AMERICAN SURGICAL ASSOCIATION

Program
of the
138th Annual Meeting

JW Marriott Desert Ridge
Phoenix, Arizona

Thursday, April 19th Friday, April 20th
Saturday, April 21st
2018

* These sections available on-site to professional attendees, or by logging into americansurgical.info/membersOnly.cgi.

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2017–2018

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Keith D. Lillemoe 2017–2020

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Vice Chair
L.D. Britt

Secretary
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Layton F. Rikkers

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William C. Chapman.....2013–2019
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K. Craig Kent.....2013–2019

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Ajit K. Sachdeva 2013–2019

NATIONAL ASSOCIATION FOR BIOMEDICAL RESEARCH

Joren C. Madsen.....2017–2018

SURGICAL COUNCIL ON RESIDENT EDUCATION

Rosemary A. Kozar.....2017–2020

FUTURE MEETINGS OF THE AMERICAN SURGICAL ASSOCIATION

April 11–13, 2019
Fairmont Dallas
Dallas, Texas

April 16–18, 2020
Grand Hyatt Washington
Washington, DC

GENERAL INFORMATION

The JW Marriott Phoenix Desert Ridge, Phoenix, Arizona, is the headquarters of the American Surgical Association for the 138th Annual Meeting, April 19–21, 2018.

REGISTRATION: The Registration Desk for the 138th Annual Meeting is located outside the Grand Sonoran Ballroom at the East Registration Desk during the following hours:

Wednesday, April 18th	2:00 p.m.–6:00 p.m.
Thursday, April 19th	7:00 a.m.–5:15 p.m.
Friday, April 20th	7:30 a.m.–5:00 p.m.
Saturday, April 21st	7:30 a.m.–11:00 a.m.

Fellows and guests who have pre-registered are required to sign the registration book and pick up registration materials at the ASA Registration Desk.

SPEAKERS AND DISCUSSANTS: All manuscripts presented at the Scientific Sessions of the Annual Meeting must be submitted electronically to The *Annals of Surgery* at www.editorialmanager.com/annsurg prior to the presentation of the paper. The time allowed for each presentation is ten minutes. Following the presentation, the Primary Discussant will be allotted three minutes for discussion. All additional discussants will be allotted two minutes; in addition, each follow-up discussant should verbally disclose financial relationships with any commercial interest that are relevant to the paper about to be discussed. The total amount of time provided for discussion is fifteen minutes. Please note the use of slides will NOT be permitted for discussants.

SPEAKER READY ROOM: The Speaker Ready Room is located in the Grand Saguro Office. Authors are requested to submit their PowerPoint presentations on USB memory drive or CD-ROM the day *prior* to their session to the technician in the Speaker Ready Room. Speaker Ready Room hours are:

Wednesday, April 18th	2:00 p.m.–6:00 p.m.
Thursday, April 19th	7:00 a.m.–5:15 p.m.
Friday, April 20th	7:30 a.m.–5:00 p.m.
Saturday, April 21st	7:30 a.m.–11:00 a.m.

EMBARGO POLICY: The embargo on studies and their associated abstracts (including those posted online prior to the conference) scheduled for presentation at the American Surgical Association's 138th Annual Meeting, April 19–21, 2018, Phoenix, Arizona, is the date and time of each individual scientific presentation (not the beginning of the overall session in which it has been scheduled). News media activities are restricted until the embargo lifts. Any news media activity about a study and its associated abstract must include the following: "The complete manuscript of this study and its presentation at the American Surgical Association's 138th Annual Meeting, April 19–21, 2018, Phoenix, Arizona, is anticipated to be published in the *Annals of Surgery* pending editorial review."

BANQUET: The Annual Reception and Banquet is open to Fellows of the Association and their registered spouses/partners, as well as Invited Guest Physicians and Residents and their registered spouses/partners. The Reception and Banquet is scheduled for Friday, April 20th, with the reception taking place in the Canyon 7–8 Ballroom Foyer and dinner in Canyon 7–8 Ballroom (*black tie/evening dress preferred, but dark suits are acceptable*). The ASA invites you to participate in the recognition of those who have felt disrespected, harassed, excluded, or discriminated against in the surgical community; to demonstrate our present and future commitment to inclusivity and respect for all, ribbons will be available at the banquet for all attendees to wear as a symbol of support. Table sign-ups are available at the registration desk.

SPECIAL EVENTS:

Address by the President:	Thursday, April 19th	10:50 a.m.
"Our Calling"		
Forum Discussion	Friday, April 20th	10:30 a.m.
"Is There Life After Surgery?"		
Executive Session (Fellows Only)	Friday, April 20th	4:00 p.m.
Reception & Banquet	Friday, April 20th	7:00 p.m.

SPOUSE/GUEST HOSPITALITY: The Spouse/Guest Hospitality Suite is located in the Capri Private Dining room from 7:00 a.m. to 10:30 a.m., Thursday, April 19th, through Saturday, April 21st. The Local Arrangements Committee will have information on activities of interest and maps available in the room.

REGISTRANT BADGES: Badges are required for admittance to the ASA Scientific Sessions. Badge colors represent the following designations:

Blue — Member/Fellow
Cream — Honorary Fellow
Green — Guest Physician
White — Spouse/Guest

CME MISSION/PURPOSE AND CONTENT

The Continuing Medical Education Mission of the American Surgical Association is to provide a national forum for presenting the developing state-of-the-art and science of general and sub-specialty surgery and the elevation of the standards of the medical/surgical profession. This mission is accomplished primarily by conducting an annual scientific meeting consisting of selected presentations containing the most current information available on clinical and research topics related to surgery or surgical specialties, including studies on outcomes, practice and science of surgery and ethical and other issues that affect its practice. In addition, the meeting features special invited speakers who address a variety of topics directly or indirectly related to the practice of surgery. The meeting is presented for the benefit of those physicians, surgeons and researchers involved in the study, treatment and cure of diseases associated with the entire spectrum of human disease. The meeting provides for a free exchange of information and serves the professional needs of the membership and invited guests. The Association's mission is augmented by the publication of the scientific papers presented at the annual meeting in the *Annals of Surgery*, a monthly scientific publication distributed to subscribers throughout the world and by the publication of the Proceedings of the Annual Meeting and the scientific papers in the *Transactions of the American Surgical Association*, an annual publication distributed to the membership.

LEARNING OBJECTIVES

The Annual Meeting of the American Surgical Association is designed to provide two and one half days of comprehensive educational experiences in the fields of clinical surgery, experimental surgery and related sciences, surgical education and the socioeconomic aspects of surgical care. It is the Association's intent to bring together at this meeting the leading surgeons and scientists from North America and other continents to freely and openly discuss their latest clinical and research findings.

LEARNING OUTCOMES

At the conclusion of the Annual Meeting, participants should have an enhanced understanding of the latest techniques and current research specifically related to the fields of clinical surgery, experimental surgery and related sciences, surgical education and the socioeconomic aspects of surgical care. Through the open discussion periods and the Forum Discussion, participants will have the opportunity to hear the pros and cons of each paper presented to gain an overall perspective of their current practices and to utilize results presented in order to select appropriate surgical procedures and interventions for their own patients and to integrate state-of-the-art knowledge into their current practice and/or research.

EDUCATIONAL METHODS

Authored papers supported by audio/visual presentations, panel discussion, and open group discussion.

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 American Surgical Association.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 live activity for a maximum of 16.00 *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 **13.50** credits meet the requirements for Self-Assessment.

American College of Surgeons
Inspiring Quality: Highest Standards, Better Outcomes
100 years

ACCME Accredited with Commendation
AMERICAN COLLEGE OF SURGEONS
DIVISION OF EDUCATION

FACULTY DISCLOSURE INFORMATION

In compliance with ACCME Accreditation Criteria, the American College of Surgeons, as the accredited provider of this activity, must ensure that anyone in a position to control the content of the educational activity has disclosed all relevant financial relationships with any commercial interest. All reported conflicts are managed by a designated official to ensure a bias-free presentation.

In accordance with the ACCME Accreditation Criteria, the American College of Surgeons, as the accredited provider of this activity, must ensure that anyone in a position to control the content of the educational activity has disclosed all relevant financial relationships with any commercial interest. Therefore, it is mandatory that both the program planning committee and speakers complete disclosure forms. Members of the program committee were required to disclose all financial relationships and speakers were required to disclose any financial relationship as it pertains to the content of the presentations. The ACCME defines a 'commercial interest' as "any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients". It does not consider providers of clinical service directly to patients to be commercial interests. The ACCME considers "relevant" financial relationships as financial transactions (in any amount) that may create a conflict of interest and occur within the 12 months preceding the time that the individual is being asked to assume a role controlling content of the educational activity.

ACS is also required, through our joint providership partners, to manage any reported conflict and eliminate the potential for bias during the activity. All program committee members and speakers were contacted and the conflicts listed below have been managed to our satisfaction. However, if you perceive a bias during a session, please report the circumstances on the session evaluation form.

Please note we have advised the speakers that it is their responsibility to disclose at the start of their presentation if they will be describing the use of a device, product, or drug that is not FDA approved or the off-label use of an approved device, product, or drug or unapproved usage.

The requirement for disclosure is not intended to imply any impropriety of such relationships, but simply to identify such relationships through full disclosure and to allow the audience to form its own judgments regarding the presentation.

New Honorary Fellows Introductions

Stephen W.K. Cheng, M.B.B.S., M.S.

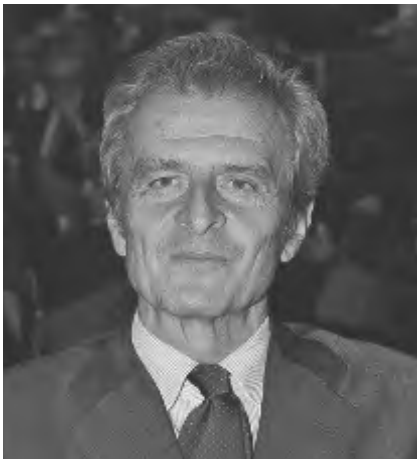
Stephen W.K. Cheng is the Serena H.C. Yang Professor of Vascular Surgery and Head of the Department of Surgery and Chief of the Division of Vascular Surgery, The University of Hong Kong, Queen Mary Hospital. He received his medical education at the University of Hong Kong receiving his MBBS in 1984. his training in general and vascular surgery at the Department of Surgery, Queen Mary Hospital. 1991 he was Visiting Assistant Professor at the University of California, San Francisco where he pursued his specialty interest in Vascular Surgery, and obtained his Master of Surgery degree. He became Chief of the Division of Vascular Surgery and Director of the Francis Y.H. Tien Vascular Disease Centre and the Vascular Laboratories in 1992. He was appointed Head of the Department of Surgery in 2017.

Professor Cheng's primary interest is in Vascular Surgery and Endovascular treatment of occlusive and aneurysmal disease including the epidemiology, pathophysiology, and treatment of these disorders. When endovascular treatment in advanced centers overseas was nascent and only emerging, Professor Cheng had the foresight to engage in the early development of the evolving endovascular techniques and establish specialized vascular units. He has played a key role in the development of Vascular Surgery in Hong Kong as evidenced by the establishment a renowned vascular center and the first non-invasive Vascular Laboratory at Queen Mary Hospital. He led the development of endovascular intervention of peripheral vascular disease and pioneered endovascular aortic stent grafting for aortic aneurysms and dissections in South East Asia.

Professor Cheng has authored or co-authored 196 papers in peer reviewed journals with high impact factors. He has been recognized internationally for his contributions and as a leader in vascular surgery. These honorific recognitions include Distinguished Fellow and Honorary Member of the Society of Vascular Surgery (SVS), Honorary Member of the Australia New Zealand Society of Vascular Surgery and the Society of Clinical Vascular Surgery.

Furthermore he is member of the European Society for Vascular Surgery, on the Executive Board Member and Asian Chapter Secretary of the International Union of Angiology, and National Representative in the International Society for Vascular Surgery. He is immediate Past President of the Asian Society for Vascular Surgery, and also President of the College of Surgeons of Hong Kong. He is on the Executive Board of the Chinese Society of Vascular Surgery and the Editorial Board of the Journal of Vascular Surgery and the Chinese Journal of Vascular Surgery.

Mario Morino, M.D.



Professor Mario Morino was born and raised in Italy. He was clearly destined to become a famous surgeon as his father, Francesco Morino, was Chairman of the Department of Surgery at the University of Turin, Italy for 35 years, and his father in law, Achille Mario Dogliotti was one of the most relevant figures in the history of Italian Surgery.

After completing Medical School in Turin, Professor Morino spent one year in London in the Liver unit led by Professor Blumgart. Subsequently he completed a residency in France under the guidance of Professor Bismuth. Upon his return in Italy, he rapidly raised through the ranks and is presently Chairman of the Department of Surgery at the University of Turin.

Professor Morino is an outstanding individual who excels in the three key areas of academic surgery:

Education. He has created a very dynamic and outstanding academic department, clearly a leading center in Europe, from colorectal surgery to biliary surgery, from esophageal surgery to liver transplantation. His department is modelled after residency programs in the United States, where progressive responsibility is given to residents, preparing them for practice. Over the years, he has mentored many surgeons who are today in leadership positions.

Scholarship. Dr. Morino has published more than 380 manuscripts in peer review journals and 25 book chapters. He has been the principal investigator in many prospective and randomized trials, often published in Annals of Surgery. The results of these trials have influenced the treatment of many diseases worldwide. He is a member of many Surgical Societies, and is Past President of the European Association of Endoscopic Surgery (EAES) and President of the European Surgical Association (ESA). He has lectured extensively in Europe, in the United States and in Asia.

Clinical activity. Dr. Morino is a recognized expert in the laparoscopic treatment of colorectal disease and hepatobiliary disorders, treating patients from all over Italy. The influence of his mentors, particularly Dr. Bismuth, is clearly evident.

Juan Pekolj, M.D.

Dr. Juan Pekolj is the Chairman of the General Surgery Service of the Hospital Italiano, of Buenos Aires, Argentina, and a Professor of Surgery of the University of Buenos Aires. He obtained his medical degree in 1984 from the Medical School of the National University of Cuyo, in Mendoza, Argentina, and completed his residency in surgery in the Hospital Italiano of Buenos Aires, where he became a staff surgeon in the HPB section. In 1992 he spent some time in Omaha, Nebraska, training in liver and pancreas transplantation under Dr. Byers Shaw. Upon his return, he developed together with Dr. Eduardo de Santibanez the HPB fellowship of the Hospital Italiano, which was the first 2-year training of its kind in Latinamerica. This program has trained over 46 surgeons since its inception. He was a pioneer in his home country of laparoscopic biliary, liver, and pancreatic surgery. He has over 150 publications, has been president of both the Argentinian Association of Surgery as well as the Academy of Surgery, and is a frequent invited speaker in his home country and abroad.

Cornelis van de Velde, M.D., Ph.D.

Prof. Cornelis van de Velde is Professor of Surgical Oncology at the Leiden University Medical Center in Leiden, The Netherlands. He received a PhD (cum laude) in breast cancer in 1977 and completed his surgical training at the Leiden University Medical Center in Leiden followed by additional training in surgical oncology at the M.D. Anderson Hospital in Houston. In 1985 he was a visiting Professor at the Seoul National University Hospital in Korea and at the National Cancer Center Hospital in Tokyo, Japan. He was appointed clinical Professor of Surgery at the Leiden University Medical Center in 1987. Prof. van de Velde's primary areas of research interests include breast, colorectal, gastric cancer and endocrine tumors. In 1999 he was made Honorary Fellow of the Royal College of Surgeons (London) and Royal College of Surgeons and Physicians (Glasgow) and, later on, of the American College of Surgeons and 12 additional National Surgical Societies.

Prof. van de Velde is a member and Past President of the Netherlands Royal Academy of Sciences. He founded and was the first Chairman of the Dutch Colorectal Cancer Group, the Dutch Gastric Cancer Group and the Dutch Breast Cancer Group. He is a Past President of the European Society of Surgical Oncology and the 2012-2014 President of ECCO, the European Cancer Organization. In 2007 he founded the European Registration of Cancer Care (EURECCA), a quality assurance structure in Europe on colorectal and other cancers. In 2013 he received a Royal Dutch Honor: a Knighthood of the Netherlands Lion.

Prof. van de Velde has supervised more than 80 Ph.D. theses, has coordinated 14 projects of the Netherlands Cancer Foundation and 6 European randomized colorectal cancer studies, some of which shed important new light on surgical treatment of solid tumors. He has authored more than 900 publications. He is Editor-in-Chief of the Dutch Textbook of Oncology, was the Associate Editor of the EJSO and is Editor of the Oxford Textbook of Oncology. He is married and has 2 children.

Global Surgery Task Force

There is an unacceptably high burden of death and disability from conditions that are treatable by surgery, worldwide and especially in low- and middle-income countries (LMICs). The major actions to improve this situation need to be taken by the surgical communities, institutions, and governments of the LMICs. However, the United States (US) surgical community, including the US academic surgical community, have important roles to play in addressing this problem. The American Surgical Association convened a Working Group to address how US academic surgery can most effectively decrease the burden from surgically treatable conditions in LMICs. The Working Group believes that the task will be most successful: 1) if the epidemiologic pattern of disease in a given country is taken into account while organizing surgical services; 2) if emphasis is placed on those surgical services that are most cost-effective and most feasible to scale up; and 3) if efforts are harmonized with local priorities and with existing global initiatives, such as the World Health Assembly with its 2015 resolution on essential surgery. This consensus statement gives recommendations on how to achieve those goals through the tools of academic surgery: clinical care, training and capacity building, research, and advocacy. Through all of these, the ethical principles of maximally and transparently engaging with and deferring to the interests and needs of local surgeons and their patients are of paramount importance. Notable benefits accrue to US surgeons, trainees, and institutions that engage in global surgical activities.

Charles M. Balch
Murray F. Brennan
Jo Buyske
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Halie T. Debas
Steven R. DeMeester
David N. Herndon
Ai-Xuan L. Holterman
Bernard M. Jaffe
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Steven E. Wolf
Sherry M. Wren
George Yang

Ensuring Equity, Diversity, and Inclusion in Academic Surgery

Surgeons and the discipline of surgery, particularly academic surgery, have a tradition of leadership both within medicine and within society. Currently, we are being challenged to harness our innate curiosity, hard work, and perseverance to address the historically significant deficiencies within our field in the area of diversity, equity, and inclusion. Surgery needs to identify areas for improvement and work iteratively to address and correct past deficiencies. This requires honest and ongoing identification and correction of implicit and explicit biases. More diverse departments, residencies, and universities will improve our care, enhance our productivity, augment our community connections, and achieve our most fundamental ambition—doing good for our patients. To address these needs, a Work Group: the Task Force on Equity, Diversity, and Inclusion was formed at the time of the 2017 Congress of the American Surgical Association and charged with producing a work product to identify issues and hurdles and develop a set of solutions and benchmarks to aid the academic surgical community in achieving these goals. The final draft of this "living document" is now complete and will be highlighted during the Presidential Address. The completed document will soon be available to the membership on the American Surgical Association website. Listed below are the chapter titles within the document, followed by the names of all contributing authors and reviewers.

Chapter 1: Making the Case for Change: Background and Scope of the Problem
Chapter 2: Recognizing Individual and Organizational Barriers to Diversity and Inclusion
Chapter 3: Goals
Chapter 4: Recruitment of Diversity: Impacting Change
Chapter 5: Success in Academic Surgery: Faculty Focus
Chapter 6: Creating and Enforcing a Culture of Respect, Equity, and Inclusion
Chapter 7: Departmental Initiatives for Faculty Leadership Development, Retention, and Promotion
Chapter 8: Continuous Ongoing Self-Assessment of the Academic Environment
Chapter 9: Service and Altruism

Contributing Authors

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Allan Tsung
Sharon M. Weber

SCHEDULE-AT-A-GLANCE

THURSDAY, APRIL 19th

8:15 AM **Opening Session** Grand Sonoran E & F

President's Opening Remarks

Secretary's Welcome & Introduction of New Fellows Elected In 2017

President's Introduction of Honorary Fellows

Report of the Task Force on Global Surgery

Presentation of the Medallion for Scientific Achievement

Presentation of the Medallion for the Advancement of Surgical Care

Report of the Committee on Arrangements

9:10 AM **Scientific Session I** Grand Sonoran E & F
Moderator: Ronald V. Maier, M.D.

10:50 AM **Presidential Address** Grand Sonoran E & F
"Our Calling"
Introduction: Edward M. Copeland, III, M.D.
Address: Ronald V. Maier, M.D.

1:30 PM **Scientific Session II** Grand Sonoran E & F
Moderator: E. Christopher Ellison, M.D.

FRIDAY, APRIL 20th

6:30 AM	**ASA Women in Surgery Breakfast** **"Negotiating for the Big Jobs"**	Grand Sonoran A & B
8:00 AM	**Scientific Session III** *Moderator: Ronald V. Maier, M.D.*	Grand Sonoran E & F
10:30 AM	**Forum Discussion:** **"Is There Life After Surgery"** *Moderator: Ronald V. Maier, M.D.*	Grand Sonoran E & F
1:30 PM	**Scientific Session IV** *Moderator: Edward M. Copeland, III, M.D.*	Grand Sonoran E & F
4:00 PM	**Executive Session** ***(Fellows Only)*** Presentation of the Flance-Karl Award	Grand Sonoran E & F
7:00 PM	**Annual Reception** *(Black tie/evening dress preferred, but dark suits are acceptable.)*	Canyon 7 & 8 Foyer
8:00 PM	**Annual Banquet** *(Black tie/evening dress preferred, but dark suits are acceptable.)*	Canyon 7 & 8

SATURDAY, APRIL 21st

8:00 AM	**Scientific Session V** *Moderator: New President-Elect*	Grand Sonoran E & F
11:00 AM	**Adjourn**	

AMERICAN SURGICAL ASSOCIATION
138th Annual Meeting ‖ April 19–21, 2018
JW Marriott Phoenix Desert Ridge ‖ Phoenix, Arizona

PROGRAM OUTLINE

THURSDAY, APRIL 19, 2018

8:15 AM – 9:10 AM

OPENING SESSION
Grand Sonoran E & F

President's Opening Remarks

Secretary's Welcome & Introduction of New Fellows Elected In 2017

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Report of the Committee on Arrangements

9:10 AM – 11:00 AM

SCIENTIFIC SESSION I
Grand Sonoran E & F

Moderator: Ronald V. Maier, M.D.

9:10 AM – 9:35 AM

1.
Circulating Tumor Cells Dynamics in Pancreatic Adenocarcinoma Correlate with Disease Status: Data from a Prospective Trial

Georgios Gemenetzis*, Vincent P. Groot*, Jun Yu*, Ding Ding*, Jonathan A. Teinor*, Ammar A. Javed*, Laura D. Wood*, Richard A. Burkhart*, John L. Cameron, Martin A. Makary*, Matthew J. Weiss*, Jin He*, Christopher L. Wolfgang

Johns Hopkins University School of Medicine, Baltimore, MD

9:35 AM – 10:00 AM

2.
Peroral Pyloromyotomy (POP) for Medically Refractory Gastroparesis: Short Term Results from a High Volume Center

John Rodriguez*, Andrew T. Strong*, Ivy N. Haskins*, Joshua P. Landreneau*, Matthew T. Allemang*, Kevin El-Hayek*, James Villamere*, Michael S. Cline*, Matthew Kroh*, Jeffrey L. Ponsky

Cleveland Clinic, Cleveland, OH

*By invitation

10:00 AM – 10:25 AM

3.
Improved Post-Burn Hypertrophic Scarring and Physical Recovery with Year-Long Administration of Oxandrolone and Propranolol

David N. Herndon[1], Gabriel Hundeshagen*[1], Austin F. Lee*[2], Lewis E. Kazis*[2], Jayson W. Jay*[1], Guillermo Foncerrada-Ortega*[1], Anesh Prasai*[1], Amina El Ayadi*[1], Evan Ross*[1], Elizabeth Blears*[1], Karel Capek*[1], Christian Sommerhalder*[1], Dagmar Amtmann*[3], Kara McMullen*[3], Robert Cox*[1], Kristofer Jennings*[1], Linda E. Sousse*[1], Walter J. Meyer, III*[1], Oscar E. Suman*[1], Celeste C. Finnerty*[1]

[1]University of Texas Medical Branch, Galveston, TX; [2]Boston University, Boston, MA; [3]University of Washington, Seattle, WA

10:25 AM – 10:50 AM

4.
A Structured Compensation Plan Improves But Does Not Erase the Gender Pay Gap in Surgery

Melanie S. Morris*, Herb Chen, Marty Heslin, Helen Krontiras*

University of Alabama at Birmingham, Birmingham, AL

10:50 AM – 12:00 PM

PRESIDENTIAL ADDRESS
Grand Sonoran E & F

10:50 AM – 11:00 AM

Introduction of the President

Edward M. Copeland, III, M.D.

11:00 AM – 12:00 PM

Address by the President
"Our Calling"

Ronald V. Maier, M.D.

*By invitation

1:30 PM – 5:15 PM

SCIENTIFIC SESSION II
Grand Sonoran E & F

Moderator: E. Christopher Ellison, M.D.

1:30 PM – 1:55 PM

5.

Timing of Carotid Endarterectomy After Stroke

Adam Tanious*[1], Alexander B. Pothof*[2], Laura Boitano*[1], Alaska Pendleton*[1], Linda J. Wang*[1], Gert J. de Borst*[3], David W. Rattner[1], Marc L. Schermerhorn[2], Mohammad H. Eslami*[4], Mahmoud B. Malas*[5], Matthew Eagleton*[1], W. Darrin Clouse*[1], Mark Conrad*[1]

[1]Massachusetts General Hospital, Boston, MA; [2]Beth Israel Deaconess Medical Center, Boston, MA; [3]University Medical Center, Utrecht, Netherlands; [4]University of Pittsburgh, Pittsburgh, PA; [5]Johns Hopkins University, Baltimore, MD

1:55 PM – 2:20 PM

6.

Better Function with a Colonic J-Pouch or a Side-to-End Anastomosis? A Randomized Controlled Trial to Compare the Complications, Functional Outcome and Quality of Life in Patients with Low Rectal Cancer After a J-Pouch or a Side-to-End Anastomosis

Massarat Zutshi*[1], Yann Parc*[2], Rhinehard Ruppert*[3], Alois Fuerst*[4], Werner Hohenberger*[5], Susan Galandiuk[6], Felix Hemminger*[3], Henriette Goldcher*[5], Emmanuel Tiret*[2], Alexander Heriot*[7], Alexandra Aiello*[1], Tracy Hull[1]

[1]Cleveland Clinic Foundation, Cleveland, OH; [2]Hospital St. Antoine, Paris, France; [3]Krankenhaus Munchen Neuperlach, Munich, Germany; [4]Caritas-Clinic St. Josef, Regensberg, Germany; [5]Zentrum Für Klinische Studien, Erlangen, Germany; [6]University of Louisville, Louisville, KY; [7]Peter MacCallum Cancer Centre, Melbourne, Australia

*By invitation

2:20 PM – 2:45 PM

7.

Significant Numbers of Patients Require No Opioids After Discharge: Results of a Prospective Multicenter Initiative Aimed at Developing Opioid Prescribing Guidelines for 25 Elective Surgeries

Cornelius A. Thiels*, Daniel S. Ubl*, Kathleen J. Yost*, Sean C. Dowdy*, Tad M. Mabry*, Halena M. Gazelka*, Robert R. Cima, Elizabeth B. Habermann*

Mayo Clinic, Rochester, MN

2:45 PM – 3:10 PM

8.

Does Surgical Margin Impact Recurrence in Non-Invasive Intraductal Papillary Mucinous Neoplasms? A Multi-Institutional Study

Syed A. Ahmad[1], Vikrom K. Dhar*[1], Michael J. Edwards[1], Sameer H. Patel*[1], Dennis J. Hanseman*[1], Daniel E. Abbott*[2], Sharon M. Weber[2], Hong J. Kim[3], Robert CG Martin[4], Charles R. Scoggins[4], David J. Bentrem*[5], Kamran Idrees*[6], Shishir K. Maithel*[7], David A. Kooby[7], Nipun B. Merchant[8]

[1]University of Cincinnati College of Medicine, Cincinnati, OH; [2]University of Wisconsin School of Medicine and Public Health, Madison, WI; [3]University of North Carolina School of Medicine, Chapel Hill, NC; [4]University of Louisville School of Medicine, Louisville, KY; [5]Northwestern University Feinberg School of Medicine, Chicago, IL; [6]Vanderbilt University School of Medicine, Nashville, TN; [7]Emory University, Atlanta, GA; [8]University of Miami Miller School of Medicine, Miami, FL

3:10 PM – 3:35 PM

9.

Analysis of Gender-Based Differences in Surgery Faculty Compensation, Promotion, and Retention: Establishing Equity

Heather E. Hoops*, Karen J. Brasel, Elizabeth Dewey*, Sally Rodgers*, Jenny Merrill*, John G. Hunter, Kenneth S. Azarow

Oregon Health & Science University, Portland, OR

*By invitation

3:35 PM – 4:00 PM

10.
IdeS: A Novel Agent that Cleaves Human IgG and Permits Successful Kidney Transplantation Across High-Strength Donor-Specific Antibody
Bonnie E. Lonze*, Vasishta S. Tatapudi*, Elaina P. Weldon*, Elijah S. Min*, Nicole M. Ali*, Cecilia L. Deterville*, Bruce E. Gelb*, Judith A. Benstein*, Nabil N. Dagher*, Ming Wu*, Robert A. Montgomery

NYU Langone Transplant Institute, New York, NY

4:00 PM – 4:25 PM

11.
Long-Term Quality of Life in Neonatal Surgical Patients
Ruchi Amin*[1], Michelle Knezevich*[2], Melissa Lingogo*[2], Casey M. Calkins*[1], Thomas T. Sato*[1], Keith T. Oldham[1], Marjorie J. Arca[1]

[1]Medical College of Wisconsin, Milwaukee, WI; [2]Children's Hospital of Wisconsin, Milwaukee, WI

4:25 PM – 4:50 PM

12.
Hyperthyroidism Is Under-Diagnosed and Under-Treated in 174,011 Patients: An Opportunity for Improvement and Intervention
Ammar Asban*, Sebastian K. Chung*, Margaret A. Tresler*, Priyanka Huilgol*, Rongbing Xie*, James K. Kirklin, Courtney J. Balentine*, Brenessa M. Lindeman*, Herbert Chen

University of Alabama at Birmingham, Birmingham, AL

4:50 PM – 5:15 PM

13.
Validity in the Application of the Novel Taiwan Lymphoscintigraphy Staging and Clinical Grading Systems for Unilateral Extremity Lymphedema
Ming-Huei Cheng*[1], Marco Pappalardo*[1], Chieh Lin*[1], Chang-Fu Kuo*[1], Chia-Yu Lin*[1], Kevin C. Chung[2]

[1]Chang Gung Memorial Hospital, Taipei, Taiwan; [2]University of Michigan, Ann Arbor, MI

*By invitation

FRIDAY, APRIL 20, 2018

6:30 AM – 8:00 AM

ASA WOMEN IN SURGERY BREAKFAST
Grand Sonoran A & B

Negotiating for the Big Jobs

8:00 AM – 10:30 AM

SCIENTIFIC SESSION III
Grand Sonoran E & F

Moderator: Ronald V. Maier, M.D.

8:00 AM – 8:25 AM

14.
Incentivizing Academic Productivity of Surgery Faculty Members Through an Academic RVU System
Scott A. LeMaire, Barbara W. Trautner*, Susan Y. Green*, Qianzi Zhang*, William E. Fisher*, Todd K. Rosengart
Baylor College of Medicine, Houston, TX

8:25 AM – 8:50 AM

15.
Decreased Risk of Delirium with Use of Regional Anesthesia in Geriatric Trauma Patients with Multiple Rib Fractures
Kathleen O'Connell*, Alex Quistberg*, Robert Tessler*, Bryce Robinson*, Joseph Cuschieri*, Ronald Maier, Frederick Rivara*, Monica Vavilala*, Saman Arbabi
University of Washington, Seattle, WA

*By invitation

8:50 AM – 9:15 AM

16.

Evidence for the Role of the Cecal Microbiome in Maintenance of Immune Regulation and Homestasis

Preeti Chhabra*[1], Anthony Spano*[1], Daniel Bowers*[1], Tiantian Ren*[1], Christopher Wilson*[2], Andrew Marshall*[3], Michael Timko*[1], Martin Wu*[1], Daniel Moore*[1], Kenneth L. Brayman[1]

[1]University of Virginia, Charlottesville, VA; [2]Vanderbilt University, Nashville, TN; [3]Vanderbilt University, Nashville, VA

9:15 AM – 9:40 AM

17.

Xenoantigen Deletion and Chemical Immunosuppression Can Prolong Renal Xenograft Survival

Andrew B. Adams*[1], Steven C. Kim*[1], Gregory R. Martens*[2], Joseph M. Ladowski*[2], Jose L. Estrada*[2], Luz M. Reyes*[2], Cindy Breeden*[1], Allison Stephenson*[1], Devin E. Eckhoff[2], Matt Tector*[2] , Alfred J. Tector[2]

[1]Emory School of Medicine, Atlanta, GA; [2]University of Alabama Birmingham, Birmingham, AL

9:40 AM – 10:05 AM

18.

Surgical Risk Is Simply Not Linear: Derivation and Validation of a Novel and Interactive Machine-Learning Predictive Optimization Trees in Emergency Surgery Risk (POTTER) Calculator

Haytham M. Kaafarani*[1], Dimitris Bertsimas*[2], Jack Dunn*[3], George Velmahos[1]

[1]Massachusetts General Hospital & Harvard Medical School, Boston, MA; [2]Massachusetts Institute of Technology, Boston, MA; [3]Massacusetts Institute of Technology, Boston, MA

*By invitation

10:05 AM – 10:30 AM

19.
Impact of the Affordable Care Act (ACA) Medicaid Expansion on Cancer Admissions and Surgeries
Emanuel Eguia*[1], Adrienne N. Cobb*[1], Anai N. Kothari*[1], Haroon Janjua*[1], Ayrin Molefe*[1], Paul C. Kuo[2]
[1]Loyola, Maywood, IL; [2]USF, Tampa, FL

10:30 AM – 12:00 PM

FORUM DISCUSSION Grand Sonoran E & F

Is There Life After Surgery?

Moderator: Ronald V. Maier, M.D.

Faculty: Julie Ann Freischlag, M.D.
Wake Forest Baptist Medical Center, Winston-Salem, NC

David B. Hoyt, M.D.
American College of Surgeons, Chicago, IL

Carlos A. Pellegrini, M.D.
University of Washington, Seattle, WA

David F. Torchiana, M.D.
Partners Healthcare, Boston, MA

Michael J. Zinner, M.D.
Miami Cancer Institute, Miami, FL

*By invitation

1:30 PM – 4:00 PM

SCIENTIFIC SESSION IV
Grand Sonoran E & F

Moderator: Edward M. Copeland, III, M.D.

1:30 PM – 1:55 PM

20.
The Clinical Significance of Breast-Only and Node-Only Pathologic Complete Response (pCR) After Neoadjuvant Chemotherapy (NACT): A Review of 20,000 Breast Cancer Patients in the National Cancer Database (NCDB)

Oluwadamilola M. Fayanju*[1], Yi Ren*[1], Samantha M. Thomas*[1], Rachel A. Greenup*[1], Jennifer K. Plichta*[1], Laura H. Rosenberger*[1], Nina Tamirisa*[1], Jeremy Force*[1], Judy C. Boughey*[2], Terry Hyslop*[1], E. Shelley Hwang[1]

[1]Duke University, Durham, NC; [2]Mayo Clinic, Rochester, MN

1:55 PM – 2:20 PM

21.
Pure Laparoscopic Donor Hepatectomy: Ready for Widespread Adoption

Benjamin Samstein*[1], Adam Greisemer*[2], Karim Halazun*[1], Fabrizio Michelassi[1], Tomoaki Kato[2], Craig Smith[2], James V. Guarrera*[2], Jean C. Emond[2]

[1]Weill Cornell Medicine, New York, NY; [2]Columbia University Medical Center, New York, NY

2:20 PM – 2:45 PM

22.
A Prospective Clinical Trial of Personalized Medicine for Operable Pancreatic Cancer

Susan Tsai*, Kathleen K. Christians*, Ben George*, Paul S. Ritch*, Kulwinder Dua*, Abdul H. Khan*, A. Craig Mackinnon*, Parag Tolat*, William A. Hall*, Beth A. Erickson*, Douglas B. Evans

Medical College of Wisconsin, Milwaukee, WI

*By invitation

2:45 PM – 3:10 PM

23.
Stem Cell Mobilization Is Life Saving in a Large Animal Model of Acute Liver Failure
Andrew Cameron*, Ali R. Ahmadi*, Maria Chicco*, Tyler Creamer*, Yongchun Wang*, Jinny Huang*, George M. Williams, Zhaoli Sun*

The Johns Hopkins University School of Medicine, Baltimore, MD

3:10 PM – 3:35 PM

24.
More Frequent Surveillance Following Lung Cancer Resection Is Not Associated with Improved Survival
Timothy L. McMurry*[1], George J. Stukenborg*[1], Melisa L. Wong*[2], Larry G. Kessler*[3], Amanda Francescatti*[4], Jessica Schumacher*[5], Caprice C. Greenberg[5], George Chang*[6], Graham A. Colditz*[7], David P. Winchester[4], Daniel P. McKellar*[4], David R. Jones[8], Benjamin D. Kozower*[7]

[1]University of Virginia, Charlottesville, VA; [2]University of California, San Francisco, San Francisco, CA; [3]University of Washington, Seattle, WA; [4]American College of Surgeons, Chicago, IL; [5]University of Wisconsin, Madison, WI; [6]MD Anderson Cancer Center, Houston, TX; [7]Washington University in St. Louis, St. Louis, MO; [8]Memorial Sloan Kettering Cancer Center, New York, NY

3:35 PM – 4:00 PM

25.
Analysis of the Learning Curve and Patient Outcomes of Endovascular Repair of Thoracoabdominal Aortic Aneurysms Using Fenestrated and Branched Endografts
Darren B. Schneider*, Sharif H. Ellozy*, Peter H. Connolly*, Andrew J. Meltzer*, Ashley R. Graham*, Fabrizio Michelassi

Weill Cornell Medicine and NewYork-Presbyterian Hospital, New York, NY

*By invitation

4:00 PM – 5:00 PM

EXECUTIVE SESSION Grand Sonoran E & F
ASA Fellows Only

Presentation of the Flance-Karl Award

7:00 PM

ANNUAL RECEPTION Canyon 7 & 8 Foyer
(Black tie/evening dress preferred, but dark suits are acceptable.)

8:00 PM

ANNUAL BANQUET Canyon 7 & 8
(Black tie/evening dress preferred, but dark suits are acceptable.)

SATURDAY, APRIL 21, 2018

8:00 AM – 11:00 AM

SCIENTIFIC SESSION V
Grand Sonoran E & F

Moderator: New President-Elect

8:00 AM – 8:25 AM

26.
Impact of a Novel Preoperative Patient-Centered Surgical Wellness Program
Kristen Kelley*, Alyssa D. Fajardo*, Nancy M. Strange*, Carol Harmon*, Kim A. Pawlecki*, Nikki Walke*, William A. Wooden*, Thomas J. Birdas*, Larry H. Stevens*, Grace S. Rozycki, C. Max Schmidt

Indiana University Health, Indianapolis, IN

8:25 AM – 8:50 AM

27.
Long-Term Quality of Life and Gastrointestinal Functional Outcomes After Pancreaticoduodenectomy
Casey J. Allen*, Danny Yakoub*, Francisco I. Macedo*, Austin R. Dosch*, Jessica Brosch*, Vikas Dudeja*, Rhonda Ayala*, Nipun B. Merchant

University of Miami Miller School of Medicine, Miami, FL

8:50 AM – 9:15 AM

28.
Declining Resident Experience in Open Vascular Operations Threatens the Status of Vascular Surgery As an Essential Content Area of General Surgery Training
John R. Potts, III[1], R. James Valentine[2]

[1]ACGME, Chicago, IL; [2]Vanderbilt University, Nashville, TN

*By invitation

9:15 AM – 9:40 AM

29.
Modifying Risks in Ventral Hernia Patients with Prehabilitation: A Randomized Controlled Trial (NCT02365194)
Mike K. Liang*[1], Karla Bernardi*[1], Julie L. Holihan*[1], Deepa V. Cherla*[1], Richard J. Escamilla*[1], Debbie F. Lew*[1], David H. Berger[2], Tien C. Ko*[1], Lillian S. Kao[1]

[1]University of Texas Health Science Center at Houston, Houston, TX; [2]Baylor College of Medicine, Houston, TX

9:40 AM – 10:05 AM

30.
Insurance Status Biases Trauma-System Utilization and Appropriate Inter-Facility Transfer: The Reverse Disparity of the "Wallet Biopsy"
Cheryl K. Zogg*, Kevin M. Schuster*, Adrian A. Maung*, Kimberly A. Davis

Yale School of Medicine, New Haven, CT

10:05 AM – 10:30 AM

31.
Is It Time to Abandon the Milan Criteria? Results of a Tri-Institutional US Collaboration to Redefine Hepatocellular Carcinoma Liver Transplantation Selection Policies
Karim J. Halazun*[1], Parissa Tabrizian*[2], Marc Najjar*[3], Sander Florman*[2], Myron Schwartz[2], Fabrizio Michelassi[1], Benjamin Samstein*[1], Roberts S. Brown, Jr.*[1], Jean C. Emond[3], Ronald W. Busuttil[4], Vatche G. Agopian*[4]

[1]Weill Cornell Medicine, New York, NY; [2]Mount Sinai School of Medicine, New York, NY; [3]Columbia University Medical Center, New York, NY; [4]UCLA Medical Center, Los Angles, CA

*By invitation

10:30 AM – 10:55 AM

32.
Prospective Study to Evaluate the Safety, Feasibility, and Financial Implications of a Post-Operative Telemedicine Program

Vahagn C. Nikolian*, Aaron M. Williams*, Benjamin Jacobs*, Michael T. Kemp*, Jesse Wilson*, Hasan B. Alam

University of Michigan, Ann Arbor, MI

11:00 AM ADJOURN

*By invitation

PROGRAM DETAIL AND ABSTRACTS

THURSDAY MORNING, APRIL 19th

8:15 AM – 9:10 AM

OPENING SESSION

Grand Sonoran E & F

President's Opening Remarks

Secretary's Welcome & Introduction of
New Fellows Elected In 2017

President's Introduction of Honorary Fellows

Report of the Task Force on Global Surgery

Presentation of the Medallion for Scientific Achievement

Presentation of the Medallion for the Advancement of
Surgical Care

Report of the Committee on Arrangements

THURSDAY MORNING, APRIL 19th, CONTINUED

9:10 AM – 11:00 AM
Grand Sonoran E & F

SCIENTIFIC SESSION I

Moderator: Ronald V. Maier, M.D.

1.
Circulating Tumor Cells Dynamics in Pancreatic Adenocarcinoma Correlate with Disease Status: Data from a Prospective Trial

Georgios Gemenetzis*, Vincent P. Groot*, Jun Yu*, Ding Ding*, Jonathan A. Teinor*, Ammar A. Javed*, Laura D. Wood*, Richard A. Burkhart*, John L. Cameron, Martin A. Makary*, Matthew J. Weiss*, Jin He*, Christopher L. Wolfgang

Johns Hopkins University School of Medicine, Baltimore, MD

OBJECTIVES: Previous retrospective studies demonstrate that circulating tumor cell (CTCs) subtypes in patients with pancreatic adenocarcinoma (PDAC) correlate with disease-specific survival. Herein, we report results of a prospective observational trial on CTC dynamics to assess their clinical significance.

METHODS: The CLUSTER trial is a prospective longitudinal study on PDAC CTC dynamics (NCT02974764). Multiple peripheral blood samples are collected from 160 consecutively enrolled patients with PDAC diagnosis. CTCs are isolated and characterized by immunofluorescence.

RESULTS: Two major CTC subtypes were identified in all patients: epithelial CTCs (eCTCs) and mesenchymal CTCs (mCTCs). Patients who received neoadjuvant chemotherapy have significantly lower total CTCs (tCTCs) and mCTCs, compared to untreated patients eligible for upfront resection ($p < 0.001$). In multivariable logistic regression analysis, preoperative numbers of tCTCs and mCTCs were the only predictors of early recurrence and disease-associated mortality, within 12 months from surgery ($p = 0.03$, Table 1). Surgical resection of the primary tumor results in significant

*By invitation

reduction, but not disappearance, of CTC burden across all cell subtypes ($p < 0.001$). Longitudinal monitoring of CTCs postoperatively shows an increase in CTC numbers within a median time of two months, prior to radiological evidence of disease recurrence.

	logOR	95% CI	p Value
***Age**, years*	–0.11	–0.26 – 0.04	0.15
***Sex**, male*	0.93	–1.68 – 3.55	0.46
***Smoking Hx**, present*	–0.25	–1.49 – 0.97	0.66
***BMI**, kg/m^2*	–0.02	–0.27 – 0.23	0.86
***Tumor site**, R pancreas*	–0.07	–2.28 – 2.13	0.94
***CA 19–9,** >67.8 U/mL*	–0.18	–2.27 – 1.91	0.86
***Tumor size,** >3 cm*	1.78	–1.09 – 4.65	0.21
***Preoperative tCTCs,** >16/mL of blood*	**3.08**	0.42 – 5.74	**0.03**
***Preoperative mCTCs,** >3/mL of blood*	2.26	–0.17 – 4.7	0.06

CONCLUSIONS: We report novel findings regarding CTCs from a large prospective trial in patients undergoing PDAC resection. CTC dynamics reflect progression of disease, providing important information on clinical outcomes, not available by current tumor markers and imaging.

2.

Peroral Pyloromyotomy (POP) for Medically Refractory Gastroparesis: Short Term Results from a High Volume Center

John Rodriguez*, Andrew T. Strong*, Ivy N. Haskins*, Joshua P. Landreneau*, Matthew T. Allemang*, Kevin El-Hayek*, James Villamere*, Michael S. Cline*, Matthew Kroh*, Jeffrey L. Ponsky

Cleveland Clinic, Cleveland, OH

OBJECTIVE(S): Pyloric division may relieve symptoms and improve gastric emptying for patients with gastroparesis. Peroral pyloromyotomy (POP) is an innovative endoscopic procedure to divide the pylorus within a submucosal tunnel. Here we evaluate subjective and objective outcomes 12-weeks after POP at a high volume center.

METHODS: All patients with procedure dates between January 2016 and August 2017 and 12-week follow-up available were included. Patients were evaluated using the Gastroparesis Cardinal Symptom Index (GCSI), and 4-hour scintigraphic gastric emptying studies (GES).

RESULTS: There were 95 patients who underwent POP procedures during the study period (84.2% female, mean age of 44.9 years). Gastroparesis etiologies were divided among idiopathic (54.7%), diabetes (22.1%), post-surgical (18.9%) and other in 4.2%. There were 68.2% of the patients who had previous endoscopic or surgical interventions for gastroparesis. Most POP procedures were performed in the operating room (96.7%), and were completed in an average of 34 minutes. Ten patients incurred complications (10.5%), which included 1 diagnostic laparoscopy, and 4 repeat endoscopy procedures. Overall GCSI improved from a preoperative mean of 3.82±0.86 to 2.54±1.27; $p < 0.0001$). The improvement in each GCSI sub-score was also highly statistically significant. Among the patients with postoperative GES available, 79.4% had objectively better 4-hour emptying with a mean improvement of 17.6% ($p = 0.0015$), and which included 68.6% with normal 4-hour emptying.

CONCLUSIONS: For patients with medically refractory gastroparesis, POP results in both subjective and objective improvement in the majority of patients. POP should be included along the treatment algorithm for patients with this progressive disease.

*By invitation

3.

Improved Post-Burn Hypertrophic Scarring and Physical Recovery with Year-Long Administration of Oxandrolone and Propranolol

David N. Herndon[1], Gabriel Hundeshagen*[1], Austin F. Lee*[2], Lewis E. Kazis*[2], Jayson W. Jay*[1], Guillermo Foncerrada-Ortega*[1], Anesh Prasai*[1], Amina El Ayadi*[1], Evan Ross*[1], Elizabeth Blears*[1], Karel Capek*[1], Christian Sommerhalder*[1], Dagmar Amtmann*[3], Kara McMullen*[3], Robert Cox*[1], Kristofer Jennings*[1], Linda E. Sousse*[1], Walter J. Meyer, III*[1], Oscar E. Suman*[1], Celeste C. Finnerty*[1]

[1]University of Texas Medical Branch, Galveston, TX; [2]Boston University, Boston, MA; [3]University of Washington, Seattle, WA

OBJECTIVE(S): Severe burns affect physical and psychosocial recovery through prolonged hypermetabolism, hypercatabolism, and inflammation. We previously demonstrated that administration of propranolol (Prop) or oxandrolone (Ox) during acute burn care ameliorate these effects. When co-administered for one year post-burn, growth is stimulated in severely burned children. We hypothesized that long-term administration of OxProp would decrease hypertrophic scarring and improve physical recovery over time.

METHODS: Pediatric subjects (0–18 years) with ≥30% of total body surface area burned were randomized to placebo (n = 254) or OxProp (n = 62) administered for one year; patients were assessed for up to 3 years post-burn. Scar severity was evaluated with the Vancouver Scar Scale and biopsies examined histologically. The Burn Model Systems (BMS) Questionnaire and Shriners/ABA Burn Outcomes Questionnaire (BOQ) were administered at discharge from the ICU and at follow-ups. Mixed models using generalized estimating equations with random effects were used to generate 3-year recovery curves for each outcome domain and a composite score representing the physical component generated using factor analysis.

*By invitation

RESULTS: With OxProp compared to placebo: scar height and severity were reduced ($p < 0.05$); histologically, nodularity ($p < 0.0001$), dermal inflammation ($p < 0.0001$), and abnormal procollagen deposition ($p < 0.0001$) were decreased; skin tightness interfered less with physical function ($p = 0.003$), and skin rigidity was reduced ($p < 0.05$). The physical composite score improved over 36 months of post-burn recovery ($p = 0.016$) with a large clinical effect (Cohen's $d = 2.4$).

CONCLUSIONS: The novel co-administration of Oxandrolone and Propranolol for one year post-burn reduces hypertrophic scarring, and profoundly improves physical recovery of severely burned children.

4.

A Structured Compensation Plan Improves But Does Not Erase the Gender Pay Gap in Surgery

Melanie S. Morris*, Herb Chen, Marty Heslin, Helen Krontiras*

University of Alabama at Birmingham, Birmingham, AL

OBJECTIVE(S): A growing body of evidence highlights the gender pay gap in medicine. Nationally female physicians make 26% less than men, while women in the state of Alabama are paid 43% less than their male physician counterparts. The aim of this study is to examine the relationship between the gender pay gap in a large academic department of surgery and a recently instituted structured compensation plan.

METHODS: Salaries in the Department of Surgery from 2014–2017 were compared to the AAMC median values based on region and academic rank then stratified by gender. Relative value units (RVUs) were calculated for each surgeon. Exclusion criteria included faculty not on staff during the entire study or on a guaranteed salary plan.

RESULTS: Overall, among 42 faculty, a gender pay gap existed. Prior to the new compensation plan, 31 male surgeon salaries were significantly higher than 11 female surgeon salaries [56% (8–213) vs 26% (1–64); $p < 0.00001$] despite similar RVU production (men 8725 ± 831 vs women 7818 ± 911, $p = 0.454$). Implementing a structured compensation plan did not significantly change salaries of male surgeons [58% (26–159); $p = 0.552$]. However, the compensation plan did significantly increase the salaries of female surgeons [42% (10–80); $p = 0.026$]. Before the compensation plan, female surgeons earned 46% of their male colleagues compared to 72% after the structured plan.

CONCLUSIONS: In a short period of time, a structured compensation plan improves the gender pay gap. Further efforts need to focus on understanding the inequity and maintaining a long lasting plan to eliminate it.

*By invitation

THURSDAY MORNING, APRIL 19th, CONTINUED

10:50 AM – 12:00 PM
Grand Sonoran E & F

PRESIDENTIAL ADDRESS

Introduction of the President

Edward M. Copeland, III, M.D.

Address by the President
"Our Calling"

Ronald V. Maier, M.D.

THURSDAY AFTERNOON, APRIL 19th

1:30 PM – 5:15 PM

SCIENTIFIC SESSION II
Grand Sonoran E & F

Moderator: E. Christopher Ellison, M.D.

5.
Timing of Carotid Endarterectomy After Stroke

Adam Tanious*[1], Alexander B. Pothof*[2], Laura Boitano*[1], Alaska Pendleton*[1], Linda J. Wang*[1], Gert J. de Borst*[3], David W. Rattner[1], Marc L. Schermerhorn[2], Mohammad H. Eslami*[4], Mahmoud B. Malas*[5], Matthew Eagleton*[1], W. Darrin Clouse*[1], Mark Conrad*[1]

[1]Massachusetts General Hospital, Boston, MA; [2]Beth Israel Deaconess Medical Center, Boston, MA; [3]University Medical Center, Utrecht, Netherlands; [4]University of Pittsburgh, Pittsburgh, PA; [5]Johns Hopkins University, Baltimore, MD

INTRODUCTION: Timing of carotid intervention in post-stroke patients is widely debated. Our objective was to identify the postoperative risk associated with different timing intervals of repair.

METHODS: Utilizing Vascular Quality Initiative data, all carotid interventions performed on stroke patients between the years 2012–2017 were queried. Patients were then stratified based on the timing of surgery from their stroke (<48 hrs, 3–7 days, 8–14 days, >15 days). Major outcomes included postoperative stroke, death, and MI.

RESULTS: A total of 8404 patients were included being predominantly male (5281, 62.8%), with an average age of 69 (±10). Table 1 displays the outcome variables overall and broken down by timing groups with associated p-values. Patients treated at greater than 8 days showed significantly less risk of postoperative combined stroke/death as well as postoperative stroke. There were no significant differences in postoperative stroke or death between the 8–14 and greater than 15 days groups.

*By invitation

Multivariate regression analysis showed that delayed timing of surgery between 3–7 days was protective for postoperative stroke/death (p = .003) and any postoperative complication (p = .028). Delaying surgery to greater than 8 days after stroke was protective for postoperative stroke/death (p < .001), post-operative stroke (p < .001), and any postoperative complication (p < .001).

Table 1: Outcomes based on timing of carotid revascularization

			Time between pre-procedural symptoms and CEA													
	Total (N) or Mean	%	A) <48 hours		B) 3-7 days		P-value	C) 8-14 days		P-value	P-value	D) 15-180 days		P-value	P-value	P-value
			N	%	N	%	A vs. B	N	%	A vs. C	B vs. C	N	%	A vs. D	B vs. D	C vs. D
N			845	7.7	2515	30		1154	14.2			4588	48.1			
Postoperative Stroke /death	246	2.9	35	5.4	95	3.9	.1	32	2.7	.004	.035	80	2.0	< .001	< .001	.204
30-day mortality	98	1.2	10	1.5	31	1.2	.603	13	1.3	.506	.849	32	0.8	.081	.087	.165
In-hospital any stroke	173	2.1	25	4.0	70	3.1	.148	17	1.4	< .001	.001	52	1.3	< .001	< .001	.392
In-hospital any TIA	54	0.6	5	0.8	25	0.9	.503	10	0.8	1.0	.890	17	0.4	.5	.825	.117
In-hospital MI	71	0.8	12	1.8	19	0.7	.012	8	0.7	.68	.908	32	0.8	.82	.931	.595
In-hospital CNI	260	3.2	28	4.3	81	3.2	.159	39	3.0	.2	.733	121	3.0	.1	.509	.067
Reperfusion symptoms	35	0.5	2	0.3	6	0.2	.488	3	0.3	1.0	.592	11	0.3	.7	.564	.858
Any return to OR	191	2.3	23	3.5	66	2.6	.163	23	1.8	.02	.097	81	2.0	.014	.058	.621
Dysrhythmia	153	1.8	18	2.8	52	2.1	.233	20	2.3	.6	.561	55	1.4	.03	.036	.025
Congestive Heart Failure	61	0.5	5	0.8	17	0.7	.701	5	0.4	.3	.292	14	0.3	.2	.041	.751
Surgical Site Infection	5	0.1	2	0.3	2	0.1	.033	0	-	.010	.353	1	0.0	.006	.375	.758
Discharge Rankin Score	1.19		1.24		1.31		.500	1.35		.213	.651	1.05		.001	< .001	< .001

*TIA: Transient Ischemic Attack, MI: myocardial infarction, CNI: cranial nerve injury, OR: operating room

CONCLUSION: Carotid revascularization should occur no sooner than 48 hours after index stroke event. Surgeons should strive to operate between 8–14 days to protect against postoperative stroke/death.

6.

Better Function with a Colonic J-Pouch or a Side-to-End Anastomosis? A Randomized Controlled Trial to Compare the Complications, Functional Outcome and Quality of Life in Patients with Low Rectal Cancer After a J-Pouch or a Side-to-End Anastomosis

Massarat Zutshi*[1], Yann Parc*[2], Rhinehard Ruppert*[3], Alois Fuerst*[4], Werner Hohenberger*[5], Susan Galandiuk[6], Felix Hemminger*[3], Henriette Goldcher*[5], Emmanuel Tiret*[2], Alexander Heriot*[7], Alexandra Aiello*[1], Tracy Hull[1]

[1]Cleveland Clinic Foundation, Cleveland, OH; [2]Hospital St. Antoine, Paris, France; [3]Krankenhaus Munchen Neuperlach, Munich, Germany; [4]Caritas-Clinic St. Josef, Regensberg, Germany; [5]Zentrum Für Klinische Studien, Erlangen, Germany; [6]University of Louisville, Louisville, KY; [7]Peter MacCallum Cancer Centre, Melbourne, Australia

AIM: To compare prospectively the complications and functional outcome of patients undergoing a JP or SE for treating low rectal cancer at 2-years.

METHODS:A multicenter study randomized patients with low rectal cancer to receive either a JP or SE and followed for 12/24 months with SF-12&FACT-C surveys to evaluate quality of life (QOL). Fecal Incontinence Severity Index (FISI) evaluated bowel function. Univariate analysis compared JP/SE groups using Pearson's Chi-square/Fisher's exact test for categorical variables and ANOVA for continuous variables.

RESULTS: (Table 1) 236 patients enrolled, 46 ineligible, died or withdrew consent before surgery. 23 (10%) failed randomization (15JP, 8SE) and received a straight anastomosis.The main presenting symptom was rectal bleeding (76%). BMI was similar in both groups. 92 (55%) underwent radiotherapy (42JP, 40SE) and 89 (54%) underwent preoperative chemotherapy (41JP,48 SE). The overall recurrence rate was 7% (similar in both groups).

COMPLICATIONS: 14/37 were Clavien Dindo Grade 3b, 2 were 3a. Pouch necrosis was noted in 2 (JP). QOL:QOL scores using either instrument were similar at 12 and 24 months ($p > 0.05$) in both groups. Bowel Function:At 12 and 24 months the number of bowel movements/urgency/clustering and FISI scores were similar.Conclusions:At 1 and 2 years after a JP or SE for low rectal cancer, QOL, bowel function and complications are comparable. Although choosing a particular procedure may depend on surgeon/patient choice or anatomical considerations at the time of surgery, SE functions similar to JP and may be chosen due to the ease of construction.

*By invitation

Table 1

	Overall		J-Pouch (N = 80)		Side to End (N = 87)	
Factor		**n**	**Statistics**	**n**	**Statistics**	**P Value**
Age at surgery	60.8 ± 10.4	89	60.8 ± 9.4	91	60.1 ± 10.5	0.61a
Pre-op BMI	27.5 ± 11.6	95	28.7 ± 16.8	90	26.3 ± 4.9	0.20a
Sex						
Female	73 (30.9)		24 (25.3)		37 (38.9)	0.04
Complications						0.4
Leak	3 (8.1)		2 (10.5)		1 (6.3)	
Fistula	4 (10.8)		1 (5.3)		3 (18.8)	
Small bowel obstruction	4 (10.8)		3 (15.8)		1 (6.3)	
Hernia	3 (8.1)		1 (5.3)		2 (12.5)	
Wound Infection	5 (13.5)		2 (10.5)		3 (18.8)	
QOL 12 months						
FACT-C total score	110.1 ± 16.2	52	109.2 ± 16.9	57	110.8 ± 15.7	0.61a
FACT-C Total outcome index score	67.4 ± 11.1	54	67.2 ± 11.6	59	67.6 ± 10.8	0.86a
QOL 24 months						
FACT-C Fact-G total score	90.8 ± 13.8	61	90.3 ± 14.9	64	91.4 ± 12.9	0.67a
FACT-C Total outcome index score	68.0 ± 11.1	60	68.1 ± 11.8	64	67.9 ± 10.4	0.93a
SF-12 Mental Component Score	52.8 ± 7.9	55	52.5 ± 8.3	62	53.0 ± 7.5	0.76a
SF -12 Physical Component Score	48.7 ± 9.2	55	49.1 ± 8.6	62	48.3 ± 9.7	0.63a
Bowel Function						
No. of Bowel Movements in a Day (24 hrs)	3.3 ± 1.9 3 [2, 4] (1, 12)	56	3.1 ± 1.7 3 [2, 4] (1, 10)	59	3.5 ± 2.0 3 [2, 5] (0, 11)	0.28a
FISI Total Score	14.0 ± 10.5	58	14.8 ± 10.9	60	13.2 ± 10.1	0.42a

Statistics presented as Mean ± SD, Median [P25, P75], Median (min, max) or N (column %).p-values: a = ANOVA,

7.

Significant Numbers of Patients Require No Opioids After Discharge: Results of a Prospective Multicenter Initiative Aimed at Developing Opioid Prescribing Guidelines for 25 Elective Surgeries

Cornelius A. Thiels*, Daniel S. Ubl*, Kathleen J. Yost*, Sean C. Dowdy*, Tad M. Mabry*, Halena M. Gazelka*, Robert R. Cima, Elizabeth B. Habermann*

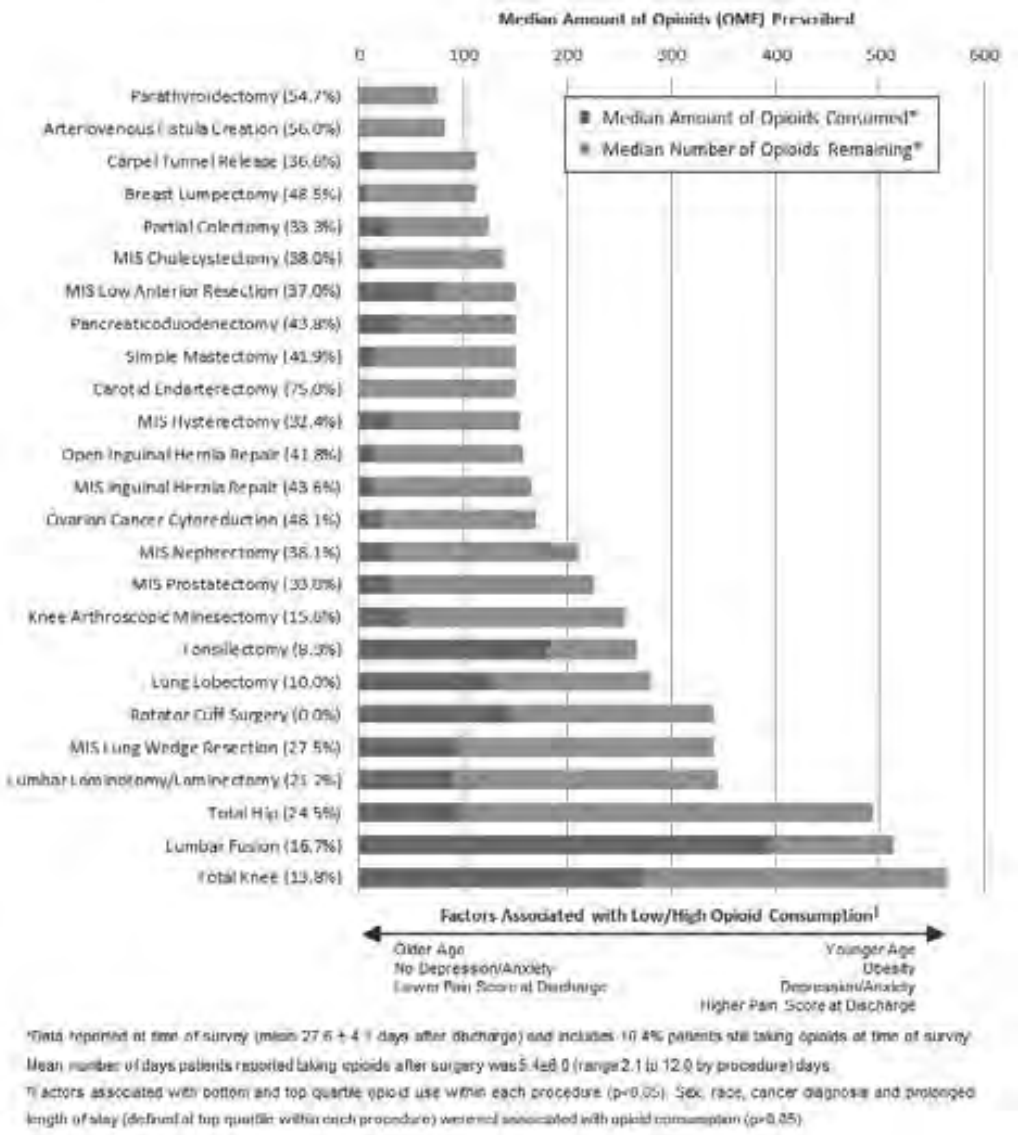
Mayo Clinic, Rochester, MN

OBJECTIVES: To conduct a prospective, multicenter survey of patients regarding postoperative opioid use to inform evidence-based opioid prescribing guidelines.

METHODS: Adults (n = 2550) undergoing 25 elective procedures were identified prospectively from three academic centers (4/2017–10/2017) to complete a 29-question telephone interview survey 21–35 days post-discharge (n = 579 not contacted, n = 64 refused). Discharge opioids were converted into Oral Morphine Equivalents (OME).

RESULTS: 1907 patients completed the survey, 92.2% received discharge opioids (median 225 [IQR 150,450] OME). A median of 44 [0,180] OME were consumed after discharge. On average, 62.7% of prescribed opioids were unused; 31.0% of patients used no opioids, and 52.3% required <50 OME. Refill rates ranged from 1.7% for laparoscopic inguinal hernia to 71.4% for lumbar fusion. Overall, 90.2% of patients were satisfied with their post-discharge pain control. 28.2% reported being prescribed too many opioids while 8.3% felt they were not prescribed enough. Only 7.5% of patients disposed of remaining opioids. Of the 1428 naïve patients (74.9% of surveyed patients), 33.5% consumed no opioids (range 0.0–75.0% by procedure; Figure) and 57.5% (66.6% of non-orthopedic) consumed <50 OME. Utilization data and predictors of low/high opioid consumption (Figure) will inform development of postoperative prescribing guidelines.

*By invitation



CONCLUSIONS: A large proportion of postoperative patients reported using no or few opioids following discharge. Guidelines should be further refined to minimize opioid prescribing and identify those patients requiring additional multi-modal pain control.

8.

Does Surgical Margin Impact Recurrence in Non-Invasive Intraductal Papillary Mucinous Neoplasms? A Multi-Institutional Study

Syed A. Ahmad[1], Vikrom K. Dhar*[1], Michael J. Edwards[1], Sameer H. Patel*[1], Dennis J. Hanseman*[1], Daniel E. Abbott*[2], Sharon M. Weber[2], Hong J. Kim[3], Robert CG Martin[4], Charles R. Scoggins[4], David J. Bentrem*[5], Kamran Idrees*[6], Shishir K. Maithel*[7], David A. Kooby[7], Nipun B. Merchant[8]

[1]University of Cincinnati College of Medicine, Cincinnati, OH; [2]University of Wisconsin School of Medicine and Public Health, Madison, WI; [3]University of North Carolina School of Medicine, Chapel Hill, NC; [4]University of Louisville School of Medicine, Louisville, KY; [5]Northwestern University Feinberg School of Medicine, Chicago, IL; [6]Vanderbilt University School of Medicine, Nashville, TN; [7]Emory University, Atlanta, GA; [8]University of Miami Miller School of Medicine, Miami, FL

OBJECTIVE(S): The relevance of margin positivity on recurrence after resection of intraductal papillary mucinous neoplasms (IPMNs) is poorly defined. Consequently, controversy remains regarding optimal surveillance recommendations.

METHODS: Patients undergoing surgery for non-invasive IPMN at 8 academic medical centers from the Central Pancreas Consortium were analyzed. A positive margin was defined as presence of IPMN or Pancreatic Intraepithelial Neoplasia.

RESULTS: 502 patients underwent surgery for IPMN; 329 (66%) did not have invasive cancer on final pathology and form the study cohort. Of these, 20% harbored carcinoma *in-situ* or high grade dysplasia. A positive margin was found in 20% of cases and was associated with multifocal disease ($p < 0.01$). At a median follow-up of 36 months, 30 (9%) patients recurred, with 6% developing recurrent IPMN and 3% developing invasive cancer. On multivariate analysis, margin positivity was not associated with recurrence of either IPMN or invasive cancer ($p > 0.05$). No association between margin status and development of recurrence at the margin was found. Overall, 87% of recurrences developed in the remnant pancreas away from the margin and median time to recurrence was 22 months. Of note, 17% of patients recurred >5 years following surgery.

*By invitation

CONCLUSIONS: In the largest series examining the significance of margin status following surgery for IPMN, we have demonstrated that margin positivity in non-invasive IPMNs may not be associated with developing recurrence. Long-term surveillance is required for all patients, as a significant number of recurrences developed over 5 years after the index operation. These findings should guide future consensus recommendations.

9.

Analysis of Gender-Based Differences in Surgery Faculty Compensation, Promotion, and Retention: Establishing Equity

Heather E. Hoops*, Karen J. Brasel, Elizabeth Dewey*, Sally Rodgers*, Jenny Merrill*, John G. Hunter, Kenneth S. Azarow

Oregon Health & Science University, Portland, OR

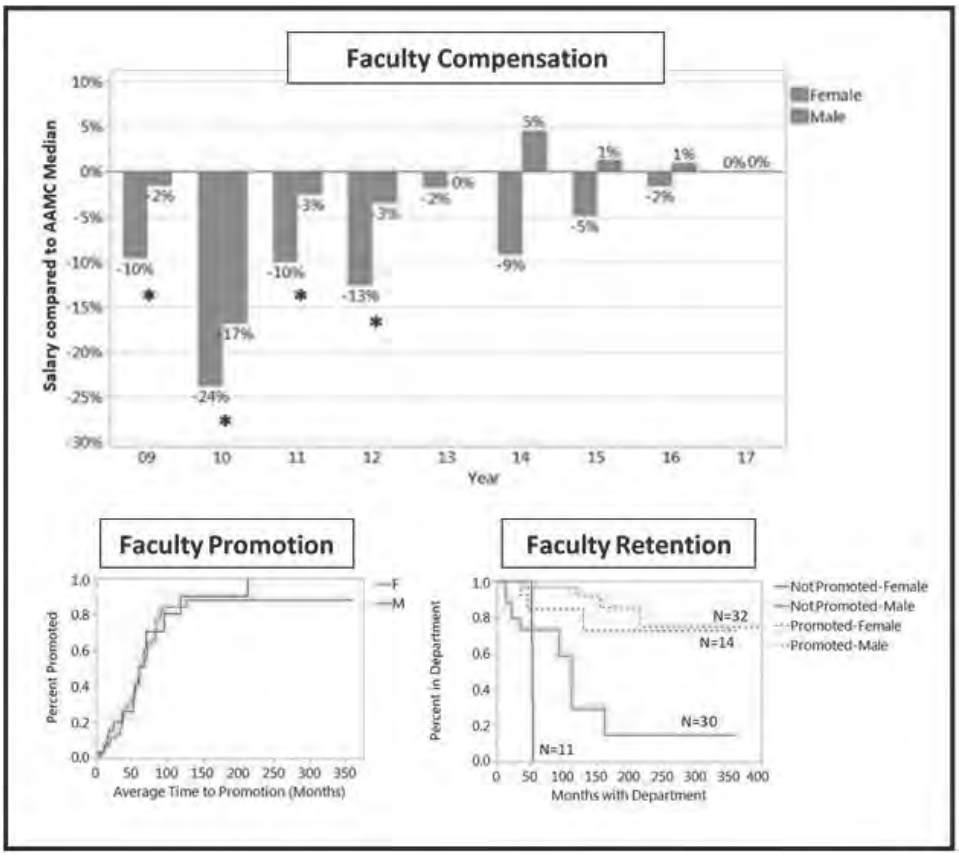
OBJECTIVES: The objectives of this study were to assess for gender-based differences in faculty compensation, promotion, and retention and to evaluate the effect of a university-wide revision to the compensation plan.

METHODS: Surgery faculty salary, work RVU, time to promotion and retention at a single institution from 2009–2017 were reviewed. In 2015, a university-wide revision to compensation plans was implemented, supplanting specialty-specific plans. Salaries and work RVUs relative to the regional median Association of American Medical Colleges (AAMC) metrics, time to promotion, and retention were compared between genders.

RESULTS: Data from 102 faculty were analyzed (26 female, 76 male). Adjusting for FTE, female faculty were compensated significantly less than males from 2009–2010 and equalized by 2016 (Figure) despite similar work RVUs. Average promotion rate was similar between groups (female: 60 ± 55 months, male: 53 ± 27 months; $p = 0.598$). Promotions were 3.4 times more likely after 2015 ($p < .001$) with no gender-based differences. Promotion significantly affected both female ($p = 0.010$) and male ($p < 0.001$) faculty retention. Female faculty left the department sooner than males (53 months vs. 113 months without promotion; $p = 0.656$ and 116 months vs. 340 months with promotion; $p = 0.377$).

CONCLUSIONS: A university-wide revision to compensation plans increased faculty salaries to the AAMC median, allowing correction of gender-based inequity. Time to promotion was similar, but female faculty not promoted left sooner than males, and prior to the average time to promotion.

*By invitation


Faculty Compensation
Salary compared to AAMC Median
Female
Male
Year
Faculty Promotion
Percent Promoted
Average Time to Promotion (Months)
F
M
Faculty Retention
Percent in Department
Months with Department
Not Promoted-Female
Not Promoted-Male
Promoted-Female
Promoted-Male
N=32
N=14
N=30
N=11

10.

IdeS: A Novel Agent that Cleaves Human IgG and Permits Successful Kidney Transplantation Across High-Strength Donor-Specific Antibody

Bonnie E. Lonze*, Vasishta S. Tatapudi*, Elaina P. Weldon*, Elijah S. Min*, Nicole M. Ali*, Cecilia L. Deterville*, Bruce E. Gelb*, Judith A. Benstein*, Nabil N. Dagher*, Ming Wu*, Robert A. Montgomery

NYU Langone Transplant Institute, New York, NY

OBJECTIVE(S): To prevent hyperacute rejection, transplant recipients who have pre-formed donor-specific antibody (DSA) must undergo desensitization prior to transplantation. Traditionally, this involves plasmpheresis treatments that occur over days to weeks. Desensitization has only been feasible when there is a living donor and the date of the transplant is known, allowing time for plasmapheresis. For sensitized patients without a living donor, transplantation has been historically difficult. IdeS is an endopeptidase derived from Streptococcus pyogenes which has specificity for human IgG, and, when infused intravenously can result in rapid cleavage of all IgG.

METHODS: Here we present the results of a single-center IRB approved study involving 7 highly-sensitized (PRA99–100%) kidney transplant candidates with DSA resulting in positive crossmatches with their donors (5 deceased, 2 living) who received IdeS within 24 hours prior to transplant.

RESULTS: All pre-IdeS crossmatches were positive and would have been prohibitive for transplantation. All crossmatches became negative post-IdeS and the patients underwent successful transplantation. 3 patients had DSA rebound and antibody-mediated rejection, which responded to standard of care therapies. 3 patients had delayed graft function, which ultimately resolved. No serious adverse events were associated with IdeS. All patients have functioning renal allografts at a median follow-up of 171 days.

*By invitation

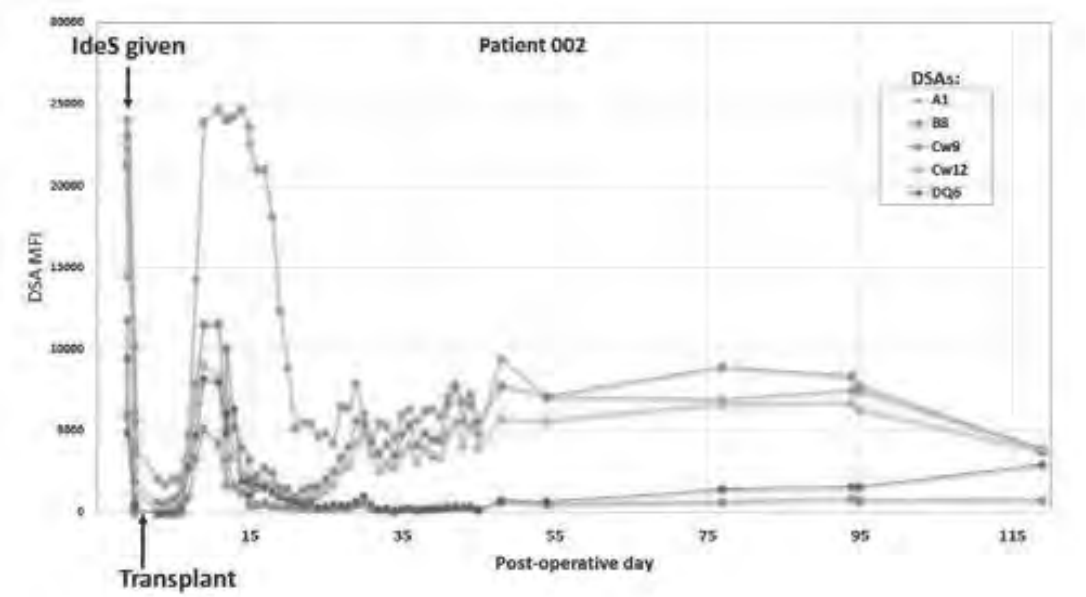


Figure 1

CONCLUSIONS: IdeS may represent a groundbreaking new method of desensitization for patients who otherwise might have no hope for receiving a lifesaving transplant.

11.

Long-Term Quality of Life in Neonatal Surgical Patients

Ruchi Amin*[1], Michelle Knezevich*[2], Melissa Lingogo*[2], Casey M. Calkins*[1], Thomas T. Sato*[1], Keith T. Oldham[1], Marjorie J. Arca[1]

[1]Medical College of Wisconsin, Milwaukee, WI; [2]Children's Hospital of Wisconsin, Milwaukee, WI

OBJECTIVES: Quality of life in neonatal surgical patients is seldom explored in a longitudinal manner. This prospective observational study was designed to assess Pediatric Quality of Life (PedsQL) scores in patients with diaphragmatic hernia (CDH), esophageal atresia/tracheoesophageal fistula (EA/TEF), Hirschsprung disease (HD), gastroschisis (GAS), omphalocele (OMP), and necrotizing enterocolitis (NEC). We hypothesize physical and psychosocial scores will improve with age for all patients except in NEC due to its association with prematurity.

METHODS: Data were collected from 248 patients [CDH = 53; EA/TEF = 62; HD = 46; GAS = 37; OMP = 27; NEC = 23] from 2012–2017. Aggregate physical, psychosocial, and overall PedsQL scores were plotted for each diagnosis. Spline regression models were created to model scores against age.

RESULTS: Using graphs created with best-of-fit modeling, physical scores trended up for all diagnoses except CDH and NEC beyond age 10. Psychosocial and overall scores also trended up for all diagnoses except NEC beyond age 10. Beyond age 12, CDH, GAS, and HD patients had mean overall scores within the normal range, while NEC, OMP, and TEF had scores similar to children with chronic illnesses (Figure 1).

*By invitation

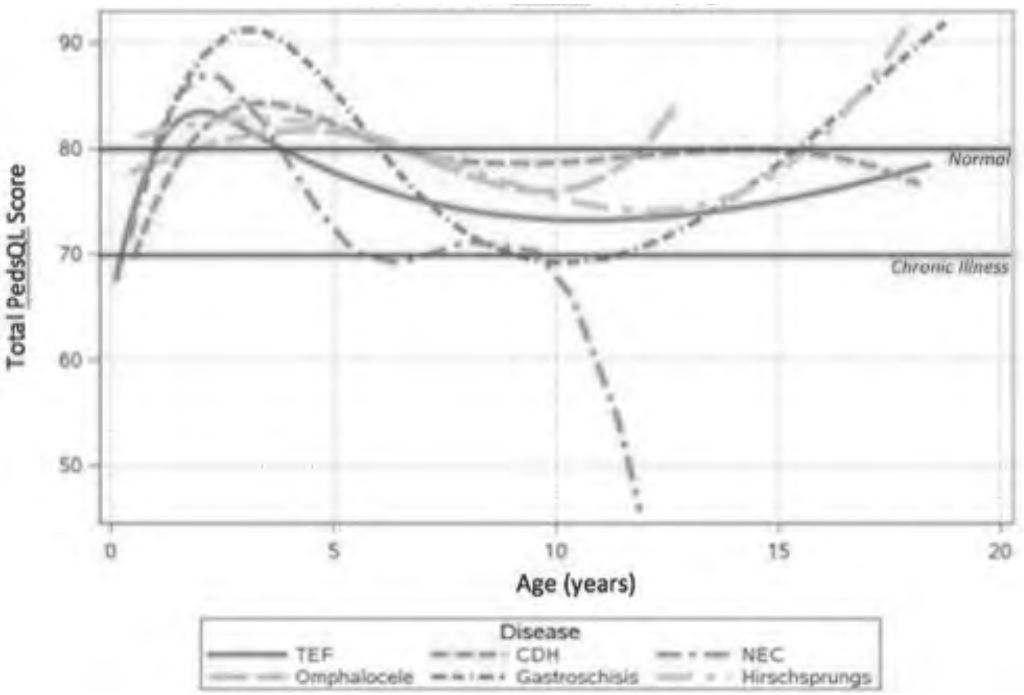


Figure 1: Trends in Total PedsQL Scores by Age in Various Neonatal Surgical Conditions

CONCLUSIONS: There is variation in long-term outcomes after neonatal surgery. Quality of life is significantly impaired in NEC, moderately impaired in OMP and TEF, and within normal range for CDH survivors, HD, and GAS patients at the population level. These data are unique and relevant to perioperative family discussions.

12.

Hyperthyroidism Is Under-Diagnosed and Under-Treated in 174,011 Patients: An Opportunity for Improvement and Intervention

Ammar Asban*, Sebastian K. Chung*, Margaret A. Tresler*, Priyanka Huilgol*, Rongbing Xie*, James K. Kirklin, Courtney J. Balentine*, Brenessa M. Lindeman*, Herbert Chen

University of Alabama at Birmingham, Birmingham, AL

OBJECTIVE(S): When undiagnosed and untreated, hyperthyroidism significantly diminishes quality of life and increases the financial burden on patients and health systems. We hypothesized that many patients with hyperthyroidism remain untreated because physicians fail to recognize and evaluate the first indication of disease: a suppressed thyroid stimulating hormone (TSH).

METHODS: We reviewed administrative data on 174,011 patients with TSH measured at a tertiary referral center between 2011–2017 to identify individuals with hyperthyroidism (TSH <0.05 mU/L). We evaluated whether patients underwent evaluation of hyperthyroidism (measurement of thyroxine T4, T3, radioactive iodine uptake scan, thyroid stimulating immunoglobulin, thyroid peroxidase antibodies), had documentation of hyperthyroidism, or were treated.

RESULTS: We found 3,379 patients with hyperthyroidism. The mean age of our cohort was 52 ± 17 years, with 79% females and 59% Caucasians. Only 1236 patients (37%) received any further laboratory or imaging work up, and hyperthyroidism remained undiagnosed in 53% of patients who had the appropriate workup. Despite meeting criteria for intervention, only 9% were referred for surgery and 8% received radioactive iodine. Predictors for hyperthyroidism diagnosis include being African American (hazard ration (HR) 1.28 vs. Caucasian, 95% CI 1.12–1.47, p = 0.0003), lower TSH 0.01u/L (HR 2.3, 95% CI 2.09–2.55, p = <.0001) and younger age (10 years) (HR 1.17, 95% CI, 0.25–1.21, p = <.0001).

CONCLUSIONS: Hyperthyroidism is frequently unrecognized and untreated, which can lead to adverse outcomes and increased costs. Improved systems for detection and treatment of hyperthyroidism are needed to address this gap in care.

*By invitation

13.

Validity in the Application of the Novel Taiwan Lymphoscintigraphy Staging and Clinical Grading Systems for Unilateral Extremity Lymphedema

Ming-Huei Cheng*[1], Marco Pappalardo*[1], Chieh Lin*[1], Chang-Fu Kuo*[1], Chia-Yu Lin*[1], Kevin C. Chung[2]

[1]Chang Gung Memorial Hospital, Taipei, Taiwan; [2]University of Michigan, Ann Arbor, MI

OBJECTIVE: Approximately 200 million people worldwide suffer from extremity lymphedema. Accurate diagnosis and staging to guide decision-making process are fundamental to successful treatment. The purpose of this study was to validate the new Taiwan Lymphoscintigraphy Staging (TLS) System for unilateral extremity lymphedema based on a precision medicine concept.

METHODS: Patients with unilateral extremity lymphedema were included. Lymphoscintigraphy was performed on all patients and divided into three groups: normal lymphatic drainage, partial-obstruction, and total-obstruction based on the visualization of proximal lymph nodes, linear lymphatic ducts, and dermal backflow. Clinical severity of extremity lymphedema was determined using a 5-grade Lymphedema Grading System based on the circumferential difference between the lymphedematous limb and the healthy limb.

RESULTS: We present the largest series in the world of 285 patients with unilateral extremity lymphedema who underwent complex decongestive therapy and lymphedema microsurgery. Lymphoscintigraphy found 11 patients (3.9%) with normal lymphatic drainage, 128 (44.9%) with partial obstruction, and 146 (51.2%) with total obstruction. The TLS System showed high inter-observer agreement. Strong correlation was found between the TLS and circumferential difference ($r = 0.77$, $P < 0.001$), computed tomography volumetric difference ($r = 0.66$, $P < 0.001$), and Lymphedema Grading System (ICC: 0.79 (95% CI 0.72–0.84)). Patients with total obstruction of the lymphatics should be treated with lymph node transfer, whereas those with partial obstruction can be managed with lymphovenous bypass.

CONCLUSIONS: The new TLS System is a reliable and comprehensive tool for the assessment of lymphatic obstruction. For refractory extremity lymphedema, the TLS system should be applied to guide appropriate treatment options.

*By invitation

FRIDAY MORNING, APRIL 20th

6:30 AM – 8:00 AM

ASA WOMEN IN SURGERY BREAKFAST
Grand Sonoran A & B

Negotiating for the Big Jobs

8:00 AM – 10:30 AM

SCIENTIFIC SESSION III
Grand Sonoran E & F

Moderator: Ronald V. Maier, M.D.

14.
Incentivizing Academic Productivity of Surgery Faculty Members Through an Academic RVU System

Scott A. LeMaire, Barbara W. Trautner*, Susan Y. Green*, Qianzi Zhang*, William E. Fisher*, Todd K. Rosengart

Baylor College of Medicine, Houston, TX

OBJECTIVES: Academic faculty are expected to perform education and research activities that are often not incentivized or financially compensated. The objective of this report is to describe a new academic RVU (aRVU) scoring system linked to faculty compensation and analyze its association with academic productivity.

METHODS: We launched an online, self-reporting aRVU system in 2015 to document and incentivize the academic productivity of our faculty. The system captured weighted scores (by department priority; inversely proportional to rank) for 65 research, education, innovation, academic service, and peer review activities. Annually, aRVU scores were rank-aggregated and bonuses were distributed to faculty accordingly (top 10%: $10,000; top 33%: $5,000; top 50%: $2,500). We now compare pre-aRVU (2014) to current (2016) achievement metrics.

RESULTS: Since 2015, annual aRVU bonuses totaling $714,000 were awarded to 59 faculty members. aRVU implementation was associated with significant increases in seven key departmental academic achievement metrics (Table): NIH funding (increase: 467%), clinical trials (188%), total research funding (83%), presentations (49%), editorial leadership positions (48%), academic society committee participation (32%), and publications (14%).

*By invitation

Annual Departmental Academic Productivity Metrics Before (2014) and After (2016) aRVU Implementation

Metric	2014	2016 (% Increase)	P Value
Research: Total NIH funding	$0.6M	$3.4M (467%)	<0.001
Research: Active clinical trials	8	23 (188%)	0.002
Research: Total research funding	$4.6M	$8.4M (83%)	<0.001
Research: Active grants	58	73 (26%)	0.1
Research: Publications	390	446 (14%)	0.02
Education: Presentations	579	862 (49%)	<0.001
Innovation: Patents submitted	20	31 (55%)	0.09
Academic Service: Academic society committee participation (total positions)	226	298 (32%)	<0.001
Peer Review: Editorial boards/editorships (total positions)	50	74 (48%)	0.01

CONCLUSIONS: The implementation of an aRVU system in our department was associated with increases in departmental academic productivity. Unrelated factors may have contributed to these increases, but an aRVU program may represent an important mechanism to track and incentivize academic productivity in surgery departments.

15.

Decreased Risk of Delirium with Use of Regional Anesthesia in Geriatric Trauma Patients with Multiple Rib Fractures

Kathleen O'Connell*, Alex Quistberg*, Robert Tessler*, Bryce Robinson*, Joseph Cuschieri*, Ronald Maier, Frederick Rivara*, Monica Vavilala*, Saman Arbabi

University of Washington, Seattle, WA

OBJECTIVE: Delirium is a modifiable factor associated with increased morbidity and mortality. The goal was to examine the risk of delirium in geriatric trauma patients with rib fractures treated with systemic opioids compared to those treated with regional anesthesia (RA).

METHODS: Cohort study of patients 65 years and older admitted to a regional trauma center from 2011–2016. Inclusion factors were ≥3 rib fractures, blunt trauma mechanism, and admission to the ICU. Exclusion criteria included head AIS ≥3, spine AIS ≥3, dementia, and death within 24 hours. The primary outcome was delirium positive ICU days. Delirium incident rate ratios (IRR) and 95% confidence intervals (95% CI) were estimated using generalized linear mixed models with Poisson distribution and robust standard errors.

RESULTS: Of the 144 patients included in the study, 27 (19%) received RA and 117 (81%) received opioid-based systemic analgesia. Of the patients with RA, 14 received epidural catheters, and 13 received paravertebral catheters. Patients with RA were more likely to have a flail segment ($P = 0.02$), hemopneumothorax ($P = 0.03$), chest tube placement ($P = 0.02$) and intubation ($P < 0.01$). The risk of delirium decreased by 24% per day per patient with initiation of RA (IRR 0.76, 95% CI 0.61, 0.96). Individual opioid use as measured in daily morphine equivalents was significantly reduced after initiation of RA (mean difference –7.62, 95% CI –14.4, –0.81).

CONCLUSIONS: The use of regional anesthesia in geriatric trauma patients with multiple rib fractures is associated with a significantly decreased risk of delirium.

*By invitation

16.

Evidence for the Role of the Cecal Microbiome in Maintenance of Immune Regulation and Homestasis

Preeti Chhabra*[1], Anthony Spano*[1], Daniel Bowers*[1], Tiantian Ren*[1], Christopher Wilson*[2], Andrew Marshall*[3], Michael Timko*[1], Martin Wu*[1], Daniel Moore*[1], Kenneth L. Brayman[1]

[1]University of Virginia, Charlottesville, VA; [2]Vanderbilt University, Nashville, TN; [3]Vanderbilt University, Nashville, VA

OBJECTIVE(S): Our objective was to investigate alterations in the cecal microbial composition during the development of Type 1 Diabetes (T1D) with or without IgM therapy, and correlate these alterations with the corresponding immune profile.

METHODS: 1) Female non-obese diabetic (NOD) mice treated with IgM or saline (n = 20/grp) were divided into 5 wks−old non-diabetic; 9–12 weeks old prehyperglycemic stage-1; ≥13 weeks old prehyperglycemic stage-2; and diabetic groups. 16S rRNA libraries were prepared from bacterial DNA and deep-sequenced. 2) New-onset diabetic mice were treated with IgM (100 ug on Day 1 and Day 4) and their blood glucose monitored for two months.

RESULTS: Significant dysbiosis was observed in the cecal microbiome with the progression of T1D development. The alteration in microbiome composition was characterized by an increase in the bacteroidetes:firmicutes ratio. In contrast, IgM conserved normal bacteroidetes:firmicutes ratio and this effect was long-lasting. Furthermore, oral gavage using cecal content from IgM-treated mice significantly diminished the incidence of diabetes compared to controls. Also, regulatory immune cell populations (myeloid derived suppressor cells and regulatory Tcells) were expanded and insulin autoantibody production diminished in the IgM-treated mice. No significant difference was observed in the fecal microbial composition between IgM-treated and control groups over time, indicating that IgM may specifically affect mucosa-associated microbes, possibly in a manner involving mucosal immunity. Additionally, IgM therapy reversed hyperglycemia in 63% of new-onset diabetic mice (n = 11) and the mice remained normoglycemic for the entire post-treatment observation period.

CONCLUSIONS: The cecal microbiome appears to be important in maintaining immune homeostasis and normal immune responses.

*By invitation

17.

Xenoantigen Deletion and Chemical Immunosuppression Can Prolong Renal Xenograft Survival

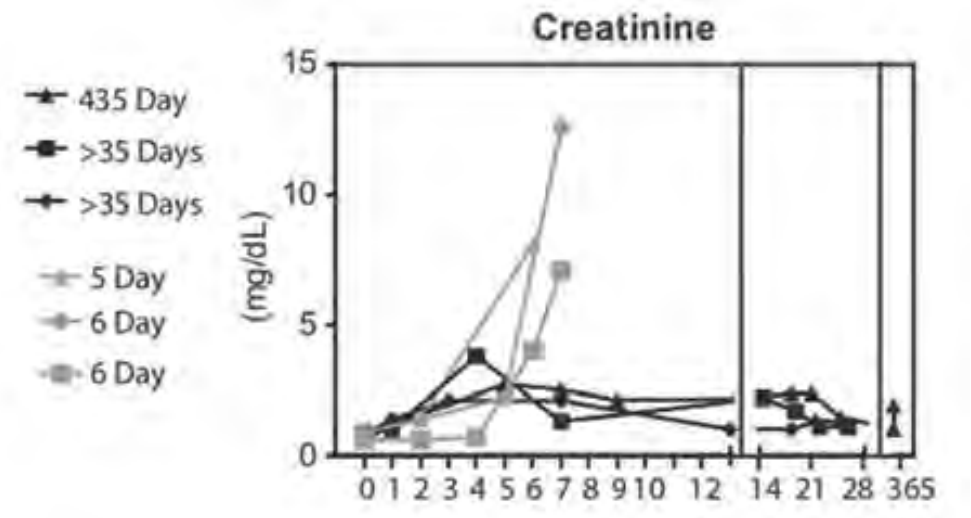
Andrew B. Adams*[1], Steven C. Kim*[1], Gregory R. Martens*[2], Joseph M. Ladowski*[2], Jose L. Estrada*[2], Luz M. Reyes*[2], Cindy Breeden*[1], Allison Stephenson*[1], Devin E. Eckhoff[2], Matt Tector*[2] , Alfred J. Tector[2]

[1]Emory School of Medicine, Atlanta, GA; [2]University of Alabama Birmingham, Birmingham, AL

OBJECTIVE(S): Xenotransplantation using pig organs could end the donor organ shortage for transplantation, but humans have xenoreactive antibodies that cause early graft rejection. Genome editing can eliminate xenoantigens in donor pigs to minimize the impact of these xenoantibodies. Here we determine whether an improved crossmatch and chemical immunosuppression could result in prolonged kidney xenograft survival in a pig-to-rhesus preclinical model.

METHODS: Double xenoantigen (Gal and Sda) knockout (DKO) pigs were created using CRISPR/Cas. Serum from rhesus monkeys (n = 30) was cross matched with cells from the DKO pigs. Kidneys from the DKO pigs were transplanted into rhesus monkeys (n = 6) that had the least reactive cross matches. The rhesus recipients were immunosuppressed with anti-CD4 and anti-CD8 T cell depletion, anti-CD154, mycophenolic acid, and steroids.

RESULTS: Each of the rhesus had a positive CDC crossmatch. Three grafts were rejected early at 5, 6, and 6 days. Two recipients are alive at >35 days, and one graft was rejected at 435 days. Each of the three early graft losses was secondary to IgM antibody mediated rejection. The 435-day graft loss occurred secondary to IgG antibody mediated rejection.



*By invitation

CONCLUSIONS: Reducing xenoantigens in donor pigs and chemical immunosuppression can be used to achieve prolonged renal xenograft survival in a preclinical model, suggesting that if a negative crossmatch can be obtained for humans that prolonged survival could be achieved.

18.

Surgical Risk Is Simply Not Linear: Derivation and Validation of a Novel and Interactive Machine-Learning Predictive Optimization Trees in Emergency Surgery Risk (POTTER) Calculator

Haytham M. Kaafarani*[1], Dimitris Bertsimas*[2], Jack Dunn*[3], George Velmahos[1]

[1]Massachusetts General Hospital & Harvard Medical School, Boston, MA; [2]Massachusetts Institute of Technology, Boston, MA; [3]Massacusetts Institute of Technology, Boston, MA

INTRODUCTION: Most risk assessment tools presume that the impact of risk factors is linear and cumulative. Using novel machine-learning techniques, we sought to design an interactive non-linear risk-calculator for Emergency Surgery (ES).

METHODS: All ES patients in the ACS-NSQIP 2007–2013 database were included (derivation cohort). Optimization Classification Trees (OCT) were leveraged to train machine-learning algorithms to predict postoperative mortality, morbidity, and 20 specific complications (e.g., sepsis, surgical site infection). Unlike classic heuristics (e.g., logistic regression), OCT is adaptive and reboots itself with each variable thus accounting for non-linear interactions among variables. An application (POTTER) was then designed as the algorithms' interactive and user-friendly interface. POTTER performance was measured (c-statistic) using the 2014 ACS-NSQIP database (validation cohort) and compared to the ASA, ESS, and ACS-NSQIP calculators' performance.

RESULTS: Out of 382,960 ES patients, comprehensive decision-making algorithms were derived, and POTTER was created where the provider's answer to a question dictates the subsequent question (Figure 1). For any specific patient, the number of questions needed to predict any outcome ranged from 4 to 10. The mortality c-statistic was 0.9199, higher than ASA (0.8743), ESS (0.8910) and ACS (0.8979). The morbidity c-statistics was similarly the highest (0.8511).

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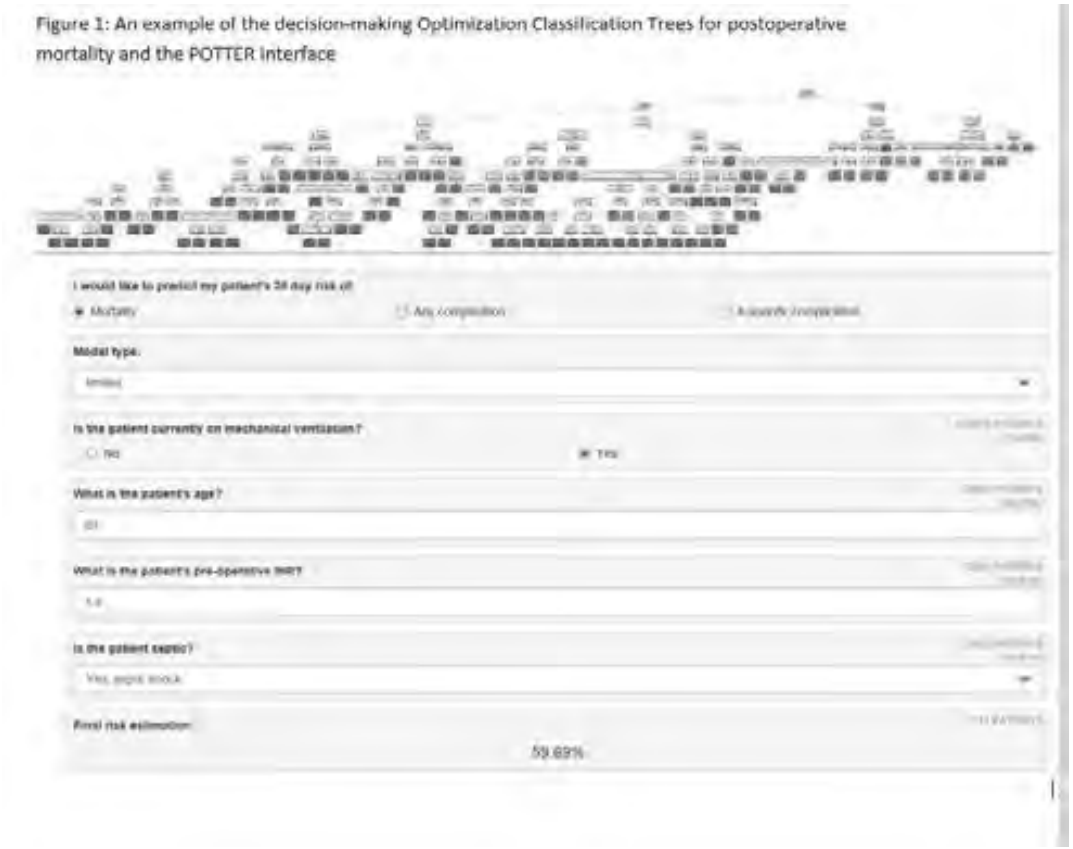

CONCLUSION: We thus reveal POTTER, a highly-accurate ES risk calculator. POTTER might prove useful as an evidence-based, adaptive and user-friendly tool for bedside preoperative counseling of ES patients and families.

19.

Impact of the Affordable Care Act (ACA) Medicaid Expansion on Cancer Admissions and Surgeries

Emanuel Eguia*[1], Adrienne N. Cobb*[1], Anai N. Kothari*[1], Haroon Janjua*[1], Ayrin Molefe*[1], Paul C. Kuo[2]

[1]Loyola, Maywood, IL; [2]USF, Tampa, FL

OBJECTIVE(S): To evaluate the trends in cancer (CA) admissions and surgeries after ACA Medicaid expansion.

METHODS: This is a retrospective study using HCUP-SID analyzing inpatient CA (pancreas, esophagus, lung, bladder, breast, colon, prostate and stomach) admissions and surgeries pre-(2010–2013) and post-(2014) Medicaid expansion. Surgery was defined as observed resection rate per 100 cancer admissions. Non-Expansion (FL) and Expansion states (IA, MD, and NY) were compared. A generalized linear model with a Poisson distribution and logistic regression was used with incidence rate ratios (IRR) and difference-in-differences (DID).

RESULTS: There were 317, 379 patients with private insurance, Medicare, Medicaid or no insurance. Pancreas, breast, colon, prostate, and stomach CA admissions significantly increased in Expansion, but decreased in Non-Expansion states. (IRR = 1.12, 1.14, 1.11, 1.34, 1.23, respectively; $p < 0.05$) Lung and colon CA surgeries (IRR = 1.30, 1.25; $p < 0.05$) increased, while breast CA surgeries (IRR = 1.25; $p < 0.05$) decreased less in Expansion states. Govt. subsidized or self-pay patients had greater odds of undergoing lung, bladder, and colon CA surgery (OR; 0.45 vs. 0.33; 0.60 vs. 0.48; 0.47 vs. 0.39; $p < 0.05$) in Expansion states after reform compared to Non-Expansion.

*By invitation

Rates of Surgery and Cancer Diagnosis Admissions Pre-and Post-Affordable Care Act Expansion

	Expansion States (IA, MD, NY)			Non-Expansion State (FL)					
	Pre	Post	Rate Change	Pre	Post	Rate Change	DID (unadjusted)	IRR (unadjusted)	p-value
Surgery									
Pancreas	5.33	5.93	0.6	5.31	6.59	1.28	-0.67	0.89	0.63
Esophagus	18.75	4	-14.75	7.04	4.76	-2.28	-12.47	0.92	0.965
Lung	7.07	8.48	1.41	5.08	4.69	-0.4	1.81	1.3	0.01
Bladder	11.91	15.44	3.53	11.92	10.35	-1.58	5.1	1.49	0.071
Breast	24.51	21.37	-3.14	16.51	11.38	-5.12	1.98	1.25	0.022
Colon	25.53	28.39	2.85	27.43	24.44	2.99	5.84	1.25	0.001
Prostate	32.78	29.23	-3.55	28.69	24.37	-4.32	0.77	1.05	0.692
Stomach	14.88	15.45	0.58	10.58	9.55	-1.03	1.61	1.15	0.503
Admissions									
Pancreas	5.3	5.72	0.42	5.31	5.11	0.2	0.63	1.12	0.046
Esophagus	0.1	0.13	0.03	0.21	0.18	-0.03	0.06	1.83	0.123
Lung	24.48	24.01	-0.47	34.84	33.5	-1.34	0.87	1.02	0.424
Bladder	2.9	2.53	-0.37	3.6	3.25	-0.35	-0.03	0.96	0.641
Breast	10.52	11.91	1.39	13.79	13.72	-0.07	1.46	1.14	0.001
Colon	18.44	18.45	0.01	23.06	20.8	-2.26	2.27	1.11	0.001
Prostate	6.31	6.89	0.58	5.45	4.46	-0.99	1.57	1.34	<.0001
Stomach	3.53	3.95	0.42	3.78	3.44	-0.35	0.77	1.23	0.003

* Rate is the observed surgery rate per 100 cancer admission
* Pre-ACA is period from 2010 to 2013; Post-ACA is 2014
* DID = Difference in Differences
* IRR = Incidence Rate Ratio

CONCLUSIONS: In states that expanded Medicaid coverage under the ACA, the rate of surgeries for breast, colon and lung CA increased significantly. Parenthetically, these cancers are subject to population screening programs. We conclude that expanding insurance coverage results in enhanced access to cancer surgery.

FRIDAY MORNING, APRIL 20th, CONTINUED

10:30 AM – 12:00 PM

FORUM DISCUSSION
Grand Sonoran E & F

Is There Life After Surgery?

Moderator: Ronald V. Maier, M.D.

Faculty: Julie Ann Freischlag, M.D.
Wake Forest Baptist Medical Center, Winston-Salem, NC

David B. Hoyt, M.D.
American College of Surgeons, Chicago, IL

Carlos A. Pellegrini, M.D.
University of Washington, Seattle, WA

David F. Torchiana, M.D.
Partners Healthcare, Boston, MA

Michael J. Zinner, M.D.
Miami Cancer Institute, Miami, FL

FRIDAY AFTERNOON, APRIL 20th

1:30 PM – 4:00 PM

SCIENTIFIC SESSION IV
Grand Sonoran E & F

Moderator: Edward M. Copeland, III, M.D.

20.
The Clinical Significance of Breast-Only and Node-Only Pathologic Complete Response (pCR) After Neoadjuvant Chemotherapy (NACT): A Review of 20,000 Breast Cancer Patients in the National Cancer Database (NCDB)

Oluwadamilola M. Fayanju*[1], Yi Ren*[1], Samantha M. Thomas*[1], Rachel A. Greenup*[1], Jennifer K. Plichta*[1], Laura H. Rosenberger*[1], Nina Tamirisa*[1], Jeremy Force*[1], Judy C. Boughey*[2], Terry Hyslop*[1], E. Shelley Hwang[1]

[1]Duke University, Durham, NC; [2]Mayo Clinic, Rochester, MN

OBJECTIVE(S): Pathologic complete response (pCR) after neoadjuvant chemotherapy (NACT) is a validated surrogate for overall survival (OS) in breast cancer. We determined whether achieving pCR in the breast, lymph nodes, or both was independently associated with OS.

METHODS: Women ≥18 with cT1-3,cN0-1 breast cancer diagnosed 2010–2014 who underwent surgery following NACT were identified in the NCDB and divided into 4 phenotypes by hormone receptor (HR) and HER2 status. Kaplan-Meier curves were used to visualize unadjusted OS with significance declared for log-rank $p < 0.05$. Multivariate logistic regression and Cox proportional hazards models were used to estimate associations with response to NACT, defined as upstage; no change (clinical stage = yp stage); complete (i.e., breast+axilla, ypT0N0), breast-only (ypT0N1/N1mic), or node-only (ypT1-3N0) pCR.

RESULTS: 20,265 patients were included. 31.4% of patients achieved breast+axilla pCR; among cN1 patients (n = 8624), 5.7% had breast-only and 13.1% had node-only pCR. In multivariate modeling, breast+axilla pCR was associated with improved OS vs no stage change across all cN1 patients, but

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breast-only pCR was associated with improved OS only in triple-negative disease (HR = 0.58,95% CI = 0.37–0.89). Node-only pCR was associated with OS in both triple-negative (HR = 0.55,95% CI = 0.39–0.76) and HR+/HER2- disease (HR = 0.54,95% CI = 0.33–0.89, all $p < 0.05$). For patients achieving breast+axilla pCR, unadjusted 5y OS among all phenotypes was 0.94 (95% CI = 0.93–0.96) and did not differ between those who presented with cN0 (0.95,95% CI = 0.93–0.96) vs cN1 disease (0.94,95% CI = 0.92–0.96).

CONCLUSIONS: Response to NACT and its association with survival differ significantly by cN stage and receptor phenotype. In patients achieving pCR, OS is driven more by response to NACT than by cN stage at presentation.

21.

Pure Laparoscopic Donor Hepatectomy: Ready for Widespread Adoption

Benjamin Samstein*[1], Adam Greisemer*[2], Karim Halazun*[1], Fabrizio Michelassi[1], Tomoaki Kato[2], Craig Smith[2], James V. Guarrera*[2], Jean C. Emond[2]

[1]Weill Cornell Medicine, New York, NY; [2]Columbia University Medical Center, New York, NY

OBJECTIVE: Adoption of minimal access techniques to living donor liver transplantation has been slowed by concerns about donor safety and the quality of allografts. We present the largest US series of pure laparoscopic donor hepatectomies (LH).

METHODS: Analysis of a prospectively maintained database of LDLTs performed between 1998–2017 at our institution.

RESULTS: Of 344 donor hepatectomies (DH) for LDLT since 1998, 50 pure laparoscopic donor hepatectomies (LH) have been performed since 2009. There were 31 LLS and 19 full lobectomies LH. We matched full lobe LH to open DH prior to introduction of LH. LH increased from 21% of all donor hepatectomies in first 5 years of performing LH to 45% of DH in the most recent 3 years. Laparoscopic donors were more likely female, had lower BMI, had smaller livers, smaller allografts but longer OR times. In the total LD experience, 4 donors were converted to open surgery (8%), 1 donor required transfusion (2%); there was one donor bile leak (2%). Recipient patient and graft 1-year survival was 98% and 94%.

Full Lobe Grafts Matched to Open DH

Donor	Pure Laparoscopic	Open	P Value
Age (years)	39.8	37.6	0.489
Female	84%	53%	0.037
BMI	24.3 ± 2.6	27.3 ± 4.2	0.01
Weight (kg)	67.3 ± 10.5	77.8 ± 16.3	0.023
Operative Time (minutes)	429 ± 60	389 ± 46	0.032
Right lobe	63%	63%	
Whole liver Volume (cc)	1326 ± 179	1606 ± 343	0.004
Allograft Weight (grams)	606 ± 153	736 ± 269	0.077

*By invitation

Outcomes of 50 LH and 50 Matched Open DH

Donor Outcomes	Pure Laparoscopic	Open
LOS (days)	4.6 ± 1.5	5.8 ± 1.5
Bile leak	2%	6%
Transfusion	2%	0%
Abdominal wall complications	2% hematoma2% port site hernia	2% wound infection2 % umbilical hernia 10% incisional hernia

CONCLUSIONS: Our experience indicates that laparoscopic donor hepatectomy for LDLT can be safely utilized with appropriate attention to learning curve and progression from LLS to right hepatectomy.

22.

A Prospective Clinical Trial of Personalized Medicine for Operable Pancreatic Cancer

Susan Tsai*, Kathleen K. Christians*, Ben George*, Paul S. Ritch*, Kulwinder Dua*, Abdul H. Khan*, A. Craig Mackinnon*, Parag Tolat*, William A. Hall*, Beth A. Erickson*, Douglas B. Evans

Medical College of Wisconsin, Milwaukee, WI

OBJECTIVE(S): One facet of precision medicine is the use of tumor molecular profiling to guide chemotherapeutic selection and maximize treatment response. We conducted the first prospective clinical trial utilizing molecular profiling to guide neoadjuvant therapy in patients with operable pancreatic cancer (PC).

METHODS: In patients with resectable and borderline resectable (BLR) PC, molecular profiling consisted of immunocytochemical staining of pretreatment EUS-FNA tumor biopsies using 6 biomarkers. Neoadjuvant systemic therapy was selected based on the molecular profiling. We hypothesized that more effective systemic therapy would prevent disease progression during neoadjuvant therapy therefore allowing more patients to undergo surgery. The primary endpoint was the completion of all intended neoadjuvant therapy and surgery.

RESULTS: The trial enrolled 130 patients; 60 (47%) resectable and 69 (53%) BLR patients. Molecular profiling was reported within a median of 5 business days (IQR:3). Of the 130 patient samples, 94 (72%) had adequate cellularity for molecular profiling. Of the 94 patients who had molecular profiling performed, 74 (79%) received fluoropyrimidine-based therapy and 20 (21%) received gemcitabine-based therapies. Of the 130 patients, 107 (82%) completed all intended neoadjuvant therapy and surgery; 55 (92%) of the 60 with resectable PC and 52 (74%) of 70 with BLR PC.

CONCLUSIONS: This is the first prospective neoadjuvant clinical trial to utilize molecular profiling to select neoadjuvant therapy in patients with operable PC. Such high resectability rates have not been observed in prior clinical trials of neoadjuvant therapy, suggesting that molecular profiling may improve the efficacy of chemotherapy in patients with localized operable PC.

*By invitation

23.

Stem Cell Mobilization Is Life Saving in a Large Animal Model of Acute Liver Failure

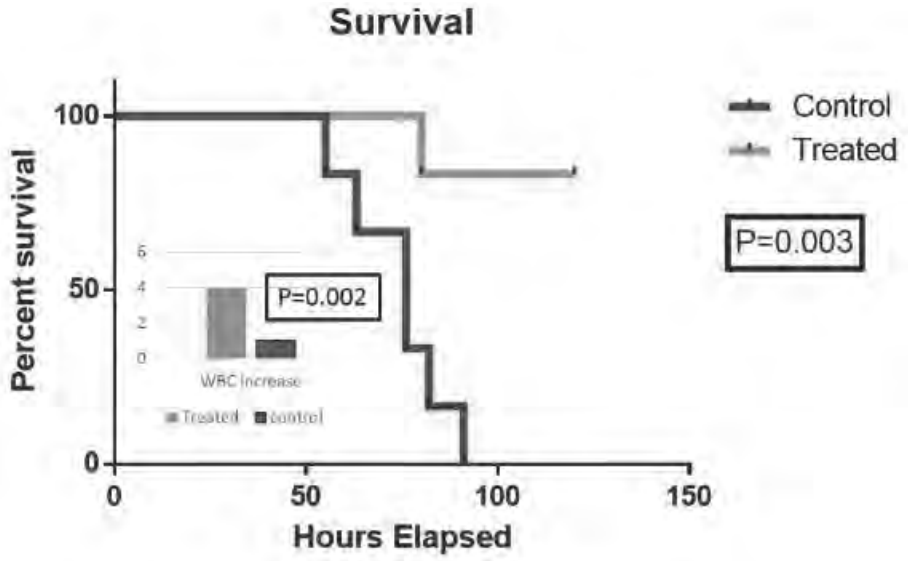
Andrew Cameron*, Ali R. Ahmadi*, Maria Chicco*, Tyler Creamer*, Yongchun Wang*, Jinny Huang*, George M. Williams, Zhaoli Sun*

The Johns Hopkins University School of Medicine, Baltimore, MD

OBJECTIVE(S): Acute Liver Failure (ALF) affects 2,000 Americans each year with no treatment short of Liver Transplantation. We showed previously that mobilization of endogenous stem cells is protective against ALF in rat. The objective here was to assess whether stem cell mobilizing drugs are life saving in a large animal preclinical model of ALF, to determine readiness for clinical trial.

METHODS: Male Yorkshire pigs (13–18 kg) were divided into control (N = 6) and treatment (N = 6) groups. All animals received a central catheter and then intravenous bolus of the hepatotoxin D-galactosamine (0.5g/kg) and were followed up to 28 days. Treatment animals received simultaneous intramuscular injection of stem cell mobilizing agents AMD3100 (1mg/kg) and G-CSF (2 ųg/kg) at 0, 24 and 48 hours after toxin infusion. Control animals received saline.

RESULTS: All control animals (6/6) succumbed to liver failure within 91 hours, confirmed by biochemical changes and encephalopathy. In the treatment group (5/6) animals survived indefinitely despite comparable biochemical changes during the first 48 hours (P = 0.003). White blood cell count increased by 4× in the treatment group (P = 0.002). Histopathology of the control group showed hepatocyte loss, inflammation, and necrosis.



*By invitation

CONCLUSIONS: Stem cell mobilizing drugs are life saving in a large animal preclinical model of ALF. As few therapeutic options beyond liver transplant are available for these critically ill patients a multicenter clinical trial is now warranted.

24.

More Frequent Surveillance Following Lung Cancer Resection Is Not Associated with Improved Survival

Timothy L. McMurry*[1], George J. Stukenborg*[1], Melisa L. Wong*[2], Larry G. Kessler*[3], Amanda Francescatti*[4], Jessica Schumacher*[5], Caprice C. Greenberg[5], George Chang*[6], Graham A. Colditz*[7], David P. Winchester[4], Daniel P. McKellar*[4], David R. Jones[8], Benjamin D. Kozower*[7]

[1]University of Virginia, Charlottesville, VA; [2]University of California, San Francisco, San Francisco, CA; [3]University of Washington, Seattle, WA; [4]American College of Surgeons, Chicago, IL; [5]University of Wisconsin, Madison, WI; [6]MD Anderson Cancer Center, Houston, TX; [7]Washington University in St. Louis, St. Louis, MO; [8]Memorial Sloan Kettering Cancer Center, New York, NY

OBJECTIVES: Surveillance guidelines following surgical resection for non-small cell lung cancer (NSCLC) vary widely and are based on expert opinion and limited evidence. This study utilizes a unique and representative United States dataset to evaluate the association between the intensity (frequency) of post-resection surveillance using computed tomography (CT) and survival.

METHODS: Stages I-III NSCLC patients treated with surgical resection in the National Cancer Database were randomly selected for data augmentation. Each Commission on Cancer (CoC)-accredited hospital reevaluated records from 10 patients to document all post-surgical imaging with indication (routine surveillance, new symptoms), recurrence, new primary cancers, and survival, with 5-year follow-up (2007–2013). Patients were grouped into three CT surveillance intensity categories (3-months, 6-months and annual) consistent with current societal guidelines. Overall survival and survival following recurrence were analyzed using Cox Proportional Hazards Models.

RESULTS: Registrars augmented data from 4,463 patients followed with surveillance CT imaging. Surveillance groups were similar with respect to age, sex, comorbidities, type of surgical resection, and tumor histology. Higher stage patients received more surveillance ($P < 0.001$). More frequent surveillance was not associated with longer overall survival (HR for 6-month: 1.16 (0.97–1.36) and annual: 1.06 (0.86–1.31) vs. 3-month; (p-values 0.06, 0.27). More frequent imaging was also not associated with post-recurrence survival (HR: 1.02/month since imaging (0.98–1.04); p-value 0.26).

*By invitation

CONCLUSIONS: These nationally representative data provide evidence that more frequent post-surgical surveillance is not associated with improved survival. As the number of lung cancer survivors increases over the next decade, surveillance is an important major health care concern and expenditure.

25.

Analysis of the Learning Curve and Patient Outcomes of Endovascular Repair of Thoracoabdominal Aortic Aneurysms Using Fenestrated and Branched Endografts

Darren B. Schneider*, Sharif H. Ellozy*, Peter H. Connolly*, Andrew J. Meltzer*, Ashley R. Graham*, Fabrizio Michelassi

Weill Cornell Medicine and NewYork-Presbyterian Hospital, New York, NY

OBJECTIVE(S): Endovascular aneurysm repair has reduced morbidity and mortality compared to open surgical repair. However, application to thoracoabdominal aneurysm repair remains limited by procedural complexity and device availability. Our objective was to evaluate the learning curve of fenestrated and branched endovascular repair (F/BEVAR) of thoracoabdominal aneurysms.

METHODS: 50 consecutive patients treated in a prospective, nonrandomized, single-center IDE study (NCT02323581) between January, 2014 and July, 2017 were analyzed. Patients (mean age 75.6 ± 7.5 years; mean aneurysm diameter 67.3 ± 9.8 mm) underwent F/BEVAR of thoracoabdominal aneurysms (58% type IV; 42% type I-III) using custom-manufactured endografts. The experience was divided into 3 cohorts (Early: 1–17; Mid: 18–34; Late: 35–50) to evaluate learning curve effects on key process measures.

RESULTS: F/BEVAR included 194 visceral branches (average 3.9 per patient). Technical success was 99.5% (193/194 targeted branches). 30-d MAEs included 3 (6%) deaths, 1 (2%) new-onset dialysis, 3 (6%) paraparesis/paraplegia, and 2 (4%) strokes. 1-year survival was 79 ± 7% with no late aneurysm-related deaths. Comparison of Early and Late groups revealed reductions in procedure time (452 ± 74 min vs. 362 ± 53 min; P = 0.0001), fluoroscopy time 130 ± 40 min vs. 99 ± 27 min; P = 0.016), contrast administration (157 ± 73 ml vs. 108 ± 38 ml; P = 0.028), and EBL (1003 ± 933 ml vs. 481 ± 317 ml; P = 0.042). ICU and total LOS decreased from 4 ± 3 days to 2 ± 1 days and 7 ± 6 days to 5 ± 2 days, respectively, but was not statistically significant.

CONCLUSIONS: Use of F/BEVAR for treatment of thoracoabdominal aneurysms is safe and effective. During this early experience there was significant improvement in key process measures reflecting improvements in technique and physician learning over time.

*By invitation

FRIDAY AFTERNOON, APRIL 20th, CONTINUED

4:00 PM – 5:00 PM

EXECUTIVE SESSION
Grand Sonoran E & F

ASA Fellows Only

Presentation of the Flance-Karl Award

FRIDAY EVENING, APRIL 20th

7:00 PM

ANNUAL RECEPTION
Canyon 7 & 8 Foyer

(Black tie/evening dress preferred, but dark suits are acceptable.)

8:00 PM

ANNUAL BANQUET
Canyon 7 & 8

(Black tie/evening dress preferred, but dark suits are acceptable.)

SATURDAY MORNING, APRIL 21st

8:00 AM – 11:00 AM

SCIENTIFIC SESSION V
Grand Sonoran E & F

Moderator: New President-Elect

26.
Impact of a Novel Preoperative Patient-Centered Surgical Wellness Program

Kristen Kelley*, Alyssa D. Fajardo*, Nancy M. Strange*, Carol Harmon*, Kim A. Pawlecki*, Nikki Walke*, William A. Wooden*, Thomas J. Birdas*, Larry H. Stevens*, Grace S. Rozycki, C. Max Schmidt

Indiana University Health, Indianapolis, IN

OBJECTIVES: Healthcare associated infections (HAI) threaten patient outcomes and are a significant burden to the healthcare system. Preoperative wellness efforts may significantly decrease the risk of HAI. The objective of this project was to implement and evaluate a novel, preoperative wellness intervention with input from patients, clinicians, and other key stakeholders.

METHODS: 8,010 patients (wellness group) received a wellness bundle in a roller bag during preoperative screening at an urban academic medical center. The wellness bundle consisted of chlorhexidine bath solution, topical mupirocin for the nostrils, an incentive spirometer, immunonutrition supplements, and smoking cessation information. Study staff performed structured patient interviews, observations, and standardized surveys at key intervals throughout the perioperative period. Statistics compare HAI outcomes of patients in the wellness program to a non-intervention group using the Fisher's Exact Test.

*By invitation

RESULTS: Patients in the non-intervention and wellness groups were similar in demographics, co-morbidity, and type of operations. Compliance with each element was high, with 65% of patients complying with the chlorhexidine bath, 74% for mupirocin, 62% for spirometer, and 61% for immunonutrition. The wellness group had statistically significant reductions in surgical site infections (SSI), Clostridium difficile (CDI), and catheter associated urinary tract infections (CAUTI) (Table 1).

Table 1: Preoperative Wellness Program HAI Outcomes

HAI	Non-Intervention Group (9148 patients; 01/07/2014-12/31/2015)	Wellness Group (8010 patients; 01/01/2016-07/31/2017)	P Value
SSI	51 (0.56%)	22 (0.27%)	0.0046
CDI	78 (0.85%)	34 (0.42%)	0.0006
CAUTI	27 (0.30%)	6 (0.07%)	0.0008
VAE	14 (0.15%)	6 (0.07%)	0.1785
CLABSI	7 (0.08%)	3 (0.04%)	0.3544

CONCLUSIONS: A novel, preoperative, patient-centered wellness program dramatically improved outcomes for surgical patients by reducing postoperative infectious complications.

27.

Long-Term Quality of Life and Gastrointestinal Functional Outcomes After Pancreaticoduodenectomy

Casey J. Allen*, Danny Yakoub*, Francisco I. Macedo*, Austin R. Dosch*, Jessica Brosch*, Vikas Dudeja*, Rhonda Ayala*, Nipun B. Merchant

University of Miami Miller School of Medicine, Miami, FL

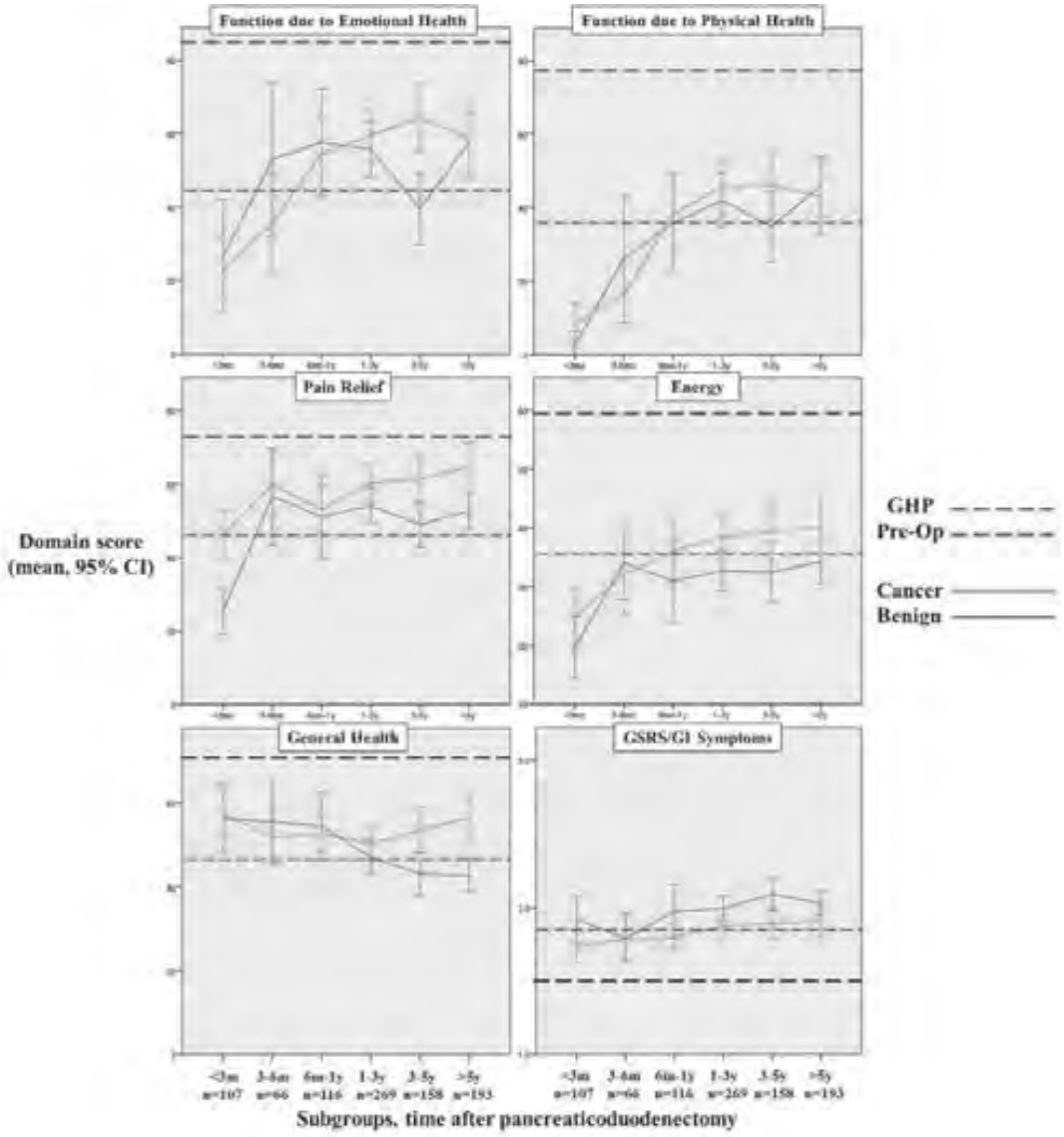
OBJECTIVES: Long-term quality of life (QoL) and gastrointestinal (GI) function after pancreaticoduodenectomy (PD) is largely unknown. We perform a longitudinal assessment of these outcomes in patients following PD in a global cohort.

METHODS: The SF-36, a health-related QoL questionnaire, and the GSRS, a rating scale for GI symptoms, were administered to patients who underwent PD identified from a global online support group. QoL and GSRS were scored on a validated standard scale, analyzed across subgroups based on time after PD and compared to pre-operative measurements and established values of a general healthy population (GHP).

RESULTS: 927 patients responded to the questionnaire. 501 (54%) underwent PD for malignancy, age was 57 ± 12 y, 327 (35%) were male, and median follow-up was 2.0 y (5d–30.7 y). Emotional and physical domains of QoL improve with time and surpass pre-operative levels 6 mo-1y after PD (both $p < 0.001$), while GI symptoms remain similar to pre-operative levels over time ($p = 0.125$); however neither approach levels in the GHP (Figure 1). No differences are seen between those with and without cancer. Pancreatic insufficiency persists in 66% of survivors >5 y (n = 193), with 18% diagnosed >1 y after PD.

CONCLUSIONS: Long-term QoL and functional outcomes in survivors following PD improve over time but never approach those of the GHP. GI dysfunction and pancreatic insufficiency persist in the majority of long-term survivors. Long-term physical, psychosocial and GI functional support after PD should be encouraged.

*By invitation


Function due to Emotional Health
Function due to Physical Health
Pain Relief
Energy
General Health
GSRS/GI Symptoms
Domain score
(mean, 95% CI)
GHP
Pre-Op
Cancer
Benign
<3m n=107
3-6m n=66
6m-1y n=116
1-3y n=269
3-5y n=158
>5y n=193
Subgroups, time after pancreaticoduodenectomy

28.

Declining Resident Experience in Open Vascular Operations Threatens the Status of Vascular Surgery As an Essential Content Area of General Surgery Training

John R. Potts, III[1], R. James Valentine[2]

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OBJECTIVE(S): The ABS and the ACGME identify vascular surgery (VS) as an essential content area of general surgery (GS) training. With growth in the number of GS residents, proliferation of endovascular techniques and propagation of vascular training programs, GS residents may be performing fewer vascular operations. The purpose of this study was to examine trends in the number and type of open arterial vascular operations performed by GS residents.

METHODS: The annual National Data Report from ACGME Surgery Case Logs for completing GS residents in each AY from 2001–2 through 2015–6 were analyzed. The types and mean number of open arterial operations were recorded. Operations performed with endovascular technique, which entailed only en passant vascular ligation, which were limited to the venous system or for which the precise nature could not be determined were excluded from analysis. Logistic regression and ANOVA were performed using SAS software.

Mean Number of Open Arterial Vascular Operations Reported by General Surgery Residents

Category	2001–2	2005–6	2010–11	2015–6	AdjRsq	P
Aneurysm	10.1	6.7	3.6	2.2	0.9609	<.0001
Cerebrovascular	22.5	16.3	12.6	10.4	0.9548	<.0001
Peripheral Obstructive	29.2	17.9	17.2	14.5	0.6250	0.0005
Abdominal Obstructive	0.6	0.4	0.4	0.3	0.6371	0.0002
Extra-Anatomic	3.0	2.3	1.9	1.7	0.9298	<.0001
Trauma	4.8	4.6	1.6	1.1	0.7880	<.0001
Miscellaneous Vascular	5.3	1.2	4.3	4.9	0.1448	0.1617
A-V Access	32.0	38.4	32.1	29.9	0.2576	0.0554
TOTAL	108.1	88.6	75.2	66.4	0.9462	<.0001

RESULTS: The total number of open arterial vascular procedures performed by GS residents significantly decreased over the study period. Highly significant decreases were noted in the following categories: aneurysm, cerebrovascular, peripheral obstructive, abdominal obstructive, extra-anatomic and trauma. Decreases also occurred in the miscellaneous and A-V access categories. A very small but statistically significant increase was noted in upper extremity procedures.

CONCLUSIONS: VS is currently considered essential to GS training. These data indicate that status may soon be in jeopardy.

29.

Modifying Risks in Ventral Hernia Patients with Prehabilitation: A Randomized Controlled Trial (NCT02365194)

Mike K. Liang*[1], Karla Bernardi*[1], Julie L. Holihan*[1], Deepa V. Cherla*[1], Richard J. Escamilla*[1], Debbie F. Lew*[1], David H. Berger[2], Tien C. Ko*[1], Lillian S. Kao[1]

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BACKGROUND: Obesity and poor fitness are associated with complications following ventral hernia repair (VHR). These issues are prevalent in low socioeconomic status patients. We hypothesized that preoperative nutritional counseling and exercise (prehabilitation) in obese patients with VHR results in more hernia-free and complication-free patients.

METHODS: This was a blinded, randomized controlled trial at a safety-net academic institution. Obese patients (BMI 30–40) seeking VHR were randomized to prehabilitation versus standard counseling. VHR was performed once preoperative requirements were met: 7% total body weight loss or 6 months of counseling and no weight gain. Primary outcome was the proportion of hernia-free and complication-free patients. Secondary outcomes were wound complications at one month post-operative and weight loss measures. Univariate analysis was performed.

RESULTS: Among 113 randomized patients, prehabilitation was associated with higher percentage of patients who lost weight and achieved weight loss goals (Table). VHR was performed in 40 prehabilitation and 34 standard counseling patients. There was a trend toward less wound complication in prehabilitation patients (5% vs. 17.6%, $p = 0.133$). The prehabilitation group was more likely to be hernia-free and complication-free (69.1% vs. 48.3%, $p = 0.035$).

CONCLUSIONS: It is feasible to implement a prehabilitation program for obese patients at a safety-net hospital. Prehabilitation patients have a higher likelihood of being hernia-free and complication-free postoperatively. Although further trials and long-term outcomes are needed, prehabilitation may benefit obese surgical patients.

*By invitation

Table

N = 113	Prehabilitation (n = 55)	Standard Counseling (n = 58)	P Value
Initial BMI (kg/m2)*	36.9 ± 2.6	36.6 ± 2.6	
Met weight goal	18.1%	12.1%	0.435
Lost weight	81.8%	67.2%	0.088
Decrease in waist size (cm)*	4.6 ± 16.7	1.5 ± 8.8	0.016
Total weight loss (lbs)*	5.5 ± 9.3	3.8 ± 9.2	0.331
Underwent VHR	72.7%	58.6%	0.165
Wound Complication	5%	17.6%	0.133
Hernia- and Complication-Free	69.1%	48.3%	0.035

*Numbers represent mean and standard deviation

30.

Insurance Status Biases Trauma-System Utilization and Appropriate Inter-Facility Transfer: The Reverse Disparity of the "Wallet Biopsy"

Cheryl K. Zogg*, Kevin M. Schuster*, Adrian A. Maung*, Kimberly A. Davis

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OBJECTIVE: To identify potential associations between insurance and the probability of Emergency Department (ED) transfer-vs-admission for severely-injured patients presenting to non-trauma centers (NTC). Analogous assessment was conducted across the spectrum-of-care (Level II-III TCs). At the state-level, NTC patients were longitudinally-followed to determine where they were transferred and whether in-hospital mortality/major-morbidity differed based on transfer-status.

METHODS: Nationally-weighted data from the Nationwide Emergency Department Sample (2010–2014) and state-level data from the California inpatient and ED databases (2009–2011) were used to identify adult (18–64 y) and pediatric (0–17 y) trauma patients with ISS ≥15. Risk-adjusted logistic regression determined differences in the relative odds of direct admission-vs-transfer, outcome measures.

RESULTS: Nationwide, 138,138 adult and 18,896 pediatric NTC patients were identified. For both groups (Table), insured patients were more likely to be admitted (e.g., private-vs-uninsured OR [95% CI]: adult-1.54 [1.40–1.70], pediatric-1.95 [1.45–2.61]). The trend persisted across Level II-III TCs (e.g., Level II private-vs-uninsured adult-1.83 [1.30–2.57]). Among transferred NTC patients at the state-level, 28.5% of adult and 34.1% of pediatric patients were not transferred to Level I-II TCs. An additional 44.2% (adult), 50.9% (pediatric) of all NTC patients were never transferred. Directly-admitted patients experienced higher morbidity (19.6-vs-8.2%, OR [95% CI]: 2.74 [2.17–3.46]) and mortality (3.3-vs-1.8%, 1.85 [1.13–3.04]).

*By invitation

Table. Risk-adjusted relative odds of **direct admission versus transfer**, NEDS 2010-2014

	Total	Transfer	Direct Admission	Odds of Admission		
I. Adults presenting to non-trauma center (NTC) EDs						
	Weighted N	Weighted %	Weighted %	OR	95%CI	
Private insurance	65,554	35.7%	64.3%	**1.54**	**1.40**	**1.70**
Uninsured	29,034	46.2%	53.8%	1.00	Reference	
Medicaid	16,117	32.9%	67.1%	**1.75**	**1.55**	**1.96**
Medicare	12,288	29.6%	70.4%	**2.03**	**1.81**	**2.31**
Other	15,145	29.7%	70.3%	**2.04**	**1.71**	**2.43**
II. Adults presenting to Level II Trauma Center EDs						
	Weighted N	Weighted %	Weighted %	OR	95%CI	
Private insurance	54,809	1.4%	98.6%	**1.83**	**1.30**	**2.57**
Uninsured	16,346	2.5%	97.5%	1.00	Reference	
Medicaid	12,916	1.5%	98.5%	**1.69**	**1.07**	**2.65**
Medicare	5,144	0.8%	99.2%	**3.22**	**1.59**	**6.54**
Other	11,831	1.6%	98.4%	1.58	0.94	2.64
III. Pediatric patients presenting to non-trauma center (NTC) EDs						
	Weighted N	Weighted %	Weighted %	OR	95%CI	
Private insurance	10,396	61.2%	37.9%	**1.95**	**1.45**	**2.61**
Uninsured	1,698	76.1%	23.9%	1.00	Reference	
Medicaid	5,883	64.7%	35.3%	**1.74**	**1.15**	**2.63**
Other	919	60.5%	39.6%	**2.09**	**1.29**	**3.39**

Bold denotes statistical significance based on a two-sided p-value<0.05.

Multivariable logistic regression models were weighted using HCUP-provided design weights in order to account for (a) clustering of patients within hospitals, (b) NEDS database design and sampling strata, and (c) extrapolation of the observed population to the nationwide population of the United States in 2010-2014. They were risk-adjusted to account for potential confounding associated with: age, gender, year, Charlson Comorbidity Index, maximum head Abbreviated Injury Scale, and mechanism of injury (blunt versus penetrating), and number of body regions affected.

CONCLUSIONS: Severely-injured patients evaluated at NTCs and Level II-III TCs were less likely to be transferred if insured. Such a finding could result in suboptimal trauma care for better-insured patients and questions the success of transfer-guideline implementation.

31.

Is It Time to Abandon the Milan Criteria? Results of a Tri-Institutional US Collaboration to Redefine Hepatocellular Carcinoma Liver Transplantation Selection Policies

Karim J. Halazun*[1], Parissa Tabrizian*[2], Marc Najjar*[3], Sander Florman*[2], Myron Schwartz[2], Fabrizio Michelassi[1], Benjamin Samstein*[1], Roberts S. Brown, Jr.*[1], Jean C. Emond[3], Ronald W. Busuttil[4], Vatche G. Agopian*[4]

[1]Weill Cornell Medicine, New York, NY; [2]Mount Sinai School of Medicine, New York, NY; [3]Columbia University Medical Center, New York, NY; [4]UCLA Medical Center, Los Angles, CA

OBJECTIVES: European liver transplant (LT) centers have moved away from Milan Criteria (MC) for hepatocellular carcinoma (HCC) patient selection, turning to models including tumor biological indices, namely alpha-fetoprotein (AFP). We present the first US model to incorporate an AFP response (AFP-R), with comparisons to MC and French-AFP models (F-AFP).

METHODS: AFP-R was measured as differences between maximum and final pre-LT AFP in HCC patients undergoing LT at three US centers (2001–2013). Cox and Competing-risk-regression analyses identified predictors of recurrence free survival (RFS).

RESULTS: Of 1,440 patients, 232 (16.2%) were outside MC. Tumor size, number and AFP-R were independent predictors of RFS, and were assigned weighted points based on Cox-regression analysis (Table 1). An AFP-R consistently <200 ng/ml predicted best outcome (Figure 1a). A 3-tiered competing-risk RFS model was developed, accurately discriminating between groups ($p < 0.001$, Figure 1b), and correlating with overall survival ($p < 0.001$, Figure 1c). 192 of 232 patients outside MC (82%) would be re-categorized into low/acceptable-risk groups. The c-statistic for our Tri-institutional score is 0.70 compared to 0.61 for MC and 0.63 for F-AFP ($p < 0.001$).

CONCLUSION: Incorporation of AFP-R into HCC selection criteria allows for MC expansion. As UNOS considers adding AFP to selection algorithms, this score provides an objective, user-friendly tool for centers to appropriately risk-stratify patients.

*By invitation

Table1: Summary of Cox-Regression, Points Assignments and AFP-R. Group Scores with RFS/OS Also Shown

Score Elements	HR (95% CI)	Assigned Points		
Maximum Tumor Size at diagnosis:				
0–3 cm	–	0		
>3 cm–6 cm	1.98 (1.44–2.72)	–		
>6 cm	3.66 (2.11–6.32)	4		
Maximum Tumor Number at Diagnosis				
1	–	0		
2–3	1.55 (1.13–2.14)	2		
>4	4.14 (2.41–7.10.)	4		
AFP Response (Maximum to Final AFP):				
• Always <200	–	0		
Responders:				
• Max >200–1000 to Final <200	1.66 (1.01–2.80)	2		
• Max >1000 to Final <1000 (Must be >50% Drop)	1.78 (1.0–3.53)	2		
Non–Responders:				
• Max >200–400 to Final >200	2.83 (1.42– 5.70)	3		
• Max >400–1000 to Final >200	3.94 (2.38–6.53)	4		
• Max >1000 to Final >1000	5.91 (3.70–9.45)	6		
GROUPING CATEGORIES	**POINTS**	**1,3,5 Year RFS**	**1,3,5 Year OS**	
• Group 1 – Low Risk	0–2	98%,93%,87%	92%,83%,75%	
• Group 2 – Acceptable Risk	3–6	87%,76%,70%	91%,72%,62%	
• Group 3 – High Risk	>7	61%,42%,42%	84%,45%,39%	

Abbreviations: AFP: Alpha-fetoprotein, HR: Hazard Ratio, CI: Confidence Interval, RFS: Recurrence Free Survival, OS: Overall Survival

Table. Risk-adjusted relative odds of **direct admission versus transfer**, NEDS 2010-2014

	Total	Transfer	Direct Admission	Odds of Admission		
I. Adults presenting to non-trauma center (NTC) EDs						
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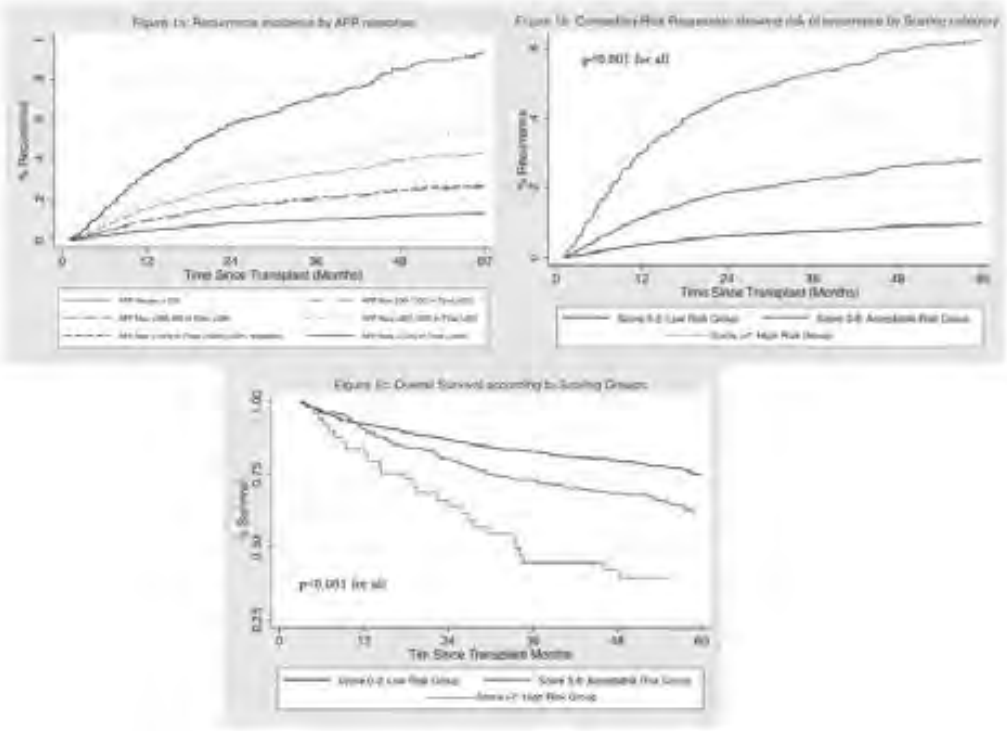
Bold denotes statistical significance based on a two-sided p-value<0.05.

Multivariable logistic regression models were weighted using HCUP-provided design weights in order to account for (a) clustering of patients within hospitals, (b) NEDS database design and sampling strata, and (c) extrapolation of the observed population to the nationwide population of the United States in 2010-2014. They were risk-adjusted to account for potential confounding associated with: age, gender, year, Charlson Comorbidity Index, maximum head Abbreviated Injury Scale, and mechanism of injury (blunt versus penetrating), and number of body regions affected.

Figure 1a-c: a) Hazard of recurrence by AFP response, b) Competing risk regression recurrence using Tri-institutional score, c) Kaplan-Meier Curve showing results for overall survival using grouping according to score.



32.

Prospective Study to Evaluate the Safety, Feasibility, and Financial Implications of a Post-Operative Telemedicine Program

Vahagn C. Nikolian*, Aaron M. Williams*, Benjamin Jacobs*, Michael T. Kemp*, Jesse Wilson*, Hasan B. Alam

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OBJECTIVE(S): Telemedicine holds promise for improving access and decreasing costs, but its role in surgery remains ill defined. This prospective study was performed to investigate the safety, feasibility, and financial implications of providing post-operative care using an electronic clinic (eClinic) at a university hospital.

METHODS: An easy-to-use and secure eClinic platform was constructed in Epic® (Epic Systems Corporation). Patients undergoing laparoscopic cholecystectomy, appendectomy, and hernia repairs on an adult acute care surgery service were prospectively enrolled in this program over a 6-months period (March–September 2017). Patients with prolonged hospitalizations (>4 days), perioperative complications, drains, and open wounds were excluded. Demographics, clinical outcomes, encounter time, patient satisfaction survey results, and cost analysis were compared to the traditional clinic (tClinic).

RESULTS: 155 eligible patients (61% female; mean age 41 ± 16 yrs) were enrolled in this program. Their demographics were no different than the tClinic. Frequencies of readmission, reoperation, and emergency department visits (2.5%, 0.6%, and 1.9%, respectively) in the eClinic group were also similar to the tClinic group. Total visit time was significantly shorter (14 vs. 165 minutes, $p < 0.01$). Anonymous surveys demonstrated a high degree of satisfaction, with 85% of patients expressing desire to utilize the eClinic again. This program increased the capacity for new visits to tClinic, with projected additional gross revenues totaling $5.7 M/year for the division.

CONCLUSIONS: A safe and efficient post-operative telemedicine program can be constructed utilizing a widely available electronic medical record system, which can improve patient satisfaction, optimize throughput, and increase revenues.

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SCHEDULE-AT-A-GLANCE

THURSDAY, APRIL 19th

8:15 AM **Opening Session** — Grand Sonoran E & F
- President's Opening Remarks
- Secretary's Welcome and Introduction of New Fellows Elected in 2017
- President's Introduction of Honorary Fellows
- Report on the Task Force on Global Surgery
- Presentation of the Medallion for Scientific Achievement
- Presentation of the Medallion for the Advancement of Surgical Care
- Report of the Committee on Arrangements

9:10 AM **Scientific Session I** — Grand Sonoran E & F
Moderator: Ronald V. Maier, M.D.

10:50 AM **Presidential Address** — Grand Sonoran E & F
"Our Calling"
Introduction: Edward M. Copeland, III, M.D.
Address: Ronald V. Maier, M.D.

1:30 PM **Scientific Session II** — Grand Sonoran E & F
Moderator: E. Christopher Ellison, M.D.

FRIDAY, APRIL 20th

6:30 AM **ASA Women in Surgery Breakfast** — Grand Sonoran A & B
"Negotiating for the Big Jobs"

8:00 AM **Scientific Session III** — Grand Sonoran E & F
Moderator: Ronald V. Maier, M.D.

10:30 AM **Forum Discussion:** — Grand Sonoran E & F
"Is There Life after Surgery"
Moderator: Ronald V. Maier, M.D.

1:30 PM **Scientific Session IV** — Grand Sonoran E & F
Moderator: Edward M. Copeland, III, M.D.

4:00 PM **Executive Session** (Fellows Only) — Grand Sonoran E & F
Presentation of the Flance-Karl Award

7:00 PM **Annual Reception** — Canyon 7 & 8 Foyer

8:00 PM **Annual Banquet** — Canyon 7 & 8
(Black tie/evening dress preferred, but dark suits are acceptable.)

SATURDAY, APRIL 21st

8**:00 AM** **Scientific Session V** — Grand Sonoran E & F
Moderator: New President-Elect

11:00 AM **Adjourn**