



AMERICAN SURGICAL ASSOCIATION

Program
of the
132nd Annual Meeting

**The Fairmont San Francisco
San Francisco, California**

Thursday, April 26th Friday, April 27th
Saturday, April 28th
2012

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* These sections available on-site in San Francisco, California, to professional attendees, or by logging into the Members Only Area of the ASA Website at <http://www.americansurgical.info/membersOnly.cgi>.

**AMERICAN
SURGICAL
ASSOCIATION**

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**The Fairmont San Francisco
San Francisco, California**

Thursday, April 26th Friday, April 27th
Saturday, April 28th
2012

THE AMERICAN SURGICAL ASSOCIATION

2011–2012

OFFICERS

President

Timothy J. Eberlein

President-Elect

L.D. Britt

Vice-President

Anna M. Ledgerwood

Secretary

E. Christopher Ellison

Treasurer

Russell G. Postier

Recorder

Steven C. Stain

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Anthony D. Whittemore.....2009–2012

Donald D. Trunkey.....2010–2013

Kirby I. Bland.....2011–2014

President, President-Elect, Vice President, Secretary,
Treasurer and Recorder

American Surgical Association
Administrative Offices
500 Cummings Center, Suite 4550
Beverly, MA 01915

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Email: admin@americansurgical.info

Or visit: www.americansurgical.info

ADVISORY MEMBERSHIP COMMITTEE

Robin S. McLeod, *Chair*.....2005–2013

Monica M. Bertagnolli.....2010–2015

Alfred E. Chang.....2009–2014

A. Benedict Cosimi.....2007–2012

Julie Ann Freischlag.....2009–2014

David A. Fullerton.....2007–2012

Anthony A. Meyer.....2010–2015

Francis D. Moore.....2012–2015

Monica Morrow.....2008–2013

Sean J. Mulvihill.....2009–2014

Alec Patterson.....2011–2016

Raphael E. Pollock.....2008–2013

Grace S. Rozycki.....2009–2016

Michael G. Sarr.....2011–2016

Steven C. Stain.....2008–2013

R. James Valentine.....2008–2013

Brad W. Warner.....2007–2012

ARRANGEMENTS COMMITTEE

132nd Annual Meeting

Thomas M. Krummel, *Chair*

AUDIT COMMITTEE

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Richard C. Karl.....2011–2013

Francis D. Moore, Jr.....2012–2015

HONORARY FELLOWSHIPS COMMITTEE

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Alexander W. Clowes.....2009–2015

John G. Hunter.....2007–2013

Courtney M. Townsend, Jr.....2011–2017

Donald D. Trunkey.....2011–2017

Michael J. Zinner.....2009–2015

FLANCE-KARL AWARD COMMITTEE

Jeffrey B. Matthews, <i>Chair</i>	2007-2012
Stanley W. Ashley	2008-2013
Ronald P. DeMatteo	2010-2015
Richard A. Hodin	2009-2014
Thomas F. Tracy, Jr.	2011-2016

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Anthony D. Whittemore, <i>Chair</i>	2009-2014
Kirby I. Bland	2011-2016
Jay L. Grosfeld.....	2007-2012
Courtney M. Townsend, Jr.	2008-2013
Donald D. Trunkey.....	2010-2015

PROGRAM COMMITTEE

K. Craig Kent, <i>Chair</i>	2007-2012
R. Daniel Beauchamp	2008-2013
Theodore N. Pappas	2009-2014
Loring W. Rue, III.....	2011-2016
Valerie W. Rusch.....	2010-2015
President, President-Elect, Secretary, and Recorder, ex officio with vote	

**TRUSTEES OF THE
AMERICAN SURGICAL ASSOCIATION
FOUNDATION****Chair**

Carlos A. Pellegrini

Vice Chair

Jay L. Grosfeld

Secretary

E. Christopher Ellison

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Russell G. Postier

Trustees

Courtney M. Townsend, Jr.
Donald D. Trunkey
Anthony D. Whittemore

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Timothy J. Eberlein

REPRESENTATIVES**AMERICAN BOARD OF SURGERY**

L. D. Britt.....	2007–2013
V. Suzanne Klimberg	2007–2013
Richard C. Thirlby	2006–2012
Selwyn M. Vickers.....	2009–2015

AMERICAN BOARD OF THORACIC SURGERY

Robert S.D. Higgins.....	2011–2017
Richard J. Shemin	2005–2015

**AMERICAN COLLEGE OF SURGEONS,
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Ernest E. Moore, Jr.....	2010–2013
Susan L. Orloff.....	2008–2011

**AMERICAN COLLEGE OF SURGEONS,
ADVISORY COUNCIL FOR GENERAL SURGERY**

W. Scott Melvin	2009–2012
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**AMERICAN COLLEGE OF SURGEONS,
SURGICAL RESEARCH COMMITTEE**

Thomas M. Krummel.....	2007–2013
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**ASSOCIATION OF AMERICAN MEDICAL COLLEGES,
COUNCIL OF ACADEMIC SOCIETIES**

William G. Cioffi	2010–2012
Linda G. Phillips	2010–2012

NATIONAL ASSOCIATION FOR BIOMEDICAL RESEARCH

Yuman Fong.....	2005–2012
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**FUTURE MEETINGS OF THE
AMERICAN SURGICAL ASSOCIATION**

April 4–6, 2013
JW Marriott
Indianapolis, Indiana

April 10–12, 2014
Marriott Copley Place
Boston, Massachusetts

GENERAL INFORMATION

The Fairmont San Francisco in San Francisco, California is the headquarters of the American Surgical Association for the 132nd Annual Meeting, April 26–28, 2012.

REGISTRATION: The Registration Desk for the 132nd Annual Meeting is located in the Grand Ballroom Foyer outside of the Grand Ballroom during the following hours:

Wednesday, April 25 th	2:00 p.m.–6:00 p.m.
Thursday, April 26 th	7:00 a.m.–5:15 p.m.
Friday, April 27 th	7:30 a.m.–5:00 p.m.
Saturday, April 28 th	7:30 a.m.–11:00 a.m.

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

SPEAKERS AND DISCUSSANTS: All manuscripts presented at the Scientific Sessions of the Annual Meeting must be submitted electronically to *The Annals of Surgery* at <http://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. 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 Ballroom Foyer. 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 25 th	2:00 p.m.–6:00 p.m.
Thursday, April 26 th	7:00 a.m.–5:15 p.m.
Friday, April 27 th	7:30 a.m.–5:00 p.m.
Saturday, April 28 th	7:30 a.m.–11:00 a.m.

BANQUET: The Annual Reception and Banquet is open to Fellows of the Association and their registered spouses, as well as Invited Guest Physicians and their registered spouses. The Reception and Banquet is scheduled for Friday, April 27th, with the reception taking place in the Gold Room and dinner in the Grand Ballroom (*black tie preferred, but dark suits are acceptable*).

SPECIAL EVENTS:

Address by the President	Thursday, April 26 th	11:00 a.m.
Forum Discussion	Friday, April 27 th	10:30 a.m.
“Surgical Education – A New Paradigm”		
Executive Session (Fellows Only)	Friday, April 27 th	4:00 p.m.
Reception & Banquet	Friday, April 27 th	7:00 p.m.

SPOUSE/GUEST HOSPITALITY: The Spouse/Guest Hospitality Suite is located in the Cirque Room Thursday, April 26th through Saturday, April 28th. 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

ACCREDITATION INFORMATION

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.

ACCREDITATION STATEMENT



This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the American College of Surgeons and the 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 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

FACULTY DISCLOSURE INFORMATION

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 sponsorship 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. Please see the following pages for the complete disclosure list.

New Honorary Fellows Introductions

Jacques Belghiti



Jacques Belghiti studied medicine in the Paris University. He became chief resident in 1979 in the hospital Beaujon in Clichy where he was nominated Professor in 1988. He became Chief of the department on 1994 and is currently Chairman of the Department of HepatoBilioPancreatic Surgery and Transplantation—University Paris 7.

Professor Belghiti has published over 584 original articles (PUB-Med) including 25 in *Annals of Surgery*, devoted to the HPB surgery and liver transplantation and several chapters in textbooks including the co-edition of the 4th and 5th Edition of the Blumgart textbook on “Surgery of the Liver, Biliary Tract and Pancreas”. He is serving as an Associate Editor or Editorial Board Member of many high scientific level journals. He is often invited in international congresses and is an active member of several national and international societies. Past president of the International Liver Transplantation Society (ILTS) and of the European HepatoPancreatoBiliary Association (EHPBA); he was the organizer of the International Congress of ILTS in Paris (9-13 July 2008) and will be the President and organizer of the World congress of the International HepatoPancreatoBiliary Association (IHPBA) in Paris on July 1–5, 2012.

He is a recipient of multiple national and international honors and awards, Chevalier de la Légion d’Honneur and Officier de l’Ordre du Mérite.

Kenneth David Boffard



Professor Boffard was born in 1949 in Johannesburg, South Africa. He obtained his M.D.B.Ch. at the University of Witwatersrand in 1972. More recently he received his Bachelor of Science in Aerospace Medicine from the University of Pretoria in 1999. He obtained his Fellowship at the Royal College of Surgeons Edinburg in 1978 followed by a Fellowship in the Royal College of Surgeons England in 1979. He also has a Fellowship at the Royal College of Physicians and Surgeons Glasgow and

is a Fellow of the College of Surgeons South Africa. In 1998 he was given Fellowship in the American College of Surgeons. +Honorary Fellowships include Gastrointestinal Surgeons of Great Britain and Ireland and the Royal College of Surgeons Thailand. Professor Boffard is registered in The South African Medical and Dental Council which is now the Health Professions Council of South Africa and he also has The General Medical Council Full Registration of Great Britain. He has a subspecialist appointment in trauma surgery and critical care in The Health Professions Council of South Africa, and he is an honorary Colonel in The South African National Defense Force. In 2001, he was appointed as a member of the Senate at The University of Witwatersrand and continues to serve presently.

His major academic interest is in Trauma and Critical Care and he has lectured about trauma care around the world particularly in developing countries. Professor Boffard is a founding member of The International Association for The Surgery of Trauma and Surgical Intensive Care. He has been the primary author of The Definitive Surgery of Trauma Care Course (DSTC) which is now in the 3rd edition and has now been taught in 21 countries around the world. He has authored or co-authored 52 papers and multiple chapters for text books. He has a major commitment in The International Surgical Society and is the immediate past president of the society.

His non-medical interests include computers, classical music, wood-working, flying and diving. He is a Senior Flight Medical Examiner and is involved in a Net Care Aero Medical Service that serves all of the land mass in sub-Saharan Africa.

Josefina Maria Alberú Gomez

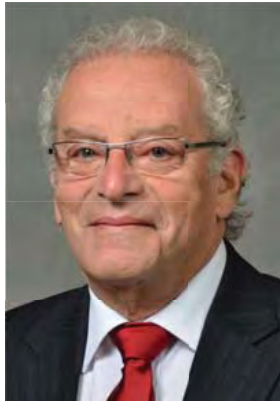


Professor Alberú was born in Cuba in 1951 and moved to Mexico as a school girl.

She attended undergraduate school at the Women's University in Guadalajara. She attended medical school at the University of Guadalajara from 1968–73 graduating at the top of her class. After an internship in medicine, she trained in General Surgery from 1975–78 at the National Institute of Medical Science and Nutrition, Zubiran in Mexico City. This was followed by a fellowship in Transplantation at the same institution.

Dr Alberú was appointed to the Transplantation faculty in 1989 and became Head of the Transplantation Department in 1995. In 2000, she accepted a post as Professor of Transplantation at the National University of Mexico. She is a National Level 1 Scientific Investigator and a member of the National Academy of Medicine and National Research System of Mexico. She is recognized as a leading figure in Transplantation surgery in her country and Latin America. She is a member of the American Society of Transplantation, The Transplantation Society, Mexican Society for Experimental Surgery, and International Transplantation Society. Professor Alberú, served as President of the Mexican Institute of Nephrology Research, Treasurer and Secretary of the Mexican Society of Transplantation and is currently Vice-President of the Latin American Society of Transplantation. She has been very productive and published more than 120 scientific articles, abstracts and book chapters. She has lectured extensively throughout Latin America and elsewhere and has been an active participant in prospective International transplant protocols, educational symposia and is strong advocate for continuing medical education.

Abe Fingerhut



Professor Fingerhut was born in New Brunswick, New Jersey in 1939. He attended the University of Pennsylvania obtaining a degree in Chemistry in 1961. His family moved to France and he accompanied them and entered medical school at the University of Paris and received his MD in 1971. During his training he had an opportunity to work with Professor Toupet, Ronat and Huguët. He obtained his medical degree with honors in 1975 and was appointed assistant surgeon at the Centre Hospitalier Intercommunal the same year. He rose to full time staff surgeon and was appointed chief of service in 1987, a position he held until March 2006.

His major clinical interests in surgery have been trauma, gastrointestinal/hepatobiliary pancreatic surgery. He has more than 290 publications in major peer review journals including 100 controlled prospective trials run in France over the past 19 years. He serves on multiple editorial boards of major journals, including the *World Journal of Surgery*, *The American Journal of Surgery*, *European Journal of Surgery*, *Journal of Trauma*, *European Journal of Emergency Surgery and Intensive Care*, *British Journal of Surgery*, *The Indian Journal of Minimal Access Surgery*, and *The Asian Journal of Surgery*. He is a co-editor of the hepatobiliary section of the Cochrane Library. Professor Fingerhut is president of the European Association for Endoscopic Surgery and a past president of the International Association for Trauma and Surgical Intensive Care. He is a Fellow of the American College of Surgeons and the American Association for the Surgery of Trauma. He's an Honorary Fellow of the Royal College of Physicians and Surgeons Glasgow, The Austrian Surgical Society, The Tunisian Surgical Society, and the Association of Physicians of Great Britain and Ireland. He is a member of the Committee on Operation Room Safety Setup in Geneva within the World Health Organization. Dr. George Velmahos has characterized Dr. Fingerhut as "approachable, humble, likeable, and a kind individual. He combines the scientific gravitas and dignity of an accomplished professor with the simplicity and relaxed attitude of a confident human being."

Henrik Kehlet



Henrik Kehlet received his medical degree (1968) and PhD (1977) from the University of Copenhagen in Denmark. He trained in various University departments in the Copenhagen area in surgery as well as surgical gastroenterology and has been chief of surgery in the Department of Surgical Gastroenterology (1989–2004) and professor of surgery at Copenhagen University Hospital (1991–2006). He

is currently professor of perioperative therapy and head of the Section of Surgical Pathophysiology at Rigshospitalet, Copenhagen University. Dr. Kehlet's research has predominantly been focused on methods to improve perioperative outcome. He initiated the Danish Hernia Database, a unique nationwide database to document the methods and the results of improvements in the outcome of groin and ventral hernia repairs. The research and clinical duties have been condensed into the concept of "fast-track surgery" with documented improvements in early outcome across procedures, a concept receiving widespread global interest. More recently, there has been an additional focus on the problem of persistent postsurgical pain.

Dr. Kehlet is one of the leading European surgical scientists and clinical surgeons. He has changed the management of surgical diseases of the GI tract by his research and has published extensively (>800 articles) and lectured widely in this area. Dr. Kehlet is an honorary fellow of the Royal College of Anaesthetists in England, of the American College of Surgeons, and the German Society of Surgery. He has received several honorary awards, including the William Nielsen Foundation Honorary Award, the Novo-Nordic Award and the August Krogh award.

Chung-Mau Lo



CM Lo was born in 1961 in Macau, China, a former Portuguese colony on the south side of the Pearl River, a short hop by hydrofoil from Hong Kong. Dr. Lo attended secondary school in Hong Kong at Queens College and achieved his Bachelor of Medicine in vascular surgery at the University of Hong Kong in 1985. He completed his surgery residency at the Queen Mary Hospital under the direction of Dr. John Wong, then spent a year as a liver transplant visiting research scholar at UCLA under the direction of Ron Bussutil. He joined the faculty of the University of Hong Kong in 1996, and ascended through the ranks to become Professor of Hepato-

biliary Surgery in 2004. In July 2011, Professor Lo became 12th Professor and Head of Dept at the University, to succeed John Wong and ST Fan.

Dr. Lo has distinguished himself with over 247 peer-reviewed publications, largely in high impact journals, including several publications in the New England Journal of Medicine, randomized trials on the appropriate treatment of gallstone disease in a variety of clinical settings. Dr. Lo is the consummate liver transplant surgeon and his pioneering work in the field of living donor right lobe liver transplantation has put Queen Mary Hospital on the map as one of the world's leading liver transplant centers. Dr. Lo is held in high regard throughout Asia and has frequently traveled to mainland China, Japan, Korea, and other spots in Asia to assist other liver transplant programs.

Dr. Lo has achieved many prizes and honors, including awards for his scientific contributions from the People's Republic of China, an outstanding researcher award from the University of Hong Kong, he has been a James IV Association Traveling Scholar, is the President of the International Liver Transplant Society, and a recent past president of the International Society of Digestive Surgery. He is an inspired teacher, and is passionate about the commitment and energy necessary to become a successful surgeon.

Dr. Lo holds fellowships from the Royal College of Surgeons of Edinburgh, the Royal Australasian College of Surgeons, and the Hong Kong College of Surgeons and the American College of Surgeons. He is the consummate gentleman, and is blessed with a wonderful wife, Amy Lo and two beautiful children.

Italo Francisco Braghetto Miranda



Dr. Braghetto trained in General Surgery at the Faculty of Medicine, University of Chile from 1973-1977. He spent a year as a guest scholar in Digestive Surgery at the University of Rome, Italy with Professor Grassi. He obtained further training in Digestive Surgery at the University of Chile from 1980-81 and was appointed coordinator of research. In 1989 he was a guest scholar of the American College of Surgeons visiting Miami, Mayo Clinic, Creighton, and New England Deaconess Hospital. He returned to Chile and was appointed Vice-Chairman of Digestive Surgery in 1990 and promoted to Chairman in 1994. He obtained a degree in Health Administration in 2000 and became Medical Director of University Hospital University of Chile. He was appointed the General Director in 2006.

Throughout his career Professor Braghetto has been an exceptionally active clinical surgeon. He is well recognized internationally for his expertise in esophageal, gastric, biliary and more recently bariatric surgery. He is a leading minimally invasive digestive surgical specialist. He is a prolific writer and has published more than 190 articles in Spanish, a number of textbooks, numerous abstracts, teaching monographs and 113 scientific articles in peer reviewed English journals. Professor Braghetto has personally developed innovative esophageal stents, bougies and abdominal retractors. He has been an invited guest speaker throughout Latin America, Europe and the US. He has been elected to membership in the ISS-SIC, SAGES, International Society for Digestive Surgery, International Society for Diseases of the Esophagus, International College of Surgeons and International Federation of Obesity Surgery. Professor Braghetto is a Fellow of the American College of Surgeons and was President of the Chilean chapter. He was also President of the Chilean Society for Surgery and The Federation of Latin American Surgeons (FELAC). He is an honorary member of the Venezuelan, Peruvian and Pan American Surgical Societies.

John Windsor



John Windsor was born in London, the son of a missionary surgeon. He grew up in India, where his father served, and completed secondary school in the Himalayas. He returned to his parent's native land of New Zealand for University, attending the University of Otago, where he graduated with a Bachelor of Science in 1977. He received his Masters in Medicine and Surgery at the University of Auckland in 1982 and his MD from the University of Auckland in Surgery in 1989. Following his surgical training in New

Zealand, Dr. Windsor travelled to the Royal Infirmary of Edinburgh where he worked under Sir David Carter and Professor James Garden. During his time in Edinburgh, Prof Windsor established his research interest in pancreatic surgery and honed his clinical skills in HPB surgery, upper GI surgery, and minimally invasive surgery. With James Garden, he set up the first laparoscopic surgery unit at the University of Edinburgh. In 1991 he returned to Auckland as a Senior Lecturer and Honorary Consultant.

During his first five years back in New Zealand, Prof. Windsor set up the first HPB/GI surgery unit in New Zealand and recruited three talented academic surgeons to join him. In 2003, he was granted a personal chair, and became the head of the Department of Surgery at the University of Auckland, to follow Graham Hill. Dr. Windsor has established himself in international surgery serving as an officer in the IHPBA, the ISS, the SSAT, and the Asia Pacific HPB Association. He has held an American College of Surgeons International Scholarship, and currently serves as an Associate Editor for the World Journal of Surgery.

Professor Windsor is indeed the true renaissance surgeon in that he keeps an active teaching program alive and directs the surgical skills center at the University of Auckland. One of his research interests has been to develop a high fidelity desktop virtual reality training platform for residents to learn MIS skills. His research foci are acute pancreatitis and pancreatic cancer. He has developed a classification scheme for acute pancreatitis which is becoming widely used internationally. Dr. Windsor has been well funded, with over 20 peer reviewed research grants achieved over the last two decades. He has been invited to speak in Australia, U.K., Germany, India, and spoke at a TED conference in Monterey, California several years ago. He frequently returns to India with his family to assist in surgical program development and reconnect with the country of his youth. Dr. Windsor is an avid tennis player, an excellent photographer, an outdoorsman and a proud father of 5 accomplished children.

SCHEDULE-AT-A-GLANCE

THURSDAY, APRIL 26th

8:15 a.m.	President's Opening Remarks	Grand Ballroom
	Secretary's Welcome and Introduction of New Fellows Elected in 2011	
	President's Introduction of Honorary Fellows	
	Report of the Committee on Arrangements	
	Presentation of the Medallion for Scientific Achievement	
9:10 a.m.	Scientific Session I <i>Moderator: Timothy J. Eberlein, MD</i>	Grand Ballroom
11:00 a.m.	Address by the President <i>Timothy J. Eberlein, MD</i>	Grand Ballroom
1:30 p.m.	Scientific Session II <i>Moderator: L.D. Britt, MD</i>	Grand Ballroom

FRIDAY, APRIL 27th

- 7:00 a.m. ASA Women in Surgery Breakfast Vanderbilt
- 8:00 a.m. Scientific Session III Grand Ballroom
Moderator: Timothy J. Eberlein, MD
- 10:30 a.m. Forum Discussion: Grand Ballroom
“Surgical Education—A New Paradigm”
Moderator: Timothy J. Eberlein, MD
- 1:30 p.m. Scientific Session IV Grand Ballroom
Moderator: Anna M. Ledgerwood, MD
- 4:00 p.m. Executive Session Grand Ballroom
(Fellows Only)
Presentation of the
Flance-Karl Award
- 7:00 p.m. Annual Reception Gold Room
- 8:00 p.m. Annual Banquet Grand Ballroom
*(Black tie preferred, but
dark suits are acceptable.)*

SATURDAY, APRIL 28th

- 8:00 a.m. Scientific Session V Grand Ballroom
Moderator: New President- Elect
- 11:00 a.m. Adjourn

**AMERICAN SURGICAL ASSOCIATION
132nd ANNUAL MEETING
April 26–28, 2012
The Fairmont San Francisco
San Francisco, California**

PROGRAM OUTLINE**THURSDAY, APRIL 26, 2012****8:15 AM – 9:10 AM
OPENING SESSION****President’s Opening Remarks****Secretary’s Welcome & Introduction of New Fellows
Elected in 2011****President’s Introduction of Honorary Fellows****Report of the Committee on Arrangements****Presentation of the Medallion for Scientific Achievement**

9:10 AM – 11:00 AM

SCIENTIFIC SESSION I

Moderator: Timothy J. Eberlein, MD

9:10 AM – 9:35 AM

1

A Randomized Controlled Trial of the Use of Long-Term Propranolol in Severely Burned Pediatric Patients

David N. Herndon¹, Sachin D. Hegde^{*1}, Noe A. Rodriguez^{*1}, Jaipreet S. Suri^{*1}, Eva Diaz^{*1}, Henry V. Baker^{*2}, Cecilia M. Lopez^{*2}, Ronald Mlcak^{*1}, Felicia N. Williams^{*1}, Ronald G. Tompkins³, Lyle Moldawer^{*2}, Walter Meyer^{*1}, Oscar E. Suman^{*1}, Robert Barrow^{*1}, Marc G. Jeschke^{*1}, Celeste C. Finnerty^{*1}

¹University of Texas Medical Branch, Galveston, TX;

²University of Florida, Gainesville, FL; ³Massachusetts General Hospital, Boston, MA

9:35 AM – 10:00 AM

2

Targeted Nodal Assessment Improves Survival in Early Colon Cancer: Prospective Randomized USMCI Clinical Trials Group GI-01 Study, Final Results

Aviram Nissan^{*1}, Mladjan Protic^{*2}, Anton Bilchik³, Robin Howard^{*4}, George E. Peoples^{*5}, Alexander Stojadinovic^{*4}

¹Rabin Medical Center, Petah Tikva, Israel; ²Clinic of Abdominal, Endocrine, and Transplantation Surgery, Novi Sad, Serbia; ³University of California, Los Angeles, CA; ⁴Walter Reed National Military Medical Center, Bethesda, MD;

⁵Brooke Army Medical Center, Fort Sam Houston, TX

*By invitation

10:00 AM – 10:25 AM

3

Factors Associated with Local-Regional Recurrence Following a Negative Sentinel Node Biopsy: Results of the ACOSOG Z0010 Trial

Kelly K. Hunt¹, Linda M. McCall^{*2}, Karla V. Ballman^{*3}, Judy C. Boughey^{*3}, Elizabeth A. Mittendorf^{*1}, Charles Cox^{*4}, Pat W. Whitworth^{*5}, A. Marilyn Leitch^{*6}, Peter D. Beitsch^{*7}, Armando E. Giuliano⁸

¹The University of Texas MD Anderson Cancer Center, Houston, TX; ²American College of Surgeons Oncology Group, Durham, NC; ³The Mayo Clinic, Rochester, MN; ⁴Moffitt Cancer Center, Tampa, FL; ⁵Nashville Breast Center, Nashville, TN; ⁶UT Southwestern, Dallas, TX; ⁷Dallas Surgical Group, Dallas, TX; ⁸Cedars Sinai Medical Center, Los Angeles, CA

10:25 AM – 10:50 AM

4

Novel Vaccinia Virus GLV-1h153 Is Effective in Treating Metastatic Triple-Negative Breast Cancer In Vivo

Sepideh Gholami^{*1}, Chun-Hao Chen^{*1}, Marina A. De Brot^{*1}, Emil Lou^{*2}, Andrew A. Marano^{*1}, Kelly M. Mojica^{*1}, Jennifer E. Nnoli^{*1}, Laura A. Daly^{*1}, Laurence J. Belin^{*1}, Yuman Fong¹

¹Memorial Sloan-Kettering Cancer Center, New York, NY;

²University of Minnesota, Minneapolis, MN

10:50 AM – 12:00 PM

PRESIDENTIAL ADDRESS

10:50 AM – 11:00 AM

Introduction of the President

Anna M. Ledgerwood, MD

11:00 AM – 12:00 PM

Address by the President

Timothy J. Eberlein, MD

*By invitation

1:30 PM – 5:15 PM

SCIENTIFIC SESSION II

Moderator: L.D. Britt, MD

1:30 PM – 1:55 PM

5

Stress-Induced Hyperglycemia, Not Diabetic Hyperglycemia, Leads to Worse Outcomes in Trauma

Jeffrey D. Kerby*, Russell L. Griffin*, Paul MacLennan*, Loring W. Rue, III

University of Alabama at Birmingham, Birmingham, AL

1:55 PM – 2:20 PM

6

Sustained Reduction of Postoperative Venous Thromboembolism and Hospital Costs with Electronic Clinical Decision Support Program

John R. Hoch*, Anne E. Rose*, Abhik Bhattacharya*, Glen E. Levenson*, Philip J. Trapskin*, Jon S. Matsumura*, William D. Turnipseed

University of Wisconsin, Madison, WI

2:20 PM – 2:45 PM

7

Failure to Rescue or Withdrawal of Support: Explaining the Excessive Mortality of Elderly DNR Patients Undergoing Emergency General Surgical Procedures

John E. Scarborough*, Kyla M. Bennett*, Theodore N. Pappas, Sandhya A. Lagoo-Deenadayalan*

Duke University Medical Center, Durham, NC

*By invitation

2:45 PM – 3:10 PM

8

Laparoscopic Colon Resection—Trends in Utilization and Rate of Conversion to Open Procedure: A Large Multicenter Outcome Study

Anton Simorov*, Ahbijit Shaligram*, Avishai Meyer*, Pradeep Pallati*, Jon Thompson, **Dmitry Oleynikov***

University of Nebraska Medical Center, Omaha, NE

3:10 PM – 3:35 PM

9

Impact of Resident Participation in Surgical Operations on Postoperative Outcomes

Ravi P. Kiran*¹, Usama Ahmed Ali*¹, John C. Coffey*¹, Jon D. Vogel*¹, Naveen Pokala*², Lei Lian*¹, Victor Fazio¹

¹*Cleveland Clinic, Cleveland, OH*; ²*University of Missouri, Columbia, MO*

3:35 PM – 4:00 PM

10

Novel Autologous Cell Based Therapy to Promote Wound Healing

Diego M. Castilla*, Zhao-Jun Liu*, Runxia Tian*, Yan Li*, Alan S. Livingstone, Omaid C. Velazquez*

University of Miami, Miami, FL

4:00 PM – 4:25 PM

11

A Prospective Study of Expectant Observation as Primary Therapy for Neuroblastoma in Young Infants, A Children's Oncology Group Study

Jed G. Nuchtern*¹, Wendy B. London*², Carol E. Barnewolt*², Arlene Naranjo*³, James D. Geiger⁴, Susan L. Cohn*⁵, Robert C. Shamberger²

¹*Baylor College of Medicine, Houston, TX*; ²*Harvard Medical School, Boston, MA*; ³*University of Florida, Gainesville, FL*;

⁴*University of Michigan, Ann Arbor, MI*; ⁵*University of Chicago, Chicago, IL*

*By invitation

4:25 PM – 4:50 PM

12

Admission Rapid Thrombelastography (r-TEG) Can Replace Conventional Coagulation Tests in the Emergency Department: Experience with 1974 Consecutive Trauma Patients

John B. Holcomb, Kristin M. Minei*, Michelle L. Scerbo*, Charles E. Wade*, Rosemary A. Kozar, Brijesh S. Gill*, Rondel Albarado*, Michelle K. McNutt*, James J. McCarthy*, Bryan A. Cotton*

UT Health, Houston, TX

4:50 PM – 5:15 PM

13

Thorascopic Lobectomy Has Increasing Benefit in Patients with Poor Pulmonary Function: An STS Database Analysis

DuyKhanh P. Ceppa*¹, Andrzej S. Kosinski*¹, Mark F. Berry*¹, Betty C. Tong*¹, David H. Harpole¹, John D. Mitchell*², Thomas A. D'Amico¹, Mark W. Onaitis*¹

¹Duke University, Durham, NC; ²University of Colorado Denver School of Medicine, Denver, CO

*By invitation

FRIDAY, APRIL 27, 2012

7:00 AM – 8:00 AM

ASA WOMEN IN SURGERY BREAKFAST

8:00 AM – 10:30 AM

SCIENTIFIC SESSION III

Moderator: Timothy J. Eberlein, MD

8:00 AM – 8:25 AM

14

Long-Term Survival, Nutritional Autonomy and Quality of Life After Intestinal and Multivisceral Transplantation

Kareem M. Abu-Elmagd, Guilherme Costa*, Beverly Kosmach-Park*, Geoffrey J. Bond*, Kyle Soltys*, Rakesh Sindhi*, Darlene Koritsky*, Lillian Martin*, George Mazariegos

Thomas E. Starzl Transplantation Institute, Pittsburgh, PA

8:25 AM – 8:50 AM

15

Non-Operative Management of Rectal Cancer with Complete Clinical Response Following Neoadjuvant Therapy

James D. Smith*, Jeannine A. Ruby*, Karyn Goodman*, Leonard Saltz*, José G. Guillem, Martin R. Weiser, Larissa K. Temple*, Garrett M. Nash*, Philip B. Paty

Memorial Sloan Kettering Cancer Center, New York, NY

8:50 AM – 9:15 AM

16

Value of Surgery in Patients with Negative Imaging and Sporadic Zollinger-Ellison Syndrome (ZES)

Jeffrey A. Norton¹, Douglas L. Fraker², H. Richard Alexander³, Robert T. Jensen*⁴

¹Stanford University, Stanford, CA; ²University of Pennsylvania, Philadelphia, PA; ³University of Maryland, College Park, MD; ⁴NIADDK, NIH, Bethesda, MD

*By invitation

9:15 AM – 9:40 AM**17****Preoperative Laboratory Testing in Patients Undergoing Elective, Low-Risk Ambulatory Surgery**Jaime Benarroch-Gampel*, Kristin M. Sheffield*, Casey A. Boyd*, Kimberly M. Brown*, Yimei Han*, Courtney M. Townsend, Jr., **Taylor S. Riall****University of Texas Medical Branch, Galveston, TX***9:40 AM – 10:05 AM****18****Factors Influencing Readmission Following Pancreaticoduodenectomy: A Multi-Institutional Study of 1,302 Patients**Syed A. Ahmad*¹, Jeffrey M. Sutton*¹, Sanjeet S. Grewal*¹, David A. Kooby*², Shishir K. Maithel*², David J. Bentrem*³, Sharon M. Weber⁴, Clifford S. Cho*⁴, Emily R. Winslow*⁴, Charles R. Scoggins*⁵, Robert C.G. Martin⁵, Hong J. Kim*⁶, Nipun B. Merchant*⁷, Alexander A. Parikh*⁷, Michael J. Edwards¹¹*Department of Surgery, University of Cincinnati College of Medicine, Cincinnati, OH;* ²*Department of Surgery, Emory University, Atlanta, GA;* ³*Department of Surgery, Northwestern University Feinberg School of Medicine, Chicago, IL;*⁴*Department of Surgery, University of Wisconsin School of Medicine and Public Health, Madison, WI;* ⁵*Department of Surgery, University of Louisville School of Medicine, Louisville, KY;* ⁶*Department of Surgery, University of North Carolina School of Medicine, Chapel Hill, NC;* ⁷*Department of Surgery, Vanderbilt University School of Medicine, Nashville, TN***10:05 AM – 10:30 AM****19****Peritoneal Irrigation Versus No Irrigation During Laparoscopic Appendectomy For Perforated Appendicitis: A Prospective Randomized Trial**

Shawn D. St. Peter*, Obinna O. Adibe*, Corey W. Iqbal*, Frankie B. Fike*, Susan W. Sharp*, David Juang*, David Lanning*, Charles L. Snyder*, Walter S. Andrews*, Ronald J. Sharp*, J. Patrick Murphy*, George W. Holcomb, III, Daniel J. Ostlie*

Children's Mercy Hospital, Kansas City, MO

By invitation*10:30 AM – 12:00 PM****FORUM DISCUSSION****Surgical Education—A New Paradigm***Moderator: Timothy J. Eberlein, MD***“Surgical Residency Training: The Urgent Need for Radical Reform”****Frank R. Lewis, MD***American Board of Surgery
Philadelphia, PA***“Leveraging a Unified Curriculum to Support Changes in the Educational Paradigm”****Mary E. Klingensmith, MD***Washington University in St. Louis
St. Louis, MO***“One Road to Curricular Change: A Proof of Principle Experiment”****Richard K. Reznick, MD***Queen's University
Kingston, ON***“Barriers to Change”****Timothy C. Flynn, MD***Accreditation Council for Graduate Medical Education/
American Board of Surgery
Gainesville, FL*

1:30 PM – 4:00 PM

SCIENTIFIC SESSION IV

Moderator: Anna M. Ledgerwood, MD

1:30 PM – 1:55 PM

20

Appendectomy Timing: Waiting Until the Next Morning May Result in Higher Risk of Surgical Site Infections

Pedro G. Teixeira*, Emre Sivrikoz*, Kenji Inaba*, Peep Talving*, Lydia Lam*, Demetrios Demetriades

Los Angeles County + University of Southern California Medical Center, Los Angeles, CA

1:55 PM – 2:20 PM

21

Progress in the Diagnosis and Management of Appendicitis in High-Risk Patients: A Report from SCOAP

The SCOAP Collaborative*¹, **Frederick Thurston Drake***², Steve Kwon*², Zeila Schmidt*³, Michael Florence*⁴, Richard C. Thirlby⁵, Gregory J. Jurkovich², Morris G. Johnson*⁶, David R. Flum²

¹Washington State, Seattle, WA; ²University of Washington Department of Surgery, Seattle, WA; ³University of Washington Surgical Outcomes Research Center (SORCE), Seattle, WA; ⁴Swedish Medical Center, Seattle, WA; ⁵Virginia Mason Medical Center, Seattle, WA; ⁶Skagit Valley Hospital, Mount Vernon, WA

2:20 PM – 2:45 PM

22

Plasma MicroRNA mirrors Tissue MicroRNA and Distinguishes Colorectal Cancer

Susan Galandiuk, Ziad Kanaan*, Maurice Robert Eichenberger*, Henry Roberts*, Bobby Keskey*, Xiaobin Yuan*, Shesh Rai*

University of Louisville, Louisville, KY

*By invitation

2:45 PM – 3:10 PM

23

Causes and Implications of Readmission After Abdominal Aortic Aneurysm (AAA) Repair

David Yu Greenblatt*, Caprice C. Greenberg*, Amy J. Kind*, Matthew W. Mell*, Jeff Havlena*, Matthew T. Nelson*, Maureen A. Smith*, K. Craig Kent

University of Wisconsin, Madison, WI

3:10 PM – 3:35 PM

24

Long-Term Safety of the Duodenal Switch for Morbid Obesity: Results in 1156 Patients

Namir Katkhouda*, Joerg Zehetner*, Naila Khalaf*, Evgeniya Degnera*, Peter F. Crookes*, Thomas V. Berne, Rodney J. Mason*

Keck School of Medicine of USC, University of Southern California, Los Angeles, CA

3:35 PM – 4:00 PM

25

Hospital Procedure Volume Should Not Be Used as a Measure of Surgical Quality

Damien J. LaPar*, Irving L. Kron, David R. Jones, George J. Stukenborg*, Benjamin D. Kozower*

University of Virginia, Charlottesville, VA

4:00 PM – 5:00 PM

EXECUTIVE SESSION

ASA Fellows Only

Presentation of the Flance-Karl Award

7:00 PM ANNUAL RECEPTION

8:00 PM ANNUAL BANQUET

*By invitation

SATURDAY, APRIL 28, 2012

8:00 AM – 11:00 AM

SCIENTIFIC SESSION V

Moderator: New President-Elect

8:00 AM – 8:25 AM

26

Institutional Variability in Outcomes of Cardiac TransplantationArman Kilic^{*1}, David D. Yuh^{*2}, Ashish S. Shah^{*1}, Duke E. Cameron¹, William A. Baumgartner¹, John V. Conte^{*1}¹*Johns Hopkins Hospital, Baltimore, MD*; ²*Yale University School of Medicine, New Haven, CT*

8:25 AM – 8:50 AM

27

Liver Transplantation for Nonalcoholic Steatohepatitis (NASH): The New EpidemicVatche G. Agopian^{*}, Fady M. Kaldas^{*}, Johnny Hong^{*}, Meredith Whittaker^{*}, Abbas Rana^{*}, Ali Zarrinpar^{*}, Henrik Petrowsky^{*}, Curtis Holt^{*}, Douglas G. Farmer, Hasan Yersiz^{*}, Jonathan R. Hiatt, **Ronald W. Busuttil***University of California, Los Angeles, Los Angeles, CA*

8:50 AM – 9:15 AM

28

Naturally Occurring Immunoglobulin M (nIgM) Auto-Antibodies Prevent Autoimmune Diabetes and Mitigate Inflammation Following TransplantationPreeti Chhabra^{*}, Kailo Schlegel^{*}, Mark D. Okusa^{*}, Peter I. Lobo^{*}, **Kenneth L. Brayman***University of Virginia, Charlottesville, VA*

*By invitation

9:15 AM – 9:40 AM

29

Are Comprehensive Claims Data Accurate Enough for Pay-for-Performance and Public Reporting of Postoperative Complications?Elise H. Lawson^{*}, David S. Zingmond^{*}, Rachel Louie^{*}, Robert H. Brook^{*}, Clifford Y. Ko*UCLA School of Medicine, Los Angeles, CA*

9:40 AM – 10:05 AM

30

Adjuvant Chemotherapy with Folfox for Primary Colorectal Cancer Is associated with Increased Somatic Gene Mutations and Inferior Survival in Patients Undergoing Hepatectomy for Metachronous Liver MetastasesJean-Nicolas Vauthey, Andreas Andreou^{*}, Dipen M. Maru^{*}, Su Chen^{*}, Eddie K. Abdalla^{*}, Steven A. Curley, Christopher Garrett^{*}, Michael Overman^{*}, Thomas A. Aloia^{*}, Scott Kopetz^{*}*MD Anderson Cancer Center, Houston, TX*

10:05 AM – 10:30 AM

31

Changes in Abdominal Aortic Aneurysm Rupture and Short Term Mortality 1995-2008Marc L. Schermerhorn^{*1}, Rodney P. Bensley, Jr.^{*1}, Kristina A. Giles^{*1}, Rob Hurks^{*1}, A.J. O'Malley^{*2}, Philip Cotterill^{*3}, Elliot Chaikof¹, Bruce E. Landon^{*1}¹*Beth Israel Deaconess Medical Center, Boston, MA*;²*Department of Health Care Policy, Harvard Medical School, Boston, MA*; ³*Centers for Medicare and Medicaid Services, Baltimore, MD*

*By invitation

10:30 AM – 10:55 AM

32

**Per Oral Endoscopic Myotomy (POEM) for Achalasia: A
Comprehensive Objective Follow-Up**

Ashwin A Kurian*, Neil Bhayani*, Ahmed Sharata*,
Erwin Rieder*, Kevin Reavis*, Christy Dunst*,
Lee Swanstrom

Oregon Clinic, Portland, OR

11:00 AM ADJOURN

*By invitation

PROGRAM DETAIL AND ABSTRACTS

THURSDAY MORNING, APRIL 26th

8:15 AM

Grand Ballroom

President's Opening Remarks

Secretary's Welcome & Introduction of
New Fellows Elected in 2011

President's Introduction of Honorary Fellows

Report of the Committee on Arrangements

Presentation of the Medallion for Scientific
Achievement

THURSDAY MORNING, APRIL 26th, CONTINUED

9:10 AM – 11:00 AM
Grand Ballroom

SCIENTIFIC SESSION I

Moderator: Timothy J. Eberlein, MD

1

A Randomized Controlled Trial of the Use of Long-Term Propranolol in Severely Burned Pediatric Patients

David N. Herndon¹, Sachin D. Hegde^{*1}, Noe A. Rodriguez^{*1}, Jaipreet S. Suri^{*1}, Eva Diaz^{*1}, Henry V. Baker^{*2}, Cecilia M. Lopez^{*2}, Ronald Mlcak^{*1}, Felicia N. Williams^{*1}, Ronald G. Tompkins³, Lyle Moldawer^{*2}, Walter Meyer^{*1}, Oscar E. Suman^{*1}, Robert Barrow^{*1}, Marc G. Jeschke^{*1}, Celeste C. Finnerty^{*1}

¹University of Texas Medical Branch, Galveston, TX; ²University of Florida, Gainesville, FL; ³Massachusetts General Hospital, Boston, MA

Background: Severe burn injury results in a hypermetabolic response that persists up to 2 years post burn. The purpose of this study was to determine the effects of long-term administration of propranolol on the hypermetabolic state, cardiac function, body composition, molecular signaling, and inflammatory responses in a large prospective randomized single-center controlled trial.

Patients and Methods: 196 pediatric patients with burns >30% of total body surface area were prospectively enrolled in the study. During their acute admission patients were randomized to receive either placebo (n=86) or propranolol (n=108) at a dose of 4mg/kg/day for 12 months post burn. Changes in resting energy expenditure, cardiac function, body composition, hormones, and inflammatory mediators were measured during the acute admission, at patient discharge and at 6, 9, 12, 18, and 24 months post burn. Affymetrix genechips were run according to the manufacturer's instructions. Statistical analysis used Tukey t test or ANOVA followed by Bonferroni correction. Significance was accepted at $p < 0.05$.

*By invitation

Results: Long-term propranolol administration significantly reduced cardiac work, liver weight, and inflammatory mediators previously implicated in post-burn insulin resistance. In muscle, significant alterations in genes controlling cAMP signaling, glucose metabolism, and muscle protein synthesis were seen. No significant differences were seen in resting energy expenditures.

Conclusions: Propranolol treatment for 12 months following injury ameliorates the hypermetabolic response in severely burned patients.

2

Targeted Nodal Assessment Improves Survival in Early Colon Cancer: Prospective Randomized USMCI Clinical Trials Group GI-01 Study, Final Results

Aviram Nissan^{*1}, Mladjan Protic^{*2}, Anton Bilchik³, Robin Howard^{*4}, George E. Peoples^{*5}, Alexander Stojadinovic^{*4}

¹Rabin Medical Center, Petah Tikva, Israel; ²Clinic of Abdominal, Endocrine, and Transplantation Surgery, Novi Sad, Serbia; ³University of California, Los Angeles, CA; ⁴Walter Reed National Military Medical Center, Bethesda, MD; ⁵Brooke Army Medical Center, Fort Sam Houston, TX

Objective: We have previously shown in a prospective randomized trial (PRT) that targeted nodal assessment (TNA) improves staging in early colon cancer (CC). We evaluated long-term oncological outcome in this mature PRT comparing standard pathological assessment to nodal ultra-staging in early CC.

Methods: This was a PRT conducted over an 8-year period in 192 patients with non-metastatic colon adenocarcinoma randomized to standard nodal histopathological evaluation (Control) or TNA and ultra-staging (TNAus; step sectioning and immunohistochemistry). Disease-free survival (DFS) was compared between groups.

Results: Control (n = 94) and TNAus (n = 98) groups with Stage I-III CC were comparable, except for median (IQ range) total lymph nodes (LNs) assessed [13 (10-18) vs. 16 (12-22), respectively, p = 0.002].

Median (IQ range) follow-up was 46 (29-70) months. Disease recurrence in early CC (Stage I/II) was 26% in Control and 11% in TNAus groups. Five-year DFS was 71% and 86% (p = 0.041) in Control and TNAus groups, respectively.

The only significant difference between these groups was total LNs assessed in the subset of Stage I/II CC patients [Control: 13 (8-18) vs. TNAus: 15 (12-21); p = 0.016]. Use of adjuvant chemotherapy was similar between groups.

Conclusions: Targeted nodal assessment and ultra-staging optimizes staging accuracy and improves disease-free survival in early colon cancer. This is the first prospective randomized trial demonstrating improved DFS with nodal ultra-staging in early CC.

*By invitation

3

Factors Associated with Local-Regional Recurrence Following a Negative Sentinel Node Biopsy: Results of the ACOSOG Z0010 Trial

Kelly K. Hunt¹, Linda M. McCall^{*2}, Karla V. Ballman^{*3}, Judy C. Boughey^{*3}, Elizabeth A. Mittendorf^{*1}, Charles Cox^{*4}, Pat W. Whitworth^{*5}, A. Marilyn Leitch^{*6}, Peter D. Beitsch^{*7}, Armando E. Giuliano⁸

¹The University of Texas MD Anderson Cancer Center, Houston, TX; ²American College of Surgeons Oncology Group, Durham, NC; ³The Mayo Clinic, Rochester, MN; ⁴Moffitt Cancer Center, Tampa, FL; ⁵Nashville Breast Center, Nashville, TN; ⁶UT Southwestern, Dallas, TX; ⁷Dallas Surgical Group, Dallas, TX; ⁸Cedars Sinai Medical Center, Los Angeles, CA

Objective(s): ACOSOG Z0010 was a prospective study to determine the significance of metastases detected by immunohistochemistry (IHC) on survival and local-regional recurrence (LRR) in patients with negative sentinel lymph nodes (SLNs) by hematoxylin and eosin (H&E) staining. We report here factors associated with LRR in patients with H&E-negative SLNs.

Methods: Women with clinical T1-2,N0,M0 disease underwent lumpectomy and SLN biopsy. There was no axillary specific treatment for H&E-negative SLNs and clinicians were blinded to IHC results. Systemic therapy was based on primary tumor factors. Univariable and multivariable analyses were performed to determine clinicopathologic factors associated with LRR.

Results: Of 5119 patients, 3904 (76.3%) had H&E-negative SLNs (of which 10% had occult metastases by IHC). Median age was 56 years (range 23-95), median follow-up was 8.4 years. There were 127 (3.2%) local, 20 (0.5%) regional, and 134 (3.4%) distant recurrences.

Clinicopathologic factors associated with regional recurrence in H&E-negative SLNs were PR-negative disease (p = 0.006) and presence of lymphovascular invasion (LVI) (p = 0.0002). When local and regional recurrence were included in the model, age >50, T2 disease and local recurrence were associated with reduced overall survival, ER-positive disease and no LVI were associated with improved overall survival.

*By invitation

Multivariable Analysis of Factors Significant on Univariable Analysis for Survival Outcomes in Patients with H&E-negative SLNs			
Regional Disease-Free Survival			
Characteristic	Hazard Ratio	P Value	95% Confidence Interval
Age >50	---	---	---
T2	2.13	0.16	0.74-6.12
ER Positive	0.62	0.42	0.2-1.95
PR Positive	0.2	0.02	0.05-0.76
HER-2 Positive	---	---	---
No LVI	0.28	0.01	0.1-0.76
Chemotherapy	---	---	---
Hormonal Therapy	---	---	---
Radiation Therapy	---	---	---
Distant Disease-Free Survival			
Age >50	---	---	---
T2	1.12	0.74	0.60-2.03
ER Positive	1.12	0.74	0.59-2.11
PR Positive	0.61	0.07	0.36-1.05
HER-2 Positive	---	---	---
No LVI	0.40	0.0003	0.24-0.65
Chemotherapy	1.30	0.27	0.82-2.07
Hormonal Therapy	---	---	---
Radiation Therapy	0.55	0.07	0.28-1.06
Overall Survival			
Age >50	2.76	<0.0001	1.96 - 3.88
T2	1.84	0.0001	1.35 - 2.50
ER Positive	0.67	0.04	0.46 - 0.97
PR Positive	1.00	0.99	0.72 - 1.40
HER-2 Positive	---	---	---
No LVI	0.62	0.003	0.46 - 0.85
Chemotherapy	---	---	---
Hormonal Therapy	---	---	---
Radiation Therapy	---	---	---
Local Recurrence	2.62	<0.0001	1.67-4.11
Regional Recurrence	2.13	0.08	0.90-5.05

Conclusions: Regional recurrence is rare in patients after H&E-negative SLN biopsy and is associated with LVI and PR-negative disease. Regional recurrence after negative SLN biopsy is not associated with reduced overall survival.

4

Novel Vaccinia Virus GLV-1h153 Is Effective in Treating Metastatic Triple-Negative Breast Cancer In Vivo

Sepideh Gholami*¹, Chun-Hao Chen*¹, Marina A. De Brot*¹, Emil Lou*², Andrew A. Marano*¹, Kelly M. Mojica*¹, Jennifer E. Nnoli*¹, Laura A. Daly*¹, Laurence J. Belin*¹, Yuman Fong¹

¹Memorial Sloan-Kettering Cancer Center, New York, NY;

²University of Minnesota, Minneapolis, MN

Objective(s): Triple-negative breast cancers (TNBC) are aggressive, highly metastatic tumors that lack the benefit of targeted therapy. Oncolytic viruses are therapeutic agents which infect, replicate within, and lyse cancer cells. We investigated the therapeutic impact of a novel vaccinia virus, GLV-1h153, in treating metastatic TNBC in an established orthotopic metastatic murine model.

Methods: GLV-1h153 was tested against 4 TNBC cell lines. Cytotoxicity and viral replication were determined. Mammary fat pad tumors were generated in athymic nude mice. Xenografts were treated with GLV-1h153 or PBS and analyzed for tumor growth. Tumors and lymph nodes were harvested, fixed and stained with hematoxylin and eosin, and reviewed by a pathologist.××

Results: GFP expression, a measure of viral replication, showed that infection was time- and concentration-dependent. Greater than 90% cell kill was achieved in all cell lines by day 5. GLV-1h153 replicated efficiently in all cell lines with a peak titer of 2.6×10^7 viral plaque forming units/ml (>1300-fold increase). In vivo, mean volume of tumors after 2 weeks of treatment was 21 versus 273 mm³ in controls (p = 0.002). Frequency of positive lymph nodes was higher in control compared to treated xenografts (67% vs 0%, respectively, p < 0.05). No residual tumor was observed in treated mice on histopathology.

Conclusions: Our study shows that TNBC are susceptible to infection and cell death by GLV-1h153 in vitro and in vivo. We demonstrated that GLV-1h153 targets lymphatic structures and treats metastatic disease. We believe that GLV-1h153 merits further investigation as a novel therapeutic approach for metastatic TNBC.

*By invitation

THURSDAY MORNING, APRIL 26th, CONTINUED

11:00 AM
Grand Ballroom

Introduction of the President

Anna M. Ledgerwood, MD

Address by the President

Timothy J. Eberlein, MD

THURSDAY AFTERNOON, APRIL 26th

1:30 PM – 5:15 PM
Grand Ballroom

SCIENTIFIC SESSION II

Moderator: L.D. Britt, MD

5

**Stress-Induced Hyperglycemia, Not Diabetic Hyperglycemia,
Leads to Worse Outcomes in Trauma**

Jeffrey D. Kerby*, Russell L. Griffin*, Paul MacLennan*,
Loring W. Rue, III

University of Alabama at Birmingham, Birmingham, AL

Objectives: Stress-induced hyperglycemia (SIH) has previously been shown to result in worse outcomes after trauma. However, these studies were confounded by the presence of DM or occult DM within the cohort. We identified a pure population of patients with SIH to determine the true impact of SIH on outcomes after trauma. We also evaluated the ability of HbA1c levels to predict mortality compared to glucose levels.

Methods: Admission HbA1c, glucose levels, and comorbidity data were prospectively collected on trauma patients over a two year period. DM was determined by patient history or admission HbA1c >6.5%. SIH was determined by absence of DM and admission glucose >200 mg/dl. Cox proportional hazards models (adjusted for age and ISS) were used to calculate risk ratios (RRs) and associated 95% confidence intervals (CIs) for outcomes of interest. Additionally, ROC analysis was utilized to determine mortality predictions.

Results: During the study period 6,852 trauma patients were evaluated and 5,116 had available glucose, HbA1c and comorbidity data. Hyperglycemia was not associated with mortality or infectious complications among patients with DM. SIH lead to higher risk of pneumonia (aRR 1.47, CI 1.1–1.98) and mortality (aRR2.66, CI 1.99–3.56). Glucose was a better predictor of mortality than HbA1c (AUC 0.75 vs 0.61, respectively, $p < 0.0001$).

*By invitation

Conclusions: As opposed to hyperglycemia associated with DM, SIH is predictive for worse outcomes after trauma. Likewise, glucose level was a better predictor of mortality than HbA1c alone. Further research is warranted to identify mechanisms causing SIH and subsequent worse outcomes following trauma.

6

Sustained Reduction of Postoperative Venous Thromboembolism and Hospital Costs with Electronic Clinical Decision Support Program

John R. Hoch*, Anne E. Rose*, Abhik Bhattacharya*, Glen E. Levenson*, Philip J. Trapskin*, Jon S. Matsumura*, William D. Turnipseed

University of Wisconsin, Madison, WI

Objective: We implemented and analyzed a hospital-wide physician and pharmacist-led electronic clinical decision support program designed to improve venous thromboembolism (VTE) prophylaxis and decrease the incidence of VTE.

Methods: A physician and pharmacist-led interdisciplinary VTE task force was created in 2009 to establish a mandatory electronic medical record (EMR) program for thrombotic risk assessment and selection of evidence-based VTE prophylaxis. Key components of the program are pharmacist-led clinical decision support and monitoring of prescribed therapy and physician education. The EMR was adopted in 2009; order sets were modified in 2010 to include the program and clinical decision support. EMR data was prospectively collected from 2008-11 for type and appropriateness of prophylaxis, postoperative VTE and costs. Rates were compared with chi-square.

Results: See Table. From 2008 to 2011 the rate of postoperative VTE decreased by 66%. Postoperative VTE events decreased in 2009 with the adoption of the EMR but further sustained decreases occurred in 2010 and 2011 with implementation of the full program. VTE reduction corresponded with improved use of prophylaxis. Compared to 2008, this program led to cost savings of \$1,098,245 for 2009 and \$902,823 for 2010.

Conclusions: This system-based program for mandatory EMR-based VTE risk assessment, evidence-based prophylaxis guidelines, and decision support by pharmacy, has led to sustained improvement in VTE prophylaxis, significant reduction in the incidence of postoperative VTE, and dramatic cost savings.

Year	VTE Rate per 1000 Discharges	No Prophylaxis	Dual Mechanical and Pharmaceutical Prophylaxis	Preventable VTE
2008	13.75	7.77%	42.47%	—
2009	10.34	4.62%	48.37%	40.79%
2010	7.34	3.00%	47.66%	32.84%
2011*	4.70	2.87%	53.28%	17.95%
*9 mo data	P < .0001	p < .0001	P < .0001	P < .045

*By invitation

7

Failure to Rescue or Withdrawal of Support: Explaining the Excessive Mortality of Elderly DNR Patients Undergoing Emergency General Surgical Procedures

John E. Scarborough*, Kyla M. Bennett*, Theodore N. Pappas, Sandhya A. Lagoo-Deenadayalan*

Duke University Medical Center, Durham, NC

Objective: Preoperative do-not-resuscitate (DNR) status is a known predictor of postoperative mortality. Our objective was to determine potential causes for this association.

Methods: Patients age ≥ 65 years undergoing emergency operation for one of ten common indications were extracted from the 2005–2009 National Surgical Quality Improvement database. Propensity score techniques were used to match patients with and without preoperative DNR directives for operative diagnosis, patient age and comorbidities, preoperative physiologic status, and procedure complexity.

Results: 19,409 patients were evaluated for analysis (845 DNR, 18,564 non-DNR), 1,598 of whom were included in the matched cohort. No significant difference existed between DNR and non-DNR patients for any of the preoperative or intraoperative variables. DNR patients were more likely to die postoperatively than non-DNR patients despite the fact that they were less likely to develop a major complication (Table). DNR patients were less likely to undergo reoperation, and were more likely to die in the absence of a major complication, than non-DNR patients.

Outcome	DNR	Non-DNR	P Value*	AOR ** (95% CI)
Major Complication	283/799 (35.4%)	315/799 (39.4%)	0.03	0.84 (0.68,1.04)
Reoperation	59/799 (7.4%)	97/799 (12.1%)	0.002	0.58 (0.40,0.82)
Mortality:				
Overall	283/799 (35.0%)	192/799 (24.0%)	<0.0001	1.78 (1.41,2.25)
If Major Complication	161/283 (56.9%)	125/315 (39.7%)	0.001	2.53 (1.41,4.73)
If No Major Complication	122/516 (23.6%)	67/484 (13.8%)	0.02	1.63 (1.07,2.50)

*Using McNemar's Chi-Square tests **Using conditional logistic regression

*By invitation

Conclusions: The independent effect of preoperative DNR status on mortality after emergent general surgery cannot be explained by comorbid conditions or by a higher incidence of major complications. Our findings suggest that elderly patients with preoperative DNR directives may be managed less aggressively in the postoperative period than patients without such directives, leading to a much higher mortality than would be expected based on clinical predictors.

8

Laparoscopic Colon Resection—Trends in Utilization and Rate of Conversion to Open Procedure: A Large Multicenter Outcome Study

Anton Simorov*, Ahbijit Shaligram*, Avishai Meyer*, Pradeep Pallati*, Jon Thompson, **Dmitry Oleynikov***

University of Nebraska Medical Center, Omaha, NE

Background: This study aims to examine trends of utilization and rate of conversion to open procedure for patients undergoing laparoscopic colon resections (LCR).

Method: This study is a multi-center, retrospective analysis utilizing University Health System Consortium (UHC) administrative database. UHC is an alliance of over 200 academic and affiliate hospitals.

Results: 71709 patients underwent colon resections between October 2008 and June 2011. LCR was attempted in 30,130 (42%) patients with 4,765 (15.8%) among these needing conversion to an open procedure. There was a trend towards increasing utilization of LCR from 37.51% in 2008 to 44.40% in 2011 ($p = 0.0001$). Inflammatory bowel disease was treated equally by open and LCR. Attempted laparoscopic (ileo)cecectomy had highest rate of conversion (24.73%) followed by transverse (21.6%), left (20.9%), right (15.4%) and sigmoid (14.5%) colon. As expected, compared to open, patients undergoing LCR or needing conversion to open had better outcomes.

Table: Comparison of Perioperative Outcomes for Patients Undergoing Laparoscopic Colon Resection or Needing Conversion and Those Undergoing Open Colectomy

Outcomes	LCR (n = 30,130)	OC (n = 41,579)	P Value
Mortality (%)	0.58	5.25	0.0001
Morbidity (%)	9.12	21.51	0.0001
LOS (Days, Mean \pm S.D.)	6.77 \pm 6.40	12.41 \pm 13.84	0.0001
30-day Readmission (%)	4.93	6.99	0.0001
Cost \pm S.D. (US \$)	13,408 \pm 13,257	24,351 \pm 32,466	0.0001
ICU admission (%)	10.11	37.12	0.0001

LCR; laparoscopic colon resection, OC; Open colectomy, LOS; length of stay, SD; Standard Deviation, ICU; Intensive Care Unit

*By invitation

Conclusion: There is trend of increasing utilization of LCR with acceptable conversion rate across hospitals in United States over the recent years. When feasible, attempted LCR had better outcomes than open colectomy in the immediate perioperative period.

9

Impact of Resident Participation in Surgical Operations on Postoperative Outcomes

Ravi P. Kiran*¹, Usama Ahmed Ali*¹, John C. Coffey*¹,
Jon D. Vogel*¹, Naveen Pokala*², Lei Lian*¹, Victor Fazio¹

¹Cleveland Clinic, Cleveland, OH; ²University of Missouri,
Columbia, MO

Objective: To evaluate whether resident participation in operations influences postoperative outcomes while accounting for patient, disease and operation complexity.

Methods: From the National Surgical Quality Improvement Program database (2005–2007), postoperative outcomes for patients with (RES) and without resident (no-RES) participation matched 2:1 based on age, gender, speciality, surgical procedure, morbidity probability and important co-morbidities and risk factors were compared.

Results: RES (40,474 (66.7%)) and No-RES (20,237 (33.3%)) groups had comparable age, gender, surgical procedure, co-morbidities and morbidity probability. Mortality was similar (0.20% vs. 0.18%, $p = 0.55$). 30-day complications classified as “mild” (7.5% vs 6.7%, $p < 0.001$) and “surgical” (7% vs 6.2%, $p < 0.001$) were higher in RES, but “severe” and “medical” complications were similar. PGY 0-2, 3-5 and ≥ 6 residents performed 30.5%, 56.1% and 13.4% operations respectively. Overall complications were lower for PGY 0-2 residents (5.9%) than for other years (PGY 3-5: 8.2%, PGY ≥ 6 : 8.7%, 10%, respectively).

Conclusions: Resident involvement in surgical procedures is safe. The small overall increase in mild surgical complications is likely related to the requirement of resident participation in more complicated operations for patients with more severe and complex disease. Considering the absence of increased complications in PGY 0-2, enhanced supervision of PGY ≥ 3 residents may improve their surgical skills and promote patient outcomes.

*By invitation

Characteristics and Outcomes of Surgery with and without Resident Participation

Characteristic/Outcome	Resident (n=40,474)	No Resident (n=20,237)	P-value
Age [median (IQR)]	50 (37-62)	50 (37-62)	0.8
Sex (male)	13,414 (33.1%)	6,707 (33.1%)	>0.99
Morbidity probability	0.09 +/- 0.05	0.09 +/- 0.05	0.36
Diabetes	2608 (6.4%)	1304 (6.4%)	1
ASA-classification	5404 (13.4%)	2702 (13.4%)	1
1-No Disturbance	23090 (57.0%)	11545 (57.0%)	
2-Mild Disturbance	11896 (29.4%)	5948 (29.4%)	
3-Severe Disturbance	84 (0.21%)	42 (0.21%)	
4-Life Threatening			
Death within 30 days	71 (0.18%)	40 (0.20%)	0.55
Any 30-day Complication	3030 (7.5%)	1353 (6.7%)	<0.001
Complications classified*	2840 (7.0%)	1255 (6.2%)	<0.001
- Surgical Complications	1481 (3.7%)	705 (3.5%)	0.27
- Medical Complications	2346 (5.8%)	1142 (5.6%)	0.44
- Severe Complications	1789 (4.4%)	714 (3.5%)	<0.001
- Mild Complications			

* Surgical and medical complications are listed below. Mild complications are indicated by “(mild)”.

• Surgical complications: superficial surgical site infection (mild), deep (organ) surgical site infection, wound disruption, bleeding requiring transfusion, failure of graft or prosthesis, peripheral nerve injury (mild) and reoperation.

• Medical complications: pneumonia, pulmonary embolism, acute renal failure, stroke, myocardial infarction, sepsis, urinary tract infection (mild), deep venous thrombosis (mild), and thrombophlebitis (mild).

10**Novel Autologous Cell Based Therapy to Promote Wound Healing**

Diego M. Castilla*, Zhao-Jun Liu*, Runxia Tian*, Yan Li*, Alan S. Livingstone, Omaid C. Velazquez*

University of Miami, Miami, FL

Objective(s): The development of efficacious cell based therapies (CBT) for non-healing diabetic wounds continues at the forefront of intense investigation. Our prior studies demonstrate a role for SDF-1 α in wound healing, as there is a significant down regulation of this cytokine in diabetic cutaneous wounds. We now study the efficacy of a novel CBT consisting of local wound inoculation with autologous bone marrow cells (BMC) that are activated ex vivo with recombinant SDF-1 α .

Methods: Unfractionated BMC from diabetic Leptin receptor-deficient (db/db) mice were incubated for 20h with SDF-1 α (100ng/mL) or bovine serum albumin (control). Pre-treated BMC (1×10^7) were injected subcutaneously into full thickness skin wounds in db/db mice (n=8/group). Wound closure rates, capillary density and endothelial progenitor cell (EPC) numbers were assessed with serial photography, Dil perfusion, laser confocal microscopy and immunohistochemistry. Expression of pro-healing molecular targets was evaluated by PCR. Serum SDF-1 α levels were measured with ELISA.

Results: SDF-1 α pre-treated BMC significantly promoted wound healing (76% Vs. 42% closure by day 12; 1.8 fold difference starting at day 9; $p < .0001$), neovascularization ($p = .0028$) and EPC recruitment ($p = .0059$). Gene expression studies demonstrate up-regulation of EphR B4 and Plasminogen as downstream targets potentially mediating the pro-healing response. Ex vivo BMC activation did not affect systemic SDF-1 α levels.

Conclusion: We report a novel CBT (autologous BMC with ex vivo SDF-1 α activation) that is highly effective in promoting healing in a murine model of Type 2 Diabetes. Furthermore, we identify new molecular targets that may be important for advancing the field of wound healing.

*By invitation

11**A Prospective Study of Expectant Observation as Primary Therapy for Neuroblastoma in Young Infants, A Children's Oncology Group Study**

Jed G. Nuchtern*¹, Wendy B. London*², Carol E. Barnewolt*², Arlene Naranjo*³, James D. Geiger⁴, Susan L. Cohn*⁵, Robert C. Shamberger²

¹*Baylor College of Medicine, Houston, TX;* ²*Harvard Medical School, Boston, MA;* ³*University of Florida, Gainesville, FL;* ⁴*University of Michigan, Ann Arbor, MI;* ⁵*University of Chicago, Chicago, IL*

Objective(s): Neuroblastoma is the most common malignant tumor in infants. The objective of this study was to demonstrate that expectant observation of young infants with adrenal masses would result in excellent overall and event-free survival (OS and EFS) while avoiding surgical resection in the majority of cases.

Methods: A prospective study of infants less than 6 months of age with small adrenal masses and no evidence of spread beyond the primary tumor was performed at all participating Children's Oncology Group institutions. Parents could choose observation or immediate surgical resection. Serial abdominal sonograms and urinary VMA and HVA measurements were performed over a ninety-week interval. Infants experiencing a 50% increase in the volume of the mass or urine catecholamine values, or an increase in the HVA/VMA ratio >2 were referred for surgical resection.

Results: 88 patients were enrolled, 84 elected observation and 4 chose immediate surgery. 16 observation patients ultimately had surgery; 9 had INSS stage 1 neuroblastoma, 2 had higher stage neuroblastoma (2B and 4S), 2 had low grade adrenocortical neoplasm, 2 had adrenal hemorrhage and one had extralobar sequestration. The two patients with adrenocortical tumors were resected for $>50\%$ increase in tumor volume. The 3-year EFS for a neuroblastoma event was $97.7 \pm 2.3\%$. The overall survival was 100% with median follow-up of 2.9 years. 81% of patients on the observation arm were spared resection.

Conclusions: Expectant observation of infants with small adrenal masses led to excellent EFS and OS while avoiding surgical intervention in a large majority of the patients.

*By invitation

12

Admission Rapid Thrombelastography (r-TEG) Can Replace Conventional Coagulation Tests in the Emergency Department: Experience with 1974 Consecutive Trauma Patients

John B. Holcomb, Kristin M. Minei*, Michelle L. Scerbo*, Charles E. Wade*, Rosemary A. Kozar, Brijesh S. Gill*, Rondel Albarado*, Michelle K. McNutt*, James J. McCarthy*, Bryan A. Cotton*

UT Health, Houston, TX

Objective: Injury and shock leads to alterations in conventional coagulation tests (CCTs). Recently, r-TEG has become recognized as a comprehensive assessment of coagulation abnormalities. We have previously shown admission r-TEG results are available faster than CCTs and predict PE's. We hypothesized r-TEGs more reliably predicted component transfusion than CCTs.

Methods: Consecutive patients admitted between September 2009 and February 2011 who were our highest level trauma activations were included. All had admission r-TEG and CCTs. We correlated r-TEG values (ACT, alpha, mA, LY-30) with their corresponding CCTs (PT/PTT, INR, platelet count and fibrinogen) for transfusion requirements. Charges were calculated for each test. Demographics, vital signs, and injury severity were recorded.

Results: We studied 1974 major trauma activations, median ISS was 17(9-26), 28% were in shock, 28% were transfused and 6% died within 24 hours. Overall, r-TEG correlated with CCTs. When controlling for age, injury mechanism, w-RTS, base excess and Hgb: ACT predicted patients with substantial bleeding and RBC transfusion better than PT/PTT or INR ($p = 0.03$); alpha was superior to fibrinogen for predicting plasma transfusion ($p < 0.001$); mA was superior to platelet count for predicting platelet transfusion ($p < 0.001$) and LY-30 documented fibrinolysis. These correlations improved for transfused, shocked or head injured patients. The charge for r-TEG (\$317) was similar to five CCTs (\$286).

Conclusion: r-TEG was clinically superior to five CCTs, identifying patients with an increased risk of early RBC, plasma and platelet transfusions, as well as fibrinolysis. Admission conventional coagulation tests can be replaced with r-TEG.

*By invitation

13

Thoroscopic Lobectomy Has Increasing Benefit in Patients with Poor Pulmonary Function: An STS Database Analysis

DuyKhanh P. Ceppa*¹, Andrzej S. Kosinski*¹, Mark F. Berry*¹, Betty C. Tong*¹, David H. Harpole¹, John D. Mitchell*², Thomas A. D'Amico¹, Mark W. Onaitis*¹

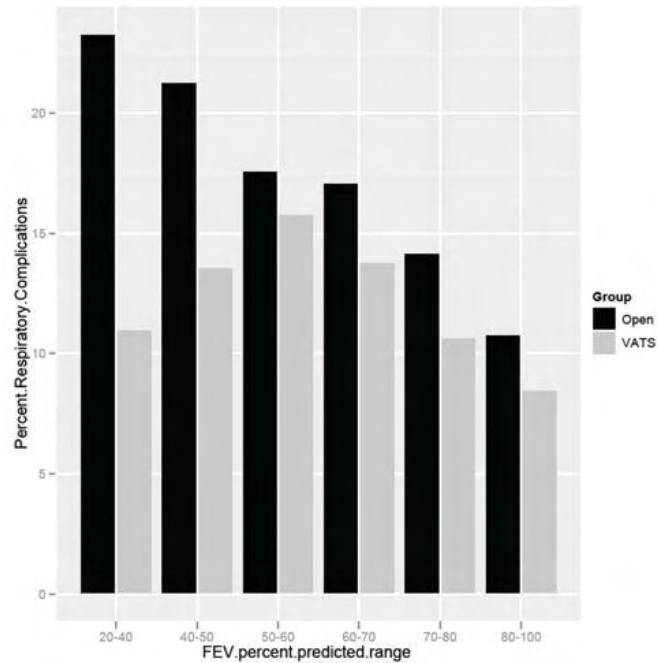
¹Duke University, Durham, NC; ²University of Colorado Denver School of Medicine, Denver, CO

Objective: Single-institution series demonstrate benefit of thoracoscopic (VATS) lobectomy over lobectomy via thoracotomy in poor pulmonary function patients (FEV1 or DLCO <60% predicted). We ask whether VATS lobectomy is beneficial in high-risk pulmonary patients.

Methods: The STS General Thoracic Database was queried for patients having undergone lobectomy by either thoracotomy or VATS between 2000 and 2010. Postoperative pulmonary complications included those defined by the STS database.

Results: In the STS database, 12,970 patients underwent lobectomy (thoracotomy $n = 8439$; VATS $n = 4531$) and met inclusion criteria. The overall rate of pulmonary complications was 13.4% (1133/8439) and 9.8% (443/4531) in patients undergoing lobectomy with thoracotomy and VATS, respectively ($p < 0.0001$). In a multivariable model of pulmonary complications, thoracotomy approach (OR 1.33, $p < 0.001$), decreasing FEV1 % predicted (OR 1.01 per unit, $p < 0.001$) and DLCO % predicted (OR 1.01 per unit, $p < 0.001$), and increasing age (1.02 per year, $p < 0.001$) independently predict pulmonary complications. When examining pulmonary complications in patients with FEV1 < 60% predicted, thoracotomy patients have markedly increased pulmonary complications when compared to VATS patients (Figure) ($p = 0.023$). No significant difference is noted with FEV1 > 60% predicted.

*By invitation



Conclusions: Poor pulmonary function predicts respiratory complications regardless of approach. Respiratory complications increase at a significantly greater rate in lobectomy patients with poor pulmonary function following thoracotomy compared with VATS. Planned surgical approach should be considered when determining if a high risk patient is an appropriate resection candidate.

FRIDAY MORNING, APRIL 27, 2012

7:00 AM – 8:00 AM
Vanderbilt

ASA WOMEN IN SURGERY BREAKFAST

8:00 AM – 10:30 AM
Grand Ballroom

SCIENTIFIC SESSION III

Moderator: Timothy J. Eberlein, MD

14

Long-Term Survival, Nutritional Autonomy and Quality of Life After Intestinal and Multivisceral Transplantation

Kareem M. Abu-Elmagd, Guilherme Costa*, Beverly Kosmach-Park*, Geoffrey J. Bond*, Kyle Soltys*, Rakesh Sindhi*, Darlene Koritsky*, Lillian Martin*, George Mazariegos

Thomas E. Starzl Transplantation Institute, Pittsburgh, PA

Objective(s): To assess long-term survival, graft function and health-related quality of life after intestinal/multivisceral transplantation.

Methods: A prospective cross-sectional study was performed on survivors beyond 5-year milestone. Clinical data (20 variables) were analyzed to identify factors associated with long-term patient survival and graft function. Quality of life was assessed by direct contact and standardized self-reported quality of life inventory (QOLI);130 questionnaire with 26 domains.

Results: Between 1990-2006, 376 patients (210 adults,166 children) were transplanted with 429 grafts achieving 5-year recipient and graft actuarial survival of 60% and 50%; respectively. All patients failed TPN with 220 (59%) requiring simultaneous hepatic replacement. With follow-up of 10 + 14 years, 177 (90 adults, 87 children) are alive with full nutritional autonomy in 168 (95%) achieving serum albumin of 3.7 + 0.5gm/dl. Re-transplantation rescued 25 (14%) and 15 (9%) required kidney transplantation. With 46% prednisone-free on spaced-doses of tacrolimus, serum creatinine is 1.1 + 0.4 mg/dl. Of the 177 survivors, 54 are beyond 10–21 years. Survival predictors are absent donor-specific antibodies, allograft/recipient preconditioning, liver-inclusion and social/family support. Most QOLI-scores were significantly ($p < 0.05$) better in survivors compared to patients with chronic organ failure. In contrast to general population, physical scores were lower

*By invitation

($p < 0.05$) with similar neuropsychiatric domains. Factors associated with impaired QOLI were dysmotility (54%), hypertension (36%), impaired skeletal health (16%) and diabetes (15%) with higher prevalence among adults. Of pediatric survivors, 32% are adults with 90% students/graduates/employed. Of adults, 86% are totally independent; 68% employed, 21% homemakers and 11% seniors. Six survivors gave birth/fathered child.

Conclusions: Visceral transplantation is durable life-saving surgery with high long-term rehabilitative indices. Further improvement is anticipated by continual refinement of current immunologic and long-term management.

15

Non-Operative Management of Rectal Cancer with Complete Clinical Response Following Neoadjuvant Therapy

James D. Smith*, Jeannine A. Ruby*, Karyn Goodman*, Leonard Saltz*, José G. Guillem, Martin R. Weiser, Larissa K. Temple*, Garrett M. Nash*, Philip B. Paty

Memorial Sloan Kettering Cancer Center, New York, NY

Objective(s): Non-operative management (NOM) of rectal cancer following a complete clinical response (cCR) to neoadjuvant chemoradiation is controversial. This study evaluates the outcomes of selective NOM following a cCR to neoadjuvant treatment compared to management by standard rectal resection (RR) with a pathological complete response (pCR).

Methods: Patients completing neoadjuvant therapy for Stage I-III rectal cancer between January 2006 and August 2010 were evaluated. Median follow-up (MFU) was calculated in months after completion of radiotherapy.

Results: Among 311 total patients, 279 (90%) underwent standard RR with 71 pCRs (24%, MFU 38 months). The remaining 32 patients (10%, MFU 23 months) were selected for NOM following a cCR. Factors associated with selected use of NOM were a lower pre-treatment stage, older age, and more distal tumors ($P < 0.05$). In the NOM group, 6 recurred locally (17%, median 11 months, range 7–14), two of whom presented with synchronous distant recurrence. All 6 local failures were controlled by salvage RR with no further local recurrence of disease (MFU 11 months). In the RR/pCR group, there were no local failures. The 3 year rates for distant metastasis (11% v. 9%, $P = 0.63$) and overall survival (88% v. 96%, $P = 0.44$) were similar for NOM and RR/pCR groups.

Conclusions: Selective NOM successfully avoided RR in 83% of patients. When combined with salvage surgery, NOM appears to achieve similar local and distant disease control compared to patients treated by RR/pCR. Long term follow-up and prospective trials are warranted to evaluate this promising treatment option.

*By invitation

16**Value of Surgery in Patients with Negative Imaging and Sporadic Zollinger-Ellison Syndrome (ZES)**

Jeffrey A. Norton¹, Douglas L. Fraker², H. Richard Alexander³, Robert T. Jensen^{*4}

¹Stanford University, Stanford, CA; ²University of Pennsylvania, Philadelphia, PA; ³University of Maryland, College Park, MD;

⁴NIADDK, NIH, Bethesda, MD

Objectives: To address the value of surgery in sporadic ZES patients with negative imaging studies

Methods: 58 of 339 sporadic ZES patients (17%) had negative imaging studies. Patients were stratified into those who had negative conventional [Conv] imaging (CT, MRI, US) in the pre-SRS (octreoscan) period and those who had negative SRS and conventional imaging in the post-SRS period.

Results: 58 sporadic ZES patients with negative imaging, including 35 pre-SRS and 23 post-SRS, underwent surgery. These patients had long disease histories prior to surgery (mean \pm from onset = 7.9 ± 1 [range -0.25–35 yrs]) and 25% were followed ≥ 2 yrs from diagnosis. At surgery, gastrinoma was found in 57/58 patients (98%). Tumors were small (mean = 0.8 cm, 60% < 1 cm). The most common primary sites were: duodenal 64%, pancreatic 17%, and lymph node (10%). 50% had a primary only, 41% primary + LN, and 7% had liver metastases. 35/58 (60%) were cured immediately postop and at last followup [mean-9.4yrs [range 0.2–22 yrs], 27 patients (46%) remained cured. During followup 3 patients died, each were found to have liver metastases at surgery.

Conclusions: Imaging negative sporadic ZES patients are not rare even in the post SRS period. An experienced surgeon can find gastrinoma in almost every patient (98%) and nearly one-half (46%) are cured. Because liver metastases were found in 7%, which may have been caused by a long delay in surgery and all the disease-related deaths occurred in this group, surgery should be routinely undertaken early in ZES patients despite negative imaging studies.

*By invitation

17**Preoperative Laboratory Testing in Patients Undergoing Elective, Low-Risk Ambulatory Surgery**

Jaime Benarroch-Gampel*, Kristin M. Sheffield*, Casey A. Boyd*, Kimberly M. Brown*, Yimei Han*, Courtney M. Townsend, Jr., Taylor S. Riall*

University of Texas Medical Branch, Galveston, TX

Objectives: To evaluate the use of preoperative laboratory testing in ambulatory surgery.

Methods: Patients who underwent elective hernia repair (N = 73,596) were identified from the National Surgical Quality Improvement Program (NSQIP) database (2005–2010). Patterns of testing were examined. Multivariate analyses were used to identify factors associated with individual tests and postop complications.

Results: 46,977 (64%) patients underwent testing, with at least one abnormal result recorded in 44% of patients. 15% of patients underwent testing the day of surgery. Surgery was done despite abnormal results in 40% of same day tests. In patients with no NSQIP comorbidities (N = 25,149), 54% underwent at least one test (specific tests in Table 1). In multivariate analyses, preoperative testing was associated with older age, ASA class >1, general anesthesia, hypertension, ascites, bleeding disorders, steroid use, and laparoscopic procedures for each test. Major complications occurred in 0.3% of patients (reintubation, pulmonary embolus, stroke, renal failure, coma, major cardiac, septic shock, bleeding, or death). After adjusting for patient and procedure characteristics, neither testing nor abnormal results were associated with postop complications.

Percentage of Patients Undergoing Specific Preoperative Tests

	Overall Cohort (N = 73,596)	Patients with No Comorbidities (N = 25,149)
Any Test	64%	54%
Complete blood count	59%	52%
Chemistry	54%	42%
Coagulation profile	19%	15%
Liver function tests	24%	20%

*By invitation

Conclusions: Preoperative testing in ambulatory surgery is overused. Use of testing and abnormal results were not associated with adverse outcomes. Based on high rates of testing in healthy patients, physician and/or facility preferences appear to dictate a significant portion of test use. Involvement from surgical societies is necessary to establish guidelines for testing.

18

Factors Influencing Readmission Following Pancreaticoduodenectomy: A Multi-Institutional Study of 1,302 Patients

Syed A. Ahmad*¹, Jeffrey M. Sutton*¹, Sanjeet S. Grewal*¹, David A. Kooby*², Shishir K. Maithel*², David J. Bentrem*³, Sharon M. Weber⁴, Clifford S. Cho*⁴, Emily R. Winslow*⁴, Charles R. Scoggins*⁵, Robert C.G. Martin⁵, Hong J. Kim*⁶, Nipun B. Merchant*⁷, Alexander A. Parikh*⁷, Michael J. Edwards¹

¹Department of Surgery, University of Cincinnati College of Medicine, Cincinnati, OH; ²Department of Surgery, Emory University, Atlanta, GA; ³Department of Surgery, Northwestern University Feinberg School of Medicine, Chicago, IL;

⁴Department of Surgery, University of Wisconsin School of Medicine and Public Health, Madison, WI; ⁵Department of Surgery, University of Louisville School of Medicine, Louisville, KY; ⁶Department of Surgery, University of North Carolina School of Medicine, Chapel Hill, NC; ⁷Department of Surgery, Vanderbilt University School of Medicine, Nashville, TN

Objective(s): Morbidity, mortality, and length of hospital stay following pancreaticoduodenectomy (PD) have significantly decreased over the recent decades. Despite these advances, early readmission rates after PD have been reported as high as 50%. Few reports have delineated factors associated with readmission following PD.

Methods: The medical records of six high-volume institutions were reviewed for patients who underwent PD between 2005 and 2010. Data collection included patient characteristics, medical comorbidities, and perioperative factors. Analysis included readmissions up to 90 days from PD.

Results: 1302 patients underwent PD across all institutions. The 30-day and 90-day readmission rates were 12.4% and 17.7%, respectively. The most common reasons for 30-day readmission included infectious complications (n = 66) and delayed gastric emptying (n = 23). The most common reasons for readmission after 30 days included infectious complications (n = 26) and failure to thrive (n = 13). On multivariate analysis, factors associated with higher readmission rates included a diagnosis of chronic pancreatitis; higher transfusion requirements; and post-operative complications including intra-abdominal abscess, pancreatic fistula, and wound infection (all P < 0.02). Factors not associated with higher readmission rates included advanced age, BMI, cardiovascular/pulmonary comorbidities, diabetes, steroid use, Whipple type (standard v. PPPD), pre-operative endobiliary stenting, and vascular reconstruction.

*By invitation

Conclusions: Factors related to infection, nutritional status, and delayed gastric emptying were the most common reasons for readmission. Post-operative complications including pancreatic fistula predicted higher rates of readmission. Our data represent the first multi-institutional analysis without individual institutional biases. Based on this, our study can serve as a benchmark for complication and readmission rates following PD.

19

Peritoneal Irrigation Versus No Irrigation During Laparoscopic Appendectomy For Perforated Appendicitis: A Prospective Randomized Trial

Shawn D. St. Peter*, Obinna O. Adibe*, Corey W. Iqbal*, Frankie B. Fike*, Susan W. Sharp*, David Juang*, David Lanning*, Charles L. Snyder*, Walter S. Andrews*, Ronald J. Sharp*, J. Patrick Murphy*, George W. Holcomb, III, Daniel J. Ostlie*

Children's Mercy Hospital, Kansas City, MO

Objective(s): The efficacy of irrigating the peritoneal cavity during appendectomy for perforated appendicitis has been debated extensively. To date, prospective comparative data are lacking. Therefore, we conducted a prospective, randomized trial comparing peritoneal irrigation to suction alone.

Methods: Patients with perforated appendicitis were randomized to peritoneal irrigation with a minimum of 500cc normal saline or suction only during laparoscopic appendectomy. Perforation was defined as a hole in the appendix or fecalith in the abdomen. Primary outcome variable was postoperative abscess. Using a power of 0.8 and alpha of 0.05, a sample size of 220 patients was calculated. A battery powered laparoscopic suction/irrigator was used in all cases. Pre- and post-operative management was controlled. Data was analyzed on intention to treat basis.

Results: 220 patients were enrolled between 1/2009 and 7/2011. There were no differences in patient characteristics at presentation (Table 1). There was no difference in abscess rate, length of hospitalization, or total charges (Table 2). Mean operative time was 4 minutes longer with irrigation. Irrigation was felt to be necessary in one case (0.9%) randomized to suction only.

Table 1: Patient Characteristics at Operation

	Suction Only (N = 110)	Irrigation (N = 110)	P-Value
Age (Yrs)	9.7 ± 3.6	10.4 ± 3.8	0.17
Weight (kg)	41.2 ± 19.8	41.5 ± 18.8	0.92
Gender (% male)	59.1%	52.7%	0.89
Leukocyte count	17.1 ± 5.9	17.3 ± 5.0	0.79

*By invitation

Table 2: Outcome Data

	Suction Only (N = 110)	Irrigation (N = 110)	P-Value
Abscess Rate	19.1%	18.3%	1.0
Operative Time (Mins)	38.7 ± 14.9	42.8 ± 16.7	0.056
Postoperative Length of Stay (Days)	5.5 ± 3.0	5.4 ± 2.7	0.93
Hospital Charges (\$)	48.1K ± 20.1K	48.1K ± 18.2K	0.97

Conclusions: There is no advantage to irrigation of the peritoneal cavity over suction alone during laparoscopic appendectomy for perforated appendicitis.

FRIDAY MORNING, APRIL 27th, CONTINUED

**10:30 AM – 12:00 PM
Grand Ballroom**

FORUM DISCUSSION

“Surgical Education—A New Paradigm”

Moderator: Timothy J. Eberlein, MD

“Surgical Residency Training: The Urgent Need for Radical Reform”

Frank R. Lewis, MD

*American Board of Surgery
Philadelphia, PA*

“Leveraging a Unified Curriculum to Support Changes in the Educational Paradigm”

Mary E. Klingensmith, MD

*Washington University in St. Louis
St. Louis, MO*

“One Road to Curricular Change: A Proof of Principle Experiment”

Richard K. Reznick, MD

*Queen’s University
Kingston, ON*

“Barriers to Change”

Timothy C. Flynn, MD

*Accreditation Council for Graduate Medical Education/
American Board of Surgery
Gainesville, FL*

FRIDAY AFTERNOON, APRIL 27th

1:30 PM – 4:00 PM
Grand Ballroom

SCIENTIFIC SESSION IV

Moderator: Anna M. Ledgerwood, MD

20

Appendectomy Timing: Waiting Until the Next Morning May Result in Higher Risk of Surgical Site Infections

Pedro G. Teixeira*, Emre Sivrikoz*, Kenji Inaba*,
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*Los Angeles County + University of Southern California
Medical Center, Los Angeles, CA*

Background: Immediate appendectomy to prevent perforation has been challenged by recent studies supporting a semi-elective approach to acute appendicitis.

Objective: To investigate the association between time from admission to appendectomy (TTA) and the incidence of perforation and infectious complications.

Methods: Patients admitted with appendicitis from July/2003-June/2011 were reviewed. Age, gender, admission white blood cell count (WBC), surgical approach (open versus laparoscopic), TTA, and pathology report were abstracted. Primary outcomes included perforation and surgical site infection (SSI). Logistic regression was performed to identify independent predictors of perforation and to investigate the association between TTA and SSI.

Results: Over 8 yrs, 4,529 patients were admitted with appendicitis and 4,108 (91%) underwent appendectomy. Perforation occurred in 23% (942). Logistic regression identified three independent predictors of perforation: age ≥ 55 [OR (95% CI):1.66 (1.21–2.29); $p = 0.002$], WBC $> 16,000$ [OR (95% CI): 1.38 (1.15–1.64); $p < 0.001$], and female gender [OR (95% CI): 1.20 (1.02–1.41); $p = 0.02$]. Delay to appendectomy was not associated with higher perforation rate. However, after controlling for age, leukocytosis, gender, laparoscopic approach, and perforation, TTA >6 h was independently

*By invitation

associated with an increase in SSI [OR (95% CI): 1.54 (1.01–2.34); $p = 0.04$]. Delay >6 h resulted in a significant increase in SSI among patients with non-perforated appendicitis from 1.9% to 3.3% [OR (95% CI): 2.16 (1.03–4.52), $p = 0.03$], raising the incidence of SSI in nonperforated appendicitis to levels similar to those with perforation (3.3% versus 3.9%, $p = 0.47$).

Conclusion: In this series, appendectomy delay did not increase the risk of perforation but was associated with a significantly increased risk of SSI in patients with nonperforated appendicitis. Prompt surgical intervention is warranted to avoid additional morbidity in this population.

21

Progress in the Diagnosis and Management of Appendicitis in High-Risk Patients: A Report from SCOAP

The SCOAP Collaborative*¹, **Frederick Thurston Drake***², Steve Kwon*², Zeila Schmidt*³, Michael Florence*⁴, Richard C. Thirlby⁵, Gregory J. Jurkovich², Morris G. Johnson*⁶, David R. Flum²

¹Washington State, Seattle, WA; ²University of Washington Department of Surgery, Seattle, WA; ³University of Washington Surgical Outcomes Research Center (SORCE), Seattle, WA; ⁴Swedish Medical Center, Seattle, WA; ⁵Virginia Mason Medical Center, Seattle, WA; ⁶Skagit Valley Hospital, Mount Vernon, WA

Objective(s): Appendectomy is the most common non-elective abdominal procedure performed in the United States. Our objective was to assess whether advanced diagnostic imaging and laparoscopy have impacted diagnosis and outcomes, especially in those at higher risk for misdiagnosis.

Methods: SCOAP is a Washington State performance monitoring and benchmarking QI program focusing on process of care and outcomes. From 2006–2011 SCOAP focused on increasing the accuracy and use of diagnostic imaging (CT/US) for women of reproductive age (18–50 yrs). We evaluated rates of negative appendectomy (NA) and infectious complications (reoperation/antibiotics).

Results: 16,117 underwent non-elective appendectomies (52% men [age 39.1 ± 16.0], 34% women 18–50). Among women 18–50 yrs: In 2011 the rate of NA was 5.1% compared to 13.5% in 2006. From 2006–2011, the use of laparoscopy increased from 73.3% to 90.4% and the use of CT/US increased from 83.9% to 95.3%. NA was 7.0% for those having CT/US vs. 25.2% for those without imaging ($p < 0.001$). Concordance between imaging and pathology was greater for CT with oral contrast (92.1%) compared to without (78.8%) contrast ($p = 0.01$). Perforation and NA were not associated. Among all patients the rate of infectious complications was 2.2% and significantly lower among patients having laparoscopy compared to open procedures (1.9 vs. 3.7% p value < 0.001) [AOR 0.67 95% 0.47–0.96].

Conclusions: Advances in the diagnosis and management of appendicitis have reduced misdiagnosis and complications. CT with oral contrast was associated with improved test performance characteristics. Benchmarking is an effective approach to reducing practice variation, morbidity and unnecessary surgery.

*By invitation

22

Plasma MicroRNA mirrors Tissue MicroRNA and Distinguishes Colorectal Cancer

Susan Galandiuk, Ziad Kanaan*, Maurice Robert Eichenberger*, Henry Roberts*, Bobby Keskey*, Xiaobin Yuan*, Shesh Rai*

University of Louisville, Louisville, KY

Objective(s): Colorectal cancer (CRC), a leading cause of death, is curable if detected early. There is an unmet need for an accurate, non-invasive CRC biomarker. MicroRNAs (miRNAs) are non-protein-coding RNAs regulating gene expression that play a role in CRC development.

Methods: MicroRNAs were evaluated in 3 patient groups. Levels of 384 miRNAs were determined using micro-fluidic array technology (Applied BioSystems®) in a training cohort of 30 CRC patients from whom cancer and adjacent normal tissue were collected. The four most dysregulated miRNAs ($p < 0.05$, False Discovery Rate: 10%) were then validated in a second blinded test cohort of 16 CRC patients. Validated tissue microRNAs were then evaluated in the plasma of a third group consisting of 20 CRC patients and 20 age-, gender-, and race-matched controls.

Results: 19 of 384 miRNAs were dysregulated in CRC tissue in the training cohort ($p < 0.05$, FDR: 10%). The two most upregulated (miR-31; miR-135b) and most downregulated (miR-1; miR-133a) miRNAs identified in our test cohort with 100% sensitivity and 80% specificity. miR-31 was more upregulated in Stages III&IV compared to Stages I&II ($p < 0.05$). In plasma of the third group, miR-21, the next most up-regulated tissue miRNA, differentiated CRC patients from controls with 90% specificity and sensitivity (Table).

MicroRNA-21 Fold Changes in Plasma of CRC Patients as Compared to 20 Age-, Gender-, and Race-Matched Controls

Matched Pair	Fold Change	Matched Pair	Fold Change	Matched Pair	Fold Change	Matched Pair	Fold Change
1	5.4	6	306.9	11	4.1	16	3.5
2	17.6	7	0.5*	12	3.0	17	12.3
3	45.6	8	279.2	13	32.9	18	1.9
4	1872.6	9	9.5	14	362.5	19	27.2
5	1274.2	10	0.12*	15	48.6	20	324.1

*Fold change >1 denotes upregulation of miR-21. Matched pairs 7 and 10 showed down-regulation of miR-21.

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Conclusion: Plasma microRNAs provide reliable, non-invasive and inexpensive marker for CRC. This microRNA panel warrants study in larger cohorts. It appears uniquely promising as a plasma test for CRC.

23

Causes and Implications of Readmission After Abdominal Aortic Aneurysm (AAA) Repair

David Yu Greenblatt*, Caprice C. Greenberg*, Amy J. Kind*, Matthew W. Mell*, Jeff Havlena*, Matthew T. Nelson*, Maureen A. Smith*, K. Craig Kent

University of Wisconsin, Madison, WI

Objective: In 2014 CMS will eliminate reimbursement for 30-day readmissions after vascular procedures. An understanding of the frequency, predictors, and causes of readmission is urgently needed.

Methods: We analyzed elective AAA repairs over a two-year period from a 5% national sample of Medicare beneficiaries.

Results: 2481 patients underwent AAA repair—1502 endovascular (EVAR) and 979 open. Surprisingly, 30-day readmission rates were equivalent for EVAR (13.3%) and open repair (12.8%). While wound complication was the most common reason for readmission after both procedures, the relative frequency of other causes differed—e.g., bowel obstruction following open repair and graft complication after EVAR (Table 1). In multivariate analyses, preoperative comorbidities had little effect on readmission; however, postoperative factors including serious complications leading to prolonged length of stay and discharge destination other than home had a profound influence on probability of readmission (Table 2). The one-year mortality in readmitted patients was 23.4% versus 4.5% in those not readmitted ($p < 0.001$).

Table 1. Readmission Diagnoses After EVAR and Open AAA Repair

Rank #	EVAR Readmission Diagnosis (n = 200 Readmissions)		Open Readmission Diagnosis (n = 125 Readmissions)	
		%		%
1	Wound Complication	15.5	Wound Complication	17.6
2	Respiratory Complication	11.5	Bowel Obstruction	13.6
3	AAA/Graft Complication	10.0	Respiratory Complication	12.0
4	Congestive Heart Failure	8.5	Sepsis	10.4
5	Sepsis	6.5	Myocardial Infarction	5.6

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**Table 2. Predictors of 30-Day Readmission After AAA Repair
(*p < 0.05)**

Variable	Adjusted OR (95% CI)
Congestive Heart Failure	1.39 (1.03-1.87)
Renal Failure	1.30 (0.89-1.90)
Diabetes	1.25 (0.95-1.64)
Chronic Pulmonary Disease	1.20 (0.94-1.53)
Complication Requiring Reintervention	1.83 (1.09-3.08)*
Prolonged Length of Stay (>7 d)	2.11 (1.58-2.82)*
Discharge Destination (vs. Home)	
—Home with Home Nursing	1.82 (1.31-2.52)*
—Skilled Nursing Facility	3.44 (2.36-5.02)*
—Other Facility	2.44 (1.49-4.00)*

Conclusions: Early readmission is common after AAA repair. Post-operative events rather than comorbidities predict readmission, suggesting that interventions designed to improve in-hospital outcomes can also impact quality and cost post-discharge. Such interventions become even more crucial given the increased one-year mortality and pending financial implications of readmission.

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Long-Term Safety of the Duodenal Switch for Morbid Obesity: Results in 1156 Patients

Namir Katkhouda*, Joerg Zehetner*, Naila Khalaf*, Evgeniya Degnera*, Peter F. Crookes*, Thomas V. Berne, Rodney J. Mason*

Keck School of Medicine of USC, University of Southern California, Los Angeles, CA

Objective: The duodenal switch for treatment of morbid obesity combines restriction and malabsorption and yields the greatest weight-loss among bariatric procedures but its long-term safety is unclear. Our objective was to assess long-term complications and analyze factors associated with morbidity and mortality.

Methods: Of 1315 patients who underwent a duodenal switch for morbid obesity in a tertiary university hospital between 1993 and 2010, long-term data was available on 1156 patients. Follow-up included readmission data, telephone interviews and social-security queries for mortality and focused on safety as weight-loss data was previously published.

Results: Median age (M/F = 227/929) was 42 years (16–86) with a median BMI of 51 kg/m² (37–79). Overall complication rate was 53% and perioperative mortality (<30 days) was 0.5%. Procedure-related mortality (>30 days) was 1.2% and overall mortality was 7.3% [median follow-up 111 months (7–220)]. Readmission and reoperation rates were 53% (median 2 readmissions) and 38% respectively. Morbidity was significantly higher in non-white patients (63% vs. 52%, p = 0.008) and BMI > 60kg/m² (60% vs. 52%, p = 0.047). Most common complications were severe malabsorption (11%), strictures (10%), leaks (4.6%) and incisional hernias (27%). Incidence of GERD showed a linear increase over time. Overall mortality was significantly higher in males (10.6% vs. 6.5%, p = 0.032) and patients with BMI > 60 kg/m² (10.7% vs. 6.5%, p = 0.037). On multivariate analysis, age > 40 years (OR 1.4, p = 0.02), non-white (OR 1.61, p = 0.006), and patients with more than 2 co-morbidities (OR 1.4, p = 0.009) were significant factors for complications, with similar results for mortality.

Conclusions: The duodenal switch is associated with high ongoing morbidity and mortality. The duodenal switch should not be recommended as a primary procedure for morbid obesity.

*By invitation

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Hospital Procedure Volume Should Not Be Used as a Measure of Surgical Quality

Damien J. LaPar*, Irving L. Kron, David R. Jones,
George J. Stukenborg*, Benjamin D. Kozower*

University of Virginia, Charlottesville, VA

Objectives: The Agency for Healthcare Research and Quality and the Leapfrog Group use hospital procedure volume as a quality measure for pancreatic resection (PR), abdominal aortic aneurysm repair (AAA), esophageal resection (ER), and coronary artery bypass grafting (CABG). However, controversy exists regarding the strength and validity of the evidence for the volume-outcome association. The purpose of this study was to re-evaluate the volume-outcome relationship for these procedures.

Methods: Discharge data for 261,412 patients were extracted from the 2008 Nationwide Inpatient Sample. The relationship between hospital procedure volume and mortality was rigorously assessed using hierarchical general linear modeling with restricted cubic splines, adjusted for patient demographics, comorbid disease, elective procedure status, and for correlated events within hospitals.

Results: Unadjusted mortality included PR (4.7%), AAA (12.7%), ER (5.8%), CABG (2.2%), and a majority were elective operations. Hospital procedure volume was not a significant predictor of mortality for any of the four procedures (Table). Strong predictors of mortality included age, elective procedure status, renal failure, and malnutrition ($p < 0.001$). Each of the models demonstrated excellent performance in estimating the probability of death.

Procedure	n	Model Performance			
		Surgery Volume Likelihood Ratio	p	c statistic	R ²
Pancreatectomy	19,199	4.10	0.25	0.89	0.37
AAA repair	15,271	0.01	>0.99	0.89	0.44
Esophagectomy	4,764	1.73	0.63	0.95	0.58
CABG	222,178	0.27	0.96	0.81	0.16

*By invitation

Conclusions: Hospital procedure volume is not a significant independent predictor of mortality for the performance of pancreatectomy, AAA repair, esophagectomy or CABG. Procedure volume by itself should not be used as a proxy measure for surgical quality. Patient mortality risk is primarily attributable to patient level characteristics.

FRIDAY AFTERNOON, APRIL 27th, CONTINUED

4:00 PM – 5:00 PM
Grand Ballroom

EXECUTIVE SESSION

Fellows Only

PRESENTATION OF THE FLANCE-KARL AWARD**FRIDAY EVENING, APRIL 27th**

7:00 PM – 8:00 PM
Gold Room

ANNUAL RECEPTION

8:00 p.m. – 9:30 p.m.
Grand Ballroom

ANNUAL BANQUET

SATURDAY MORNING, APRIL 28th

8:00 AM – 11:00 AM
Grand Ballroom

SCIENTIFIC SESSION V

Moderator: New President-Elect

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Institutional Variability in Outcomes of Cardiac Transplantation

Arman Kilic*¹, David D. Yuh*², Ashish S. Shah*¹,
 Duke E. Cameron¹, William A. Baumgartner¹, John V. Conte*¹

¹*Johns Hopkins Hospital, Baltimore, MD;* ²*Yale University School of Medicine, New Haven, CT*

Objective(s): To evaluate the contribution of institutional volume to the between-center variability in outcomes following orthotopic heart transplantation(OHT).

Methods: The UNOS database was used to identify OHTs between 2000–2010. Separate mixed-effect logistic regression models were constructed, with the primary endpoint being post-OHT mortality. Model A included only individual centers, model B added validated recipient and donor risk indices, and model C added average annual OHT volume as a continuous variable to model B. The reduction in between-center variance in mortality between models B and C was used to define the contribution of institutional volume. Kaplan-Meier survival curves were also compared after stratifying patients into equal size tertiles based on center volume.

Results: A total of 119 centers performed OHT in 19,156 patients. After adjusting for differences in recipient and donor risk, decreasing center volume was associated with an increased risk of 1-year mortality ($p < 0.001$). However, procedural volume only accounted for 15.6% of the variance in mortality between centers, and significant between-center variance persisted after adjusting for institutional volume ($p < 0.001$). In Kaplan-Meier analysis, there was significant variability in 1-year survival within each center volume

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category: low-volume (1–13 OHTs/year: 65.2%–95.7%), intermediate-volume (14–25 OHTs/year: 79.9%–96.6%), and high-volume (26–73 OHTs/year: 83.1%–93.6%). These trends were also observed with 5-year mortality, where procedural volume accounted for 16.2% of the between-center variability, and significant variance in mortality persisted after adjusting for volume ($p < 0.001$).

Conclusions: This large-cohort analysis demonstrates that procedural volume should not be the sole indicator of “center quality” in OHT as other institutional factors contribute significantly to the varying mortality rates observed between centers.

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Liver Transplantation for Nonalcoholic Steatohepatitis (NASH): The New Epidemic

Vatche G. Agopian*, Fady M. Kaldas*, Johnny Hong*, Meredith Whittaker*, Abbas Rana*, Ali Zarrinpar*, Henrik Petrowsky*, Curtis Holt*, Douglas G. Farmer, Hasan Yersiz*, Jonathan R. Hiatt, **Ronald W. Busuttil**

University of California, Los Angeles, Los Angeles, CA

Objective: To analyze incidence, outcome, and impact on healthcare resources of liver transplantation (LT) for nonalcoholic steatohepatitis (NASH). With the epidemic of obesity and metabolic syndrome in nearly 33% of the US population, NASH is projected to become the leading indication for LT in the next several years.

Methods: Analysis from our prospective database was performed. Outcomes and resource utilization were compared to other indications for LT.

Results: 144 patients underwent LT for NASH, with 136 between 2002–2011. The average MELD was 33. The frequency of NASH as the primary indication for LT increased from 3% in 2002 to 19% in 2011 to become the second most common indication for LT at our center. NASH patients had significantly longer operative times (6.9 vs 5.3 hours; $P < 0.001$), operative blood loss (18 vs 14 uPRBC; $P = 0.004$) and total length of stay (35 vs 29 days; $P = 0.046$), but 1 and 3 year graft (80%, 70%) and patient (84%, 75%) survival were comparable to other groups (Table 1).

Table 1

*P < 0.05 vs NASH	NASH (n = 144)	HCV (n = 691)	HBV (n = 127)	Alcohol (n = 185)	Crypto-genic (n = 58)	PBC/PSC (n = 89)
Average MELD	33	28*	28*	33	32	30*
BMI > 30 (%)	59	35*	17*	34*	29*	19*
Diabetes (%)	57	24*	30*	32*	33*	9*
Operative blood loss (uPRBC)	18	14*	14*	17	14*	11*
OR time (min)	412	315*	308*	330*	315*	317*
Length of Stay (d)	35	27*	23*	36	36	36

*By invitation

*P < 0.05 vs NASH	NASH (n = 144)	HCV (n = 691)	HBV (n = 127)	Alcohol (n = 185)	Crypto-genic (n = 58)	PBC/PSC (n = 89)
Explant HCC (%)	25	51*	67*	28	22	10
3-yr graft survival (%)	70	57*	69	69	71	70
3-yr patient survival (%)	75	62*	71	73	73	76

Conclusions: We report the largest single institution experience of LT for NASH. Over a 9-year period, the frequency of NASH as the primary indication for LT has increased fivefold and continues to rise. Although outcomes are comparable to LT for other indications, the donor pool and healthcare resources are stressed significantly by this new and increasing group of transplant candidates.

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Naturally Occurring Immunoglobulin M (nIgM) Auto-Antibodies Prevent Autoimmune Diabetes and Mitigate Inflammation Following Transplantation

Preeti Chhabra*, Kailo Schlegel*, Mark D. Okusa*, Peter I. Lobo*, **Kenneth L. Brayman**

University of Virginia, Charlottesville, VA

Objective(s): nIgM deficiency is associated with an increased tendency towards autoimmune disease development. Elevated levels of nIgM anti-leucocyte autoantibodies are associated with fewer graft rejections. Studies indicate that Tregs are ineffective in controlling TH-17 mediated inflammation in auto-immune insulinitis in type 1 diabetes (T1D) and in allograft rejection. Purified serum nIgM binds to CD3, CD4, CXCR4, CCR5 and inhibits Tcell activation, proliferation and differentiation into TH-1 and TH-17. Therefore, we investigated if purified serum nIgM could prevent the onset/progression of T1D and mitigate inflammation following allotransplantation.

Methods: 6–7 wk-old female NOD litter-mates received saline/BSA (controls; n = 30) or 100 ug nIgM intraperitoneal (test; n = 23) followed by 50 ugs nIgM biweekly for 18 wks. B6 cardiac allograft recipients received saline or nIgM.

Results: 80% control mice became diabetic by 18–20 wks of age. In contrast, 0/23 of nIgM-treated mice became diabetic ($p < 0.001$). Discontinuing therapy resulted in hyperglycemia in only 8/23 mice at 22 wks post-discontinuation ($p < 0.01$), indicating possible development of tolerance. nIgM therapy initiated at 11wks of age resulted in hyperglycemia in only 20% of nIgM-treated animals (n = 10) compared to 80% of controls ($p < 0.001$). Treatment of mildly diabetic mice with nIgM (75 ug \times 3/wk) restored normoglycemia (n = 5) while severely diabetic mice (glucose > 350 mg/dl) required minimal dose islet transplant (75IEQ) with nIgM to restore normoglycemia (n = 3). In allotransplant studies, control WT-B6 recipients (n = 7) rejected Balb/c cardiac allografts by 5–7 days with histology demonstrating abundant TH-17cells, while recipients (n = 6) receiving IgM biweekly, beginning 24 hrs post-transplantation, had none/minimal rejection ($p < 0.01$).

Conclusions: nIgM therapy has therapeutic potential in preventing the onset/progression of T1D and in mitigating inflammation in transplantation.

*By invitation

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Are Comprehensive Claims Data Accurate Enough for Pay-for-Performance and Public Reporting of Postoperative Complications?

Elise H. Lawson*, David S. Zingmond*, Rachel Louie*, Robert H. Brook*, Clifford Y. Ko

UCLA School of Medicine, Los Angeles, CA

Objective(s): Policymakers are increasingly focused on postoperative complication rates for pay-for-performance. There is debate regarding the optimal data source for such measures. We compare a national clinical registry and the Medicare claims datasets to evaluate the accuracy of 30-day postoperative complications for reporting of hospital-level surgical quality.

Methods: Patient records (2005–2008) from the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) were linked to Medicare inpatient and outpatient claims datasets. We assessed the ability of Medicare claims to detect the following postoperative complications as recorded in ACS-NSQIP: surgical site infection, urinary tract infection, pneumonia, deep venous thrombosis, and myocardial infarction. Agreement of patient-level complications by ACS-NSQIP vs. Medicare was assessed by kappa statistics. Hospitals were ranked by their complication rates and agreement of hospital rank as determined by ACS-NSQIP vs. Medicare was assessed using weighted kappa statistics.

Results: 121,070 patients from 217 hospitals were studied. The sensitivity of the claims data for detecting ACS-NSQIP complications ranged from 0.45–0.86; the rate of false positives ranged from 58%–88%. Agreement was routinely poor between clinical and claims data for patient-level complications and hospital rank.

Conclusions: This 217 hospital analysis demonstrates important differences between ACS-NSQIP and Medicare claims datasets for measuring surgical quality. Poor accuracy makes claims data suboptimal for evaluating surgical complications. These findings have meaningful implications for measures currently being considered for pay-for-performance.

*By invitation

Comparison of 30-Day Postoperative Complications Between ACS-NSQP and Comprehensive Medicare Claims

	ACS-NSQP Complication Rate	Medicare Claims* Complication Rate	Sensitivity of Medicare for Detecting ACS-NSQP Complications	Specificity of Medicare for Detecting ACS-NSQP Complications	Rate of False Positives in Medicare	Rate of False Negatives in Medicare	Agreement at Patient Level (kappa)	Agreement on Hospital Rank (Weighted kappa)
Surgical site infection	6.9	7.4	0.45	0.95	58%	4%	Poor (0.39)	Poor (0.35)
Urinary tract infection	3.4	10.8	0.60	0.91	81%	2%	Poor (0.25)	Poor (0.22)
Pneumonia	4.0	9.1	0.68	0.93	70%	1%	Poor (0.38)	Poor (0.29)
Deep venous thrombosis	1.6	5.4	0.82	0.96	76%	<1%	Poor (0.35)	Moderate (0.44)
Myocardial infarction	0.5	3.8	0.86	0.97	88%	<1%	Poor (0.21)	Poor (0.19)

*Medicare claims data includes inpatient and outpatient claims from institutions and physicians.

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Adjuvant Chemotherapy with Folfox for Primary Colorectal Cancer Is associated with Increased Somatic Gene Mutations and Inferior Survival in Patients Undergoing Hepatectomy for Metachronous Liver Metastases

Jean-Nicolas Vauthey, Andreas Andreou*, Dipen M. Maru*, Su Chen*, Eddie K. Abdalla*, Steven A. Curley, Christopher Garrett*, Michael Overman*, Thomas A. Aloia*, Scott Kopetz*

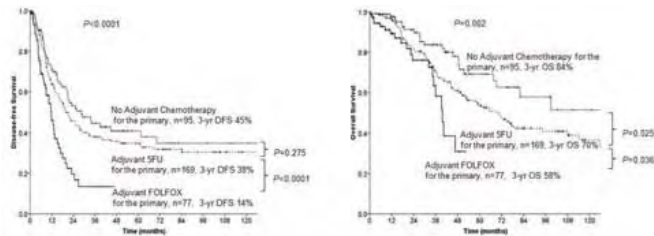
MD Anderson Cancer Center, Houston, TX

Objective: We hypothesized that metachronous colorectal liver metastases (CLM) have different biology after failure of oxaliplatin (FOLFOX) compared to 5-fluorouracil (5-FU) or no chemotherapy for adjuvant treatment of stage II/III colorectal cancer (CRC).

Methods: We identified 371 patients who underwent hepatectomy for metachronous CLM (disease-free interval ≥ 12 m, 1993–2010). Mass-spectroscopy genotyping for KRAS, BRAF, NRAS, PIK3CA, CTNNB1, and PDGFRA in liver metastases was performed in a subset of 129 patients.

Results: Adjuvant treatment for primary CRC was 5-FU in 169 patients, FOLFOX in 77 and no chemotherapy in 95. Node-positive primary was comparable between FOLFOX and 5-FU but lower in the no-chemotherapy group ($P < 0.0001$). Median metastasis size was smaller in the adjuvant FOLFOX-group (2.5 cm) compared to 5-FU (3.0 cm) or no-chemotherapy (3.5 cm), ($P = 0.008$) although prehepatectomy chemotherapy utilization, metastases number, and carcinoembryonic antigen were similar. Disease-free survival (DFS) and overall survival (OS) after hepatectomy were worse with adjuvant FOLFOX (Figure; DFS at 3-years: 14% vs. 38% [5-FU] vs. 45% [no-chemo], OS at 3-years: 58% vs. 70% [5-FU] vs. 84% [no-chemo]). In multivariate analysis, adjuvant FOLFOX was associated with worse DFS ($P < 0.0001$) and OS ($P < 0.0001$). Mutation analysis revealed ≥ 1 mutations in 62% of patients (29/47) after FOLFOX, 39% (16/41) after 5-FU, and 37% (15/41) without chemotherapy ($P = 0.03$).

*By invitation



Conclusion: Adjuvant FOLFOX chemotherapy for primary CRC is associated with a high rate of somatic mutations in liver metastases and inferior outcomes after hepatectomy for metachronous CLM.

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Changes in Abdominal Aortic Aneurysm Rupture and Short Term Mortality 1995-2008

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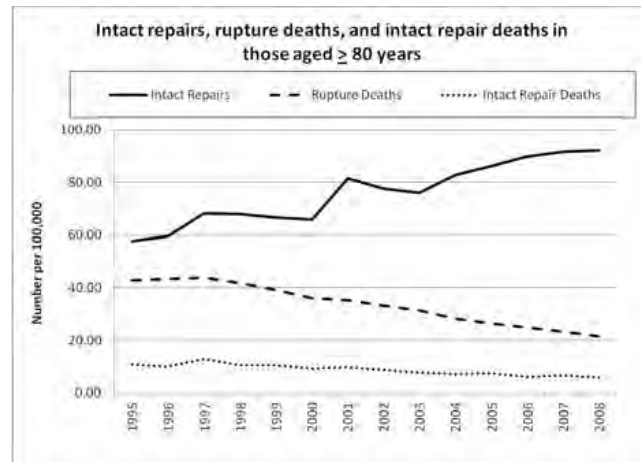
²Department of Health Care Policy, Harvard Medical School, Boston, MA; ³Centers for Medicare and Medicaid Services, Baltimore, MD

Objective(s): Prior studies demonstrated stable rates of AAA repair, repair mortality, and AAA rupture. Recently, EVAR has been introduced and has expanded to over 75% of elective AAA repairs.

Methods: We identified Medicare beneficiaries undergoing AAA repair and those hospitalized with AAA rupture during 1995-2008 and calculated standardized annual rates of short-term AAA-related deaths due to elective repair or rupture.

Results: 338,278 patients underwent intact AAA repair. 69,653 patients presented with rupture of whom 47,524 underwent repair. Intact repair rates increased substantially in those over age 80 (57.7 to 92.3 per 100,000, $P < 0.001$), but decreased in those aged 65-74 (81.8 to 68.9, $P < 0.001$). By 2008, 77% of intact repairs and 31% of rupture repairs were EVAR ($P < 0.001$). Operative mortality declined over time for both intact (4.9% to 2.4%, $P < 0.001$) and ruptured (44.1% to 36.3%, $P < 0.001$) AAA repair. A decline in ruptures was seen in all age groups. Short-term AAA-related deaths decreased by more than half (26.1 to 12.1 per 100,000, $P < 0.001$) with the greatest decline occurring in those over age 80 (53.7 to 27.3, $P < 0.001$).

*By invitation



Conclusions: A recent decline in AAA rupture and short-term AAA-related mortality is demonstrated and likely related in part to the introduction and expansion of EVAR. This is due to decreased deaths from ruptures (with and without repair) and decreased mortality with intact repairs, particularly in patients over age 80.

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Per Oral Endoscopic Myotomy (POEM) for Achalasia: A Comprehensive Objective Follow-Up

Ashwin A Kurian*, Neil Bhayani*, Ahmed Sharata*,
Erwin Rieder*, Kevin Reavis*, Christy Dunst*,
Lee Swanstrom

Oregon Clinic, Portland, OR

Objective(s): Per-Oral Endoscopic Myotomy (POEM) has recently been described as a surgical therapy for Achalasia. Selective distal esophageal myotomy is performed using trans-oral flexible endoscopic instruments, dividing only the circular muscle layer. We present comprehensive, physiologic and symptomatic outcomes evaluating this procedure at long-term follow-up.

Methods: Patients with manometrically-defined achalasia, eligible for laparoscopic myotomy, were offered POEM. Preoperative data included symptom scores, manometry, endoscopy, and timed-barium swallow. These were repeated at 6 months along with 24 hour pH testing.

Results: Eighteen patients underwent POEM. Ten patients had advanced achalasia (Eckardt symptom score >6). Eleven had prior endoscopic interventions, including one perforation. Mean operative time was 156 minutes. Mean myotomy length was 9 cm. Intra-operative complications included two gastric mucosotomies and one full-thickness esophagotomy. All were immediately recognized and managed endoscopically without clinical sequelae. Mean hospital stay was 1.1 days.

Table 1 details pre/post-operative outcomes. All patients had marked improvements in postoperative dysphagia symptoms with two (22%) complaining of heartburn. Timed Barium swallow, EGD, high resolution manometry confirmed adequate treatment. Three of nine patients had abnormal pH scores at 6 months; two had heartburn symptoms. 88% had normalization of LES relaxation.

Conclusions: This study is the most comprehensive follow up of the POEM procedure to date and proves its effectiveness in the treatment of achalasia. POEM may represent a significant evolution in surgical treatment of Achalasia.

*By invitation

POEM Outcomes

Outcomes	1 Month		p Value	6 Months	
	Preoperative n = 18	Postoperative n = 18		Postoperative n = 9	p Value
Dysphagia (median)	3	0	0.0002	0	0.008
Chest pain (median)	1	0	0.01	0	0.02
Eckardt Score (median)	6	1	0.0002	0	0.008
Timed Barium Swallow at 5 min (mean % emptying)	39%	—	—	89%	0.02
Resting LES Pressure (mean)	48.9	—	—	19	0.02
Residual LES Pressure (mean)	15.25	—	—	9	0.02
Endoscopic Hill Grade (median)	1	—	—	2	0.01
DeMeester score >14.7(%)	—	—	—	33%	—

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SCHEDULE-AT-A-GLANCE

THURSDAY, APRIL 26th

8:15 a.m.	President's Opening Remarks Secretary's Welcome and Introduction of New Fellows Elected in 2011 President's Introduction of Honorary Fellows Report of the Chair on Arrangements Presentation of the Medallion for Scientific Achievement	<i>Grand Ballroom</i>
9:10 a.m.	Scientific Session I <i>Moderator: Timothy J. Eberlein, MD</i>	<i>Grand Ballroom</i>
11:00 a.m.	Address by the President <i>Timothy J. Eberlein, MD</i>	<i>Grand Ballroom</i>
1:30 p.m.	Scientific Session II <i>Moderator: L.D. Britt, MD</i>	<i>Grand Ballroom</i>

FRIDAY, APRIL 27th

7:00 a.m.	ASA Women in Surgery Breakfast	<i>Vanderbilt</i>
8:00 a.m.	Scientific Session III <i>Moderator: Timothy J. Eberlein, MD</i>	<i>Grand Ballroom</i>
10:30 a.m.	Forum Discussion: "Surgical Education – A New Paradigm" <i>Moderator: Timothy J. Eberlein, MD</i>	<i>Grand Ballroom</i>
1:30 p.m.	Scientific Session IV <i>Moderator: Anna M. Ledgerwood, MD</i>	<i>Grand Ballroom</i>
4:00 p.m.	Executive Session (<i>Fellows Only</i>) Presentation of the Medallion for Advancement of Surgical Care Presentation of the Flance-Karl Award	<i>Grand Ballroom</i>
7:00 p.m.	Annual Reception	<i>Gold Room</i>
8:00 p.m.	Annual Banquet (<i>Black tie preferred, but dark suits are acceptable.</i>)	<i>Grand Ballroom</i>

SATURDAY, APRIL 28th

8:00 a.m.	Scientific Session V <i>Moderator: New President- Elect</i>	<i>Grand Ballroom</i>
11:00 a.m.	Adjourn	
