cultural and linguistic adaptation of STB training is a feasible, cost-effective, and effective method for disseminating life-saving information and trauma education to refugees and other vulnerable populations who have limited English proficiency. Expansion of community training and partnerships to support the needs of diverse communities is both necessary and urgent.



48. HYPOFIBRINOGENEMIC MASSIVE TRANSFUSION TRAUMA PATIENTS EXPERIENCE WORSE OUTCOMES

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Background: Uncontrolled hemorrhage accounts for up to 40% of trauma-related mortality. Previous reports demonstrate that decreased fibrinogen levels during traumatic hemorrhage are associated with worse outcomes. Cryoprecipitate is used to replace fibrinogen for patients in hemorrhagic shock undergoing massive transfusion (MT), though the optimal ratio of cryoprecipitate to fresh frozen plasma (FFP), packed red blood cells (PRBC), and platelets remains undefined. The purpose of this study is to investigate the effect of admission fibrinogen level and the use of cryoprecipitate on outcomes in trauma patients undergoing MT.

Methods: A prospective practice management guideline was established to obtain fibrinogen levels on adult trauma patients undergoing MT at a level I trauma center from December 2019 to December 2021. Ten units of cryoprecipitate were administered every other round of MT. Thromboelastography (TEG) was also obtained at the initiation and completion of MT. Patient demographic, injury, transfusion, and outcome data was collected. Hypofibrinogenemic (< 200 mg/dL) patients at initiation of MT were compared to patients with a level of 200 mg/dL or greater.

Results: A total of 96 out of 130 patients met criteria and underwent MT with a median admission fibrinogen of 170.5 mg/dL. Hypofibrinogenemia was associated with elevated INR (1.26 vs 1.13, $p < 0.001$) and abnormal TEG including decreased alpha angle (68.1 vs 73.3, $p < 0.001$), increased K time (1.7 vs 1.1, $p < 0.001$), and decreased max amplitude (58 vs 66, $p < 0.001$). Patients with hypofibrinogenemia received more PRBC (10 vs 7 U, $p = 0.002$), FFP (9 vs 6 U, $p = 0.003$), and platelets (2 vs 1 U, $p = 0.004$) during MT. Hypofibrinogenemic patients demonstrated greater mortality compared to patients with normal levels (50% vs 23.5%, $p = 0.021$). Older age, decreased GCS, and elevated injury severity score (ISS) were risk factors for mortality. Increased fibrinogen was associated with lower odds of mortality ($p = 0.001$). Age, ISS, and fibrinogen level remained significantly associated with mortality in a multivariable analysis. Overall, fibrinogen in post-MT survivors showed an increase in median level compared to admission (231 vs. 177.5 mg/dL, $p < 0.001$).

Conclusion: Trauma patients undergoing MT with decreased admission fibrinogen demonstrate increased mortality. Other mortality risk factors include older age, decreased GCS, and higher ISS. Patients with increased fibrinogen levels had a lower odds of mortality in a multivariable model. Post-MT survivors demonstrated significantly higher fibrinogen levels compared to pre-MT patients. Further studies are needed to assess the optimal volume of fibrinogen replacement with cryoprecipitate during MT to improve trauma patient mortality.

Variable	Univariable			Multivariable		
	OR	95% CI	P-value	OR	95% CI	P-value
Increased fibrinogen	0.988	0.981-0.995	0.001	0.973	0.960-0.987	<0.001
Age	1.032	1.009-1.055	0.006	1.051	10.16-1.087	0.004
Sex	1.298	0.479-3.514	0.608	0.991	0.236-4.165	0.990
Admit GCS	0.875	0.806-0.949	0.001	0.930	0.834-1.038	0.197
ISS	1.054	1.018-1.090	0.003	1.084	1.027-1.145	0.004

Table 1: Univariable and multivariable logistic regression analysis to assess for risk factors associated with mortality in massive transfusion patients

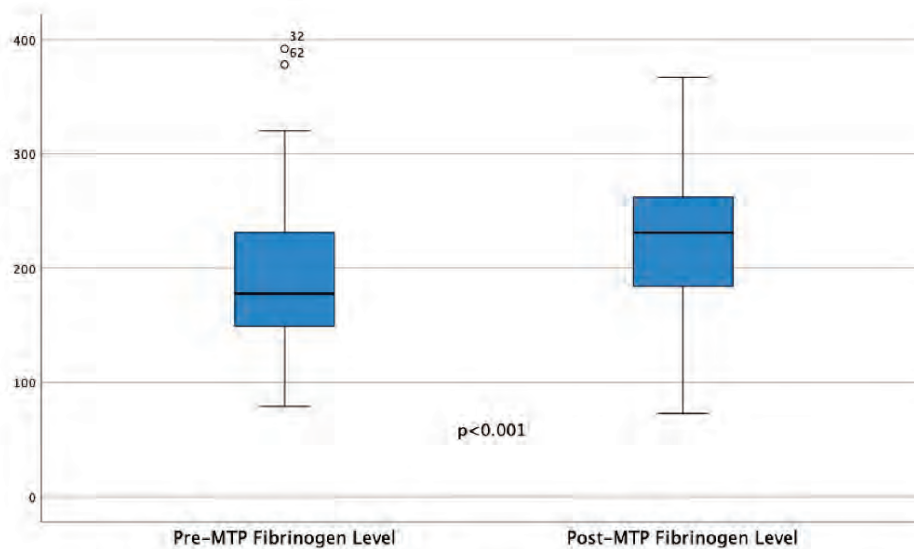


Figure 1: A comparison of fibrinogen levels before and after massive transfusion protocol

49. ANALYSIS OF BICYCLIST INJURIES AND FATALITIES IN THE UNITED STATES: THE NEED FOR EFFECTIVE & SUSTAINABLE PREVENTION POLICIES

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Background: Bicyclists are more likely to be fatally injured on a given trip compared to other common modes of transportation, with approximately 90% of fatal bicycle injuries occurring on public roads. We aim to investigate trends of bicyclist injuries and fatalities (adult and pediatric) over the last decade to highlight the need for additional prevention measures & modern safety interventions.

Methods: A retrospective descriptive epidemiologic study was performed investigating the injury and fatality rate of bicyclists from 2010-2020 using the Center for Disease Control and Prevention's Web-based Injury Statistics Query and Reporting System. National injury rates were gathered and stratified by adult and pediatric groups. Fatality rates were stratified according to (1) state the fatality occurred and (2) adult and pediatric age groups. Medical cost of fatalities and value of statistical life were also collected.

Results: Adult bicyclist fatalities totaled 9,881, whereas pediatric bicyclist fatalities totaled 935 in the 11-year period. The fatality rate was higher in adults compared to pediatric bicyclists (0.36 vs. 0.12 per population of 100,000, $p < 0.001$), but pediatric bicyclists suffered higher rates of injury (246.19 vs. 102.11 per population of 100,000, $p < 0.001$). The medical cost of fatalities for adult bicyclists was \$139.1 million compared to \$9.0 million for pediatric bicyclists. Florida had the highest fatality rate for adults and pediatric bicyclists (8.7 and 2.2 per population of 100,000).

Conclusion: Bicyclist fatality rates are significantly higher per capita for adults compared to the pediatric population. States including Florida, South Carolina, and Louisiana had the highest bicyclist fatalities per capita for both adults and children. These states should be amongst those with focused efforts to improve policies and infrastructure to better promote bicyclist safety.

Year	Adult Fatalities (N)	Pediatric Fatalities (N)	Adult Fatality Rate (N)	Pediatric Fatality Rate (N)	Adult vs Pediatric Fatality Rate Increase (%) ^a
2010	699	94	0.30	0.13	131%
2011	777	96	0.33	0.13	154%
2012	821	79	0.34	0.11	209%
2013	831	94	0.34	0.13	162%
2014	823	78	0.34	0.11	209%
2015	931	81	0.38	0.11	245%
2016	934	81	0.37	0.11	236%
2017	935	89	0.37	0.12	208%
2018	949	75	0.37	0.10	270%
2019	1010	79	0.40	0.11	264%
2020	1171	89	0.46	0.12	283%
p-value	p<0.001		p<0.001		

Table 1A. Comparison of Adult and Pediatric Fatalities and Fatality Rate (2010-2020). Fatality rate is defined as the number of fatalities per 100,000 population

a) Percentage increase of pediatric fatality rate compared to adult fatality rate

50. POOR OUTCOMES OF PATIENTS FROM DELAYED CARE AFTER GROUND LEVEL FALLS

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Background: Determine if those who suffer a ground level fall and have a delayed presentation to the ED greater than 24 hours after their injury have worse outcomes compared to those who suffer a ground level fall and present within 24 hours.

Methods: This study was a single institution, retrospective analysis of the Trauma Registry at JCMC between January 1, 2017, and December 31, 2021. Any adult aged eighteen years of age or older who presented to the JCMC ED after a ground level fall was included. Patients were divided into two groups based on their time to presentation post injury: less than 24 hours or greater than 24 hours. Age and gender were the patient demographics included in analysis. Outcome measures gathered from the registry included: hospital length of stay, Intensive Care Unit (ICU) length of stay, mechanical ventilation days, injury severity score, and mortality. A student's T-test was utilized to determine the presence of significant differences in mean age, hospital length of stay (LOS), intensive care unit (ICU) LOS, total mechanical ventilation days, and injury severity score (ISS). Chi squared testing determined if there was a relationship between overall mortality, gender, and time to presentation to the emergency department.

Results: There were 4,018 patients included in the study population. Upon analysis Female patients made up 66% of the study population. Of all patients, 200, or 5%, presented to the ED greater than 24 hours post injury. Of note, male patients were more likely to be in the delayed presentation group compared to female patients ($\chi^2(1, N=4,018) = 4.85, P=.028$). Those who presented greater than 24 hours post injury were younger in age (71 vs 74 years old, $P < 0.01$), experienced greater hospital LOS (6 vs. 5 days, $P < 0.01$), ICU LOS (5 vs. 3 days, $P < 0.01$), mechanical ventilation days (13 vs. 5 days, $P < 0.01$). Also noted was a significantly increased injury severity score (8 vs. 7, $P < 0.01$) and mortality ($\chi^2(1, N=4,018) = 4.48, P=.034$) in those who presented after 24 hours.

Conclusion: Patients who suffer a ground level fall and present to the emergency department greater than 24 hours post injury are significantly more likely to be male, younger in age, experience longer hospital LOS, ICU LOS, mechanical ventilation days, injury severity score, and overall mortality.

Table 1. Patient demographics and outcomes of those presenting to the emergency department after a ground level fall before and after 24 hours post injury.

	≥ 24 hours post injury	<24 hours post injury	
Patient Demographics			
Total # of patients	200	3818	
Gender (Male/Female)	83/117	1295/2523	$\chi^2(1, N=4,018) = 4.85$ $P = .028$
Mean Age (SD)	74 (14.9)*	71 (14.7)	$P < .01$
Patient Outcomes			
Mean ISS (SD)	8 (5.5)*	7 (4.1)	$P < .01$
Mean Hospital LOS (SD)	6 (5)*	5 (3.8)	$P < .01$
Mean ICU LOS (SD)	5 (5.7)*	3 (2.9)	$P < .01$
Mean Ventilator Days (SD)	13 (10.2)*	5 (4.8)	$P < .01$
Overall Mortality	13*	137	$\chi^2(1, N=4,018) = 4.48$ $P = .034$

* Significant at $P < .05$. Abbreviations: ISS, injury severity score; LOS, length of stay; ICU, intensive care unit.

51. OUTCOMES OF HAND-SUTURED VERSUS STAPLED BOWEL ANASTOMOSIS IN HIGH AND LOW-RISK ADULT TRAUMA AND EMERGENCY SURGERY PATIENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Bowel anastomosis can be an effective treatment modality in managing traumatic injuries to the abdomen; it has been shown to decrease mortality compared to other methods of management. This systematic review and meta-analysis aim to investigate differences in outcomes including mortality rates, ICU length-of-stay (LOS), and complications between hand-sutured and stapled bowel anastomosis in the management of adult trauma and emergency general surgery (EGS) patients presenting acutely with bowel injuries. Outcomes were also reported for high and low-risk patients as determined by their requirement for emergency surgery.

Methods: A search was conducted using Pubmed, EMBASE, and Google Scholar on March 15, 2022 for original studies that met our inclusion criteria. A total of 3,182 articles were originally identified. After removing duplicates and screening for inclusion/exclusion criteria, 10 studies were selected for this systematic review and meta-analysis. Meta analyses were performed for all groups and subgroups with at least two studies. In all analyses, significance levels were 0.05 and confidence intervals had a confidence of 95%.

Results: Among the low-risk cohort, this study demonstrated a relative risk (RR) of 12 for the stapled group as compared to the hand-sutured group [95% CI (1.57, 91.54)]. Among high-risk patients, hand-suturing was found to have a higher relative risk compared to stapled anastomosis (RR: 5.00 [3.36, 6.64]). For all other analyses, including mortality among all studies, mortality in high-risk patients, ICU-LOS in low-risk patients, ICU-LOS, and complication rates, there were no significant differences noted between the hand-sutured and stapled anastomosis groups.

Conclusion: Among low-risk trauma and EGS patients, hand-suturing was associated with a significant reduction in mortality compared to stapled anastomosis. Among high-risk trauma and EGS patients, stapled anastomosis was associated with reduced ICU-LOS as compared to hand-suturing. As a result of these findings, it is recommended that guidelines be revisited so as to consider the relative advantages and disadvantages of hand-sutured versus stapled anastomosis for high and low-risk trauma and EGS patients.

52. A NOVEL PREOPERATIVE PATIENT SURVEY PREDICTS ADVERSE PATIENT OUTCOMES – IMPLEMENTATION AND PRELIMINARY RESULTS OF THE TENNESSEE PERIOPERATIVE ASSESSMENT TOOL (TPAT)

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Background: Accurate preoperative risk stratification remains elusive. Existing tools are often missing important patient-reported and functional factors. We sought to implement a novel tool with dynamic functional data and co-morbidity variables in hopes of defining factors which predict postoperative outcomes for elective, inpatient, abdominal surgery.

Methods: We expanded a previously validated functional questionnaire to create the Tennessee Perioperative Assessment Tool (TPAT). Unique elements included change in functional status, usual and best activity tolerance, and development of new conditions. The survey was administered to all new patients seen in several surgery clinics from July 2021 – June 2022.

Results: A total of $n=1950$ patients completed the survey. Of the completed surveys 197 patients underwent an elective, inpatient, abdominal surgery and were included in the study. Several patient-reported factors were associated with poor postoperative outcomes. For example, decrease in functional activity in the previous 60 days ($n=50$; 25.4%) was strong predictor of poor postoperative outcomes including readmission (30-day: 0.0% vs. 8.8%; $p=0.034$), wound dehiscence (12.0% vs. 3.4%; $p=0.022$), blood transfusion (6.0% vs. 0.0%; $p=0.003$), sepsis (4.0% vs. 0.0%; $p=0.015$), and wound infection (18.0% vs. 6.8%; $p=0.076$).

Conclusion: In this preliminary implementation study, in patients undergoing elective, inpatient, abdominal surgery, utilization of a novel, patient-reported survey tool proactively identifies patients at risk of clinically relevant postoperative outcomes. Patient-reported decreased activity in the 60 days prior to surgeon evaluation was associated with several adverse postoperative outcomes. Additionally, this study demonstrates that the TPAT can be seamlessly integrated into the usual clinical workflow and is hypothesis generating for future interventional studies.

53. MANAGEMENT OF PENETRATING CARDIAC INJURIES WITH PERICARDIAL WINDOW, LAVAGE, AND DRAINAGE IN SELECT PATIENTS

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Background: Management of penetrating chest injuries with a positive pericardial window (PW) are presumed cardiac injuries and traditionally result in sternotomy. However, there is some evidence in the literature that select cardiac injuries with a positive PW that resolves with lavage, may be managed with pericardial window, lavage, and drainage (PWLD) and observation. The aim of this study is to describe our institutional experience with penetrating cardiac injuries, management strategies, and outcomes.

Methods: All patients with penetrating chest trauma who underwent PW and/or sternotomy over a 5-year period were identified from the trauma registry at a level 1 trauma center. Demographics, time to operation, imaging findings, and operative interventions were collected to create the database. Patients were stratified by operative intervention [PW + sternotomy vs. PWLD] and compared. Outcome measures include mortality, length of stay (LOS), ICU LOS, ventilator days, complications, and additional interventions. Multivariable logistic regression (MLR) analysis was performed to determine independent predictors of therapeutic sternotomy.

Results: Of the 146 patients who underwent PW and/or sternotomy included in the study, 126 patients underwent PW, 39 underwent sternotomy, and 10 underwent PWLD. FAST was performed in 88% of patients with 35% interpreted as positive. 23% of patients had preoperative CT imaging, of which 88% had significant findings on CT (pneumopericardium, missile fragment in myocardium, hemopericardium). Patients who underwent PW + sternotomy had a higher ISS and worse base excess compared to patients who underwent PWLD. There was no difference in demographics, LOS, ICU LOS, vent days, or mortality. In the PWLD group, one patient returned to the OR for recurrent pericardial effusion and no patients required sternotomy. Pericardial drains were removed after 2.6 days. 39 patients underwent sternotomy, of which 49% had a positive PW. Ventricular injuries were most common. MLR identified ISS as an independent predictor of therapeutic sternotomy (OR 1.160; 95% CI 1.006 – 1.338, $p=0.0416$). Interestingly, positive FAST and trajectory of wounds were not predictors of therapeutic sternotomy. In line with classic teaching, there were 7 patients with a left hemothorax and negative FAST found to have a positive PW requiring sternotomy or PWLD.

Conclusion: Penetrating cardiac injury can be managed with pericardial window, lavage, and drainage in select patients. Positive FAST, significant findings on CT imaging, and trajectory of wounds do not mandate sternotomy. A negative FAST in the setting of a hemothorax does not rule out cardiac injury.

54. PROFILE AND OUTCOMES OF PROSTATE MALIGNANCY AMONG PATIENTS YOUNGER THAN FIFTY YEARS

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Background: Prostate Cancer is the second most common malignancy in American men and is their second leading cause of cancer death. Prostate cancer generally develops in older men, with the average age of diagnosis being 66 years. Since it is rarely diagnosed in men under 40, the natural history of such early detection is not well documented in the literature. In this study, we aim to describe the disease characteristics and outcomes of patients with prostate cancer before the age of 50.

Methods: We utilized the National Cancer Database (NCDB) to conduct a retrospective analysis of patients with a primary diagnosis of prostate cancer from January 2004 to December 2018. Utilizing the cox regression model, we compared cancer-specific mortality between young patients, defined as those whose age was ≤ 50 years at diagnosis, and a control group of patients aged > 50 . The multivariate analysis includes covariates such as patients' race/ethnicity, socioeconomic status (annual median income, insurance type, and education level), Charlson comorbidity index, disease stage at presentation, and treatment modalities.

Results: There were 843,511 cases of prostate malignancy reported in the National Cancer Database between 2004 and 2018. About 6.3% of these patients were ≤ 50 years ($N=52,890$). Among the patients, 74.0% were whites, and 21.3% were Blacks. These compared to the control group of older patients, which includes 84.3% Whites and only 11.3% Blacks ($p < 0.001$). A higher proportion of younger patients presented at stage 1 of the disease (43.7% vs. 33.6% $p < 0.001$). They also had a lower median PSA score (5.9 vs. 6.7, $p < 0.001$) and higher Gleason score of < 6 (96.0% vs 93.7%, $p < 0.001$). The 15-year cancer-specific survival among the younger patients was (90.0% vs. 67.2%, $p < 0.001$). In the multivariate analysis, patients younger than 50 have overall better survival irrespective of race/ethnicity, $HR=0.52$ (95% CI 0.48-0.56, $p < 0.001$). In a sub-analysis, young Black patients with prostate cancer have better survival than older Black patients and comparable survival to young white patients with prostate cancer (see Table).

Conclusion: Young patients have better overall cancer-specific survival than their older counterparts. Black patients are overrepresented among young prostate cancer patients and may benefit from earlier screening.

	Hazard Ratio	95% Confidence Interval		p-value		
		Lower CI	Upper CI			
Black X ≤ 50 Years	Reference					
Black X > 50 Years	1.77	1.54	2.04	< 0.001*		
White X ≤ 50 Years	0.91	0.77	1.08	0.26		
White X > 50 Years	1.83	1.59	2.11	< 0.001*		
Model adjusted for preexisting comorbidity, disease stage, PSA, Gleason score and treatment modalities, *p < 0.05						

55. THE PREVALENCE AND PREDICTORS OF LONG-TERM OPIOID USE AFTER PELVIC FRACTURES

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Background: In 2017, 67.8% of drug overdose deaths in the US were related to opioid use. Opioids are effective in short-term treatment of pain; however, no evidence shows their long-term effectiveness. Many patients have their first exposure to opioids after a pelvic injury, but not much is known about persistent use afterwards. This study aims to assess the prevalence and predictors of long-term opioid use following pelvic fractures secondary to trauma. We hypothesized that inpatient opioid use was associated with long-term opioid use.

Methods: A retrospective study enrolled patients ≥ 18 years with acute pelvic fractures from 2015 to 2020. Exclusion criteria were: transfers, no opioids received, and death before discharge. Daily and total morphine milligram equivalents (MME) were calculated. Primary outcome was long-term opioid use, defined as ongoing opioid use 60-90 days after discharge (60-90OP). Secondary outcome was intermediate-term opioid use, defined as ongoing use 30-60 days after discharge (30-60OP). Pelvic fractures were classified by the Tile system. Univariable and logistic regression analyses were performed with $p < 0.05$ considered as significant.

Results: After exclusions, 277 patients remained. Median age was 43 (interquartile range, 26-64) years. 61% were males and 5% had penetrating trauma. 231 (84%) had type A fractures, while 31 (11%) and 14 (5%) had types B and C respectively. Median total inpatient opioid MME was 422 (157-1667), with a median daily MME of 69 (26-145). 169 (61%) had an average inpatient daily use of ≥ 50 MME/day. The primary outcome, 60-90OP, occurred in 16% while 30-60OP occurred in 29%. Univariable analysis found that total inpatient opioid use and daily inpatient opioid use were each significantly associated with 60-90OP (median MME, 1241 vs 371; median MMEs, 127.7 vs 59.2, respectively) and 30-60OP (median MME, 1140 vs 326; median MMEs, 111.8 vs 57.9, respectively). Similarly, the use of ≥ 50 MME/day was significantly associated with both 30-60OP and 60-90OP. Logistic regression analysis found that total inpatient MME (OR 1.000132 [CI 1.000034 -1.000231]) and pelvic fracture type (B/C vs. A), (OR 3.97 [CI 1.77-8.89]) were independent predictors of 60-90OP.

Conclusion: Total and daily inpatient opioid use were each significantly associated with 60-90OP and 30-60OP, where there is a higher likelihood of post-discharge opioid use for patients who received ≥ 50 MME/day. Identifying the prevalence and risk factors for long-term opioid use after pelvic fractures requiring opioids for pain management is vital for informing clinical decision making to prevent adverse outcomes.

56. EVALUATING THE EFFICACY OF SURGICAL CONSENT

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Background: Patient autonomy is arguably the most important of the core values of medical ethics, yet the process of obtaining surgical consent has remained one of the lesser scrutinized areas of modern surgical practice. Informed consent implies a patient's understanding of nature of the operation, indications, risks, benefits, and alternatives, as well as a rudimentary understanding of the technical nature of the procedure. Surgical consent has traditionally been obtained through verbal communication with the patient and formalized by acknowledgement in a signed legal document. This process oftentimes leaves patients unequipped with adequate knowledge about the procedure they just consented to. In the majority of cases, it is simply impossible for the non-medically trained layperson to fully understand the nuances of surgery in a practical face-to-face conversation. While some may argue a certain degree of paternalism may be inevitable, we believe there is vast room for improvement in the surgical consent process.

Methods: We chose to examine English-speaking adult patients undergoing some of our most common procedures (laparoscopic cholecystectomy, open inguinal hernia repair, and soft/soft tissue excision). We asked 71 patients to complete a free response survey on the risks, benefits, and alternatives to the operation they had just consented to undergo. The patients were administered the survey either in the outpatient clinic, or in the preoperative area immediately before being rolled back for surgery.

Results: Three patients were able to complete the survey in both settings. The majority of the patients had shockingly little insight into the risks of their respective procedures. The responses demonstrate that patients tend to lack an understanding of surgical risks in particular, especially when it comes to complex issues such as common bile duct injury after laparoscopic cholecystectomy.

Conclusion: This study highlights key deficits and potential areas of improvement in the informed consent process. Areas of future improvement will entail improved preoperative education and "ticklers" for retention to create a more standardized, rigorous process that equips patients with the knowledge needed to make an informed decision.

57. DIFFERENCES IN POST-OPERATIVE OUTCOMES AND PERIOPERATIVE RESOURCE UTILIZATION BETWEEN GENERAL SURGEONS AND PEDIATRIC SURGEONS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Both general surgeons (GS) and pediatric surgeons (PS) perform a high volume of appendectomies in pediatric patients. However, there is very little data on differential outcomes based on surgeon training. We hypothesize that GS and PS have similar outcomes for pediatric appendicitis. However, data examining this topic are primarily single institution studies; thus, we performed a systematic review and meta-analysis to compare post-operative outcomes and peri-operative resource utilization for pediatric appendectomies.

Methods: We searched PubMed to identify articles examining the association between surgeon specialization and outcomes for pediatric patients undergoing appendectomies. Study selection, data extraction, risk of bias assessment, and quality assessment were performed by two reviewers, with a third review to resolve discrepancies. Studies were excluded if no comparison between surgical specialization was performed.

Results: We identified 4799 articles, with 98.4% (4724/2799) concordance after initial review. Following resolution of discrepancies, 16 studies met inclusion criteria. Of the studies that reported each outcome, GS and PS demonstrated similar rates of readmission within 30 days (pooled RR 1.61 95% CI 0.66, 2.55) wound infections (pooled RR 1.07, 95% CI 0.55, 1.60), use of laparoscopic surgery (pooled RR 1.87, 95% CI 0.21, 3.53), post-operative complications (pooled RR 1.40, 95% CI 0.83, 1.97), use of pre-operative imaging (pooled RR 0.98, 95% CI 0.90, 1.05), and intra-abdominal abscesses (pooled RR 0.80, 95% CI 0.03, 1.58). Patients treated by GS did have a significantly higher risk of negative appendectomies (pooled RR 1.47, 95% CI 1.10, 1.84) when compared to PS.

Conclusion: This is the first meta-analysis to compare outcomes for pediatric appendectomies performed by GS compared to PS. The outcomes are similar between the two groups of surgeons, except for negative appendectomies, which are more likely to occur when performed by GS. This study is limited by existing literature comparing outcomes of series reported within single centers and may not be generalizable. However, this does highlight the importance of aggregating data for children and adolescents undergoing common general surgical procedures outside of children's hospitals to ensure high-quality care delivery.

58. CRITICAL VIEW OF SAFETY PLUS: IMPROVING THE SAFETY OF LAPAROSCOPIC CHOLECYSTECTOMY WITH INDOCYANINE GREEN DYE

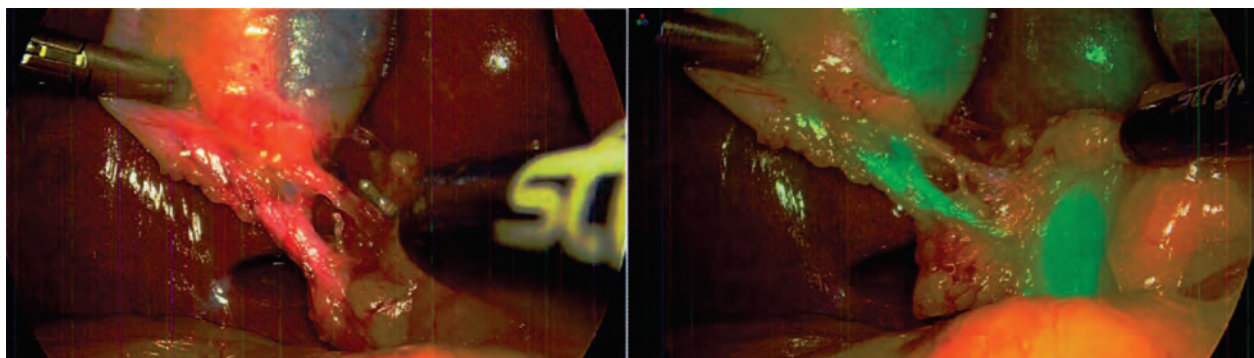
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Background: The critical view of safety is anterior and posterior visualization of the cystic duct and cystic artery with exposure of cystic plate. Indocyanine green (ICG) is used to visualize the biliary tract because of its excretion through the biliary system. Visualizing the biliary anatomy using ICG prior to clipping and incision allows for prevention of missed biliary anatomy; this could also reduce incidence of bile duct injury. We propose that the addition of ICG fluoroscopy with the critical view of safety be termed the critical view of safety plus. Operative photographs of critical view of safety and critical view of safety plus will be graded by a control surgeon to determine how critical view of safety plus scores compared to critical view of safety scores.

Methods: Fifty operative dissections were randomized, double-blinded, and assessed by a control surgeon comparing critical view of safety and critical view of safety plus using a standardized grading system. The critical view of safety is graded in white light, then the control surgeon is asked whether to complete the operation by choosing “cut”; if not describe what they would perform: isolate the cystic artery, isolate the cystic duct, or expose the cystic plate. The critical view of safety plus is assessed similarly.

Results: The decision to “cut” was chosen 29 (58%) when viewing the critical view of safety plus vs 22 (44%) with the critical view of safety ($\chi^2=65.822$, $p<0.0001$). The decision to proceed with further dissection to isolate the cystic duct viewing the critical view of safety plus was chosen 8 (16%) vs 11 (22%) with critical view of safety ($\chi^2=65.822$, $p<0.0001$). The comparison of total scores with critical view of safety plus vs critical view of safety showed an average of 4.36 vs 4.04, $p=0.0733$. The critical view of safety plus and critical view of safety individual criteria scores are: “two structures connected to the gallbladder” (average 1.54 vs 1.50, $p=0.598$), “cystic plate clearance” (average 1.42 vs 1.28, $p=0.018$), and “hepatocystic triangle clearance” (average 1.4 vs 1.26, $p=0.0334$).

Conclusion: The critical view of safety plus increases efficiency and decreases perception illusion through improved visualization of the biliary tree, allowing for identification of aberrant biliary anatomy, and the potential to reduce risk of bile duct injury.



59. THE ROLE OF PREOPERATIVE MAGNETIC RESONANCE CHOLANGIOPANCREATOGRAPHY/ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY IN THE SETTING OF MIDLY ELEVATED LIVER ENZYMES PRIOR TO CHOLECYSTECTOMY

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Background: The role of cholangiopancreatography prior to cholecystectomy is a subject of debate as elevated liver enzymes (LFTs) may or may not be a result of active choledocholithiasis. The aim of this study is to evaluate the roll of obtaining MRCP/ERCP prior to proceeding with cholecystectomy in patients presenting with mildly elevated LFTs, as defined as total bilirubin of 2-4 mg/dL ($< 5\times$ the upper limit of normal).

Methods: The HCA Healthcare southeast division database was retrospectively queried for patients ages 18-80 undergoing inpatient cholecystectomy with abnormally elevated total bilirubin during years 2014-2021. Patients with a bilirubin $> 4\text{mg/dL}$ at any point during admission were excluded. Patient encounters were then queried for performance of MRCP/ERCP. Presence of choledocholithiasis was confirmed via analysis of ERCP reports for presence of choledocholithiasis and stone extraction. A multivariate logistic regression was used with additive and interaction models.

Results: A total of 4,432 patient encounters were included. In the additive model, both ERCP and MRCP were predictive of presence of choledocholithiasis with Odds Ratios (OR) of 3.23 and 1.66 ($p < 0.0001$), respectively. Mildly elevated total bilirubin was not found to increase odds of choledocholithiasis presence in either the additive model OR 1.2 ($p=0.76$) or the interaction model OR 1.18 ($p=0.2$) (Table1).

Conclusion: Mildly elevated bilirubin levels are not a sufficient indication for stone presence when accounting for confirmatory tests like MRCP/ERCP. Routine cholangiopancreatography prior to planned cholecystectomy is not indicated in patients presenting with mildly elevated bilirubin levels.

Predictor	Odds Ratio (presence of choledocholithiasis)	95% Confidence Interval on Odds Ratio	<i>p</i>
Additive Model			
ERCP	3.226	[2.527, 4.118]	<0.0001
MRCP	1.614	[1.293, 2.009]	<0.0001
Bilirubin 2-4 mg/dL	1.221	[0.977, 1.518]	0.076
Interaction Model			
ERCP	1.627	[1.301, 2.029]	<0.0001
MRCP	3.059	[2.243, 4.164]	<0.0001
Bilirubin 2-4 mg/dL	1.154	[0.911, 1.514]	0.204

Table 1 Odds Ratio of choledocholithiasis presence based on predictors

60. ALL BLOOD IS THE SAME? SURVIVAL BENEFITS OF WHOLE BLOOD COMPARED TO COMPONENT THERAPY ARE OBSERVED IN COMMUNITY TRAUMA CARE

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Background: Whole blood (WB) for trauma resuscitation in civilian populations has become commonplace. The utilization of WB in community trauma centers has not been reported. We hypothesize that WB based resuscitation compared to component only resuscitation (CRe) would demonstrate a survival benefit.

Methods: A retrospective review of consecutive trauma patients admitted to a community trauma center who received WB or CRe as part of their massive transfusion resuscitation was completed for years 2017-2021. During this period our center incorporated 2 units of WB immediately available for all trauma activations starting in 2019. Patients in the WB group received at least 1 unit of WB and CRe received no WB. Univariate and multivariate analysis were completed.

Results: 576 patients received blood products as part of their resuscitation, 201 in WB and 375 in CRe. Both groups were equally matched with respect to ISS (24.4 vs 25.6), AIS (including head 3 vs 4, chest 3 vs 3, abdomen 3 vs 4 and extremity 3 vs 3), admission physiology (HR 100 vs 100 and SBP 75 vs 81) for WB vs CRe respectively. ABC scores were similar 1.19 vs 1.07 and favored WB but was not significant. No differences were observed in length of stay (LOS), ICU LOS or ventilator days. Odd ratios calculated for survival at discharge (Table 1).

Conclusion: Receiving whole blood during resuscitation conferred a clear survival benefit to discharge. WB should be incorporated into all resuscitation protocols for exsanguinating trauma patients and preferred over component therapy.

Survival (Discharge Status)- Whole Blood	Odds ratio (95 CI)	P-value
WB Group	1.49 (1.02 , 2.17)	0.0371* Wald Test
Age	0.98 ((0.97, 0.996)	0.0083
Gender	0.89 (0.59, 1.35)	0.5943 Wald Test
ISS	0.94 (0.92, 0.95)	<0.0001 Wald Test
Scene SBP	1.03 (1.02, 1.03)	<0.0001* Wald Test

61. COMPARATIVE ANALYSIS OF NSQIP NATIONAL AND INSTITUTIONAL OUTCOMES FOR ROBOTIC GASTRECTOMY: THE FUTURE OF GASTRIC RESECTION

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Background: The novel robotic approach has a vast application with a multiplicity of benefits as opposed to the traditional 'open' approach. The efficacy of robotic gastrectomy has yet to be clearly defined. The aim of this study is to compare patient outcomes following robotic gastrectomy at our institution to the national and patient-specific predicted outcomes provided by the American College of Surgeons (ACS) National Surgical Quality Improvement Program (NSQIP).

Methods: We prospectively studied 73 patients who underwent robotic gastrectomy. ACS NSQIP predicted and national outcomes were compared against our actual outcomes utilizing Student's t-test and chi-square analysis, where applicable. Data are presented as median(mean $\pm$ SD).

Results: Patients were 65(66 $\pm$ 10.7) years-old with a BMI of 26(28 $\pm$ 6.5) kg/m². 35 patients had gastric adenocarcinoma and 22 had a gastrointestinal stromal tumor (GIST). Operative duration was 245(250 $\pm$ 114.7) minutes, estimated blood loss was 50(83 $\pm$ 91.6) mL, and there were no conversions to 'open'. 1% of patients experienced surgical site infections compared to the predicted NSQIP rate at 10% (p=0.04). Actual patient length of stay was 5(6 $\pm$ 4.2) days vs. the predicted value generated by NSQIP at 8(8 $\pm$ 3.2) days (p=0.001). Three patients died during their postoperative hospital course. The total cost was \$21,041(24,237 $\pm$ 22,061). 1-year, 3-year, and 5-year estimated survival for patients with gastric adenocarcinoma was 76%, 63%, and 63%, respectively. 5-year survival for patients with GIST was 81%.

Conclusion: Robotic gastrectomy undertaken at our facility yields salutary patient outcomes and optimal survival for varying gastric diseases and disorders. Our patients experienced significantly shorter hospital stays and reduced complications in comparison to NSQIP national data. This leads us to believe that gastrectomy undertaken robotically is the future of gastric resection.

Perioperative Variables	Total
Number of Patients	73
Age (years)	65(66±10.7)
Sex (M/W)	30/43
BMI (kg/m ²)	26 (28±6.5)
ASA	3(3±0.5)
Intraoperative Variables	
Operative Duration (min)	245(250±114.7)
Estimated Blood Loss (mL)	50(83±91.6)
Conversions to 'Open' (n)	0
Lymph Nodes Examined (n)	12(14±14.5)
Lymph Nodes Positive (n)	0(3±4.5)
Operative Procedure	Total Gastrectomy - 23(32%) Partial Gastrectomy - 50(68%)
Pathology	Gastric Adenocarcinoma (35) GIST (22) Lipoma (3) NET (2) Gastritis with obstruction and/or Recurrent Ulceration (10) Gastric Diverticulum (1)
Tumor Size (cm)	4(5±4.2)
Postoperative Variables	
Experienced Pulmonary Complications (%)	6(8%)
Clavien-Dindo Score (≥III)	III (2), IV (3), V (2)
Underwent Adjuvant Therapy (%)	29(40%)
In-Hospital Mortality (%)	3(4%)
Length of Stay (days)	5(6±4.2)
Readmissions within 30 days (%)	3(4%)
Cost	
Total Cost	\$21,042(24,237±22,061.17)
Variable Cost	\$12,153(14,032±11,685.91)
Fixed Direct Cost	\$1,070(1,346 ±1,344.38)
Fixed Indirect Cost	\$6,088(7,439±8,170.94)
Hospital Reimbursements Received	\$11,814(20,075±24,162.45)
Profit/Loss	\$-6,941(-3,271±24,437.82)

62. ACUTE KIDNEY INJURY IN HYPOTENSIVE TRAUMA PATIENTS FOLLOWING RESUSCITATIVE ENDOVASCULAR BALLOON OCCLUSION OF THE AORTA PLACEMENT

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Background: Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) is an adjunct tool to achieve hemostasis in trauma patients with non-compressible torso hemorrhage. The development of the partial REBOA allows for distal perfusion of organs while maintaining occlusion of the aorta. The primary aim of this study was to compare rates of acute kidney injury (AKI) in trauma patients who had placement of either a pREBOA or ER-REBOA.

Methods: A retrospective chart review of adult trauma patients who underwent REBOA placement between September 2017 to February 2022 was performed. Baseline demographics, information of REBOA placement, and post-procedure complications including AKI, amputations, and mortality were recorded. Univariate analyses were performed. with $p < 0.05$ considered to be significant.

Results: A total of 68 patients met study inclusion criteria with 53 patients (77.9%) having an ER REBOA. 6.7% of patients treated with pREBOA had a resulting AKI, while 40% of patients treated with ER-REBOA had a resulting AKI, and this difference was significant ($p < 0.05$). The rates of rhabdomyolysis, amputations, and mortality were not significantly different between the two groups.

Conclusion: The results from this case series suggests that patients treated with pREBOA have a significantly lower chance of developing an AKI compared to ER-REBOA. There were no significant differences in rates of mortality, rhabdomyolysis, and amputations. Future prospective studies are needed to further characterize the indications and optimal use for pREBOA.

	pREBOA n= 15	ER REBOA n= 53	P value
Demographics			
Age, avg (SD)	38 (13.8)	44.7 (16.1)	0.1477
Male Gender, n (%)	11 (73.3%)	36 (67.9%)	0.6889
Injury Mechanism			
Penetrating Mech, n (%)	1 (6.7%)	9 (17.0%)	0.3193
ISS, avg (SD)	24.55 (12.9)	28.2 (16.2)	0.4253
Complications			
AKI, n (%)	1 (6.7%)	18 (40.0%)	0.0375
Amputations, n (%)	1 (6.7%)	2 (3.8%)	0.6300
Rhabdomyolysis, n (%)	0 (0.0%)	9 (17.0%)	-
Outcomes			
Died, n (%)	4 (26.7%)	14 (26.4%)	0.9844

63. PATHOLOGIC TUMOR SIZE VERSUS MAMMOGRAPHY, SONOGRAPHY AND MRI IN BREAST CANCER BASED ON PATHOLOGIC SUBTYPES

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Background: The standard of care for imaging of breast pathology has historically been mammography and sonography. MRI is a modern addition and adjunct in the assessment of breast disease. Some studies have shown that MRI more closely predicts tumor size while others have shown ultrasound to be more accurate than mammography, MRI or physical exam. We looked to examine the differences in imaging modalities and their ability to predict the size in relation to the pathologic size after excision with focus on pathologic subtypes.

Methods: We analyzed patient records across a 4-year period from 2017-2021 who were treated surgically for breast cancer at our facility. We excluded patients that underwent neoadjuvant chemotherapy. We then used a retrospective chart review to identify the imaging each patient received and collected the measurements that were recorded of the tumors by the radiologist for available mammography, ultrasound and MRI; pathology report measurements of the final specimens were used to compare. We subdivided the results by pathologic subtypes including invasive ductal carcinoma (IDC), invasive lobular carcinoma (ILC) and ductal carcinoma in situ (DCIS).

Results: 658 total patients met criteria for analysis. 323 had available mammography, 393 had available US and 231 had available MRI. Mammography overestimated tumor size by 0.67 mm ($p = 0.463$) while US underestimated tumor size by 1.45 mm ($p < 0.05$) and MRI overestimated tumor size by 3.06 mm ($p < 0.05$). When broken down, mammography overestimated specimens with DCIS by 1.93 mm ($p=0.15$), US underestimated by 0.56 (0.55) and MRI overestimated by 5.77 mm ($p < 0.01$). Mammography overestimated specimens of IDC mammography by 0.38 mm ($p=0.77$) while US underestimated by 1.22 mm ($p=0.18$) and MRI overestimated by 2.22 mm (0.16). With specimens of ILC all 3 imaging modalities underestimated tumor size.

Conclusion: Mammography and MRI consistently overestimated tumor size with the exception of ILC while US underestimated tumor size on all pathologic subtypes. MRI significantly overestimated tumor size in DCIS by 5.77 mm. All three imaging modalities were accurate in measurement of IDC tumors with no statistically significant difference in tumor size and pathology. All 3 imaging modalities underestimated tumor size in ILC, although only US significantly underestimated by 7.64 mm. It is important to understand the limitations of breast imaging when making surgical decisions. Mammography was the most accurate imaging modality for all pathologic subtypes and never had a statistically significant difference from actual tumor size.

64. CHANGING THE PLAYING FIELD: A PREHOSPITAL BLOOD PRODUCT PILOT PROJECT IN RURAL NORTH GEORGIA

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Background: In Georgia, the paramedic's scope of practice prohibits the initiation of blood products. Due to the rural landscape in Georgia, with prolonged transport times, one region's Regional Trauma Advisory Committee (RTAC) advocated to expand the scope of practice for Georgia's paramedics, to allow them to initiate life-saving blood products in the prehospital environment in hopes of improving outcomes in bleeding patients. The pilot project effort was to illustrate the safety of paramedics initiating blood products in the field and to determine the repeatability of the project for other services. This study evaluated the safety and feasibility of allowing paramedics in the prehospital environment to initiate blood products for hemorrhaging patients utilizing a regionally established prehospital blood pilot program.

Methods: Approval was obtained from the state medical director's group and the Office of EMS and Trauma. The project team addressed product selection, equipment needs, prehospital service selection, educational requirements, policies and procedures, monitoring, and performance improvement. Four EMS services were identified to participate. Liquid plasma was selected due to cost and availability. Equipment was then secured for blood storage and temperature monitoring to ensure the hospital's blood bank could maintain standards for exchange. A transfusion guideline was created, a detailed administrative policy was developed, and a thorough education plan, including didactic and hands-on testing, was developed. A well-coordinated exchange process with the trauma center's blood bank was also instituted to minimize waste and reduce costs

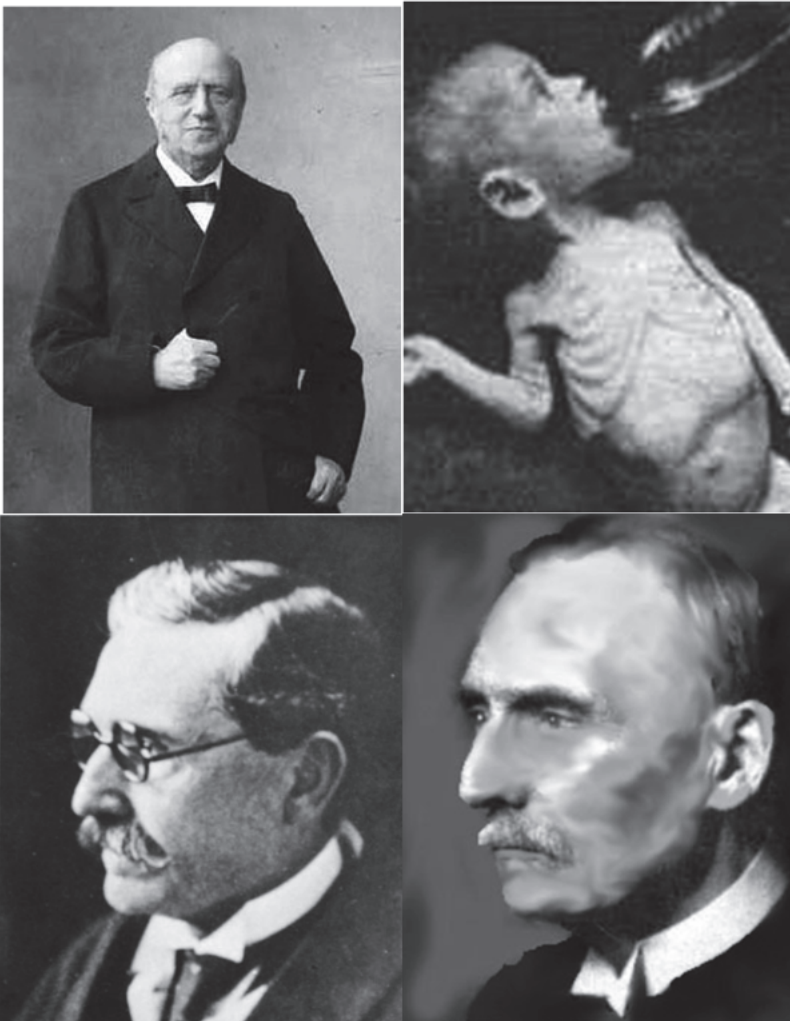
Results: The pilot project began in the spring of 2020 and as of the end of August 2022, there have been 84 field initiations and no adverse effects, demonstrating the safety of paramedics to initiate blood products in the field.

Conclusion: A post licensure skill for paramedics is now available in Georgia for the initiation of blood products. The repeatability of a similar project depends on the resources available, the stakeholder commitment, and the partnerships across disciplines.

65. "THE MOST SATISFACTORY PROCEDURE IN THE FIELD OF PEDIATRIC SURGERY" THE HISTORY OF SURGICAL TREATMENT OF HYPERTROPHIC PYLORIC STENOSIS

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Background: In this historical retrospective, we review the history of hypertrophic pyloric stenosis from its earliest descriptions in 1641 by Fabricus Hidanus, through the Victorian era of medical treatments via gastric lavage and anticholinergics to reduce pyloric spasm. Harald Hirschprung described two cases in 1887, and in 1901 proposed a surgical cure for the disease. Pierre Fredet was one of the first to perform a durable, consistent surgical approach to pyloroplasty in 1907 using an extramucosal technique. This was followed shortly by Conrad Ramstedt in 1910 who performed a full-thickness Hienke-Mikulicz repair. We will also touch upon the "Big 3" pyloroplasties (Jaboulay, Finney, and Hienke-Mikulicz) and their eponymous surgeons.



66. ANALYSIS OF NEED FOR INTERVENTION FOLLOWING LOW-GRADE TRAUMATIC SPLEEN INJURY

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Background: This study aimed to describe the interventions required for blunt, low-grade splenic injuries required during hospitalization.

Methods: We conducted a retrospective descriptive analysis of patients admitted to a level I trauma center with AAST grade 1 (G1) and 2 (G2) splenic injuries and low injury burden (ISS < 15) between January 2017 and December 2019 using the National Trauma Registry System (TRACS). Demographic information was collected, and the electronic medical record was reviewed for clinical details. The primary outcome was any intervention (splenectomy, splenic artery embolization, or blood transfusion). Secondary outcomes included time to intervention and hospital length of stay.

Results: One hundred and seven patients met inclusion criteria, 61 (57.0%) had G1 injuries and 46 (43.0%) had G2 injuries. Median ISS was 12.0 for G1 and 9.0 for G2. Fifty-five (90.16%) of G1 and 39 (84.78%) of G2 required no intervention.

Four (4.56%) G1 patients required a median of 2 blood products while 6 (13.04%) of G2 patients required a median of 3.0 blood products. Median time to transfusion for G1 and G2 injuries were 3.19 and 9.84 hours, respectively. Of the 10 patients who received blood products, 4 (40%) had significant bleeding from other injuries, 4 (40%) received plasma only for warfarin reversal, and the remaining 2 (20%) had significant medical comorbidities.

One patient with a G1 injury and one patient with G2 injuries required splenic artery embolization with median time to intervention of 8.96 days and 17.52 hours, respectively. Notably, the one G1 patient who underwent splenic artery embolization was discharged in stable condition 2 days post-injury and then represented 8 days post-injury with new abdominal pain, while the G2 patient presented with a concurrent NSTEMI, hemoperitoneum, but no active extravasation on imaging. One patient with G1 injury and no patients with G2 injury required splenectomy. Concomitant hollow viscous injury was the primary surgical indication for the patient that underwent splenectomy.

Conclusion: Low-grade blunt splenic trauma has a low rate of intervention, typically within the first 12 hours of presentation. These results suggest that outpatient management with return precautions may be appropriate for select patients with blunt, low-grade splenic trauma and no comorbidities after a short interval of observation.

	Grade 1 (N= 61)	Grade 2 (N= 46)	Total (N=107)
No intervention	55 (90.2%)	39 (84.8%)	94 (87.9%)
Received blood products	4 (4.6%)	6 (13.0%)	10 (9.4%)
Number of products (median)	2	3	2.5
Time to intervention (median)*	3.19 hours	9.84 hours	7.43 hours
Requiring products on anticoagulation	2 (50.0%)	4 (66.7%)	6 (60.0%)
Splenic artery embolization	1 (1.7%)	1 (2.2%)	2 (1.9%)
Time to intervention	8.96 days	17.5 hours	
Splenectomy	1 (1.6%)	0 (0.0%)	1 (0.9%)
Time to intervention (median)	4.55 hours	N/A	4.55 hours
n requiring other abdominal surgery	1	N/A	1

Figure 2: Interventions required for low grade splenic injuries

*Median time to intervention for blood products excluding patients on anticoagulation was 4 hours

67. OUTCOMES OF PROTOCOL-DRIVEN VENOUS THROMBOEMBOLIC CHEMO-PROPHYLAXIS IN TRAUMA PATIENTS: A TRAUMA QUALITY IMPROVEMENT PROJECT (TQIP) ANALYSIS

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Background: Low molecular weight heparin (LMWH) is the standard for venous thromboembolic (VTE) chemo-prophylaxis in trauma patients; however, inconsistencies in the use of LMWH exist. The objective of this study was to assess VTE outcomes in response to a chemo-prophylaxis protocol guided by patient physiology (e.g. creatinine clearance) and comorbidities.

Methods: For Spring 2019 to Fall 2021, ACS TQIP Benchmark Reports at a level I trauma center using a patient physiology and comorbidity directed VTE chemo-prophylaxis protocol were analyzed. Patient demographics, VTE rates and pharmacologic VTE prophylaxis type were collected for “All Patients” and “Elderly” (TQIP: age $\geq$ 55 years) cohorts.

Results: Over the study period, data was collected and analyzed for 1,919,183 “All Hospitals” (AH) and 5843 patients single institution (SI) (median ISS, AH = 14 vs. SI =13; p = NS) using the physiologic and cormordity guided VTE chemo-prophylaxis protocol. Elderly subgroup had 701965 (AH) and 2939 (SI) patients. Use of non-LMWH chemo-prophylaxis was significantly higher at SI: All patients = 62.6% SI vs. 22.1% (p < 0.01); Elderly = 68.8% SI vs. 28.1% AH (p < 0.01). VTE, DVT, and PE rates for All Patients and Elderly subgroup were significantly reduced at SI except Elderly PE.

Conclusion: Protocol driven VTE chemo-prophylaxis was associated with significantly lower LMWH use accompanied by significant reductions in VTE and DVT rates and no difference in elderly PE. These results imply that adherence to protocolized chemo-prphylaxis, rather than strict adherence to LMWH, reduces VTE events in trauma patients. These results warrant further investigation to elucidate best practice.

Table I. Comparison of VTE, DVT, PE rates for “All Patients” and “Elderly” Cohorts.

	AH	SI	p
ALL VTE	32908 (1.71%)	59 (1.03%)	<0.01
ALL DVT	21713 (1.13%)	31 (0.054%)	<0.01
ALL PE	11195 (0.58%)	28 (0.48%)	<0.01
Elderly VTE	9325 (1.32%)	21 (0.72%)	<0.01
Elderly DVT	6291(0.90%)	10 (0.30%)	<0.01
Elderly PE	3034 (0.43%)	11(0.37%)	0.633

68. NATIONAL CANCER DATABASE SHOWS AA BREAST CANCER PATIENTS HAVE PROPORTIONATELY HIGHER RECURRENCE SCORES AFTER TAILORX RECLASSIFICATION VS CA PATIENTS: RACIAL CONSIDERATIONS IN RS INTERPRETATION

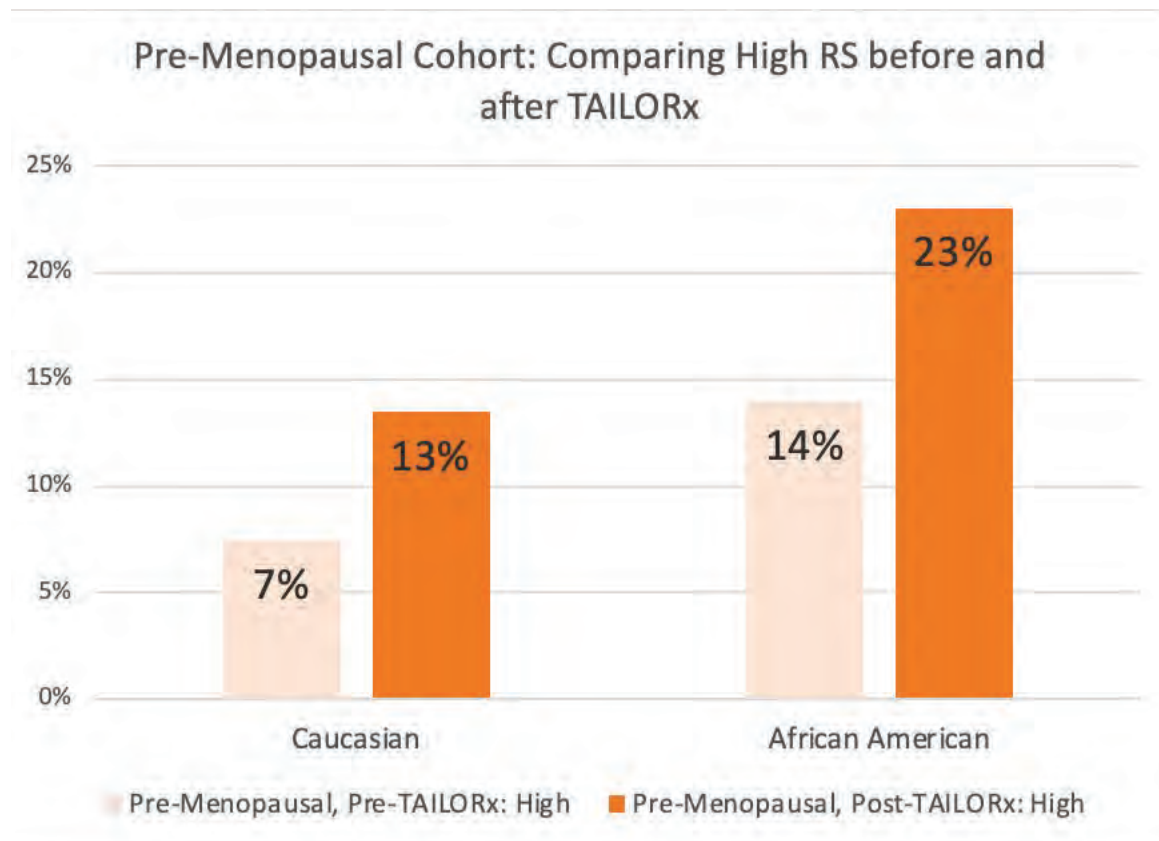
C Wasserman, K Gogineni, L Postlewait, P Subhedar
Emory University

Background: The recurrence score (RS) is used in early stage, hormone positive breast cancers (BC), to predict the benefit of adjuvant chemotherapy. The original RS divided patients into three risk categories that determined clinical decisions. The RS was developed using a primarily Caucasian population with little racial variability. The TAILORx study further stratified the RS into either “low or high risk” categories and allowed ~60% of women with early-stage breast cancer to omit chemotherapy. The primary aim of this study was to determine if there was a difference in risk re-classification pre-TAILORx and post-TAILORx between African American (AA) and Caucasian (CA) patients. A secondary aim was to determine if AA and CA women were equally able to omit chemotherapy.

Methods: AA and CA patients with BC who underwent RS testing in the NCDB from 2004 to 2014 were included. RS was defined as: “pre-TAILORx” scores, classified into low (0-17), intermediate (18-30), and high risk (> 30) groups; and “post-TAILORx” scores, classified into low (0-25) and high risk (> 25) groups.

Results: 80,532 women were included; 87.7% were CA and 7.3% were AA; 87.5% (n = 61,815) CA and 82.6% (n = 4,824) AA were reclassified with low RS using post-TAILORx scores. 12.5% (n = 8,820) CA and 17.4% (n = 1,015) AA patients were reclassified with a high RS using post-TAILORx scores. In the pre-menopausal cohort, the percentage of CA patients that were reclassified as having low RS went from 60% to 74%, while AA patients went from 49% to 63%. In the pre-menopausal high RS cohort, the percentage of CA patients reclassified as having a high RS increased from 7% to 13%, while AA increased from 14% to 23%. Post-menopausal patients with a low RS increased from 60% to 86% in CA patients and from 56% to 81% in AA patients. Post-menopausal patients with high RS increased from 8% to 14% in CA patients and from 11% to 19% in AA patients.

Conclusion: Reclassification after TAILORx has most patients with early stage, hormone positive breast cancers omit chemotherapy. However, a proportionately lower number of AA patients can safely omit chemotherapy when compared to Caucasian patients with similar tumor characteristics and clinical risk after reclassification of the RS using new TAILORx scoring, especially in the pre-menopausal AA cohort. Given that the RS was developed in a homogenous CA population, validity in other racial/ethnic groups may not be as robust and may impact treatment decisions.



69. UTILITY OF ABBREVIATED SMALL BOWEL FOLLOW THROUGH IN THE MANAGEMENT OF SMALL BOWEL OBSTRUCTION

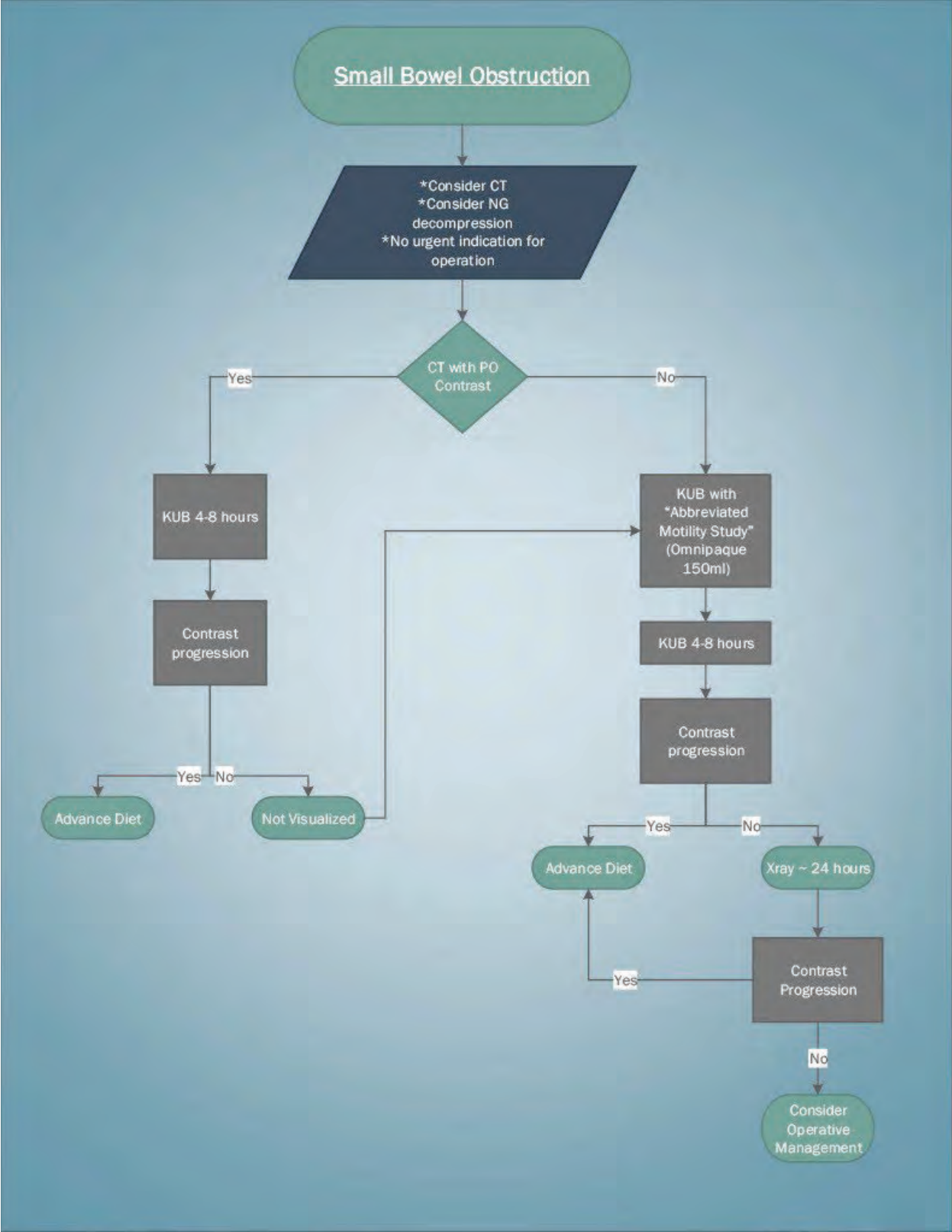
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Background: Small bowel obstruction (SBO) is the most common surgical disease of the small bowel and is the direct cause of approximately 12-15% of surgical admissions with 300,000 operations performed annually. In-hospital management of SBO results in healthcare costs exceeding 2 billion dollars per year. Despite the fact that SBO is a common surgical problem with a 60-70% nonoperative success rate, there are no strict guidelines or overwhelming consensus for the conservative management of small bowel obstruction. The goal of this study was to evaluate the utility of abbreviated small bowel follow through (SBFT) with water soluble contrast in the management of small bowel obstruction specifically in regards to decreasing hospital length of stay.

Methods: A retrospective chart review was performed on data sets obtained before and after the implementation of a standardized protocol for water soluble contrast administration for a trial of non-operative management. The first data set included 111 patients with SBO admitted to our facility from 6/2019-9/2019 prior to implementation of the suggested protocol. The post-implementation data set included 158 patients with SBO admitted to our facility from 3/2021-10/2021. The primary outcome was in-hospital length of stay. Standard statistical analyses were performed and pre-specified.

Results: For patients that were managed strictly nonoperatively, the mean length of stay (LOS) was 8.3 days prior to protocol implementation and 4.8 days following protocol implementation (p-value <.0001). Comparatively, patients admitted after protocol implementation were more likely to have a CT scan with PO contrast on admission (98.1% vs 90.1%; p-value <.005), to undergo NG tube decompression (84.7% vs 68.5%; p-value <.005), and to be administered water soluble contrast with abbreviated SBFT (75.3% vs 37.8%; p-value <.0001).

Conclusion: Implementation of a standardized protocol utilizing abbreviated SBFT with water soluble contrast for the management of SBO at our institution resulted in a significant decrease in average length of stay for patients definitively managed in a nonoperative fashion.



70. THE EFFECT OF THE ENHANCED RECOVERY AFTER SURGERY PROTOCOL ON PEDIATRIC SURGICAL PATIENT OUTCOME AT THE UNIVERSITY OF NORTH CAROLINA CHILDREN'S HOSPITAL

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Background: Enhanced recovery after surgery (ERAS) protocols have been associated with improved clinical outcomes and fewer postoperative complications in adult patients, particularly in colorectal surgery. There is a paucity of data on how these protocols influence outcomes for pediatric patients. Our aim is to describe the effect of ERAS protocols, compared to conventional care, on pediatric colorectal surgery patients.

Methods: We performed a single institution, retrospective cohort study (2014-2020) on pediatric (≤ 18 years old) colorectal surgery patients pre- and post-implementation of an ERAS protocol. Bivariate analysis and logistic regression were used to assess the effect of ERAS implementation on return visits to the ER, reoperation, and readmission within 30 days.

Results: There were 194 patients included in this study, with 54 in the pre-implementation group and 140 in the post-implementation group. There was no significant difference in the age, BMI, primary diagnosis, or use of laparoscopic technique between the two cohorts. Patients in the ERAS group were more likely to receive a nerve block (19.3% vs. 7.4%, $p=0.04$) and fewer perioperative opioids (0.7 vs 2.0 MME, $p<0.001$). Patients in the control group received more fluids postoperatively (5487.8mL vs. 2250.3mL, $p<0.001$), had a foley longer (1.9 vs 1.0 days, $p<0.001$), and longer postoperative length of stay (5.87 days vs. 4.15 days, $p<0.001$). On bivariate analysis, the ERAS cohort had similar returns to the ER ($n=17$ (12.1%) vs $n=10$ (18.5%), $p=0.25$), readmissions ($n=24$ (17.1%) vs $n=12$ (22.2%), $p=0.42$), and reoperations ($n=5$ (3.6%) vs $n=0$ (0%), $p=0.18$), and any complication ($n=36$ (25.7%) vs $n=15$ (27.8%), $p=0.77$) within 30 days compared to the pre-implementation cohort. After controlling for pertinent covariates, the ERAS cohort experienced higher odds of any complication (OR 1.16, 95% CI 0.40, 3.33, $p=0.004$) and reoperation within 30 days (OR 130.3, 95% CI 3.88, 4379.02, $p\text{-value}<0.001$). There was no difference in the odds of readmission (OR 0.90, 95% CI 0.29, 2.79, $p=0.90$) or return visits to the ER within 30 days (OR 0.57, 95% CI 0.15, 2.10, $p\text{-value}=0.3435$) between the cohorts (Table 1).

Conclusion: In this cohort, there was no difference in the odds of readmission or return to the ER within 30-days of surgery. However, although infrequent, there were higher odds of returns to the OR within 30-days after implementation of an ERAS pathway. Future studies are needed to ensure the safety of these pathways in children, specifically analyzing how adherence to individual components of ERAS influences outcomes.

Table 1. Multivariate logistic regression outcomes for 30-day post-operative complications after the implementation of an enhanced recovery pathway (ERP).

	Crude		Adjusted	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Any complication within 30 days ^a	0.90 (0.44, 1.82)	0.77	1.16 (0.40, 3.33)	0.004*
Return to ER within 30 days ^b	0.61 (0.26, 1.43)	0.26	0.57 (0.15, 2.10)	0.34
Readmission within 30 days ^c	0.72 (0.33, 1.58)	0.42	0.90 (0.29, 2.79)	0.90
Reoperation within 30 days ^d	3.59 (0.80, 16.11)	0.054	130.39 (3.88, 4379.02)	<0.001*

Abbreviations: ER, Emergency Room; OR, odds ratio; CI, confidence interval; ASA, American Society of Anesthesiologists; LOS, length of stay

^a Adjusted for sex, ASA classification, preoperative opioid use, preoperative Tylenol IV, preoperative pregabalin, received block, total intraoperative opioids, total intraoperative IVF, postoperative Celecoxib, postoperative Alvimopan, total perioperative opioids, total postoperative IVF, time with foley in days, postoperative LOS

^b Adjusted for age, sex, preoperative Tylenol IV, total intraoperative opioids, total intraoperative IVF, postoperative Tylenol IV, postoperative pregabalin, postoperative Celecoxib, postoperative Alvimopan, total floor opioids, total postoperative IVF, time with foley in days, postoperative LOS

^c Adjusted for age, sex, ASA classification, laparoscopic surgery, preoperative opioid use, preoperative Tylenol IV, preoperative pregabalin, preoperative Celecoxib, total intraoperative opioids, total intraoperative IVF, postoperative Tylenol IV, postoperative pregabalin, postoperative Celecoxib, postoperative Alvimopan, total perioperative opioids, total floor opioids, total postoperative IVF, time with foley in days

^d Adjusted for preoperative Tylenol IV, preoperative Celecoxib, postoperative Alvimopan, time with foley in days, and postoperative LOS.

71. ACCESSIBILITY TO IMMEDIATELY AVAILABLE BALANCED BLOOD PRODUCTS IN A RURAL STATE TRAUMA SYSTEM

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Background: The care of exsanguinating trauma patients has changed over the last decade-and-a-half following the description and rapid adoption of damage control resuscitation. Immediately available balanced blood products (IABB) or whole blood (WB) have replaced large volume crystalloid and red blood cell (RBC)-based resuscitation. Most trauma systems (TS), including ours, require access to RBCs, but not IABB. We aimed to identify gaps in access to IABB across our state TS.

Methods: All trauma centers (TC) were surveyed. IABB was defined as 1) at least 2 units (U) of thawed or never frozen plasma (ToNFP), 4 U RBC, 2 U fresh frozen plasma (FFP), and 1 U platelet or 2) at least 2 U of WB. The percentage of the state population within specific travel time thresholds was calculated using service areas in ArcGIS Pro and US Census data.

Results: All TC (n=64) in our TS completed the survey. All Level 1-3 TC (n=29) have RBC, FFP, and platelets, but only half of the Level 2 and 16% of the Level 3 TC have ToNFP. A third of Level 4 TC have only RBC, while only 1 has platelets, and none have ToNFP. Within 30 min drive time, 85% of the population has access to RBC, 81% to FFP, and 65% to platelets, but only a third are within 30 min of IABB. Almost everyone in the state is within an hour's drive of RBC (100%) and FFP (99%), but only 61% are that drive time from IABB. Because of a lack of ToNFP, 15% of the population do not have access to IABB within a 90 min drive. The median drive time to any TC in the TS is 19 min, while it is 59 min to a TC with IABB. Only one TC (Level 3) maintains WB.

Conclusion: Only 17% of the TC in our state TS can provide IABB. Increasing the availability of WB would reduce the time to immediately available balanced blood products.

72. THE PRESENCE OF A CRITICAL CARE FELLOW IN THE SICU LOWERS CENTRAL LINE AND FOLEY LINE DAYS AS WELL AS CAUTI RATES

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Background: Catheter associated urinary tract infections (CAUTI) and central line associated blood stream infections (CLABSI) are preventable healthcare-associated infections associated with significant morbidity and mortality as well as increased health care costs. Optimizing methods to track and prevent these infections is an ongoing area of intense research. While great success in preventing infections has been obtained with simple evidence based approaches such as hand hygiene, use of full barrier precautions, and skin antisepsis, more research is needed. Our research investigated whether the presence of a critical care fellow had an effect on CLABSI and CAUTI rates as well as line day and standardized infection ratio (SIR).

Methods: We performed a retrospective study that counted number of line days, absolute infections and standardized infection ration (SIR) for both CLABSI and CAUTI in the SICU over a given time period of one year both prior to and after the presence of a critical care fellow.

Results: For CLABSI, line days in the one year period prior to the presence of a critical care fellow (CCF) was found to be 2687 compared to 1883 in one year period when fellow was present. Absolute infection rate was found to 3 both before and after presence of CCF. SIR was found to be .989 compared to 1.4 after presence of CCF. For CAUTI, line days prior to CCF presence was 4169 compared to 2997. Absolute infection rate was 9 compared to 5 after presence of CCF. SIR decreased from .609 to .188 with presence of CCF.

Conclusion: The presence of a critical care fellow in the SICU had a dramatic effect on line days for both urinary catheters and central lines. Furthermore, the both the absolute infection rate and standardized infection rate of CAUTI were drastically decreased after critical care fellow presence.

73. PATHOLOGIC TUMOR REGRESSION IS ASSOCIATED WITH IMPROVED SURVIVAL IN PANCREATIC CANCER

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Background: The advent of effective chemotherapy regimens has increased the use of neoadjuvant multiagent chemotherapy in pancreatic cancer. Tumor downstaging occurs with such regimens. However, the rate of downstaging and the impact (if any) on survival are unclear.

Methods: This retrospective single-institution study included all resected patients with pancreatic adenocarcinoma who underwent neoadjuvant chemotherapy with FOLFIRINOX or Gemcitabine/Abraxane from 2011-2020. Downstaging was quantified using two methods: 1) the difference between presenting AJCC clinical stage and final pathologic stage and 2) the College of American Pathologists (CAP) Tumor Regression Grading Scheme (downstaging defined as Score 0-2).

Results: 87 patients met the criteria for inclusion. The majority of patients were female (57.5%), white (97.7%), and privately insured (89%). FOLFIRINOX was the most common regimen compared to Gemcitabine/Abraxane, 63.2 % versus 21.8%. Tumor progression or toxicity requiring a change in regimen occurred in 15% of patients. A minority of patients were treated with neoadjuvant radiation, 20.7%. Downstaging based on a change in the AJCC stage group occurred in only 4.6%. In contrast, 45.2% were classified as downstaged by the CAP Tumor Regression Grading of 0-2. Downstaging was similar for FOLFIRINOX vs. Gemcitabine/Abraxane (64.7 vs. 53.6, $p=0.12$) and with radiation vs. no radiation therapy (29.4 vs. 14.3, $p=0.27$) using the CAP criteria. On univariate analysis, both neoadjuvant radiation (median survival 31 vs. 28mo; HR = 0.79, $p=0.6$) and treatment regimen (Gemcitabine/Abraxane vs. FOLFIRINOX, median survival 27 vs. 29mo; HR 1.57, $p=0.2$) had similar survival. Downstaging by AJCC stage was not associated with improved survival (HR 1.51, $p=0.4$). However, there was a survival benefit for those downstaged by the CAP Tumor Regression Grading Schema, the median survival of 41mo vs. 25 mo; HR 3.05, $p=0.009$. Improved survival was maintained on multivariate analysis.

Conclusion: Downstaging is an important prognostic variable. The CAP Tumor Regression Grading System is a more sensitive way to identify those patients downstaged by neoadjuvant treatment compared to change in the AJCC stage. Also, survival is significantly improved in those downstaged as assessed by the CAP Tumor Regression System.

74. PREDICTORS OF COMPLETED SUICIDES AMONG EMERGENCY DEPARTMENT VISITS FOR ATTEMPTED SUICIDES

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Background: To determine the different factors associated with completed suicides among patients who present to the emergency department following attempted suicide in the US

Methods: We analyzed data on Emergency department (ED) visits for attempted suicides and self-inflicted injuries from the National Emergency Sample database (NEDS) from January 2010 to December 2017. The outcome of interest was completed suicide. In a multivariate analysis, we determined predictors of completed attempt of suicide. Factors included in our multivariate analysis were hospital region, sex, insurance, annual income, region of the country and mechanism of injury. We also accounted for common risk factors for suicides including mental health conditions (schizophrenia and other psychotic symptoms, anxiety disorders, depression, bipolar disorder), dementia and social risk factors such as alcohol and substance abuse.

Results: There were 979,383 ED visits for attempted suicides in the NEDS database during the study period. Among these patients, 10,301 (1.07%) died. Of these completed suicides, 73.86% were male. The median age for the completed suicide group was 43 years (interquartile range: 27-57 years) while the unsuccessful suicide attempt group had a median age of 30 years (interquartile range 20-44). The commonest mechanism of suicide attempt was poisoning (58.76%). Guns were the mechanism of attempted suicide in 1.29% of the patients. Gunshot was the most lethal mechanism accounting 48.33% of the successful suicides. After controlling for common risk factors for attempted suicide, significant predictors of completed suicide included increasing income, uninsured status, male and increasing age starting from 45 years of age. (See Table).

Conclusion: Among US patients presenting to the ED following attempted suicide, factors associated with suicide completion include increasing age (age > 45), male sex, higher income, gunshot injuries and uninsured status.

Odds Ratio		95% Confidence Interval		P-value
		Lower limit	Upper limit	
Age				
< 45 years	Reference			
45-64 Years	2.53	2.36	2.7	< 0.001*
>65 Years	5.93	5.28	6.67	< 0.001*
Female	0.65	0.61	0.69	<0.001*
Insurance				
Private	Reference			
Medicare	0.9	0.81	0.99	0.037*
Medicaid	0.81	0.75	0.89	< 0.001*
Uninsured	1.29	1.19	1.39	< 0.001*
Income				
Quartile I	Reference			
Quartile II	1.23	1.14	1.32	<0.001*
Quartile III	1.4	1.29	1.51	<0.001*
Quartile IV	1.55	1.42	1.7	<0.001*
Region				
Northeast	Reference			
Midwest	0.73	0.67	0.81	<0.001*
South	0.82	0.75	0.9	<0.001*
West	0.86	0.78	0.94	<0.001*

Model adjusted for mental health disorders, alcohol addiction, substance abuse and mechanism of injury, *p < 0.05



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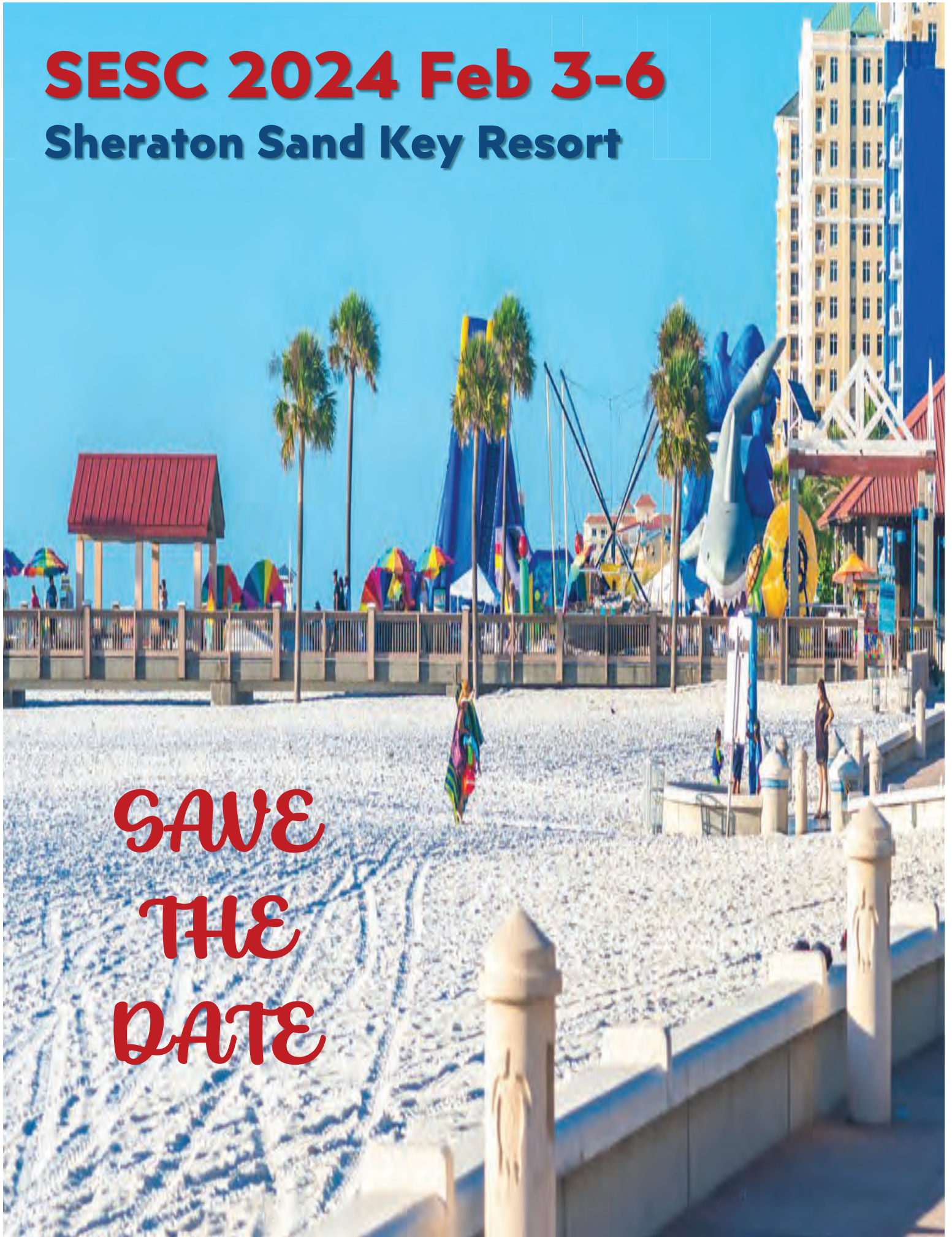
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