



AMERICAN SURGICAL ASSOCIATION

Program
of the
131st Annual Meeting

**Boca Raton Resort & Club
Boca Raton, Florida**

Thursday, April 14th Friday, April 15th
Saturday, April 16th
2011

AMERICAN SURGICAL ASSOCIATION

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

THE AMERICAN SURGICAL ASSOCIATION**2010–2011****OFFICERS**

President

Kirby I. Bland

President-Elect

Timothy J. Eberlein

Vice-President

Jeffrey L. Ponsky

Secretary

E. Christopher Ellison

Treasurer

Russell G. Postier

Recorder

Keith D. Lillemoe**COUNCIL**

Courtney M. Townsend, Jr.2008–2011

Anthony D. Whittemore.....2009–2012

Donald D. Trunkey.....2010–2013

President, President-Elect, Vice President, Secretary,
Treasurer and Recorder
American Surgical Association

Administrative Offices
900 Cummings Center, Suite 221-U
Beverly, MA 01915

Phone: (978) 927-8330 Fax: (978) 524-8890

Email: ASA@americansurgical.infoOr visit: www.americansurgical.info**ADVISORY MEMBERSHIP COMMITTEE**Robin S. McLeod, *Chair*.....2005–2013

Monica M. Bertagnoli.....2010–2015

Alfred E. Chang2009–2014

A. Benedict Cosimi.....2007–2012

Jean C. Emond2006–2011

Julie Ann Freischlag.....2009–2014

David A. Fullerton2007–2012

Larry R. Kaiser.....2006–2011

Anthony A. Meyer2010–2015

Monica Morrow2008–2013

Sean J. Mulvihill2009–2014

Raphael E. Pollock.....2008–2013

Grace S. Rozycki2009–2016

Steven C. Stain.....2008–2013

R. James Valentine.....2008–2013

Brad W. Warner.....2007–2012

ARRANGEMENTS COMMITTEE**131st Annual Meeting**Alan S. Livingstone, *Chair***AUDIT COMMITTEE**Andrew L. Warshaw, *Chair*2009–2011

Richard C. Karl.....2011–2013

Marshall M. Urist.....2010–2012

HONORARY FELLOWSHIPS COMMITTEEJay L. Grosfeld, *Chair*2007–2013

Alexander W. Clowes.....2009–2015

Josef E. Fischer2005–2011

John G. Hunter2007–2013

Hiram C. Polk, Jr.....2005–2011

Michael J. Zinner2009–2015

FLANCE-KARL AWARD COMMITTEE

Jonathan S. Bromberg, <i>Chair</i>	2006–2011
Stanley W. Ashley	2008–2013
Ronald P. DeMatteo	2010–2015
Richard A. Hodin	2009–2014
Jeffrey B. Matthews	2007–2012

NOMINATING COMMITTEE

Courtney M. Townsend, Jr, <i>Chair</i>	2008–2013
Jay L. Grosfeld.....	2007–2012
Carlos A. Pellegrini	2006–2011
Donald D. Trunkey.....	2010–2015
Anthony D. Whittemore.....	2009–2014

PROGRAM COMMITTEE

Carolyn E. Reed, <i>Chair</i>	2006–2011
R. Daniel Beauchamp	2008–2013
K. Craig Kent.....	2007–2012
Theodore N. Pappas.....	2009–2014
Valerie W. Rusch.....	2010–2015
President, President-Elect, Secretary, and Recorder, ex officio with vote	

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

Hiram C. Polk, Jr.

Vice Chair

Carlos A. Pellegrini

Secretary

E. Christopher Ellison

Treasurer

Russell G. Postier

Trustees

Jay L. Grosfeld

Courtney M. Townsend, Jr.

Anthony D. Whittemore

Ex-Officio

Kirby I. Bland

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

Valerie W. Rusch	2002–2011
Richard J. Shemin	2005–2011

**AMERICAN COLLEGE OF SURGEONS,
BOARD OF GOVERNORS**

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
-------------------------	-----------

**ASSOCIATION OF AMERICAN MEDICAL COLLEGES,
COUNCIL OF ACADEMIC SOCIETIES**

William G. Cioffi	2008–2012
Linda G. Phillips	2008–2012

NATIONAL ASSOCIATION FOR BIOMEDICAL RESEARCH

Yuman Fong	2005–2011
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**FUTURE MEETINGS OF THE
AMERICAN SURGICAL ASSOCIATION**

April 26–28, 2012
The Fairmont San Francisco
San Francisco, California

April 4–6, 2013
JW Marriott
Indianapolis, Indiana

GENERAL INFORMATION

The Boca Raton Resort & Club in Boca Raton, Florida is the headquarters of the American Surgical Association for the 131st Annual Meeting, April 14–16, 2011.

REGISTRATION: The Registration Desk for the 131st Annual Meeting is located in the Grand Assembly outside of the Grand Ballroom during the following hours:

Wednesday, April 13 th	2:00 p.m.–5:00 p.m.
Thursday, April 14 th	7:00 a.m.–5:15 p.m.
Friday, April 15 th	7:30 a.m.–5:00 p.m.
Saturday, April 16 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 on-site.

SPEAKERS AND DISCUSSANTS: All manuscripts presented during 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 Assembly. 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 13 th	2:00 p.m.–5:00 p.m.
Thursday, April 14 th	7:00 a.m.–5:15 p.m.
Friday, April 15 th	7:30 a.m.–5:00 p.m.
Saturday, April 16 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 15th, with the reception and dinner in Grand Ballroom F-J (*black tie preferred, but dark suits are acceptable*).

SPECIAL EVENTS:

Address by the President	Thursday, April 14 th	11:00 a.m.
Forum Discussion	Friday, April 15 th	10:30 a.m.

“Comparative Effectiveness Research: Relative and Efficient Outcomes in Surgical Patients”

Executive Session (Fellows Only)	Friday, April 15 th	4:00 p.m.
Reception & Banquet	Friday, April 15 th	7:00 p.m.

SPOUSE/GUEST HOSPITALITY: The Spouse/Guest Hospitality Suite is located in Grand Ballroom H from Wednesday, April 13th through Friday, April 15th. The Local Arrangements Committee will have information on activities of interest and maps available in the room.

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



American College
of Surgeons
Division of Education

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 17 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in this live activity.

FACULTY DISCLOSURE INFORMATION

In compliance with ACCME regulations, 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. 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**. ACS defines a “commercial interest” as any proprietary entity producing health care goods or services consumed by, or used on patients. The ACCME does not consider providers of clinical service directly to patients to be commercial interests. The ACS considers “relevant” financial relationships as financial transactions (in any amount) occurring within the past 12 months that may create a conflict of interest.

ACS is also required, through our joint sponsorship partners, to manage any reported conflict and eliminate the potential for bias during the activity. The Program Committee members (if applicable) 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.

SCHEDULE-AT-A-GLANCE

THURSDAY, APRIL 14th

8:15 a.m.	President's Opening Remarks	Grand Ballroom A–E
	Secretary's Welcome and Introduction of New Fellows Elected in 2010	
	President's Introduction of Honorary Fellows	
	Report of the Committee on Arrangements	
9:10 a.m.	Scientific Session I <i>Moderator: Kirby I. Bland, MD</i>	Grand Ballroom A–E
11:00 a.m.	Address by the President <i>Kirby I. Bland, MD</i>	Grand Ballroom A–E
1:30 p.m.	Scientific Session II <i>Moderator: Timothy J. Eberlein, MD</i>	Grand Ballroom A–E

FRIDAY, APRIL 15th

7:00 a.m.	ASA Women in Surgery Breakfast	Royal IV
8:00 a.m.	Scientific Session III <i>Moderator: Kirby I. Bland, MD</i>	Grand Ballroom A–E
10:30 a.m.	Forum Discussion: “Comparative Effectiveness Research: Relative and Efficient Outcomes in Surgical Patients” <i>Moderator: Kirby I. Bland, MD</i>	Grand Ballroom A–E
1:30 p.m.	Scientific Session IV <i>Moderator: Jeffrey L. Ponsky, MD</i>	Grand Ballroom A–E
4:00 p.m.	Executive Session <i>(Fellows Only)</i> Presentation of the Flance-Karl Award	Grand Ballroom A–E
7:00 p.m.	Annual Reception	Grand Ballroom F–J
8:00 p.m.	Annual Banquet <i>(Black tie preferred, but dark suits are acceptable.)</i>	Grand Ballroom F–J

SATURDAY, APRIL 16th

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

AMERICAN SURGICAL ASSOCIATION
131st ANNUAL MEETING
April 14–16, 2011
Boca Raton Resort & Spa
Boca Raton, Florida

PROGRAM OUTLINE

THURSDAY, APRIL 14, 2011

8:15 AM – 9:10 AM
OPENING SESSION

President's Opening Remarks

Secretary's Welcome & Introduction of New Fellows
Elected In 2010

President's Introduction of Honorary Fellows

Report of the Committee on Arrangements

9:10 AM – 11:00 AM
SCIENTIFIC SESSION I
Moderator: Kirby I. Bland, MD

9:10 AM – 9:35 AM

1
**First Report from the American College of Surgeons—
Bariatric Surgery Center Network: Laparoscopic Sleeve
Gastrectomy (LSG) Has Morbidity and Effectiveness
Positioned Between the Band and the Bypass**

Matthew M Hutter, MD*¹, Bruce D Schirmer, MD²,
Daniel B Jones, MD³, Clifford Y Ko, MD⁴, Mark E Cohen,
MD*⁵, Ryan P Merkow, MD*⁵, Ninh T Nguyen, MD*⁶

¹Massachusetts General Hospital, Boston, MA; ²University of
Virginia Health System, Charlottesville, VA; ³Beth Israel
Deaconess Medical Center, Boston, MA; ⁴University of
California Los Angeles Medical Center, Los Angeles, CA;
⁵American College of Surgeons, Chicago, IL; ⁶University of
California Irvine Medical Center, Irvine, CA

9:35 AM – 10:00 AM

2
**Minimally Invasive Temporary Loop Ileostomy, Colonic
Lavage and Intracolonic Antegrade Vancomycin for Severe
Complicated Clostridium Difficile Disease**

Brian Zuckerbraun, MD*¹, John Alverdy, MD²,
Richard L. Simmons, MD¹

¹University of Pittsburgh, Pittsburgh, PA; ²University of
Chicago, Chicago, IL

10:00 AM – 10:25 AM

3
**Chasing Zero; The Drive to Eliminate Surgical Site
Infections**

C. Daniel Smith, MD*, Kristine M. Thompson, MD*,
Claude Deschamps, MD, William C. Rupp, MD*

Mayo Clinic in Florida, Jacksonville, FL

*By invitation

10:25 AM – 10:50 AM

4

Cancer Trials Versus the Real World in the United States

Waddah B Al-Refaie, MD*, Selwyn M Vickers, MD,
Wei Zhong, MD*, David Rothenberger, MD,
Elizabeth B Habermann, MD*

University of Minnesota, Minneapolis, MN

10:50 AM – 12:00 PM

PRESIDENTIAL ADDRESS

10:50 AM – 11:00 AM

Introduction of the President

Jeffrey L. Ponsky, MD

11:00 AM – 12:00 PM

Address by the President

Kirby I. Bland, MD

*By invitation

1:30 PM – 5:15 PM

SCIENTIFIC SESSION II

Moderator: Timothy J. Eberlein, MD

1:30 PM – 1:55 PM

5

Distress Parameters Among 14 Surgical Specialties, Comparing Academic and Private Practice Setting

Charles M Balch, MD¹, Tait D. Shanafelt, MD^{*2},
Jeffrey A. Sloan, MD^{*2}, Daniel Satele, MD^{*1},
Julie A. Freischlag, MD¹

¹Johns Hopkins Medical Institutions, Baltimore, MD; ²Mayo Clinic, Rochester, MN

1:55 PM – 2:20 PM

6

Traumatic Induced Capillary Leak Syndrome is Highly Predictive of Mortality

Grant Bochicchio, MD*, Obeid Ilahi, MD*,
Kelly Bochicchio, MD*, Stacey Reese, MD*,
Thomas Scalea, MD

University of Maryland, Baltimore, MD

2:20 PM – 2:45 PM

7

Predictive Index for Long-term Survival After Retransplantation of the Liver: Analysis of 26-Year Experience in a Single Center

Johnny C. Hong, MD*, Fady M. Kaldas, MD*,
Henrik Petrowsky, MD*, Douglas G. Farmer, MD*,
Hasan Yersiz, MD*, Prawat Kositamongkol, MD*,
Gaurav Gupta, MD*, Abbas Rana, MD*,
Daniela Markovic, MD*, Ronald W. Busuttil, MD

University of California, Los Angeles–School of Medicine, Los Angeles, CA

*By invitation

2:45 PM – 3:10 PM**8****Inhibition of Tumor Angiogenesis and Melanoma Growth by Targeting Vascular E-selectin**

Zhao-Jun Liu, MD*, Runxia Tian, MD*, Yan Li, MD*,
Weijun An, MD*, Ying Zhuge, MD*, Alan S Livingstone, MD,
Omaida C Velazquez, MD*

University of Miami, Miami, FL

3:10 PM – 3:35 PM**9****Overutilization of Axillary Dissection for Clinically Node Negative Node Breast Cancer, Report from the American College of Surgeon's National Cancer Database, 2003-2007**

Katharine Yao, MD*¹, David J Winchester, MD*¹,
Hongyan Du, MD*¹, Addie Gorchow, MD*¹,
Nora Jaskowiak, MD*², Steven Trocha, MD*³,
Brian McKinley, MD*³, Ermilo Barrera, MD*¹,
David P Winchester, MD¹

¹*NorthShore University HealthSystem, Evanston, IL;*

²*University of Chicago, Chicago, IL;* ³*Greenville Medical Center, Greenville, SC*

3:35 PM – 4:00 PM**10****Effects of Aggressive Versus Moderate Glycemic Control on Clinical Outcomes in Diabetic Coronary Artery Bypass Graft Patients**

Harold L Lazar, MD, Marie McDonnell, MD*,
Stuart Chipkin, MD*, Carmel Fitzgerald, MD*,
Caleb Bliss, MD*, Howard Cabral, MD*

Boston Medical Center, Boston, MA

*By invitation

4:00 PM – 4:25 PM**11****500 Patients Treated for Merkel Cell Carcinoma at a Single Institution**

Ryan C Fields, MD*, Klaus Busam, MD*,
Joanne F Chou, MD*, Katherine S Panageas, MD*,
Melissa P Pulitzer, MD*, Dennis H Kraus, MD*,
Mary S Brady, MD*, Daniel G Coit, MD

Memorial Sloan-Kettering Cancer Center, New York, NY

4:25 PM – 4:50 PM**12****Feast or Famine? The Effect of Co-Existing Fellowship Programs on General Surgery Resident Operative Volumes**

John B Hanks, MD¹, Thomas W Biester, MD*²,
Stanley W Ashley, MD³, David M Mahvi, MD⁴,
J Wayne Meredith, MD⁵, Steven C Stain, MD⁶,
Karen R Borman, MD⁷

¹*Department of Surgery University of Virginia, Charlottesville, VA;*

²*American Board of Surgery, Philadelphia, PA;*

³*Department of Surgery Brigham and Women's Hospital, Boston, MA;*

⁴*Department of Surgery Northwestern University, Chicago, IL;*

⁵*Department of Surgery Wake Forest University, Winston Salem, NC;*

⁶*Department of Surgery Albany Medical College, Albany, NY;*

⁷*Department of Surgery Abington Memorial Hospital, Abington, PA*

4:50 PM – 5:15 PM**13****Identification of a Biomarker Profile Associated with Resistance to Neoadjuvant Chemoradiation Therapy in Rectal Cancer**

Julio Garcia-Aguilar, MD, PhD*¹, Zhenbin Chen, MD*¹,
David D Smith, MD*¹, Wenyan Li, MD*¹,
Robert D Madoff, MD²

¹*City of Hope, Duarte, CA;* ²*University of Minnesota, Minneapolis, MN*

*By invitation

FRIDAY, APRIL 15, 2011

7:00 AM – 8:00 AM

ASA WOMEN IN SURGERY BREAKFAST

8:00 AM – 10:30 AM

SCIENTIFIC SESSION III

Moderator: Kirby I. Bland, MD

8:00 AM – 8:25 AM

14

Has the Surgical Care Improvement Program Improved Outcomes?

Mary T Hawn, MD^{*1}, Kamal MF Itani, MD^{*2}, Catherine C Vick, MD^{*3}, William G Holman, MD¹

¹University of Alabama at Birmingham, Birmingham, AL; ²Boston VAMC, Boston, MA; ³Birmingham VAMC, Birmingham, AL

8:25 AM – 8:50 AM

15

Simulation-Based Mastery Learning Improves Patient Outcomes in Laparoscopic Inguinal Herniorrhaphy: A Randomized Controlled Trial

Benjamin Zendejas, MD*, David A Cook, MD*, Juliane Bingener, MD*, Marianne Huebner, MD*, William F Dunn, MD*, Michael G Sarr, MD, David R Farley, MD*

Mayo Clinic, Rochester, MN

*By invitation

8:50 AM – 9:15 AM

16

Coating of Human Pancreatic Islets with CD4+CD25highCD127- T Regulatory Cells—a Novel Immunosuppressive Approach

Piotr Witkowski MD*, Natalia Marek MD*, Adam Krzystyniak MD*, Ipek Ergenc MD*, Olivia Cochet MD*, Ryosuke Misawa MD*, Ling-Jia Wang MD*, Seda Kizilel MD*, Piotr Trzonkowski MD*, Jeffrey B. Matthews MD, J. Michael Millis MD*

University of Chicago, Chicago, IL

9:15 AM – 9:40 AM

17

General Surgery Workloads and Practice Patterns in the United States, 2007-2009: A 10-Year Update from the American Board of Surgery

R James Valentine, MD¹, Andrew Jones, MD^{*2}, Thomas W Biester, MD^{*2}, Thomas H Cogbill, MD³, Karen R Borman, MD⁴, Robert S Rhodes, MD²

¹UT Southwestern Medical Center, Dallas, TX; ²American Board of Surgery, Philadelphia, PA; ³Gundersen Lutheran Medical Center, La Crosse, WI; ⁴Abington Memorial Hospital, Philadelphia, PA

9:40 AM – 10:05 AM

18

Is Surgical Resection Superior to Transplantation in the Treatment of Hepatocellular Carcinoma?

Leonidas G Koniaris, MD*, David M. Levi, MD*, Felipe Pedroso, MD*, Dido Franceschi, MD*, Alan S. Livingstone, MD, Andreas G. Tzakis, MD, Navine L. Solomon, MD*, Subhasis Misra, MD*, Teresa A. Zimmers, MD*

University of Miami, Miami, FL

*By invitation

10:05 AM – 10:30 AM**19****Prediction of Post-Hepatectomy HCC Recurrence by Circulating Cancer Stem Cells**

Sheung Tat Fan, MD*, Zhen Fan Yang, MD*,
David Wing-Yuen Ho, MD*, Wan Ching Yu, MD*,
John Wong, MD

The University of Hong Kong, Hong Kong, China

10:30 AM – 12:00 PM**FORUM DISCUSSION****Comparative Effectiveness Research: Relative and Efficient Outcomes in Surgical Patients**

Moderator: Kirby I. Bland, MD

David B. Hoyt, MD

*American College of Surgeons
Chicago, IL*

Hiram C. Polk, Jr., MD

*University of Louisville
Louisville, KY*

John Niederhuber, MD

*National Cancer Institute
Bethesda, MD*

*By invitation

1:30 PM – 4:00 PM**SCIENTIFIC SESSION IV**

Moderator: Jeffrey L. Ponsky, MD

1:30 PM – 1:55 PM**20****The Anatomic Pattern of Biliary Atresia Identified at Time of Kasai Hepatopertoenterostomy and Early Postoperative Clearance of Jaundice are Significant Predictors of Transplant-Free Survival**

Riccardo Superina MD*¹, John Magee MD²,
Mary L. Brandt MD⁶, Patrick J Healey MD³, Greg Tiao MD⁴,
Fred Ryckman MD⁴, Frederick M Karrer MD⁵,
Cartland Burns Yun Li MD*², Jeffrey Moore MD*²,
Kasper S. Wang MD*⁷

¹Children's Memorial Hospital, Chicago, IL; ²University of Michigan School of Medicine, Ann Arbor, MI; ³Seattle Children's Hospital, Seattle, WA; ⁴Cincinnati Children's Hospital, Cincinnati, OH; ⁵The Children's Hospital, Aurora, CO; ⁶Baylor College of Medicine, Houston, TX; ⁷Children's Hospital Los Angeles, Los Angeles, CA

1:55 PM – 2:20 PM**21****Outcomes After Minimally Invasive Esophagectomy**

James D Luketich, MD, Omar Awais, DO*,
Manisha Shende, MD*, Neil A Christie, MD*,
Benny Weksler, MD*, Rodney J Landreneau, MD,
Blair A Jobe, MD*, Ghulam Abbas, MD*, Arjun Pennathur, MD*,
Matthew J Schuchert, MD*, Katie S Nason, MD, MPH*

University of Pittsburgh, Pittsburgh, PA

*By invitation

2:20 PM – 2:45 PM**22****Single Incision Versus Standard 3-port Laparoscopic Appendectomy: A Prospective Randomized Trial**

Shawn D St. Peter, MD*, Daniel J Ostlie, MD*,
Susan W Sharp, MD*, Obinna O. Adibe, MD*,
David Juang, MD*, Carissa L Garey, MD*,
Carrie A Laituri, MD*, Charles L Snyder, MD*,
Walter S Andrews, MD*, Ronald J Sharp, MD*,
J Patrick Murphy, MD*, George W Holcomb, III, MD
Children's Mercy Hospital, Kansas City, MO

2:45 PM – 3:10 PM**23****Readmission Rates after Abdominal Surgery: The Role of Surgeon, Primary Caregiver, Home Health, and Sub-Acute Rehab**

Robert CG Martin, MD*, Russell Brown, MD*,
Lisa Puffer, MD*, Stacey Block, MD*,
Charles R Scoggins, MD*, Kelly M McMasters, MD
University of Louisville, Louisville, KY

3:10 PM – 3:35 PM**24****Damage Control Resuscitation Reduces Resuscitation Volumes and Improves Survival in 390 Damage Control Laparotomy Patients**

Bryan A Cotton, MD*, Neeti Reddy, MD*,
Quinton M Hatch, MD*, Eric LeFebvre, MD*,
Charles E Wade, MD*, Rosemary A Kozar, MD,
Brijesh S Gill, MD*, Rondel Albarado, MD*,
Michelle K McNutt, MD*, John B Holcomb, MD
University of Texas Health Science Center-Houston, Houston, TX

*By invitation

3:35 PM – 4:00 PM**25****Minimally Invasive Mitral Valve Surgery Expands the Surgical Options for High-Risks Patients**

Michael R Petracek, MD*, Marzia Leacche, MD*,
Natalia S Solenkova, MD*, Ramanan Umakanthan, MD*,
Rashid M Ahmad, MD*, Stephen K Ball, MD*,
Steven J Hoff, MD*, Tarek S Absi, MD*,
Jorge M Balaguer, MD*, **John G Byrne, MD**
Vanderbilt University Medical Center, Nashville, TN

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****Guest Speaker**

Hallie T. Debas, MD

University of California San Francisco, San Francisco, California

*By invitation

SATURDAY, APRIL 16, 2011**8:00 AM – 11:00 AM****SCIENTIFIC SESSION V***Moderator: New President-Elect***8:00 AM – 8:25 AM****26****Intraoperative Injection of Subareolar or Dermal Radioisotope Results in Predictable Identification of Sentinel Lymph Node in Breast Cancer**Chad B Johnson, MD*, Cristiano Boneti, MD*,
Soheila Korourian, MD*, Yara Robertson, MD*,
Laura Adkins, MD*, **Suzanne Klimberg, MD***University of Arkansas for Medical Sciences, Little Rock, AR***8:25 AM – 8:50 AM****27****Cost-Effectiveness of the National Surgical Quality Improvement Program (NSQIP)****Peter W. Dillon, MD**, Melissa M. Boltz, MD*,
Christopher S. Hollenbeak, MD*, Li Wang, MD*,
Jane Schubart, MD*, Gail Ortenzi, MD*, Junjia Zhu, MD**Penn State Milton S. Hershey Medical Center, Hershey, PA***8:50 AM – 9:15 AM****28****2332 Post Traumatic Pulmonary Emboli: A New Look at an Old Disease****Mary M Knudson, MD¹**, David Gomez Jaramillo, MD*²,
Avery B Nathens, MD²¹*Univeristy of California, San Francisco, San Francisco, CA;*²*St. Michael's Hospital, Toronto, ON, Canada*

*By invitation**9:15 AM – 9:40 AM****29****Predicting Risk for Serious Complications with Bariatric Surgery: Results from the Michigan Bariatric Surgery Collaborative****Jonathan F Finks, MD*¹**, Kerry Kole, MD*²,
Yenumula Panduranga, MD*³, Wayne J English, MD*⁴,
Kevin Krause, MD*⁵, Arthur Carlin, MD*⁶,
Jeffrey Genaw, MD*⁶, John D. Birkmeyer, MD¹,
Nancy J Birkmeyer, MD*¹¹*University of Michigan, Ann Arbor, MI;* ²*Harper University Hospital, Detroit, MI;* ³*Michigan State University, Lansing, MI;* ⁴*Marquette General Hospital, Marquette, MI;* ⁵*William Beaumont Hospital, Royal Oak, MI;* ⁶*Henry Ford Hospital, Detroit, MI***9:40 AM – 10:05 AM****30****Laparoscopic Versus Open Anterior Abdominal Wall Hernia Repair: 30-Day Morbidity and Mortality using ACS/NSQIP Database****Rodney J Mason, MD***, Ashkan Moazzez, MD*,
Namir Katkhouda, MD*, Helen Sohn, MD*,
Thomas V Berne, MD*University of Southern California, Los Angeles, CA***10:05 AM – 10:30 AM****31****Importance of Blood Pressure Control After Repair of Acute Type A Aortic Dissection: 25-year Follow-up in 252 Patients****Spencer J Melby, MD***, Andreas Zierer, MD*,
Michael K Pasque, MD*, Jennifer S Lawton, MD*,
Hersh S Maniar, MD*, Nicholas T Kouchoukos, MD,
Ralph J Damiano, Jr., MD, Marc R Moon, MD*Washington University School of Medicine, Barnes-Jewish Hospital, St. Louis, MO*

*By invitation

10:30 AM – 10:55 AM

32

Should All Papillary Thyroid Microcarcinomas Be Aggressively Treated? An Analysis of 18,445 Cases

Xiao-Min Yu, MD*, Yin Wan, MD*, Rebecca Sippel, MD*,
Herbert Chen, MD

University of Wisconsin, Madison, WI

11:00 AM ADJOURN

*By invitation

PROGRAM DETAIL AND ABSTRACTS

THURSDAY MORNING, APRIL 14TH

8:15 AM

Grand Ballroom A-E

President's Opening Remarks

Secretary's Welcome & Introduction of
New Fellows Elected in 2010

President's Introduction of Honorary Fellows

Report of the Committee on Arrangements

THURSDAY MORNING, APRIL 14th, CONTINUED

9:10 AM – 11:00 AM
Grand Ballroom A-E

SCIENTIFIC SESSION I

Moderator: Kirby I. Bland, MD

1

First Report from the American College of Surgeons— Bariatric Surgery Center Network: Laparoscopic Sleeve Gastrectomy (LSG) Has Morbidity and Effectiveness Positioned Between the Band and the Bypass

Matthew M Hutter, MD*¹, Bruce D Schirmer, MD², Daniel B Jones, MD³, Clifford Y Ko, MD⁴, Mark E Cohen, MD*⁵, Ryan P Merkow, MD*⁵, Ninh T Nguyen, MD*⁶

¹Massachusetts General Hospital, Boston, MA; ²University of Virginia Health System, Charlottesville, VA; ³Beth Israel Deaconess Medical Center, Boston, MA; ⁴University of California Los Angeles Medical Center, Los Angeles, CA; ⁵American College of Surgeons, Chicago, IL; ⁶University of California Irvine Medical Center, Irvine, CA

Objective: Laparoscopic sleeve gastrectomy (LSG) is a newer procedure being done with increasing frequency for the treatment of morbid obesity and metabolic diseases. However, limited data are currently available. We present the first multi-institutional, nationwide, clinically-rich, bariatric-specific data comparing LSG to the Laparoscopic Adjustable Gastric Band (LAGB), Laparoscopic Roux-en-Y Gastric Bypass (LRYGB) and Open Roux-en-Y Gastric Bypass (ORYGB).

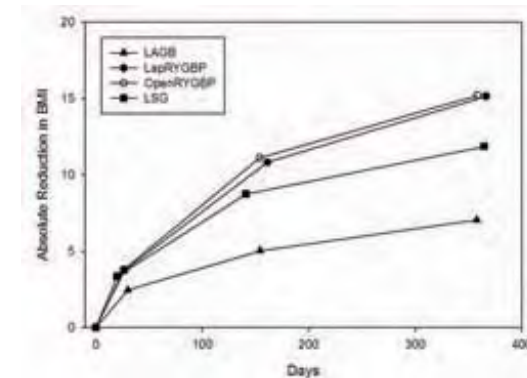
Methods: This is the initial report analyzing data from the American College of Surgeons–Bariatric Surgery Center Network accreditation program, and its prospective, longitudinal, data collection system based on standardized definitions and collected by trained data reviewers. Univariate and multivariate analyses compare 30-day, 6-month, and one-year outcomes including morbidity and mortality, as well as reduction in body mass index (BMI).

*By invitation

Results: 109 hospitals submitted data for 28,616 patients, from 7/2007 to 9/2010. The LSG has higher risk-adjusted morbidity and readmission rates compared to the LAGB, but lower readmission and reoperation/reintervention rates compared to the LRYGB and ORYGB. There were no differences in mortality. Reduction in BMI for the LSG also lies between those of the LAGB and the LRYGB/ORYGB. (See figure)

Conclusion: LSG has morbidity and effectiveness positioned between the LAGB and the LRYGB/ORYGB. Ongoing nationwide data collection should provide critical information about long-term comparative effectiveness.

	LSG n = 944	LAGB n = 12,193	LRYGB n = 14,491	ORYGB n = 988
30-day Mortality	0.11%	0.05%	0.14%	0.71%
. OR (95% CI)	1 (referent)	0.67 (0.08–5.65)	1.62 (0.22–12.13)	6.84 (0.83–56.29)
1-year Mortality	0.21%	0.08%	0.34%	1.11%
. OR (95% CI)	1 (referent)	0.53 (0.11–2.42)	1.77 (0.43–7.33)	4.29 (0.94–19.57)
Morbidity	5.61%	1.44%	5.91%	14.98%
. OR (95% CI)	1 (referent)	0.29 (0.21–0.40)	1.06 (0.79–1.41)	2.55 (1.83–3.55)
Readmission	7.63%	4.05%	11.66%	16.30%
. OR (95% CI)	1 (referent)	0.57 (0.44–0.74)	1.64 (1.28–2.11)	2.14 (1.59–2.89)
Reoperation/ intervention	5.51%	4.59%	13.56%	14.07%
. OR (95% CI)	1 (referent)	0.92 (0.68–1.23)	2.73 (2.05–3.63)	2.58 (1.89–3.61)



2

Minimally Invasive Temporary Loop Ileostomy, Colonic Lavage and Intracolonic Antegrade Vancomycin for Severe Complicated Clostridium Difficile Disease

Brian Zuckerbraun, MD*¹, John Alverdy, MD²,
Richard L. Simmons, MD¹

¹University of Pittsburgh, Pittsburgh, PA; ²University of Chicago, Chicago, IL

Clostridium difficile associated disease (CDAD) generally responds to antibiotics, but overall mortality is 4–10%. Mortality of 60–85% occurs in “severe complicated” disease. Subtotal colectomy saves some patients but most survivors require permanent ileostomy. Because morbidity in CDAD originates from colonic microbial toxins, we have initiated treatment of “severe complicated” CDAD with laparoscopic diverting loop ileostomy permitting intraoperative antegrade colonic lavage, plus post-op antegrade colonic vancomycin instillation.

Methods: The Quality Improvement Committee and Total Quality Council approved this trial: Since June 2009, all patients (n = 34) with severe complicated CDAD underwent loop ileostomy, intraoperative lavage with 8 liters of PEG 3350/electrolyte solution, plus 500 mg vancomycin q8 h for 10 days. The previous 34 patients (2006–09) treated by subtotal colectomy were used as a historical control.

Results: the primary outcome was patient survival (79% with diverting ileostomy/washout compared to 53% in historical colectomy group; *p = 0.03; OR 0.3 [0.1–0.9]) The colon was saved in 24/27 survivors. The laparoscopic approach was successful in 28/34 (82%) attempts; 6/28 required open loop ileostomy. Of patients followed 6 months, 10/18 (55%) have had their ileostomy reversed. The table shows that there were no statistical difference in age, sex, or preoperative status between the current series and the historical control group.

Conclusions: Minimally invasive temporary diverting loop ileostomy facilitates colonic lavage and offers life and colon saving alternatives to subtotal colectomy in severe complicated CDAD.

*By invitation

Demographics and outcomes in patients with severe, complicated Clostridium difficile associated disease treated with ileostomy/colonic lavage v. colectomy.

	Ileostomy/Lavage	Colectomy
AGE	62.113	64.2 14
SEX	59% male	62% male
APACHE-II	27.15.6	28.16.1
ICU	31/34 (91%)	31/34 (91%)
INTUBATED	20/34 (59%)	21/34 (62%)
VASOPRESSORS	25/34 (74%)	27/34 (79%)
IMMUNOSUPPRESSION	16/34 (47%)	14/34 (41%)
DEATH	7/34 (20.5%)*	16/34 (47%)

“Severe, complicated” disease is characterized by a diagnosis of CDAD with any one of the following criteria: Sepsis, ventilatory failure, vasopressore requirement, worsening abdominal pain/distention, peritonitis, mental status changes, unexplained clinical deterioration.

3

Chasing Zero; The Drive to Eliminate Surgical Site Infections

C. Daniel Smith, MD*, Kristine M. Thompson, MD*,
Claude Deschamps, MD, William C. Rupp, MD*

Mayo Clinic in Florida, Jacksonville, FL

Objectives: Healthcare associated infections (HAIs) account for 1.7 million infections and 99,000 associated deaths annually, with direct medical costs of up to \$45 billion. Surgical Site Infections (SSIs) account for 22% of HAIs, an estimated annual cost of \$3.5–10 billion for our country alone. This project was designed to pursue elimination of SSIs and document results.

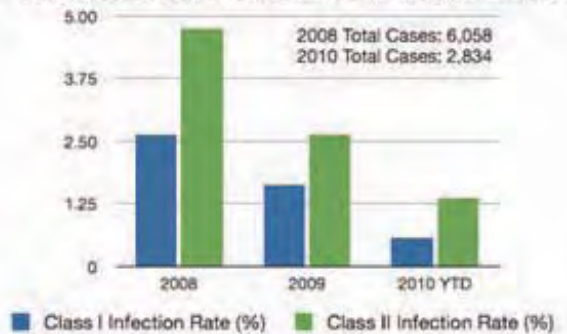
Methods: Starting in 2009 a program to eliminate SSIs was undertaken at a nationally recognized academic health center. Interventions already outlined by CMS and IHI were utilized, focusing initial actions at consistent delivery of Surgical Care Improvement Project (SCIP) interventions. Tactics included standardized order sets, a centralized Pre-Operative Evaluation (POE) clinic, high compliance with intraoperative interventions, and widespread monthly reporting of compliance and results. Data from 2008–2010 were collected and analyzed.

Results: See the figures on the next page. This represents an 84% decrease in the number of SSIs with an estimated institution specific cost savings of \$1.6–4.6 million. If similar success were generalized, this could represent a U.S. cost savings of \$1.8–7.1 billion.

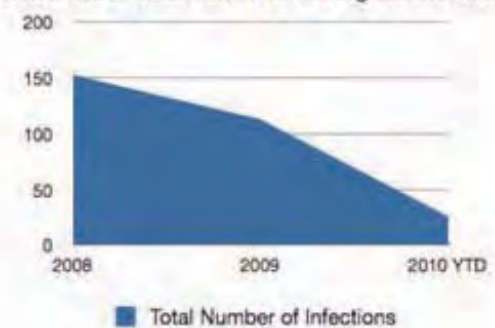
Conclusion: Committed leadership, aggressive assurance of high compliance with known interventions, transparency to achieve high levels of staff engagement, and centralization of critical surgical activities result in significant declines in SSIs with resulting substantial cost savings.

*By invitation

Rate of SSI for Class I and Class II SCIP Surgical Procedures



Total Number of Class I and II SCIP Surgical Site Infections



4

Cancer Trials Versus the Real World in the United States

Waddah B Al-Refaie, MD*, Selwyn M Vickers, MD,
Wei Zhong, MD*, David Rothenberger, MD,
Elizabeth B Habermann, MD*

University of Minnesota, Minneapolis, MN

Objectives: Federal policies have been instituted to mitigate under-enrollment to cancer trials in the US. We hypothesized that enrollment patterns to cancer trials have improved in a contemporary era.

Methods: The 2001–2008 California Cancer Registry was used to determine patterns and predictors of enrollment in clinical trials for stage 0–IV solid organ malignant tumors. Multivariate techniques were used to identify predictors of enrollment to cancer protocols controlling for covariates.

Results: Only 1,566 (0.64%) out of 244,528 patients were enrolled in cancer trials. Black patients were less likely than whites to enroll in trials (0.48% vs. 0.67%, $p < 0.05$). On multivariate analysis, older persons (>65 years), early stage cancer, and those with lung or gastrointestinal cancers were less likely to be enrolled into cancer trials. For non-breast cancer protocols, these estimates showed similar results. Though approaching significance, black, underinsured, and uninsured patients showed trends toward under-enrollment (see table).

Conclusion: In addition to profoundly low accrual rates to cancer protocols overall, vast underrepresentation by age, cancer stage and site continue to exist. The generalizability of these trials to a real world perspective remains an open question. Physicians, payers, the NCI, and other stakeholders need to develop broader cancer trials to benefit the millions of patients with cancer in the U.S.

*By invitation

Multivariate analysis of predictors of enrollment to cancer protocols*

Factors	All cancer sites OR (95% CI)	Breast cancer excluded OR (95% CI)
N (total)	244,528	111,247
N (enrolled in trials)	1,566	549
Age >65 vs. <65 yrs	0.42 (0.36–0.50)	0.43 (0.34–0.55)
Black vs. white race	0.78 (0.60–1.01)	0.64 (0.35–1.17)
Insurance status		
Medicaid vs. private	0.86 (0.69–1.06)	0.77 (0.48–1.24)
Uninsured vs. private	0.58 (0.34–1.01)	0.70 (0.36–1.37)
Early vs. advanced cancer stage	0.61 (0.53–0.70)	0.50 (0.41–0.62)
Solid cancer site		
Lung vs. breast	0.26 (0.19–0.37)	
GI vs. breast	0.35 (0.28–0.42)	
Melanoma vs. breast	1.31 (1.11–1.54)	

*Adjusting for gender and year of diagnosis. Abbreviation: OR, odds ratio; CI, confidence intervals.

THURSDAY MORNING, APRIL 14TH, CONTINUED

11:00 AM
Imperial Ballroom

Introduction of the President

Jeffrey L. Ponsky

Address by the President

Kirby I. Bland, MD

THURSDAY AFTERNOON, APRIL 14TH

1:30 PM – 5:15 PM
Grand Ballroom A-E

SCIENTIFIC SESSION II

Moderator: Timothy J. Eberlein

5

**Distress Parameters Among 14 Surgical Specialties,
 Comparing Academic and Private Practice Setting**

Charles M Balch, MD¹, Tait D. Shanafelt, MD*²,
 Jeffrey A. Sloan, MD*², Daniel Satele, MD*¹,
 Julie A. Freischlag, MD¹

¹*Johns Hopkins Medical Institutions, Baltimore, MD;* ²*Mayo
 Clinic, Rochester, MN*

Objective: We compared distress parameters and career satisfaction from survey results of surgeons in an academic versus private practice environment.

Methods: The 2008 American College of Surgeons survey evaluated demographic variables, practice characteristics, career satisfaction, and distress parameters using validated instruments.

Results: Characteristics are shown in the Table. The practice setting (academic vs. private practice) was independently associated with burnout in a multivariate (MV) analysis (OR 1.172, p = 0.02). For academic surgeons, the most significant positive associations with burnout were: **1)** trauma surgery (OR 1.513, p = 0.0059), **2)** nights on call (OR 1.062, p = 0.0123) and **3)** hours worked (OR 1.019, p < 0.0001), while the negative associations were: 1) having older children (>22 years) (OR 0.529, p < 0.0001), 2) pediatric surgery (OR 0.583, p = 0.0053), 3) cardiothoracic surgery (OR 0.626, p = 0.0117), and 4) being male (OR 0.787, p = 0.0491). In a private practice setting, the most significant positive associations with burnout were: 1) urologic surgery (OR 1.497, p = 0.0086), 2) having 31-50% time for non-clinical activities (OR 1.404, p = 0.0409), 3) incentive based pay (OR 1.344,

*By invitation

$p < 0.0001$), 4) nights on call (OR 1.045, $p = 0.0029$) and 5) hours worked (OR 1.015, $p < 0.0001$), while the negative associations were; 1) older children (OR 0.677, $p = 0.0001$), 2) physician spouse (OR 0.753, $p = 0.0093$), and 3) older age (OR 0.989, $p = 0.0158$).

Conclusions: Factors associated with burnout were distinct for academic and private practice surgeons. Distress parameters were lower and career satisfaction higher for academic surgeons.

Comparison of Academic versus Private Surgical Practice

Characteristic	Academic Practice (N = 2272)	Private Practice (N = 4240)	p value
work > 70 hrs/week	41.6%	28.1%	<0.0001
nightcall/week	2.2	3.0	<0.0001
salaried	86.5%	29.8%	<0.0001
>20% nonpt care	61%	17.2%	<0.0001
burnout	37.0%	43.1%	<0.0001
screen+ depression	27.6%	33.0%	<0.0001
suicide ideation	4.7%	7.4%	<0.0001
become surgeon again	77.4%	64.9%	<0.0001
recommend child become MD	61.3%	43.7%	<0.0001

6

Traumatic Induced Capillary Leak Syndrome is Highly Predictive of Mortality

Grant Bochicchio, MD*, Obeid Ilahi, MD*,
Kelly Bochicchio, MD*, Stacey Reese, MD*,
Thomas Scalea, MD

University of Maryland, Baltimore, MD

Objective: To determine whether traumatic induced capillary leak syndrome (TICS) characterized by severe hypoalbuminemia (albumin < 2.0 mg/dl) within 2 hours of injury regardless of hemodynamic instability is predictive of outcome in critically injured trauma patients and whether reversal of this process improves outcome.

Methods: A prospective study was conducted on 2,348 patients admitted to the ICU over a 2 1/2 year period. Serum albumin level was measured within 2 hours post injury. Patients were subsequently monitored over the next 7 days utilizing a computational and graded algorithmic model. Stepwise regression models were performed controlling for age, gender, mechanism, injury severity and APACHE score. ROC curves were used to evaluate the positive predictive value of this algorithm.

Results: 74% of the cohort were male and the majority of patients were admitted for blunt injury (n = 1855 or 79%). The mean age, ISS, and APACHE score were 43 ± 21 years, 27 ± 15 , and 13 ± 7 respectively. The overall incidence of TICS was 21%. When analyzed by multiple regression analysis controlling for age, injury severity, APACHE score, and gender, patients with TICS had a significantly higher mortality (RR = 10.1 $p < 0.001$). Patients with severe TICS (albumin level ≤ 1 mg/dl) had an overall 70% mortality and a 91% positive predictive value for subsequent mortality if the value failed to improve by more than 50% over the next 72 hours.

Conclusions: TICS is highly predictive of death and poor outcome. Future research directed in reversing this lethal disease process is warranted.

*By invitation

7

Predictive Index for Long-term Survival After Retransplantation of the Liver: Analysis of 26-Year Experience in a Single Center

Johnny C. Hong, MD*, Fady M. Kaldas, MD*, Henrik Petrowsky, MD*, Douglas G. Farmer, MD*, Hasan Yersiz, MD*, Prawat Kositamongkol, MD*, Gaurav Gupta, MD*, Abbas Rana, MD*, Daniela Markovic, MD*, Ronald W. Busuttil, MD

University of California, Los Angeles—School of Medicine, Los Angeles, CA

Objective: Liver retransplantation (ReLT) is a life saving treatment in patients with a failing allograft. Due to organ shortage, ReLT remains controversial because of inferior outcomes related to patient comorbidities and increased technical complexity. This study defines a predictive index of risk associated with ReLT to improve patient selection.

Methods: We conducted an analysis from our prospective database of 466 adult ReLT between February 1984 and September 2010. Mean follow-up was 3 years. Each independent predictor for allograft failure was assigned risk score points (RS), ranging from 1 to 3, based on severity of adverse effects: Low Risk (LR), RS = 0 to 2; Intermediate Risk (IR), RS = 3 to 4; and High Risk (HR), RS = 5 to 7.

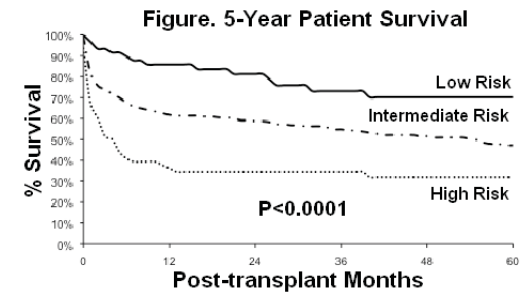
Results: Of 466 patients, 418 (90%) underwent 1 ReLT while 48 (10%) received >1 ReLT. Nine multivariate factors predictive of worse survival outcomes and corresponding RS are shown (see table). 5-year patient survival was significantly higher in LR compared to IR and HR groups (Figure).

Conclusions: Liver retransplantation for patients with low and intermediate risk criteria resulted in excellent and acceptable long-term survival outcome respectively. This predictive index can be applied clinically to facilitate donor-recipient matching and optimize outcomes after ReLT.

*By invitation

Independent Predictors on Multivariate Analysis and Assigned Risk Score

Risk Factors	RS
Previous no. of liver transplantation × 2	3
Intraoperative transfusion > 30 units PRBC	3
Serum albumin <2.5 mg/dL before ReLT	2
Requirement for ventilator before ReLT	2
Donor age > 45 yrs.	2
Partial liver graft	2
Recipient age > 55 yrs.	1
Requirement for dialysis before ReLT	1
MELD score > 30	1



10**Effects of Aggressive Versus Moderate Glycemic Control on Clinical Outcomes in Diabetic Coronary Artery Bypass Graft Patients**

Harold L Lazar, MD, Marie McDonnell, MD*,
Stuart Chipkin, MD*, Carmel Fitzgerald, MD*,
Caleb Bliss, MD*, Howard Cabral, MD*

Boston Medical Center; Boston, MA

Objective(s): Maintaining serum glucose between 120–180 mg/dl with continuous insulin infusions decreases morbidity in diabetic patients undergoing CABG surgery. Studies in surgical patients requiring prolonged ventilation suggest that aggressive glycemic control (<120 mg/dl) may improve survival; however its effect in diabetic CABG patients is unknown. This study was undertaken to determine whether aggressive glycemic control (90–120 mg/dl) would result in more optimal clinical outcomes and less morbidity than can be achieved with moderate glycemic control (120–180 mg/dl) in diabetic patients undergoing CABG surgery.

Methods: Seventy-two diabetic patients undergoing CABG were prospectively randomized to aggressive glycemic control (90–120 mg/dl) or moderate glycemic control (120–180 mg/dl) using continuous intravenous insulin solutions (100 units regular insulin in 100 ml normal saline) beginning at the induction of anesthesia and continuing for 18 hours following CABG. The primary endpoint was the incidence of Major Adverse Events (MAE = 30 day mortality, myocardial infarction (MI), neurological events, deep sternal infections, and atrial fibrillation). Secondary endpoints included serum glucose, hypoglycemic events (glucose <80 mg/dl) and free fatty acid (ffa) levels.

Results: There was no difference in the incidence of MAE between the groups. Patients with aggressive control averaged lower serum glucose levels and had a higher incidence of hypoglycemic events but this did not result in an increased incidence of neurological events.

Conclusions: In diabetic patients undergoing CABG surgery, aggressive glycemic control increases the incidence of hypoglycemic events and does not result in any significant improvement of clinical outcomes than can be achieved with moderate control.

*By invitation

RESULTS (±Standard Deviation)

Variable	MODERATE (n = 36)	AGGRESSIVE (n = 36)	p Value
Mortality	0	0	—
MI	0	3	0.239
Neurological Events	1	0	0.474
Sternal Infections	0	0	—
Atrial Fibrillation	10	8	0.597
Hypoglycemic Episodes	6	27	<0.0001
Serum glucose (mg/dl) @ 18 hours postop	130 ± 15	103 ± 18	<0.0001
FFA (mEq/L) @ 18 hours postop	0.68 ± 0.24	0.52 ± 0.24	0.088

11

500 Patients Treated for Merkel Cell Carcinoma at a Single Institution

Ryan C Fields, MD*, Klaus Busam, MD*,
Joanne F Chou, MD*, Katherine S Panageas, MD*,
Melissa P Pulitzer, MD*, Dennis H Kraus, MD*,
Mary S Brady, MD*, Daniel G Coit, MD

Memorial Sloan-Kettering Cancer Center, New York, NY

Objective: Merkel cell carcinoma (MCC) is a rare cutaneous neoplasm. Staging and treatment are based on studies which incompletely characterize the disease. Here we present the largest series of patients with MCC and identify factors associated with survival.

Methods: Review of a prospective database was performed. Overall survival (OS) was estimated by Kaplan-Meier and Cox regression. Disease-specific survival (DSS) was analyzed by competing risk methods.

Results: 500 patients with MCC were prospectively identified. Median follow-up was 3 years. 51% of patients died during follow-up: 51% DOD, 49% DOC. 5-year OS was 56% and cumulative incidence of death from MCC at 5 years was 30%. Stage and lymphovascular invasion (LVI) are predictive of survival (see table). Notably, patients with clinically positive lymph nodes (3b) have decreased survival compared to microscopically positive (3a) or negative lymph nodes (1 and 2), while there is no difference in survival between stage 3a versus stage 1/2 (see figure). Importantly, only one patient without LVI died of MCC during follow-up.

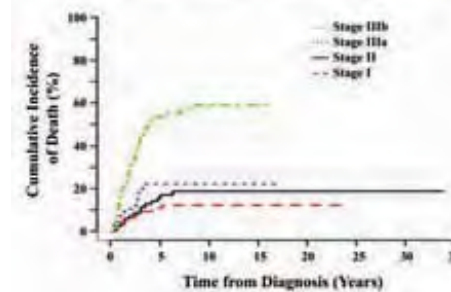
Conclusions: OS is a poor outcome measure in MCC. Presence of LVI and clinically, but not microscopically, positive lymph nodes are associated with decreased DSS. Emphasis on these factors into MCC staging and treatment recommendations should be considered.

*By invitation

Variables Associated with Overall and Disease-Specific Survival

Variable	Overall Survival		Disease-Specific Survival	
	Univariate HR (95% CI); <i>p</i> value	Multivariate HR (95% CI); <i>p</i> value	Univariate HR (95% CI); <i>p</i> value	Multivariate HR (95% CI); <i>p</i> value
Age (per 10 year increase)	1.4 (1.24–1.62); <0.01	1.4 (1.26–1.65); <0.01	0.98 (0.82–1.75); 0.91	—
Size of Primary Tumor (per 1 cm increase)	1.1 (1.04–1.16); <0.01	NS	1.12 (1.10–1.30); <0.01	NS
Presence of Lymphovascular Invasion in Primary Tumor	2.4 (1.74–3.45); <0.01	1.7 (1.16–2.58); <0.01	NA	NA
Positive Margin	3.3 (1.86–5.74); <0.01	NS	3.23 (1.59–6.54); <0.01	NS
Stage: 4 v. 1	7.8 (4.51–13.0); <0.01	8.0 (4.4–14.0); <0.01	20.1 (11–36); <0.01	20.1 (11–36); <0.01
Stage: 3b v. 1	2.5 (1.84–3.60); <0.01	2.4 (1.64–3.74); <0.01	6.20 (3.6–10.4); <0.01	6.20 (3.6–10.4); <0.01
Stage: 3a v. 1	1.2 (0.71–2.01); NS	0.8 (0.48–1.50); NS	1.70 (0.70–4.1); NS	NS
Stage: 2 v. 1	1.1 (0.72–1.73); NS	1.1 (0.69–1.66); NS	1.60 (0.64–3.7); NS	NS

Cumulative Incidence of Death from Merkel Cell Carcinoma by Stage in Patients Presenting with Locoregional Disease



12

Feast or Famine? The Effect of Co-Existing Fellowship Programs on General Surgery Resident Operative Volumes

John B Hanks, MD¹, Thomas W Biester, MD*², Stanley W Ashley, MD³, David M Mahvi, MD⁴, J Wayne Meredith, MD⁵, Steven C Stain, MD⁶, Karen R Borman, MD⁷

¹Department of Surgery University of Virginia, Charlottesville, VA; ²American Board of Surgery, Philadelphia, PA; ³Department of Surgery Brigham and Women's Hospital, Boston, MA; ⁴Department of Surgery Northwestern University, Chicago, IL; ⁵Department of Surgery Wake Forest University, Winston Salem, NC; ⁶Department of Surgery Albany Medical College, Albany, NY; ⁷Department of Surgery Abington Memorial Hospital, Abington, PA

Objectives(s): 80% of general surgery residents (GSR) pursue Fellowship training. We hypothesized fellowship-bound residents (FBR) select cases in their chosen specialty ("early tracking") and programs with coexisting fellowships may decrease GSR cases.

Methods: We analyzed ACGME Operative Log of GSR applicants to the 2009 ABS Qualifying Examination (N = 976). General Surgery programs coexisted with 35 Colorectal (CR), 97 Vascular (Vasc), 80 Minimally Invasive (MIS) and 12 Endocrine (Endo) fellowships. We analyzed: 1. Operative cases of FBR in their chosen specialty compared to all other GSR (Table 1), and 2. Operative cases for GS Programs with and without a co-existing Fellowship, comparing FBR cases to all GSR (Table 2). Case means compared by ANOVA, significance $p < .01$.

Results: FBR performed significantly more cases in chosen subspecialties than GSR counterparts for Endo, CR and VASC, (not MIS), consistent with pre-fellowship tracking (Table 1). This increase appears not at the expense of other GSR cases. Coexisting fellowships (F+) had minimal impact on GSR cases. Endocrine fellowships enhanced case volumes for all residents; MIS and Vascular fellowships had slight differences (Table 2).

Conclusions: Our data uniquely show that FBR seek cases in future subspecialties ("early tracking"). Additionally, established Fellowships have minimal impact on GSR cases.

*By invitation

Table 1

	Endo		Vasc		Colorectal		MIS	
	FBR	All GSR	FBR	All GSR	FBR	All GSR	FBR	All GSR
Total Cases	64*	36	165*	123	204*	163	227	217
% of Total Cases	6*	3	14*	10	17*	14	20*	18

Should Item in red below be a minus sign (-)?

Table 2

	Endocrine Fellowship		Vascular Fellowship		Colorectal Fellowship		MIS Fellowship	
	(-)	(+)	(-)	(+)	(+) (N)	(+) (N)	(-)	(+)
GSR Cases (N,%)	35 (2.9)	58 (5.1)*	133 (10.9)	124 (10.4)	167 (14.2)	164 (13.7)	225 (19)	207 (18)*
FBR Cases (N,%)	58 (4.8)	80 (7.6)	193* (15.6)	156 (13.0)	201 (16.9)	210 (16.9)	221 (19)	235 (20)

13**Identification of a Biomarker Profile Associated with Resistance to Neoadjuvant Chemoradiation Therapy in Rectal Cancer**

Julio Garcia-Aguilar, MD, PhD^{*1}, Zhenbin Chen, MD^{*1},
David D Smith, MD^{*1}, Wenyan Li, MD^{*1},
Robert D Madoff, MD²

¹*City of Hope, Duarte, CA*; ²*University of Minnesota, Minneapolis, MN*

Objective: Some rectal cancer patients treated with neoadjuvant chemoradiation and surgery have no viable cancer cells in their surgical specimens achieving a pathologic complete response (pCR). These patients could potentially be spared an unnecessary operation. Identifying biomarkers of response will help select patients more likely to benefit from a non-surgical approach.

Methods: Patients with Ultrasound or MRI-staged II or III rectal cancer were treated with 5-FU and 50.4Gy radiation in a multicenter trial. pCR was defined according to AJCC criteria. DNA from pre-treatment tumor biopsies and post-treatment surgical specimens was screened for mutations (p53, K-ras, B-raf, CTNNB1, Mitochondria D310, PIK3A, APC) and polymorphisms (p53, CCND1, EGFR, TS, ERCC1, XDP, IL6, DPD, TLR2, VEGF) by PCR analysis and direct sequencing. Association of biomarkers individually or in combination with pCR was performed by Fisher's Exact test and internally validated performing 100 iterations randomly selecting 70% of patients as training set and 30% as testing set.

Results: Of 132 patients, 33 (25%) had a pCR. K-ras mutation alone ($p = 0.01$) or combined with p53 mutation was associated with lack of complete response. CCND1 gene polymorphism alone ($p = 0.04$) or combined with both K-ras and p53 mutations was also associated with no pCR (Table 1).

Conclusions: Combination of gene mutations and polymorphisms are associated with resistance to CRT and could be used to select optimal surgical therapy in rectal cancer patients.

*By invitation

Table 1 Cross-Validation and Assay Characteristics

	p53; K-ras	p53; K-ras; CCND1 AA
Prevalence	27/132 (20%)	43/132 (33%)
pCR	0	3%
Fisher's Exact p-value	<0.0001	<0.0001
ROC curve AUC	0.63	0.70
Validity	75% ± 0.6%	76% ± 0.6%
Sensitivity %	33/33 (100%)	32/33 (97%)
Specificity %	27/99 (27%)	42/99 (42%)
Positive Predictive Value %	33/105 (31%)	32/89 (36%)
Negative Predictive Value %	27/27 (100%)	42/43 (98%)

FRIDAY MORNING, APRIL 15TH**7:00 AM – 8:00 AM****Royal IV****ASA Women in Surgery Breakfast****8:00 AM – 10:30 AM****Grand Ballroom A-E****SCIENTIFIC SESSION III***Moderator: Kirby I. Bland, MD***14****Has the Surgical Care Improvement Program Improved Outcomes?****Mary T Hawn, MD***¹, **Kamal MF Itani, MD***²,
Catherine C Vick, MD*³, **William G Holman, MD**¹¹*University of Alabama at Birmingham, Birmingham, AL;* ²*Boston VAMC, Boston, MA;* ³*Birmingham VAMC, Birmingham, AL*

Background: The Surgical Care Improvement Project (SCIP) was established in 2006 with the goal of reducing surgical complications by 25% in 2010.

Methods: National VA data from 2005–2009 on adherence to five SCIP surgical site infection (SSI) prevention measures were linked to VASQIP SSI outcome data. Effect of SCIP adherence and year of surgery on SSI outcome were assessed with logistic regression using generalized estimating equations, adjusting for procedure type and validated patient SSI risk score. Hospital correlation of SCIP adherence and SSI rate was assessed using linear regression.

Results: There were 61,099 surgeries at 112 VA hospitals analyzed. SCIP adherence ranged from 75% for normothermia to 99% for hair removal and all significantly improved over the study period ($p < 0.001$). Surgical site infection occurred after 6.2% of surgeries (1.6% for orthopedic surgeries to 11.3% for colorectal surgeries). None of the five SCIP measures was significantly associated with lower odds of SSI after adjusting for SSI risk index and procedure type (see table). Year was not significantly associated with SSI ($p = 0.71$). Hospital SCIP performance was not correlated with hospital SSI rates ($r = -0.06$, $p = 0.54$).

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Conclusions: Adherence to SCIP measures improved whereas risk adjusted SSI rates remained stable. SCIP adherence was neither associated with a lower SSI rate at the patient level, nor associated with hospital SSI rates. Policies regarding continued SCIP measurement and reporting should be reassessed.

Measure	SCIP Infection Prevention Measures			Surgical Site Infection*			
	Met	N	Adherence %	%	Adjusted OR**	95% C.I.	p-value
Timely Antibiotic	Y	36,492	93%	5.37	0.95	0.77-1.15	NS
	N	2,734		7.83			
Discontinued Antibiotic Timely	Y	28,654	84%	5.70	0.98	0.83-1.15	NS
	N	5,445		5.60			
Appropriate Antibiotic	Y	29,834	96%	5.31	0.94	0.74-1.2	NS
	N	1,179		13.40			
Normothermia	Y	6,455	75%	15.77	1.04	0.88-1.21	NS
	N	2,111		14.64			
Hair Removal	Y	48,317	99%	6.26	1.15	0.65-2.1	NS
	N	434		4.84			
Composite SCIP [§]	Y	21,080	81%	4.72	0.90	0.78-1.04	NS
	N	5,020		8.31			

*Includes superficial, deep and organ space surgical site infection
**Adjusted for SSI risk score and procedure type (colon, orthopedic, gynecology, vascular)
[§]Adherent to all SCIP measures applicable to the procedure

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Simulation-Based Mastery Learning Improves Patient Outcomes in Laparoscopic Inguinal Herniorrhaphy: A Randomized Controlled Trial

Benjamin Zendejas, MD*, David A Cook, MD*,
Juliane Bingener, MD*, Marianne Huebner, MD*,
William F Dunn, MD*, Michael G Sarr, MD,
David R Farley, MD*

Mayo Clinic, Rochester, MN

Purpose: To evaluate the effectiveness of a mastery learning, simulation-based curriculum for laparoscopic totally extraperitoneal (TEP) inguinal herniorrhaphy.

Methods: After performing a baseline TEP in the OR, general surgery residents were randomized to mastery learning (ML) or standard practice (SP), and then re-assessed during subsequent TEPs. The ML curriculum involved Web-based cognitive learning modules followed by training on a TEP simulator until expert performance was achieved. Outcomes of operative time, performance ratings (GOALS), and patient outcomes adjusted for staff, resident participation, repair difficulty, and PGY level were compared between groups with mixed effects-ANOVA and generalized linear models.

Results: Fifty residents (PGY1-5) performed 219 TEP repairs on 146 patients. Baseline time, performance, and demographics were similar between groups. To achieve mastery, ML-trained residents (n = 26) required a mean of 16 (range 7–27) simulated repairs. Subsequently, TEPs performed by ML residents were faster than those performed by SP residents (adjusted mean [SEM], 35 [2] vs 48 [2] min; difference –12.68 min, 95% CI –17.95, –7.4, p < 0.002). Operative performance ratings (scale 6–30) were better for ML residents (22.3 [0.7]) than for SP (18.6 [0.7]; p < 0.001). Intraoperative complications (peritoneal tear, procedure conversion), post-operative complications (urinary retention, seroma), and overnight stay were more likely in the SP group (Odds Ratios 7.24, 5.7, and 2.73, respectively; p < 0.03).

Conclusion: Simulation-based training with principles of mastery learning *shortened* operative time, *improved* trainee performance, and decreased the frequency of intra- and postoperative complications and overnight stay following laparoscopic TEP inguinal herniorrhaphy.

*By invitation

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Coating of Human Pancreatic Islets with CD4+CD25highCD127- T Regulatory Cells—a Novel Immunosuppressive Approach

Piotr Witkowski MD*, Natalia Marek MD*,
Adam Krzystyniak MD*, Ipek Ergenc MD*, Olivia Cochet MD*,
Ryosuke Misawa MD*, Ling-Jia Wang MD*, Seda Kizilel MD*,
Piotr Trzonkowski MD*, Jeffrey B. Matthews MD,
J. Michael Millis MD*

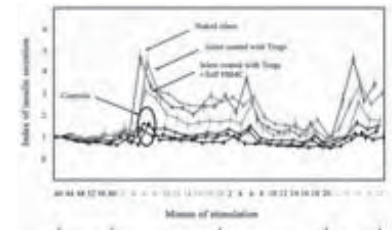
University of Chicago, Chicago, IL

Objectives: Rejection and immunosuppressant toxicity compromises the results of pancreatic islet transplantation. The aim of this study was to determine if T regulatory cells (Tregs) attached to islet cells modulate the immune reaction.

Methods: Human islets were coated with allogeneic ex-vivo expanded human Tregs using our previously developed protocol with biotinylated poly(ethylene glycol)-N-hydroxysuccinimide [biotin-PEG-NHS]. Viability and function of coated and native islets was compared using insulin-secretion dynamic perfusion assay.

Results: Bonds between islets and Tregs were stable in culture. After 72 h incubation with allogeneic T effector cells, Treg-coated islets revealed preserved function with higher insulin secretion compared to native, otherwise modified islets or when Tregs were added to the culture, but not attached to islets p < 0.05 (see figure). Additionally, ELISPOT assay revealed suppression of IFN- secretion when T effector cells were challenged with Treg-coated islets comparing to controls (99 ± 7 vs 151 ± 8 dots, respectively; p < 0.009).

Conclusions: We have demonstrated for the first time the ability to bind immune regulatory cells to target cells and preserve viability of both cell types. Allogeneic Tregs attached to the islets showed their protective activity against immune attack. If these results are confirmed with in vivo studies, local delivery of immunosuppressive Tregs on the surface of pancreatic islets may be an alternative or improvement to the currently used maintenance immunosuppression after islet transplantation.



*By invitation

17

General Surgery Workloads and Practice Patterns in the United States, 2007-2009: A 10-Year Update from the American Board of Surgery

R James Valentine, MD¹, Andrew Jones, MD^{*2}, Thomas W Biester, MD^{*2}, Thomas H Cogbill, MD³, Karen R Borman, MD⁴, Robert S Rhodes, MD²

¹UT Southwestern Medical Center, Dallas, TX; ²American Board of Surgery, Philadelphia, PA; ³Gundersen Lutheran Medical Center, La Crosse, WI; ⁴Abington Memorial Hospital, Philadelphia, PA

Objectives: To assess changes in general surgery workloads and practice patterns in the past decade.

Methods The surgical operative logs of 4968 individuals recertifying in surgery 2007–2009 were reviewed. Data from 3362 (68%) certified only in Surgery (GS) were compared with 1606 (32%) with additional ABMS certificates (GS+). Independent variables were compared using factorial ANOVA.

Results: Surgeons performed a mean of 533 procedures annually. The distribution of operations was: abdomen 128, alimentary tract 83, breast 54, endoscopy 97, vascular 41, trauma 5, endocrine 9, head/neck 3, laparoscopic 93, and miscellaneous 20. Yet GS practice emphasis is heterogeneous with significant differences in operative case loads by gender, age, and practice setting. Compared to 1995–1997, GS performed more procedures, especially endoscopic ($P < .001$), endocrine ($P < .001$), and laparoscopic ($P < .001$). GS+ performed 15–33% of all core general surgery procedures. GS women performed far more breast operations and fewer abdomen, alimentary tract and laparoscopic procedures compared to GS men ($p < 0.001$). Surgeons recertifying at 10 years performed more abdominal, alimentary tract and laparoscopic procedures compared to those recertifying at 20 or 30 years ($P < .001$). Rural surgeons performed far more endoscopic and gynecologic procedures and fewer abdominal, alimentary tract, and laparoscopic procedures than urban counterparts ($P < .001$). U.S. medical school graduates had similar workloads and distribution of operations to IMGs.

Conclusions: A substantial portion of core GS procedures currently are performed by GS+. Reduced core operative experience in GS+ residencies may negatively impact access to general surgical care.

*By invitation

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Is Surgical Resection Superior to Transplantation in the Treatment of Hepatocellular Carcinoma?

Leonidas G Koniaris, MD*, David M. Levi, MD*, Felipe Pedroso, MD*, Dido Franceschi, MD*, Alan S. Livingstone, MD, Andreas G. Tzakis, MD, Navine L. Solomon, MD*, Subhasis Misra, MD*, Teresa A. Zimmers, MD*

University of Miami, Miami, FL

Objectives: To compare outcomes for patients with hepatocellular carcinoma (HCC) treated with either liver resection or transplantation.

Methods: A retrospective, single institution analysis of 415 HCC patients from 1999–2009.

Results: 415 patients with HCC underwent surgical resection ($n = 109$), transplantation ($n = 270$), or were listed without receiving transplantation ($n = 36$). Excluding transplanted patients with incidental tumors ($n = 50$), 256 patients with suspected HCC were listed with the intent to transplant (ITT). The median diameter of the largest tumor by radiography was 5.0 cm in resected, 2.8 cm in transplanted, and 3.0 cm in the listed-but-not-transplanted patients. Median time to transplant was 48 days. Recurrence rates were 17.4% for resection and 12.6% for all transplant patients. Overall, patient survival for resection vs. ITT patients was similar (5-year survival of 53.0% vs. 52.0%, NS). However, for HCC patients with MELD scores <10 and who radiologically met Milan or UCSF criteria, 1-year and 5-year survival rates were significantly better in resected patients. For patients with MELD <10 and who met Milan criteria, 1-year and 5-year survival was 92.0% and 63.0% for resection ($n = 26$) vs. 83.0% and 41.0% for ITT ($n = 93$, $p = 0.036$). For those with MELD <10 and UCSF criteria, 1-year and 5-year survival was 94.0% and 62.0% for resection ($n = 33$) vs. 81.0% and 40.0% for ITT ($n = 101$, $p = 0.027$).

Conclusions: Among known HCC patients who were potential candidates for either resection or transplantation, resection was associated with superior patient survival. Surgical resection should remain the first line therapy for patients with HCC and compensated liver function who are candidates for resection.

*By invitation

19**Prediction of Post-Hepatectomy HCC Recurrence by Circulating Cancer Stem Cells**

Sheung Tat Fan, MD*, Zhen Fan Yang, MD*,
David Wing-Yuen Ho, MD*, Wan Ching Yu, MD*,
John Wong, MD

The University of Hong Kong, Hong Kong, China

Objective(s): Recurrence of HCC frequently occurs within the first year after hepatectomy probably due to circulating cancer cells that shed from the primary tumor prior to hepatectomy. Since cancer stem cells (CSCs) are more likely to initiate tumor growth than mature cancer cells, a high level of circulating CSCs may be a hint for HCC recurrence. This study aims to investigate whether circulating CSCs can predict recurrence of HCC after hepatectomy.

Methods: Multi-color flow cytometry was used to detect the number of circulating CSCs (CD45-CD90+CD44+) in the peripheral circulation of 82 patients of HCC one day before hepatectomy. The patients were monitored by CT or MRI for recurrence every three months.

Results: Forty-one (50%) patients had recurrence after a median follow-up period of 17.5 months (range 2.7–64.9 months). The patients with recurrence had a higher median level of circulating CSCs than those without recurrence (0.02% vs. 0.01%, $p < 0.0001$). Circulating CSCs $>0.01\%$ predicted intrahepatic recurrences (relative risk 3.54, 95% C.I. 1.41–8.88) and extrahepatic recurrences (relative risk 10.15, 95% C.I. 3–34.4). Patients with $>0.01\%$ circulating CSCs had a lower two-year disease-free rate (22.7% vs. 64.2%, $p < 0.0001$) and overall survival rate (58.5% vs. 94.1%, $p = 0.0005$) than those with $\leq 0.01\%$ circulating CSCs. On multivariate analysis, circulating CSCs $>0.01\%$, tumor stage and tumor size were independent factors affecting the disease-free survival.

Conclusions: Circulating CSCs predicted post-hepatectomy recurrence of HCC with high accuracy. Circulating CSCs may be the target of eradication in the prevention of metastasis of HCC after hepatectomy.

*By invitation

FRIDAY MORNING, APRIL 15th, CONTINUED

10:30 AM – 12:00 PM
Grand Ballroom A-E

FORUM DISCUSSION**“Comparative Effectiveness Research: Relative and Efficient Outcomes in Surgical Patients”**

Moderator: Kirby I. Bland, MD

David B. Hoyt, MD

*American College of Surgeons
Chicago, IL*

Hiram C. Polk, Jr., MD

*University of Louisville
Louisville, KY*

John Niederhuber, MD

*National Cancer Institute
Bethesda, MD*

FRIDAY AFTERNOON, APRIL 15TH

1:30 PM – 4:00 PM
Grand Ballroom A-E

SCIENTIFIC SESSION IV

Moderator: Jeffrey L. Ponsky, MD

20

The Anatomic Pattern of Biliary Atresia Identified at Time of Kasai Hepatopertoenterostomy and Early Postoperative Clearance of Jaundice are Significant Predictors of Transplant-Free Survival

Riccardo Superina MD*¹, John Magee MD², Mary L. Brandt MD⁶, Patrick J Healey MD³, Greg Tiao MD⁴, Fred Ryckman MD⁴, Frederick M Karrer MD⁵, Cartland Burns Yun Li MD*², Jeffrey Moore MD*², Kasper S. Wang MD*⁷

¹Children's Memorial Hospital, Chicago, IL; ²University of Michigan School of Medicine, Ann Arbor, MI; ³Seattle Children's Hospital, Seattle, WA; ⁴Cincinnati Children's Hospital, Cincinnati, OH; ⁵The Children's Hospital, Aurora, CO; ⁶Baylor College of Medicine, Houston, TX; ⁷Children's Hospital Los Angeles, Los Angeles, CA

Objective: We set out to describe the clinical/anatomic features of infants undergoing Kasai hepatopertoenterostomy (HPE) for biliary atresia (BA), and examine associations between these parameters and outcome.

Methods: Infants undergoing HPE in two prospective studies from 15 Childhood Liver Disease Research and Education Network centers were studied. Patients enrolled in a blinded, interventional trial were excluded from survival analysis. The remaining patients (131/229) were studied for transplant-free survival (Kaplan-Meier) and time to transplant/death (Cox regression).

Results: HPE was performed in 229 infants (55.7% female; mean age 63.7 ± 25.7 days; anatomic data in table). Transplant-free survival (n = 131) was 52.8%, 46.5%, and 42.5% at 1, 2 and 3 years post-HPE. The risk of

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transplant/death was significantly lower in the 45.9% of patients with a total bilirubin <2.0 mg/dl within 3 months post-HPE (HR 0.08, p < 0.001). The risk of transplant/death was increased in patients with porta hepatis atresia (Ohi Type III vs. Type I; HR 1.84, p = 0.0384), non-patent CBD (Ohi Sub-type b+c vs. a; HR 6.54, p = 0.0159), and splenic malformations (HR 1.97, p = 0.050). Outcome was not associated with age at HPE, gestational age, gender, race, ethnicity, or extent of porta hepatis dissection (lateral/anterior-posterior dimensions and area).

Conclusion: Anatomic pattern of BA and early postoperative jaundice clearance are significant predictors of transplant-free survival. These findings establish U.S. benchmarks for counseling families and guiding transplant evaluation.

21

Outcomes After Minimally Invasive Esophagectomy

James D Luketich, MD, Omar Awais, DO*,
Manisha Shende, MD*, Neil A Christie, MD*,
Benny Weksler, MD*, Rodney J Landreneau, MD,
Blair A Jobe, MD*, Ghulam Abbas, MD*, Arjun Pennathur, MD*,
Matthew J Schuchert, MD*, Katie S Nason, MD, MPH*

University of Pittsburgh, Pittsburgh, PA

Objectives: Esophagectomy continues to be associated with high morbidity and mortality. In an attempt to lower morbidity, we have developed a minimally invasive approach to esophagectomy (MIE). This study describes our outcomes after elective MIE. We compare our modified McKeown approach, (videothoroscopic esophageal mobilization, laparoscopic conduit preparation, neck anastomosis [MIE-neck]) versus our current approach, a modified Ivor Lewis (laparoscopic conduit preparation, videothoroscopic esophageal mobilization, chest anastomosis [MIE-chest]).

Methods: We reviewed 1000 consecutive patients undergoing MIE. Patients were stratified by surgical approach and perioperative outcomes analyzed.

Results: Elective MIE was performed on 973 patients, 27 urgent cases were excluded. A MIE-neck was performed in 478 (49%) and a MIE-chest in 494 (51%). Patients undergoing MIE-chest were operated in the current era. Median length of stay (8 days), ICU stay (2 days), and median lymph node (LN) count (n = 20) were similar between the two approaches. Higher rate of complications were seen in the MIE-neck group versus the MIE-chest, including vocal fold paresis (9% MIE-neck versus 1% MIE-chest; p < 0.001), sepsis (11% versus 7%; p = 0.024), anastomotic leak requiring surgery (8% versus 4%; p = 0.013) and gastric tube necrosis (3% versus <1%; p = 0.018). There was a trend toward a lower 30-day in-house mortality in the MIE-chest group (2%) versus MIE-neck (4%; p = 0.09).

Conclusions: MIE in our center resulted in acceptable lymph node resections, postoperative outcomes and low mortality using either a MIE-neck or MIE-chest approach. The modified Ivor Lewis approach (MIE with intrathoracic anastomosis) reduced conduit complications and mortality, and is now our preferred approach.

*By invitation

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Single Incision Versus Standard 3-port Laparoscopic Appendectomy: A Prospective Randomized Trial

Shawn D St. Peter, MD*, Daniel J Ostlie, MD*,
Susan W Sharp, MD*, Obinna O. Adibe, MD*,
David Juang, MD*, Carissa L Garey, MD*,
Carrie A Laituri, MD*, Charles L Snyder, MD*,
Walter S Andrews, MD*, Ronald J Sharp, MD*,
J Patrick Murphy, MD*, George W Holcomb, III, MD

Children's Mercy Hospital, Kansas City, MO

Objectives: Laparoscopy through a single umbilical incision is an emerging technique supported by several case series, but prospective comparative data are lacking. Therefore, we conducted a prospective, randomized trial comparing single site umbilical laparoscopic appendectomy to 3-port laparoscopic appendectomy.

Methods: After IRB approval, patients were randomized to laparoscopic appendectomy via a single umbilical incision or standard 3-port access. The primary outcome variable was postoperative wound infection. With a power of 0.9 and an alpha of 0.05, 180 patients were calculated for each arm. Patients with perforated appendicitis were excluded. The technique of ligation/division of the appendix and mesoappendix was left to the surgeon's discretion. There were 7 participating surgeons dictated by the call schedule. All patients received the same pre-operative antibiotics and post-operative management was controlled.

Results: From 8/2009 through 11/2010, 360 patients were enrolled. There were no differences in patient characteristics (Table 1). Operative time and hospital charges were less with the standard 3-port approach, but there was no difference in wound infection rate (Table 2).

Conclusions: The single umbilical incision approach to appendectomy produces longer operative times resulting in greater charges. However, these small differences are likely of marginal clinical relevance.

Table 1 Patient Characteristics at Operation

	Single Incision (N = 180)	3-Port (N = 180)	P Value
Age (yrs)	11.05 ± 3.47	11.04 ± 3.41	0.98
Weight (kg)	42.7 ± 18.5	42.5 ± 17.4	0.90
Gender (% male)	54.4%	51.1%	0.53
Leukocyte count	14.7 ± 5.2	14.6 ± 5.4	0.89

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Table 2 Outcome Data

	Single Incision (N = 180)	3-Port (N = 180)	P Value
Wound Infection	3.3%	1.7%	0.50
Operative Time (mins)	35.2 ± 14.5	29.8 ± 11.6	<0.001
Post-Op Length of Stay (hours)	22.7 ± 6.2	22.2 ± 6.8	0.44
Hospital Charges (\$)	17.6K ± 4.0 K	16.5 ± 3.8 K	0.005

23**Readmission Rates after Abdominal Surgery: The Role of Surgeon, Primary Caregiver, Home Health, and Sub-Acute Rehab**

Robert CG Martin, MD*, Russell Brown, MD*,
Lisa Puffer, MD*, Stacey Block, MD*,
Charles R Scoggins, MD*, Kelly M McMasters, MD
University of Louisville, Louisville, KY

Objective(s): Recommendations from MedPAC that the Centers for Medicare and Medicaid Services report upon and determine payments based in part on readmission rates have led to an attendant interest by payers, hospital administrators and far-sighted physicians. Thus the aim of this study was to evaluate predictive factors of hospital readmission rates in patients undergoing major abdominal surgical procedures.

Methods: Analysis of 266 prospective treated patients from 9/2009–9/2010. All patients were prospectively evaluated for underlying comorbidities, # pre-op meds, surgical procedure, complications, presence of primary caregiver, education level, discharge number of medications, and discharge location.

Results: 266 patients were reviewed with 48 (18%) gastric-esophageal, 39 (14%) gastrointestinal, 88 (34%) liver, 58 (22%) pancreas, and 33(12%) other. 78(30%) were readmitted for various diagnoses the most common being dehydration(26%). Certain pre-operative and intra-operative factors were not found to be significant for readmission being, co-morbidities, diagnosis, number of pre-operative medications, patient education level, type of operation, blood loss, and complications. Predictive factors for readmission were age (>67 years), number of discharged (DC) meds (>9 medications), 50% oral intake (52% vs 23%), and DC home with a home health agency (70% vs 18%).

Conclusions: Readmission rates for surgeons WILL become a quality indicator of performance. Quality parameters among Home Health agencies are non-existent, but will reflect on surgeon's performance. Greater awareness regarding predictors of readmission rates is necessary in order to demonstrate improved surgical quality.

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Predictors of Readmission Rates

	Group		P-Value
	Radmit	No Radmit	
N	78	188	
Incision Lap/ Open	12/66	48/140	0.07
Age	68	59	<0.0001
Comp Y/N	10/68	45/137	0.08
#DC Meds	9	7	0.05
Oral Intake <50%	52%	23%	0.0004
DC w/Home Health	70%	18%	<0.0001
DC to Subacute Rehab	37%	28%	0.3

24**Damage Control Resuscitation Reduces Resuscitation Volumes and Improves Survival in 390 Damage Control Laparotomy Patients**

Bryan A Cotton, MD*, Neeti Reddy, MD*,
 Quinton M Hatch, MD*, Eric LeFebvre, MD*,
 Charles E Wade, MD*, Rosemary A Kozar, MD,
 Brijesh S Gill, MD*, Rondel Albarado, MD*,
 Michelle K McNutt, MD*, John B Holcomb, MD

University of Texas Health Science Center-Houston, Houston, TX

Objective: Damage control laparotomy (DCL) focuses on control of hemorrhage and gross bowel spillage. Damage control resuscitation (DCR) aims at preventing coagulopathy through limiting crystalloids and delivering higher ratios of plasma and platelets. The purpose of the study was to determine if implementation of DCR in DCL patients would translate to improved survival.

Methods: A retrospective review of all emergent trauma laparotomies between 01/2004–08/2010 was performed. Patients were divided into pre-DCR and DCR groups, and were excluded if they died prior to completion of the initial laparotomy. The lethal triad was defined as temperature 1.5, or pH < 7.30.

Results: 1,217 patients were included, 390 (32%) underwent DCL. Of these, 282 were pre-DCR and 108 were DCR. Groups were similar in demographics, injury severity, arrival vitals and laboratory values. DCR patients received less crystalloids (median 14 L vs. 5 L), RBC (13 U vs. 7 U), plasma (11 U vs. 8 U) and platelets (6 U vs. 0 U) by 24-hr; all p < 0.05. DCR had less evidence of the lethal triad upon ICU arrival (88% vs. 46%, p < 0.001). 24-hour and 30-day survival was higher in DCR (88% vs. 97%, p = 0.006 and 76% vs. 86%, p = 0.03). After controlling for age, injury severity and ED variables, multivariate analysis demonstrated DCR was associated with a significant increase in 30-day survival (Odds ratio 2.5, 95% C.I. 1.10–5.58, p = 0.03).

Conclusions: In severely injured patients undergoing DCL, this new resuscitation paradigm resulted in reduced crystalloid and blood product administration and was associated with an improvement in 30-day survival.

*By invitation

25**Minimally Invasive Mitral Valve Surgery Expands the Surgical Options for High-Risks Patients**

Michael R Petracek, MD*, Marzia Leacche, MD*,
 Natalia S Solenkova, MD*, Ramanan Umakanthan, MD*,
 Rashid M Ahmad, MD*, Stephen K Ball, MD*,
 Steven J Hoff, MD*, Tarek S Absi, MD*,
 Jorge M Balaguer, MD*, **John G Byrne, MD**

Vanderbilt University Medical Center, Nashville, TN

Objectives: A simplified minimally invasive mitral valve surgery (MIMVS) approach avoiding cross-clamping and cardioplegic myocardial arrest using a small (5 cm) right antero-lateral incision was developed. We hypothesized that in high-risk patients this approach would decrease myocardial ischemia and yield to superior results compared to those predicted by the Society of Thoracic Surgeons (STS) algorithm for standard median sternotomy mitral valve surgery.

Methods: Five hundred and four consecutive patients (249M/255F), median age 65 years (range 20–92 years) underwent MIMVS between 1/06–8/09. Median preoperative New York Heart Association function class was 3 (range 1–4). Eighty-two (16%) patients had an ejection fraction \leq 35%. Forty-seven (9%) had a STS predicted mortality \geq 10%. Under cold fibrillatory arrest (median temperature 28° C) without aortic cross-clamp, mitral valve repair (224/504, 44%) or replacement (280/504, 56%) was performed.

Results: Thirty-day mortality for the entire cohort was 2.2% (11/504). In patients with a STS predicted mortality \geq 10%, the observed 30-day mortality was 4% (2/47), lower than the mean STS predicted mortality of 20%. Morbidity in this high-risk group was equally low: 1/47 (2%) patients underwent re-exploration for bleeding, 1/47 (2%) patients suffered a permanent neurologic deficit, none had mediastinal infection. The median length of stay was 8 days (range 1–68 days).

Conclusions: This study demonstrates that MIMVS without aortic cross-clamp is reproducible with low mortality and morbidity rates. This approach expands the surgical options for high-risk patients and yields to superior results compared to the conventional median sternotomy approach.

*By invitation

FRIDAY AFTERNOON, APRIL 15TH, CONTINUED

4:00 PM – 5:00 PM
Grand Ballroom A-E

EXECUTIVE SESSION

Fellows Only

PRESENTATION OF THE FLANCE-KARL AWARD

FRIDAY EVENING, APRIL 15TH

7:00 PM – 8:00 PM
Grand Ballroom F-J

ANNUAL RECEPTION

8:00 p.m. – 9:30 p.m.
Grand Ballroom F-J

ANNUAL BANQUET**SATURDAY MORNING, APRIL 16TH**

8:00 AM – 11:00 AM
Grand Ballroom A-E

SCIENTIFIC SESSION V

Moderator: New President-Elect

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Intraoperative Injection of Subareolar or Dermal Radioisotope Results in Predictable Identification of Sentinel Lymph Node in Breast Cancer

Chad B Johnson, MD*, Cristiano Boneti, MD*,
 Soheila Korourian, MD*, Yara Robertson, MD*,
 Laura Adkins, MD*, **Suzanne Klimberg, MD**

University of Arkansas for Medical Sciences, Little Rock, AR

Objective(s): Preoperative injection of technetium-99m sulfur colloid (Tc99) and lymphoscintigraphy is standardly performed before sentinel lymph node biopsy (SLNB) for breast cancer (BC). Blue dye is often used to help guide and confirm the localization but tattoos the breast. This methodology results in painful injections, variable identification rates, added costs and unnecessary scheduling delays. We hypothesized that lymphoscintigraphy is unnecessary and that intraoperative injection alone by the surgeon of dermal or subareolar Tc99 that migrates within minutes is practical for SLNB.

Methods: This is an IRB-approved prospective study of operable BC seen from October 2002–2010. After induction 1 mCi of Tc-99 unfiltered was administered by a subareolar or 0.25 mCi for dermal injection. Confirmatory blue dye was injected at the discretion of the surgeon. Site and type of injection, injection time, incision time, and extraction time along with nodal positivity were recorded.

Results: 699 patients were accrued for 775 intraoperative Tc-99 injections. The SLN was localized in 98.6% (419 of 425) with subareolar radiotracer alone, 94.8% (326 of 244) in dual injection and 100% (6 of 6) in dermal injection. Median time from injection to incision including bilateral

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procedures was 30 min for subareolar radiotracer, 26 min for dermal injections and 26 min for dual injection. The average ex-vivo count and nodal positivity were similar for all groups. Radiotracer alone was least expense.

Conclusions: Intraoperative injection of Tc99 alone with a subareolar or dermal injection technique rapidly localizes the SLN in BC, is most humane for the patient, avoids tattooing, is cost effective and facilitates operative room time management.

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Cost-Effectiveness of the National Surgical Quality Improvement Program (NSQIP)

Peter W. Dillon, MD, Melissa M. Boltz, MD*,
Christopher S. Hollenbeak, MD*, Li Wang, MD*,
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Penn State Milton S. Hershey Medical Center, Hershey, PA

Objectives: The National Surgical Quality Improvement Program (NSQIP) has been extended to private sector hospitals since 1999, but little is known about its cost-effectiveness. The purpose of this study was to compare the cost-effectiveness of NSQIP at an academic medical center between the first six months, and through the first and second year of implementation.

Methods: Data included 2,229 general or vascular surgeries, 699 of which were conducted after NSQIP was in place for 6 months. We estimated an incremental cost-effectiveness ratio (ICER) comparing costs and benefits before and after adoption of NSQIP. Costs were estimated from the perspective of the hospital and included hospital costs for each admission, plus the total annual cost of program adoption and maintenance, including administrator salary, training, and IT costs. Effectiveness was defined as events avoided. Confidence intervals and a cost-effectiveness acceptability curve were computed using a set of 10,000 bootstrap replicates. Three time periods we compared were **1)** 7/07–12/07 to 7/08–12/08, **2)** 7/07–12/07 to 7/08–6/09, and **3)** 7/07–6/08 to 7/08–6/09.

Results: The incremental cost of the NSQIP program was \$832, \$876, and \$266 for time periods 1, 2, and 3, respectively, yielding ICERs of \$25,471, \$19,878, and \$7,319 per event avoided. The cost-effectiveness acceptability curves suggested a high probability that NSQIP was cost-effective at reasonable levels of willingness-to-pay (WTP).

Conclusions: In these data, not only did the NSQIP program appear cost-effective, but its cost-effectiveness improved with greater duration of participation in the program, resulting in a 28.7% decline of the initial cost.

*By invitation

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2332 Post Traumatic Pulmonary Emboli: A New Look at an Old Disease

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Avery B Nathens, MD²

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²St. Michael's Hospital, Toronto, ON, Canada

Objectives: Despite compliance with prophylactic measures, pulmonary emboli (PE) remain a threat to post-injury recovery. We hypothesized that the liberal use of chest CT after trauma has resulted in an increased rate of detection of PE but a decreased rate of PE-associated mortality.

Methods: We examined demographics, injury data, risk factors, and outcomes from patients with DVT and PE compiled in recent years (2007–2009) in the National Trauma Data Bank. Statistical models were created to examine predictors of DVT and PE and of PE-related mortality.

Results: Among 519,268 patients from 192 centers, 2,332 PE were reported (incidence of 0.45% compared to 0.13% 10 years ago). Mortality among patients with PE was 8.9% compared to 18.7% in our earlier report (adjusted OR of death for PE 2.3 (1.94–2.71). Risk factors for DVT and PE are not equivalent (see table). Severe chest injury is an independent predictor for PE but not DVT.

Conclusions: The reported incidence of PE after trauma has tripled in recent years but the attributable mortality has decreased by 50% suggesting that we are identifying a different disease entity or stage. Chest injuries are an independent predictor of PE and would likely not be prevented by an IVC filter.

Risk Factors for Development of DVT and PE; Odds Ratios (95% CI)

Risk Factor	DVT (n = 5890)	PE (n = 2332)
Lower Extremity Fracture	1.572 (1.466–1.686)	1.843 (1.660–2.046)
Pelvic Fracture	1.368 (1.261–1.483)	1.125 (0.990–1.279)
Traumatic Brain Injury	1.200(1.049–1.373)	0.792 (0.633–0.991)
Ventilator Days >3	6.562 (6.120–7.036)	3.9 (3.51–4.44)
Severe Chest Injury	1.095 (1.024–1.170)	1.39 (1.25–1.55)*

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Predicting Risk for Serious Complications with Bariatric Surgery: Results from the Michigan Bariatric Surgery Collaborative

Jonathan F Finks, MD*¹, Kerry Kole, MD*²,
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Objective(s): To develop a risk prediction model for serious complications following bariatric surgery.

Methods: The Michigan Bariatric Surgery Collaborative is a statewide consortium of hospitals and surgeons, which maintains an externally-audited prospective clinical registry. We analyzed data from 23,411 patients undergoing bariatric surgery between June, 2006 and August, 2010. Using a random split-sample design, we performed multivariate stepwise logistic regression with half of the sample to develop a predictive model of risk factors associated with serious complications (life threatening and/or associated with lasting disability) within 30 days of surgery. The predictive model was applied to the second half of the sample for the purpose of internal validation.

Results: Overall, 588 patients (2.5%) experienced a serious complication. Significant risk factors ($p < 0.10$) included: heart disease (OR 1.63); age category (per 10 years) (OR 1.12); male gender (OR 1.29); VTE history (OR 2.37); musculoskeletal disorder (OR 1.63); smoking history (OR 1.31); pulmonary disease (OR 1.52) and procedure type (reference lap band): laparoscopic gastric bypass (OR 3.26); open gastric bypass (OR 2.62); sleeve gastrectomy (OR 2.81); duodenal switch (OR 11.25). When examined across terciles of predicted risk, the mean complication rates were similar in the study and validation populations: 0.8%, 2.4%, 4.4% and 1.0%, 2.3%, 4.2%, respectively. The c-statistic was 0.70 and the model was well-calibrated across deciles of predicted risk.

Conclusions: We have developed and validated a population-based risk scoring system for serious complications following bariatric surgery. We expect that this scoring system will improve the process of informed consent, facilitate the selection of procedures for high-risk patients, and enable evidence-based insurance approval guidelines.

*By invitation

30**Laparoscopic Versus Open Anterior Abdominal Wall Hernia Repair: 30-Day Morbidity and Mortality using ACS/NSQIP Database**

Rodney J Mason, MD*, Ashkan Moazzez, MD*,
 Namir Katkhouda, MD*, Helen Sohn, MD*,
 Thomas V Berne, MD

University of Southern California, Los Angeles, CA

Objective: To compare 30-day morbidity and mortality for laparoscopic and open abdominal wall hernia repair.

Methods: Using the ACS/NSQIP database (2005–2009), 71,026 patients who underwent an abdominal wall hernia repair were identified (17% laparoscopic, 83% open). The association between surgical approach and overall morbidity, serious morbidity and mortality was determined. Subgroup analysis between inpatient/outpatient surgery (n = 28,315/42,711), strangulated/reducible (n = 18,725/52,301) and initial/recurrent hernias as well as between umbilical (n = 25,006), ventral (n = 16,169) and incisional (n = 29,851) hernias were performed.

Results: Patients undergoing a laparoscopic approach were significantly less likely to experience an overall morbidity, serious morbidity, or mortality compared with those who underwent an open repair (see table).

Similar findings for these 3 outcomes were found in patients classified as in-patient. Patients with laparoscopically repaired strangulated hernia had significantly lower overall (4.7% vs. 8.1%, p < .0001) and serious morbidity. Patients with recurrent hernias repaired laparoscopic also had significantly better overall morbidity (4.1% vs. 12.2%, p < .0001) and serious morbidity. Significantly lower overall morbidity was also noted for the laparoscopic approach when the hernias were categorized into umbilical (1.9% vs. 3.0%, p = .009), ventral (3.9% vs. 6.3%, p < .0001) and incisional (4.3% vs. 9.1%, p < .0001). No differences were noted between laparoscopic and open repairs in patients undergoing outpatient surgery in patients with reducible hernias (n = 32,919, 46%).

Conclusion: Within ACS NSQIP hospitals, laparoscopic repair is infrequent and associated with lower 30-day morbidity and mortality.

	Laparoscopic n = 11,909	Open n = 59,117	p
Overall Morbidity	454 (3.81%)	3,601 (6.09%)	<.0001
Serious Morbidity	174 (1.46%)	1,410 (2.39%)	<.0001
Mortality	21 (0.18%)	194 (0.33%)	.006

*By invitation

31**Importance of Blood Pressure Control After Repair of Acute Type A Aortic Dissection: 25-year Follow-up in 252 Patients**

Spencer J Melby, MD*, Andreas Zierer, MD*,
 Michael K Pasque, MD*, Jennifer S Lawton, MD*,
 Hersh S Maniar, MD*, Nicholas T Kouchoukos, MD,
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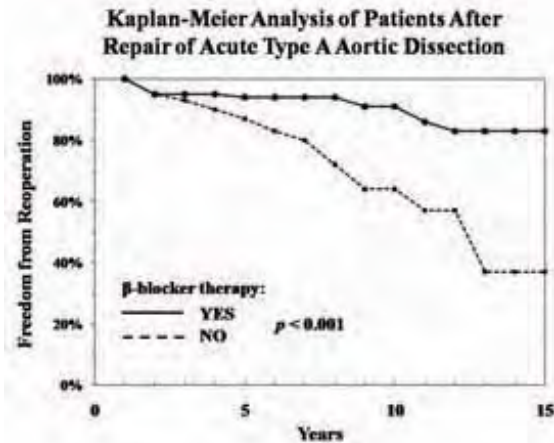
Objective: Our aim was to evaluate factors which impacted outcome following repair of acute type A aortic dissection.

Methods: Over a 25-year period (1984–2009), 252 patients underwent repair of acute type A dissection by 26 surgeons. Mean late follow-up for reoperation or death was 6.9 ± 5.9 years.

Results: Operative mortality was 16% (41/252). Multivariate analysis identified one risk factor for operative death: branch-vessel malperfusion on presentation (p = 0.003). For 211 operative survivors, 5, 10, and 20-year survival was 78% ± 3%, 59% ± 4%, and 24% ± 6%, respectively. Late death occurred earlier in patients with previous stroke (p = 0.02) and chronic renal insufficiency (p = 0.007) but was independent of operative approach (ascending versus hemiarch, cross-clamp versus circulatory arrest, AV repair versus replacement; p > 0.20 for all). Risk factors for late reoperation included male gender (p = 0.006), Marfan syndrome (p < 0.001), elevated systolic blood pressure (SBP, p < 0.001), and absence of beta-blocker therapy (p < 0.001). Kaplan-Meier analysis demonstrated that at 10-year followup, patients who maintained SBP <120 mmHg had improved freedom from reoperation (92% ± 5%) compared to those with 120–140 mmHg (74% ± 7%) or SBP >140 mmHg (49% ± 14%, p < 0.001), and patients on beta-blocker therapy experienced 86% ± 5% freedom from reoperation compared to 57% ± 11% for those without beta-blockers (p < 0.001).

Conclusions: Operative survival was decreased in the presence of preoperative malperfusion. Long-term survival was dependent on underlying comorbidities but not operative approach. Reoperation was markedly increased in patients not on beta-blocker therapy, and decreased with better control of SBP. Strict control of hypertension with beta-blocker therapy for life is warranted in these patients.

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Should All Papillary Thyroid Microcarcinomas Be Aggressively Treated? An Analysis of 18,445 Cases

Xiao-Min Yu, MD*, Yin Wan, MD*, Rebecca Sippel, MD*,
Herbert Chen, MD

University of Wisconsin, Madison, WI

Objective(s): The management of papillary thyroid microcarcinomas (PTMC) is controversial, and ranges from observation to total thyroidectomy. The lack of consensus is predominantly due to the general excellent overall prognosis thereby requiring a large cohort to delineate differences in outcome. The purpose of this study was to identify risk factors which predict PTMC-related death in a large patient population to determine which patients need aggressive treatment.

Methods: All papillary thyroid cancer patients with tumor size ≤ 1 cm in the Surveillance, Epidemiology and End Results (SEER) Cancer Database from 1988 to 2007 were identified. Outcomes including overall and disease-specific survival were compared, and different risk groups were evaluated by multivariate analysis.

Results: A total of 18,445 cases of PTMC with surgery were identified. The 10-year and 15-year overall survivals were 94.6% and 90.7%, respectively, while disease-specific survivals were 99.5% and 99.3%. Older age than 45 years, male gender, African-American or minority race, node metastases, extrathyroidal invasion and distant metastases were stratified to be significant risk factors for overall survival. There were 49 thyroid cancer-related deaths. Forty-five (92%) out of 49 patients had at least two risk factors, and 51% of these 49 patients had three or more risk factors (vs. 5.7% in the rest of the cohort, $p < 0.001$).

Conclusions: Though PTMC is generally associated with an excellent prognosis, 0.5% patients may die of PTMC. The presence of 2 or more risk factors is strongly associated with cancer-related mortality and can help to identify patients that should be considered for more aggressive surgical management.

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18	Teresa A. Zimmers
2	Brian Zuckerbraun

SCHEDULE-AT-A-GLANCE

THURSDAY, APRIL 14th

8:15 a.m.	President's Opening Remarks Secretary's Welcome and Introduction of New Fellows Elected in 2010 President's Introduction of Honorary Fellows Report of the Committee on Arrangements	<i>Grand Ballroom A-E</i>
9:10 a.m.	Scientific Session I <i>Moderator: Kirby I. Bland, MD</i>	<i>Grand Ballroom A-E</i>
11:00 a.m.	Address by the President <i>Kirby I. Bland, MD</i>	<i>Grand Ballroom A-E</i>
1:30 p.m.	Scientific Session II <i>Moderator: Timothy J. Eberlein, MD</i>	<i>Grand Ballroom A-E</i>

FRIDAY, APRIL 15th

7:00 a.m.	ASA Women in Surgery Breakfast	<i>Royal IV</i>
8:00 a.m.	Scientific Session III <i>Moderator: Kirby I. Bland, MD</i>	<i>Grand Ballroom A-E</i>
10:30 a.m.	Forum Discussion: "Comparative Effectiveness Research: Relative and Efficient Outcomes in Surgical Patients" <i>Moderator: Kirby I. Bland, MD</i>	<i>Grand Ballroom A-E</i>
1:30 p.m.	Scientific Session IV <i>Moderator: Jeffrey L. Ponsky, MD</i>	<i>Grand Ballroom A-E</i>
4:00 p.m.	Executive Session (<i>Fellows Only</i>) Presentation of the Flance-Karl Award	<i>Grand Ballroom A-E</i>
7:00 p.m.	Annual Reception	<i>Grand Ballroom F-J</i>
8:00 p.m.	Annual Banquet (<i>Black tie preferred, but dark suits are acceptable.</i>)	<i>Grand Ballroom F-J</i>

SATURDAY, APRIL 16th

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

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