



AMERICAN SURGICAL ASSOCIATION

Program
of the
130th Annual Meeting

**The Fairmont
Chicago, Illinois**

Thursday, April 8th Friday, April 9th
Saturday, April 10th
2010

AMERICAN SURGICAL ASSOCIATION

Program
of the
130th Annual Meeting

to be held at
**The Fairmont
Chicago, Illinois**

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2010

Table of Contents

Officers and Council2
Committees3
Foundation Trustees5
Representatives6
Future Meetings7
General Information8
Continuing Medical Education Accreditation Information.....10
Program Committee Disclosure List..... *
Faculty Disclosure List..... *
Author Disclosure List..... *
Discussant Disclosure List..... *
Schedule-at-a-Glance24
Program Outline.....26
Program Detail and Abstracts.....42
Alphabetical Directory of Fellows..... *
Geographic Roster of Fellows..... *
Necrology.....271
Medallion for Scientific Achievement Recipients.....272
Flance-Karl Award Recipients274
Foundation Fellowship Award Recipients.....276
Foundation Contributors..... *
Author Index.....285
Record of Attendance.....293
Membership Update Form295

* These sections available on site in Chicago, Illinois,
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

2009-2010

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Vice-President

Thomas R. DeMeester

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Jay L. Grosfeld.....2007-2010

Courtney M. Townsend, Jr.2008-2011

Anthony D. Whittemore.....2009-2012

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@prri.com
 Or visit: www.americansurgical.info

ADVISORY MEMBERSHIP COMMITTEE

Lewis M. Flint, Jr., <i>Chair</i>	2000-2010
Alfred E. Chang	2009-2014
A. Benedict Cosimi	2007-2012
Jean C. Emond	2006-2011
Julie Ann Freischlag.....	2009-2014
David A. Fullerton.....	2007-2012
Danny O. Jacobs	2005-2010
Larry R. Kaiser.....	2006-2011
Robin S. McLeod.....	2005-2010
Monica Morrow	2008-2013
Sean J. Mulvihill	2009-2014
Raphael E. Pollock.....	2008-2013
Grace S. Rozycki	2009-2011
Steven C. Stain.....	2008-2013
R. James Valentine	2008-2013
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ARRANGEMENTS COMMITTEE

130th Annual Meeting
 Jeffrey B. Matthews, *Chair*

AUDIT COMMITTEE

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Josef E. Fischer	2005-2011
John G. Hunter	2007-2013
Hiram C. Polk, Jr.....	2005-2011
Michael J. Zinner	2009-2015

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Richard A. Hodin	2009-2014
Jeffrey B. Matthews	2007-2012

NOMINATING COMMITTEE

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Carlos A. Pellegrini	2006-2011
Hiram C. Polk, Jr.	2005-2010
Courtney M. Townsend, Jr.	2008-2013
Anthony D. Whittemore	2009-2014

PROGRAM COMMITTEE

B. Mark Evers, <i>Chair</i>	2005-2010
R. Daniel Beauchamp	2008-2013
K. Craig Kent	2007-2012
Theodore N. Pappas	2009-2014
Carolyn E. Reed	2006-2011

President, President-Elect, Secretary, and Recorder, ex officio with vote

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

R. Scott Jones

Vice Chair

Hiram C. Polk, Jr.

Secretary

E. Christopher Ellison

Treasurer

Barbara L. Bass

Trustees

Jay L. Grosfeld

Carlos A. Pellegrini

Courtney M. Townsend, Jr.

Ex-Officio

Donald D. Trunkey

REPRESENTATIVES**AMERICAN BOARD OF SURGERY**

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

AMERICAN BOARD OF PLASTIC SURGERY

Nicholas B. Vedder.....	2004-2010
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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.....	2007-2010
Susan L. Orloff.....	2008-2011

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

W. Scott Melvin	2009-2012
-----------------------	-----------

**AMERICAN COLLEGE OF SURGEONS, SURGICAL
RESEARCH COMMITTEE**

Thomas M. Krummel.....	2007-2010
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**ASSOCIATION OF AMERICAN MEDICAL COLLEGES,
COUNCIL OF ACADEMIC SOCIETIES**

William G. Cioffi	2008-2010
Linda G. Phillips	2008-2010

NATIONAL ASSOCIATION FOR BIOMEDICAL RESEARCH

Yuman Fong	2005-2010
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**FUTURE MEETINGS OF THE
AMERICAN SURGICAL ASSOCIATION**

April 14-16, 2011
Boca Raton Resort & Club
Boca Raton, Florida

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

GENERAL INFORMATION

The Fairmont in Chicago, Illinois is the headquarters of the American Surgical Association for the 130th Annual Meeting, April 8-10, 2010.

REGISTRATION: The Registration Desk for the 130th Annual Meeting is located in the Imperial Ballroom Foyer during the following hours:

Wednesday, April 7 th	2:00 p.m. – 6:00 p.m.
Thursday, April 8 th	7:00 a.m. – 5:15 p.m.
Friday, April 9 th	7:30 a.m. – 5:00 p.m.
Saturday, April 10 th	7:30 a.m. – 11:00 a.m.

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

SPEAKERS AND DISCUSSANTS: All manuscripts presented at the Scientific Sessions of the Annual Meeting must be submitted electronically to *The Annals of Surgery* at <http://www.editorialmanager.com/annsurg> prior to the presentation of the paper. The time allowed for each presentation is ten minutes. Following the presentation, the Primary Discussant will be allotted three minutes for discussion. All additional discussants will be allotted two minutes. The total amount of time provided for discussion is fifteen minutes. Please note the use of slides will NOT be permitted for discussants.

SPEAKER READY ROOM: The Speaker Ready Room is located in the Regal Room. 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. Presentations may be forwarded in advance to the ASA meetings coordinator at the Association's Administrative Office at cbeatrice@pri.com. Speaker Ready Room hours are:

Wednesday, April 7 th	2:00 p.m. – 6:00 p.m.
Thursday, April 8 th	7:00 a.m. – 5:15 p.m.
Friday, April 9 th	7:30 a.m. – 5:00 p.m.
Saturday, April 10 th	7:30 a.m. – 11:00 a.m.

MESSAGES: A Message Board is maintained in the Registration Area during registration hours. Please check it often. There is no paging in the Scientific Sessions. The following number may be used to contact the Fairmont Chicago: 312-565-8000. Please ask for the ASA Registration Desk.

BANQUET: The Annual Reception and Banquet is open to Fellows of the Association and their spouses, as well as Invited Guest Physicians and their spouses. The Reception and Banquet is scheduled for Friday, April 9th, with the reception and dinner in the International Ballroom (*black tie preferred, but dark suits are acceptable*).

SPECIAL EVENTS:

Address By the President	Thursday, April 8 th	11:00 a.m.
Forum Discussion	Friday, April 9 th	10:30 a.m.
“The Impact of Healthcare Reform on Surgery”		
Executive Session (Fellows Only)	Friday, April 9 th	4:00 p.m.
Reception & Banquet	Friday, April 9 th	7:00 p.m.

SPOUSE/GUEST HOSPITALITY: The Spouse/Guest Hospitality Suite is located in Chancellor Room from Wednesday, April 7th through Friday, April 9th. 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 utilize results presented to select appropriate surgical procedures and interventions for their own patients and 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 educational activity for a maximum of 17 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the 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.

Please refer to the Author and Faculty Disclosures on the following pages. Any disclosure information not available at press time will be included in supplemental material distributed at the Annual Meeting.

SCHEDULE AT A GLANCE

THURSDAY, APRIL 8th

8:15 a.m.	President's Opening Remarks	Imperial Ballroom
	Secretary's Welcome and Introduction of New Fellows Elected in 2009	
	President's Introduction of Honorary Fellows	
	Report of the Committee on Arrangements	
	Presentation of the Medallion for Scientific Achievement	
9:10 a.m.	Scientific Session I <i>Moderator: Donald D. Trunkey, MD</i>	Imperial Ballroom
11:00 a.m.	Address by the President <i>Donald D. Trunkey, MD</i>	Imperial Ballroom
1:30 p.m.	Scientific Session II <i>Moderator: Kirby I. Bland, MD</i>	Imperial Ballroom

FRIDAY, APRIL 9th

8:00 a.m.	Scientific Session III <i>Moderator: Donald D. Trunkey, MD</i>	Imperial Ballroom
10:30 a.m.	Forum Discussion: "The Impact of Healthcare Reform on Surgery" <i>Moderator: Donald D. Trunkey, MD</i>	Imperial Ballroom
1:30 p.m.	Scientific Session IV <i>Moderator: Tom R. DeMeester, MD</i>	Imperial Ballroom
4:00 p.m.	Executive Session <i>(Fellows Only)</i> Presentation of the Flance-Karl Award	Imperial Ballroom
7:00 p.m.	Annual Reception	International Ballroom
8:00 p.m.	Annual Banquet <i>(Black tie preferred, but dark suits are acceptable.)</i>	International Ballroom

SATURDAY, APRIL 10th

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

AMERICAN SURGICAL ASSOCIATION
130th ANNUAL MEETING
April 8-10, 2010
The Fairmont
Chicago, Illinois

PROGRAM OUTLINE

THURSDAY, APRIL 8, 2010

8:15 AM	President's Opening Remarks	Imperial Ballroom
	Secretary's Welcome & Introduction of New Fellows Elected in 2009	
	President's Introduction of Honorary Fellows	
	Report of the Committee on Arrangements	
	Presentation of the Medallion for Scientific Achievement	

9:10 AM – 11:00 AM
SCIENTIFIC SESSION I

Moderator: Donald D. Trunkey, MD

9:10 AM – 9:35 AM

1

**Local and Regional Control in Breast Cancer After Sentinel
Node Biopsy without Axillary Lymph Node Dissection:
Results From a Randomized Trial**

Armando E. Giuliano, MD¹, Linda McCall, MS^{2*},
Peter Beitsch, MD^{3*}, Pat W. Whitworth, MD^{4*},
Peter Blumencranz, MD^{5*}, Marilyn Leitch, MD^{6*},
Sukamal Saha, MD^{7*}, Kelly K. Hunt, MD⁸,
Monica Morrow, MD⁹, Karla Ballman, PhD^{10*}

¹John Wayne Cancer Institute, Santa Monica, CA; ²American
College of Surgeons Oncology Group, Durham, NC; ³Dallas
Surgical Group, Dallas, TX; ⁴Nashville Breast Center, Nashville,
TN; ⁵Morton Plant Hospital, Clear Water, FL; ⁶University of
Texas Southwestern Medical Center Surgery, Dallas, TX;
⁷McLaren Regional Medical Center, Michigan State University,
Flint, MI; ⁸MD Anderson Cancer Center, Houston, TX;
⁹Memorial Sloan-Kettering Cancer Center, New York City, NY;
¹⁰Mayo Clinic, Rochester, MN

9:35 AM – 10:00 AM

2

**Primary Fibrinolysis Is Integral in the Pathogenesis of
Acute Coagulopathy of Trauma**

Jeffrey L. Kashuk, MD^{1*}, Ernest E. Moore, MD²,
Michael Sawyer, MD^{2*}, Max Wohlauser, MD^{2*},
Carlton Barnett, MD^{2*}, Walter Biffl, MD^{2*},
Clay C. Burlew, MD^{2*}, Jeffrey L. Johnson, MD^{2*},
Angela Sauaia, MD, PhD^{2*}

¹Penn-State Hershey Medical Center and Penn State University
College of Medicine, Hershey, PA; ²Denver Health Medical
Center and University of Colorado, Denver Health Sciences
Center, Denver, CO

* By Invitation

10:00 AM – 10:25 AM**3****Early Tracking Would Improve Operative Experience of General Surgery Residents**

Steven C. Stain, MD¹, Thomas W. Biester, MS^{2*},
John B. Hanks, MD³, Stanley W. Ashley, MD⁴,
R. James Valentine, MD⁵, Barbara L. Bass, MD⁶,
Jo Buyske, MD^{2*}

¹*Albany Medical College, Albany, NY*; ²*American Board of Surgery, Philadelphia, PA*; ³*University of Virginia, Charlottesville, VA*; ⁴*Brigham and Women's Hospital, Boston, MA*; ⁵*University of Texas Southwestern Medical Center, Dallas, TX*; ⁶*The Methodist Hospital, Houston, TX*

10:25 AM – 10:50 AM**4****Is Risk Adjusted Mortality an Indicator of Quality of Care in General Surgery? A Comparison of Risk Adjustment to Peer Review**

Steven Shackford, MD, Talia Ben-Jacob, MD*,
John Ratliff, JD*, Neil Hyman, MD

University of Vermont College of Medicine, Burlington, VT

10:50 AM – 11:00 AM**Introduction of the President**

Tom R. DeMeester, MD

11:00 AM – 12:00 PM**Address by the President**

Donald D. Trunkey, MD

* By Invitation

1:30 PM – 5:15 PM**SCIENTIFIC SESSION II**

Moderator: Kirby I. Bland, MD

1:30 PM – 1:55 PM**5****Ulceration as a Predictive Marker for Response to Interferon alpha-2b Adjuvant Therapy in Melanoma Patients**

Kelly M. McMasters, MD, PhD¹, Charles R. Scoggins, MD^{1*},
Merrick I. Ross, MD², Robert C.G. Martin, II, MD, PhD^{1*},
Marshall Urist, MD³, Michael J. Edwards, MD⁴

¹*University of Louisville, Louisville, KY*; ²*University of Texas, MD Anderson Cancer Center, Houston, TX*; ³*University of Alabama, Birmingham, Birmingham, AL*; ⁴*University of Cincinnati, Cincinnati, OH*

1:55 PM – 2:20 PM**6****Stem Cell Mobilization Is Lifesaving in an Animal Model of Acute Liver Failure**

Andrew Cameron, MD, PhD*, Anthony Mark, MD*,
Daniel Warren, PhD*, G. Melville Williams, MD,
Robert Montgomery, MD*

The Johns Hopkins University School of Medicine, Baltimore, MD

* By Invitation

2:20 PM – 2:45 PM**7****Surgical Quality and Nodal Ultrastaging Is Associated with Long-Term Disease-Free Survival in Early Colorectal Cancer: An Analysis of Two International Multicenter Prospective Trials**

Anton Bilchik, MD, PhD, FACS¹, Avi Nissan, MD^{2*}, Zev Wainberg, MD^{1*}, Perry Shen, MD^{3*}, Martin McCarter, MD^{4*}, Mladjan Protic, MD^{5*}, Robin Howard, MA^{6*}, David Elashoff, PhD^{1*}, George Peoples, MD^{6*}, Alexander Stojadinovic, MD^{6*}

¹University of California Los Angeles, Los Angeles, CA; ²Hadassah University, Jerusalem, Israel; ³Wake Forest University, Winston Salem, NC; ⁴University of Colorado, Denver, CO; ⁵University of Novi Sad, Novi Sad, Serbia; ⁶Uniformed Services University of the Health Sciences, Washington, DC

2:45 PM – 3:10 PM**8****The Efficacy of Medical Team Training: Improved Team Performance and Decreased Perioperative Delays – A Detailed Analysis of 3,580 Cases**

Francis A. Wolf, MD^{1*}, Lawrence W. Way, MD², Lygia Stewart, MD^{1*}

¹UCSF/SF VAMC, San Francisco, CA; ²UCSF, San Francisco, CA

* By Invitation

3:10 PM – 3:35 PM**9****A Validated Value-Based Model to Improve Hospital-Wide Perioperative Outcomes**

Thanjavur S. Ravikumar, MD¹, Cordelia Sharma, MD^{1*}, Garry Ritter, PAC^{2*}, Corrado Marini, MD^{1*}, Rafael Barrera, MD^{2*}, Mimi Kim, ScD^{3*}, Kathy Vandervoort, BS^{4*}, Marcella DeGermino, MS^{2*}, Lindsay Baker, BS^{4*}, Peter Levi, MD^{4*}

¹Geisinger Health System, Wilkes-Barre, PA; ²LIJ Medical Center, New Hyde Park, NY; ³Albert Einstein College of Medicine, Bronx, NY; ⁴Montefiore Medical Center, Bronx, NY

3:35 PM – 4:00 PM**10****TeP Inguinal Hernia Repair Compared with Lichtenstein (The Level-Trial): A Randomised Controlled Trial**

H.H. Eker, MD^{1*}, H.R. Langeveld, MD^{1*}, W.F. Weidema, MD, PhD^{2*}, L.P.S. Stassen, MD, PhD^{3*}, E.W. Steyerberg, MD, PhD^{1*}, H.J. Bonjer, MD, PhD^{1*}, J.F. Lange, MD, PhD^{1*}, J. Jeekel, MD, PhD¹

¹Erasmus Medical Center, Rotterdam, Rotterdam, Netherlands; ²Ikazia Ziekenhuis, Rotterdam, Rotterdam, Netherlands; ³Reinier de Graaf gasthuis, Delft, Netherlands

4:00 PM – 4:25 PM**11****HuR Status Is a Powerful Marker for Prognosis and Response to Chemotherapy for Resected Pancreatic Ductal Adenocarcinoma Patients**

Nathan G. Richards, MD*, Agnes K. Witkiewicz, MD*, Christina L. Costantino, BA*, Dane R. Grenda, BS*, David W. Rittenhouse, MD*, Eugene P. Kennedy, MD*, Jonathan R. Brody, PhD*, **Charles J. Yeo, MD**

Thomas Jefferson University, Philadelphia, PA

* By Invitation

4:25 PM – 4:50 PM**12****Segmental Instead of Total Colectomy in Colon Cancer Patients Meeting Amsterdam Criteria: It's Not Worth the Metachronous Risk****Matthew F. Kalady, MD***, Ellen McGannon, BS*,
Jon D. Vogel, MD*, Susan Fay, BS*, Victor W. Fazio, MD,
James M. Church, ChB, MS*Cleveland Clinic, Cleveland, OH***4:50 PM – 5:15 PM****13****A Statewide Assessment of Surgical Site Infection (SSI) Following Colectomy: The Role of Oral Antibiotics****Michael J. Englesbe, MD^{1*}**, Martin A. Luchtefeld, MD^{2*},
James Kubus, MS^{1*}, James P. Lynch, MD^{3*}, Vic Velanovich, MD⁴,
Anthony J. Senagore, MD^{2*}, John C. Eggenberger, MD^{4*},
Lynda Brooks, RN^{1*}, Darrell A. Campbell, Jr., MD¹*¹University of Michigan, Ann Arbor, MI; ²Spectrum Health Medical Center, Grand Rapids, MI; ³William Beaumont Hospital, Troy, MI; ⁴Henry Ford Health System, Detroit, MI;
⁴St Joseph's Mercy Health System, Ann Arbor, MI*

* By Invitation

FRIDAY, APRIL 9, 2010**8:00 AM – 10:30 AM****SCIENTIFIC SESSION III***Moderator: Donald D. Trunkey, MD***8:00 AM – 8:25 AM****14****Acute Glucose Elevation Is Highly Predictive of Infection and Outcome in Critically Injured Trauma Patients****Grant Bochicchio, MD, PhD***, Kelly Bochicchio, RN, MS*,
Manjari Joshi, MD*, Obeid Ilahi, MD*, Thomas Scalea, MD*University of Maryland, Baltimore, MD***8:25 AM – 8:50 AM****15****Glucose Control in Severely Thermally Injured Pediatric Patients: What Glucose Range Should Be the Target?****Marc G. Jeschke, MD***, Robert Kraft, MD*,
Fatemeh Emdad, PhD*, Gabriela A. Kulp, MS*,
Felicia N. Williams, MD*, David N. Herndon, MD*UTMB, Galveston, TX***8:50 AM – 9:15 AM****16****A National Study of Attrition During General Surgery Training: Which Residents Leave, and Where Do They Go?****Heather Yeo, MD^{1*}**, Emily Bucholz, BA^{1*}, Julie Ann Sosa, MD^{1*},
Leslie Curry, PhD, MPH^{1*}, Frank R. Lewis, MD, Jr.²,
Andrew T. Jones, PhD^{2*}, Kate Viola, MD^{1*}, Zhenqui Lin, PhD^{1*},
Richard H. Bell, Jr., MD²*¹Yale University, New Haven, CT; ²American Board of Surgery, Philadelphia, PA*

* By Invitation

9:15 AM – 9:40 AM**17****Prevention of Surgical Resident Attrition By a Novel Selection Strategy**

Rachel R. Kelz, MD, MSCE*, James L. Mullen, MD,
Larry R. Kaiser, MD, Lori A. Pray, BA*, Gregg Shea, MBA*,
Jeff A. Drebin, MD, Chris J. Wirtalla, BA*, Jon B. Morris, MD
*Department of Surgery, University of Pennsylvania,
Philadelphia, PA*

9:40 AM – 10:05 AM**18****Primary Payer Status Affects Mortality for Major Surgical Operations**

Damien J. LaPar, MD*, Castigliano M. Bhamidipati, DO*,
Carlos M. Mery, MD, MPH*, George J. Stukenborg, PhD*,
David R. Jones, MD, Bruce D. Schirmer, MD, Irving L. Kron, MD,
Gorav Ailawadi, MD*
University of Virginia, Charlottesville, VA

10:05 AM – 10:30 AM**19****Hospital Factors Do Not Explain Away Socioeconomic-Based Disparities in Surgical Outcomes**

Kyla M. Bennett, MD*, John E. Scarborough, MD*,
Theodore N. Pappas, MD, Thomas B. Kepler, PhD*
Duke University Medical Center, Durham, NC

* By Invitation

10:30 AM – 12:00 PM**FORUM DISCUSSION****The Impact of Healthcare Reform on Surgery**

Moderator: Donald D. Trunkey, MD

Richard A. Cooper, MD*

*University of Pennsylvania
Philadelphia, PA*

George F. Sheldon, MD

*University of North Carolina at Chapel Hill
Chapel Hill, NC*

* By Invitation

1:30 PM – 4:00 PM

SCIENTIFIC SESSION IV

Moderator: Tom R. DeMeester, MD

1:30 PM – 1:55 PM

20

Management of Diseases of the Descending Thoracic Aorta in the Endovascular Era: A Medicare Population Study

Mark F. Conrad, MD*, Emel A. Ergul, MS*,
Virendra I. Patel, MD*, Christopher J. Kwolek, MD*,
Richard P. Cambria, MD

Massachusetts General Hospital, Boston, MA

1:55 PM – 2:20 PM

21

Bariatric Surgery Is Safe and Effective Treatment for Diabetes in Non-Morbidly Obese Patients: Results Reported By ASMBS Bariatric Surgery Centers of Excellence (BSCOE) in Bariatric Outcomes Longitudinal Database (BOLD)

Eric J. DeMaria, MD^{1*}, Deborah Winegar, PhD^{2*},
Virginia Pate, MS^{2*}, Quinn Swanger, MS^{2*}, Walter J. Pories, MD³

¹Duke University, Durham, NC; ²Surgical Review Corporation, Raleigh, NC; ³East Carolina University, Greenville, NC

2:20 PM – 2:45 PM

22

A Clinical Nomogram Predicting Pathologic Lymph-Node Involvement in Esophageal Cancer Patients

Puja Gaur, MD^{1*}, Boris Sepesi, MD^{2*},
Wayne L. Hofstetter, MD^{1*}, Arlene M. Correa, MD^{1*},
Manoop S. Bhutani, PhD^{1*}, Jack A. Roth, MD¹,
Ara A. Vaporciyan, MD^{1*}, Jeffrey H. Peters, MD²,
Thomas J. Watson, MD^{2*}, Stephen G. Swisher, MD¹

¹UT MD Anderson Cancer Center, Houston, TX; ²University of Rochester School of Medicine, Rochester, NY

* By Invitation

2:45 PM – 3:10 PM

23

Determinants of Embolization During Carotid Angioplasty and Stenting: Symptomaticity and Coronary Artery Disease Increase Embolic Risk

Christine Chung, BS*, Tejas Shah, MD*, Hyun Joo Shin, MD*,
Michael Marin, MD, Peter Faries, MD*

Mount Sinai School of Medicine, New York, NY

3:10 PM – 3:35 PM

24

Identification of E-Selectin as a Novel Target for the Regulation of Post-Natal Neovascularization: Implications for Diabetic Wound Healing

Zhao-Jun Liu, MD, PhD*, Runxia Tian, MD*, Weijun An, MD*,
Ying Zhuge, MD*, Yan Li, BS*, Hongwei Shao, MD*,
Bianca Habib, BS*, Alan S. Livingstone, MD,
Omaida C. Velazquez, MD*

University of Miami, Miami, FL

3:35 PM – 4:00 PM

25

Impact of Hospital Volume on In-Hospital Mortality of Children Undergoing Repair of Congenital Diaphragmatic Hernia

Brian T. Bucher, MD^{1*}, Rebecca M. Guth, MPH^{2*},
Jacqueline M. Saito, MD^{1*}, Tasnim A. Najaf, MD^{1*},
Brad W. Warner, MD¹

¹Washington University School of Medicine, St. Louis, MO;
²St. Louis Children's Hospital, St. Louis, MO

* By Invitation

4:00 PM – 5:00 PM

EXECUTIVE SESSION

Fellows Only

Presentation of the Flance-Karl Award

7:00 PM ANNUAL RECEPTION

8:00 PM ANNUAL BANQUET

SATURDAY, APRIL 10, 2010

8:00 AM – 11:00 AM

SCIENTIFIC SESSION V

Moderator: New President- Elect

8:00 AM – 8:25 AM

26

Circulating Thyrotropin Receptor (TSHR) mRNA as a Novel Marker of Thyroid Cancer: Clinical Applications Learned From 1,758 Samples

Mira Milas, MD*, Joyce Shin, MD*, Manjula Gupta, PhD*, Tomislav Novosel, MD*, Christian Nasr, MD*, Jamie Mitchell, MD*, Eren Berber, MD*, Allan Siperstein, MD

Cleveland Clinic, Cleveland, OH

8:25 AM – 8:50 AM

27

Long-Term Patient Outcome and Quality of Life After Liver Transplantation: A Prospective Analysis of 20-Plus Year Survivors

John P. Duffy, MD*, Kenneth Kao, MD*, Clifford Ko, MD, Douglas G. Farmer, MD*, Sue V. McDiarmid, MD*, Robert S. Venick, MD*, Susan Feist, RN*, Leonard Goldstein, MD*, Jonathan R. Hiatt, MD, **Ronald W. Busuttil, MD, PhD**

UCLA, Los Angeles, CA

8:50 AM – 9:15 AM

28

Combinatorial Effect of Donor and Recipient Age Is Critical in Determinating Host Immunoresponsiveness and Renal Transplant Outcome

Stefan G. Tullius, MD, PhD*, Huong Tran, MD*, Indira Guleria, MD*, Sayeed K. Malek, MD*, Nicholas L. Tilney, MD, Edgar Milford, MD*

Brigham and Women's Hospital and Harvard Medical School, Boston, MA

* By Invitation

9:15 AM – 9:40 AM**29****Analysis of Over 3,000,000 Patients Screened for Abdominal Aortic Aneurysm: Development of a Novel Scoring Tool for the Identification of Large >5 cm Aneurysms**

Giampaolo Greco, PhD, MPH^{1*}, Natalia N. Egorova PhD, MPH^{1*}, Robert M. Zwolak PhD, MPH^{2*}, Thomas S. Riles, MD³, Andrew J. Manganaro, MD^{4*}, Alan J. Moskowitz, MD^{1*}, Annetine C. Gelijns, PhD^{1*}, K. Craig Kent, MD⁵

¹Mount Sinai School of Medicine, New York, NY;

²Dartmouth-Hitchcock Medical Center, Lebanon, NH; ³NYU Langone Medical Center, New York, NY; ⁴Life Line Screening, Independence, OH; ⁵University of Wisconsin, Madison, WI

9:40 AM – 10:05 AM**30****Choledochoceles: Are They Choledochal Cysts?**

Kathryn M. Ziegler, MD*, Henry A. Pitt, MD, **Nicholas J. Zyromski, MD***, Aakash Chauhan, MS*, Stuart Sherman, MD*, Glen A. Lehman, MD*, Keith D. Lillemoe, MD, Frederick J. Rescorla, MD, Karen W. West, MD*, Jay L. Grosfeld, MD

Indiana University School of Medicine, Indianapolis, IN

10:05 AM – 10:30 AM**31****Operative Failures After Parathyroidectomy for Hyperparathyroidism: The Influence of Surgical Volume**

Herbert Chen, MD¹, Tracy Wang, MD, MP^{2*}, Tina Yen, MD, MS^{2*}, Kara Doffek, BS^{2*}, Elizabeth Krzywda, NP^{2*}, Sarah Schaefer, NP^{1*}, Rebecca S. Sippel^{1*}, Stuart Wilson, MD²

¹University of Wisconsin, Madison, WI; ²Medical College of Wisconsin, Milwaukee, WI

* By Invitation

10:30 AM – 10:55 AM**32****Normothermia After Gastrointestinal Surgery: Holy Grail or False Idol?**

Simon J. Lehtinen, BA*, Georgiana Onicescu, ScM*, Kathy Kuhn, RN*, **David J. Cole, MD**, Nestor F. Esnaola, MD*

Medical University of South Carolina, Charleston, SC

11:00 AM ADJOURN

* By Invitation

PROGRAM DETAIL AND ABSTRACTS

THURSDAY MORNING, APRIL 8th8:15 AM
Imperial Ballroom

President's Opening Remarks

Secretary's Welcome and Introduction of
New Fellows Elected in 2009

President's Introduction of Honorary Fellows

Report of the Committee on Arrangements

Presentation of the Medallion for Scientific
Achievement

THURSDAY MORNING, APRIL 8th, CONTINUED9:10 AM – 11:00 AM
Imperial Ballroom

SCIENTIFIC SESSION I

Moderator: Donald D. Trunkey, MD

1

**Local and Regional Control in Breast Cancer After Sentinel
Node Biopsy without Axillary Lymph Node Dissection:
Results From a Randomized Trial**

Armando E. Giuliano, MD¹, Linda McCall, MS^{2*},
Peter Beitsch, MD^{3*}, Pat W. Whitworth, MD^{4*},
Peter Blumencranz, MD^{5*}, Marilyn Leitch, MD^{6*},
Sukamal Saha, MD^{7*}, Kelly K. Hunt, MD⁸,
Monica Morrow, MD⁹, Karla Ballman, PhD^{10*}

¹John Wayne Cancer Institute, Santa Monica, CA; ²American
College of Surgeons Oncology Group, Durham, NC; ³Dallas
Surgical Group, Dallas, TX; ⁴Nashville Breast Center, Nashville,
TN; ⁵Morton Plant Hospital, Clear Water, FL; ⁶University of
Texas Southwestern Medical Center Surgery, Dallas, TX;
⁷McLaren Regional Medical Center, Michigan State University,
Flint, MI; ⁸MD Anderson Cancer Center, Houston, TX;
⁹Memorial Sloan-Kettering Cancer Center, New York City, NY;
¹⁰Mayo Clinic, Rochester, MN

Objective: Sentinel node biopsy (SNB) revolutionized the management of breast cancer by eliminating the need for axillary dissection (ALND) in patients whose sentinel node (SN) is tumor-free. Completion ALND for patients with tumor-involved SN remains the standard to achieve loco-regional control. Few studies have examined the outcome of patients who do not undergo ALND for positive SN. We now report local and regional recurrence in H&E-node-positive women after SNB alone compared to those treated with ALND.

Methods: ACOSOG Z0011 is a prospective randomized trial examining survival of patients with SN metastases detected by standard H&E and treated with and without ALND or axillary radiation. Local and regional recurrence was evaluated.

* By Invitation

Results: 446 patients were randomized to SNB alone and 445 to SNB + ALND. Patients with SNB alone were similar to those with SNB + ALND with respect to age, Bloom-Richardson score, estrogen receptor status, the use of adjuvant systemic therapy, tumor type, T stage, and tumor size. Patients randomized to SNB + ALND had a median of 17 axillary nodes removed compared to a median of only 2 SN removed with SNB only ($p < .001$). ALND also removed more involved nodes ($p < .001$). Median follow-up was 5.9 years. Neither differences in local recurrence ($p < .169$) nor regional recurrence ($p < .443$) were statistically significant between the two groups.

Conclusion: Despite the potential of residual disease in the axilla, SNB alone can offer excellent regional control and may be reasonable management for selected patients with breast cancer.

2

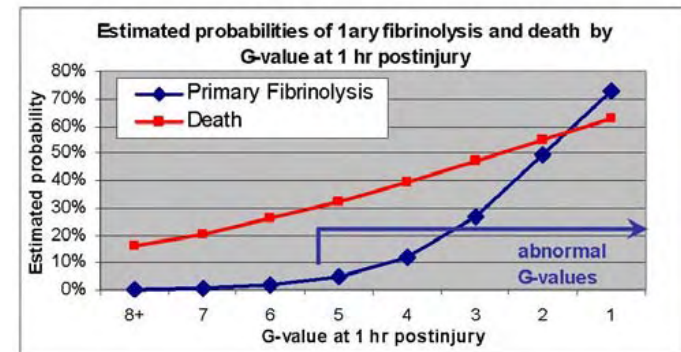
Primary Fibrinolysis Is Integral in the Pathogenesis of Acute Coagulopathy of Trauma

Jeffrey L. Kashuk, MD^{1*}, Ernest E. Moore, MD², Michael Sawyer, MD^{2*}, Max Wohlauer, MD^{2*}, Carlton Barnett, MD^{2*}, Walter Biffl, MD^{2*}, Clay C. Burlew, MD^{2*}, Jeffrey L. Johnson, MD^{2*}, Angela Sauaia, MD, PhD^{2*}

¹Penn-State Hershey Medical Center and Penn State University College of Medicine, Hershey, PA; ²Denver Health Medical Center and University of Colorado, Denver Health Sciences Center, Denver, CO

Objective(s): The existence of primary fibrinolysis (PF) and a defined mechanistic link to the “Acute Coagulopathy of Trauma” is controversial. Rapid thrombelastography (r-TEG) offers point of care comprehensive assessment of coagulation. We hypothesized that PF occurs early in shock, leading to postinjury coagulopathy, and ultimately hemorrhage related death.

Methods: Consecutive patients over 14 months at risk for postinjury coagulopathy were stratified by transfusion requirements into massive (MT), >10 units/6 hours ($n = 32$), moderate (Mod), 5–9 units/6 hours ($n = 15$) and minimal (Min), <5 units/6 hours ($n = 14$). r-TEG was performed by adding tissue factor to uncitrated whole blood. Estimated percent lysis (EPL) was categorized as PF with >15% EPL. Coagulopathy was defined as clot strength = $G < 5.3$ dynes/cm². Logistic regression defined independent predictors of PF.



* By Invitation

Results: 34% of patients requiring MT had PF, which was associated with lower systolic blood pressure, temperature, and worse base deficit/pH/lactate ($p < 0.0001$). Mortality correlated significantly with PF ($p = 0.026$); occurred early (median 58 min, IQR 1.2 min-95.9 min); and every one unit drop in G increased the risk of PF by 30%, and death by over 10% (Figure).

Conclusions: Our results confirm the existence of PF as detected by r-TEG in severely injured patients. It occurs early (<1 hour) and is associated with massive transfusion requirements, coagulopathy, and hemorrhage related death. These data warrant renewed emphasis on early diagnosis and treatment of fibrinolysis in this cohort.

3

Early Tracking Would Improve Operative Experience of General Surgery Residents

Steven C. Stain, MD¹, Thomas W. Biester, MS^{2*}, John B. Hanks, MD³, Stanley W. Ashley, MD⁴, R. James Valentine, MD⁵, Barbara L. Bass, MD⁶, Jo Buyske, MD^{2*}

¹Albany Medical College, Albany, NY; ²American Board of Surgery, Philadelphia, PA; ³University of Virginia, Charlottesville, VA; ⁴Brigham and Women's Hospital, Boston, MA; ⁵University of Texas Southwestern Medical Center, Dallas, TX; ⁶The Methodist Hospital, Houston, TX

Objective(s): High surgical complexity and individual career goals has led most general surgery (GS) residents to pursue fellowship training, resulting in a shortage of surgeons who practice broad based general surgery. We hypothesize that early tracking of residents would improve operative experience of residents planning to be general surgeons, and could foster greater interest and confidence in this career path.

Methods: Operative data from GS and fellowship bound residents (FB) applying for the 2008 American Board of Surgery Qualifying Exam (QE) was used to construct a hypothetical training model with 6 months of early specialization (ESP) for FB residents in 4 specialties (cardiac, vascular, colorectal, pediatric); and presumed these cases would be available to GS residents within the same program.

Operation	GS Experience	1/2 FB Chief Cases	Total #	(%increase)
Mastectomy	21.7	1.4	23.1	(6.5%)
Colon resection	63.0	14.3	77.3	(22.8%)
Gastrectomy	9.4	2.2	11.6	(23.4%)
Antireflux procedure	7.7	1.8	9.5	(23.4%)
Pancreatic resection	9.1	3.4	12.5	(37.4%)
Liver resection	8.2	2.4	10.6	(29.3%)
Endocrine procedures	35.2	6.9	42.1	(19.6%)
Trauma operations	33.7	4.5	38.2	(13.4%)
GI endoscopy	66.0	4.3	71.3	(6.5%)

* By Invitation

Results: 142 training programs had both FB residents (n = 237) and GS residents (n = 402), and represented 70% of all 2008 QE applicants. GS residents completed a mean of 1091 cases during residency and FB residents performed a mean of 252 cases in the chief year, theoretically making 126 cases available for each GS resident. GS experience and FB Chief are means case #'s; and Total # is the predicted 5 yr GS case volume if ESP was adopted in these programs.

Conclusions: The ESP model improves operative experience of GS residents, particularly for complex gastrointestinal procedures. The expansion of subspecialty ESP should be considered.

4

Is Risk Adjusted Mortality an Indicator of Quality of Care in General Surgery? A Comparison of Risk Adjustment to Peer Review

Steven Shackford, MD, Talia Ben-Jacob, MD*,
John Ratliff, JD*, Neil Hyman, MD

University of Vermont College of Medicine, Burlington, VT

Objective(s): Profiling of hospitals using risk-adjusted mortality rates as a measure of quality is becoming increasingly frequent. We aimed to determine the validity of this approach by comparing the risk adjusted predicted mortality to the findings of concurrent peer review and retrospective chart review of deaths that occur on a general surgery service.

Methods: Consecutive patients admitted to a busy general surgery service from 1/00–1/06 were prospectively entered into the Surgical Activity Tracking System. Rigorous, systematic peer review was performed concurrently by service members on all deaths. Adjudication was later validated by an independent senior surgeon. Three methodologies of risk adjustment (University Health Consortium [UHC], Physiological and Operative Severity Score for the enUmeration of Mortality [POSSUM], and the Charlson index) and compared the “excess mortality” predicted by each to the number of potentially preventable deaths determined by peer review.

Results: 9623 patients were admitted and 75 died (0.7%). UHC and POSSUM predicted an excess mortality of 62 and 65 deaths, respectively; Charlson predicted that 73% of the cohort would be dead in 1 year. Concurrent and retrospective peer review found that death was potentially preventable in only 22 and 21 patients, respectively.

Conclusions: Peer adjudication and extensive clinical review adds much to the analysis of an adverse outcome, similar to the “black box” in an airplane crash. While methods of risk adjustment may be helpful in identifying patients for peer review, they should be used for internal process improvement and not published as metrics of hospital or provider performance.

* By Invitation

THURSDAY MORNING, APRIL 8th, CONTINUED

10:50 AM – 11:00 AM
Imperial Ballroom

Introduction of the President

Tom R. DeMeester, MD

11:00 AM – 12:00 PM
Imperial Ballroom

Address by the President

Donald D. Trunkey, MD

THURSDAY AFTERNOON, APRIL 8th

1:30 PM – 5:15 PM
Imperial Ballroom

SCIENTIFIC SESSION II

Moderator: Kirby I. Bland, MD

5

Ulceration as a Predictive Marker for Response to Interferon alpha-2b Adjuvant Therapy in Melanoma Patients

Kelly M. McMasters, MD, PhD¹, Charles R. Scoggins, MD^{1*}, Merrick I. Ross, MD², Robert C.G. Martin, II, MD, PhD^{1*}, Marshall Urist, MD³, Michael J. Edwards, MD⁴

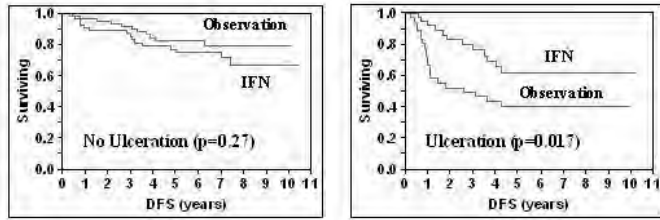
¹University of Louisville, Louisville, KY; ²University of Texas, MD Anderson Cancer Center, Houston, TX; ³University of Alabama, Birmingham, Birmingham, AL; ⁴University of Cincinnati, Cincinnati, OH

Objective(s): Several studies have demonstrated that adjuvant therapy of high-risk melanoma patients with interferon alfa-2b (IFN) improves disease-free survival (DFS), although the impact on overall survival (OS) is controversial. Recent data have suggested that IFN therapy may preferentially benefit patients with ulcerated primary tumors.

Methods: Post-hoc analysis was performed of a prospective multi-institutional randomized study of observation vs. adjuvant IFN therapy for melanoma. Patients were stratified by Breslow thickness, ulceration and nodal status. Kaplan-Meier analysis of disease-free survival (DFS) and overall survival (OS), univariate and multivariate analyses were performed.

Results: A total of 1770 patients were analyzed (1311 without ulceration, 459 with ulceration) with a median f/u of 70 months. Overall, IFN treatment was not associated with significant improvement in DFS or OS in either SLN-negative or positive patients. However, among node-positive patients randomized to observation vs. IFN therapy (N = 217), there was a significant improvement in DFS only among patients with ulcerated tumors.

* By Invitation



IFN therapy had no significant impact on OS regardless of ulceration status, however. On multivariate analysis, IFN treatment was a significant independent predictor of DFS among ulcerated patients (OR 0.65, $p = 0.0012$), but not among patients without ulceration.

Conclusions: These data support the conclusion that ulceration is a predictive marker for response to adjuvant IFN therapy. Future studies should evaluate the differential effect of IFN on patients with ulcerated melanomas.

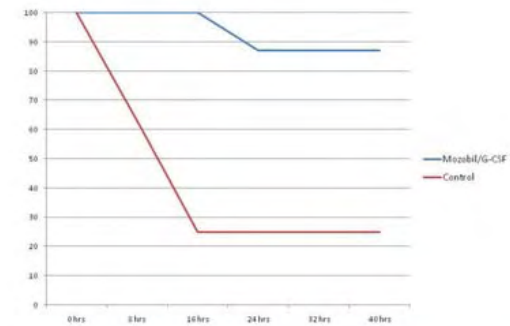
6 Stem Cell Mobilization Is Lifesaving in an Animal Model of Acute Liver Failure

Andrew Cameron, MD, PhD*, Anthony Mark, MD*, Daniel Warren, PhD*, G. Melville Williams, MD, Robert Montgomery, MD*

The Johns Hopkins University School of Medicine, Baltimore, MD

Objective(s): No therapy except liver transplantation currently exists for patients with Acute Liver Failure (ALF). Our laboratory studies stem cells in liver disease and our aim was to examine whether stem cell mobilization would aid in liver repair and survival benefit in an animal model of ALF.

Methods: Mice were treated with a single near-lethal intraperitoneal injection of carbon tetrachloride (CCl_4). Twelve hours later mice were randomized to receive either Mozibil and G-CSF (agents known to mobilize marrow derived stem cells) or saline vehicle injection. Mice were followed for survival as well as evidence of liver injury by transaminase level and histopathology.



Survival after near-lethal CCl_4 liver injury in mice treated with Stem cell mobilizing agents vs Control treatment

* By Invitation

Results: With control treatment only 25% of animals were alive within 2 days of CCl₄ exposure, consistent with our established near-lethal model of ALF. In contrast, the group that received treatment with agents that mobilize stem cells displayed 87% survival (n = 8, p < 0.05).

Conclusions: Our results demonstrate a possible therapy for patients with Acute Liver Failure, a group for whom liver transplant or death are often the only alternatives. This therapy exerts its action via mobilization of marrow derived stem cells which participate in liver recovery. This process may help avoid liver transplant in patients with acute liver failure and aid a wide variety of medical and surgical patients with liver injury.

7

Surgical Quality and Nodal Ultrastaging Is Associated with Long-Term Disease-Free Survival in Early Colorectal Cancer: An Analysis of Two International Multicenter Prospective Trials

Anton Bilchik, MD, PhD, FACS¹, Avi Nissan, MD^{2*}, Zev Wainberg, MD^{1*}, Perry Shen, MD^{3*}, Martin McCarter, MD^{4*}, Mladjan Protic, MD^{5*}, Robin Howard, MA^{6*}, David Elashoff, PhD^{1*}, George Peoples, MD^{6*}, Alexander Stojadinovic, MD^{6*}

¹University of California Los Angeles, Los Angeles, CA; ²Hadassah University, Jerusalem, Israel; ³Wake Forest University, Winston Salem, NC; ⁴University of Colorado, Denver, CO; ⁵University of Novi Sad, Novi Sad, Serbia; ⁶Uniformed Services University of the Health Sciences, Washington, DC

Objective: The National Quality Forum has endorsed a 12 lymph node (LN) minimum as a surrogate measure of quality in colorectal cancer (CRC). The prognostic value of ultrastaging hematoxylin and eosin (H&E) negative LN's (N0) using cytokeratin immunohistochemistry (CK-IHC) is unknown. We hypothesized that both surgical quality and focused pathology analysis improves survival.

Methods: Between 2001 and 2007, 253 evaluable patients with resectable CRC were enrolled. Multiple sectioning and CK-IHC was performed on N0 LN's (stage II). The primary end-point was four-year disease free survival (DFS).

Four Year DFS Based on AJCC Stage and LN Number

Stage	N	<12LN's	>12LN's	P*
I	68	92%	98%	0.22
II	91	71%	95%	0.0083
III	94	70%	70%	0.72

* log rank test

* By Invitation

Results: There were 177 (70%) patients with N0 and 76 (30%) with N1 disease. Using ultrastaging in N0 patients, 36 (20%) were found to have micrometastases (MM). At a mean follow up of 3.4 years (± 1.6), 39 (15%) have recurred. The recurrence rate was only 3.7% in patients >12 LN's, negative by H&E and IHC, compared to 18.8% with <12 LN's ($P^* = 0.0032$).

Conclusion: This represents the first prospective report demonstrating that both surgical quality and nodal ultrastaging impacts survival in Stage II CRC. Patients with Stage II CRC with >12 LN's negative for MM (N0i-) are likely cured by surgery alone. Both surgical and pathological quality measures are imperative in early CRC in order to improve patient selection for adjuvant chemotherapy.

8

The Efficacy of Medical Team Training: Improved Team Performance and Decreased Perioperative Delays – A Detailed Analysis of 3,580 Cases

Francis A. Wolf, MD^{1*}, Lawrence W. Way, MD²,
Lygia Stewart, MD^{1*}

¹UCSF/SF VAMC, San Francisco, CA; ²UCSF, San Francisco, CA

Objective(s): Medical Team Training (MTT) has been touted as a way to improve teamwork and patient safety in the operating room(OR). This study was designed to determine whether MTT actually has tangible benefits.

Methods: OR personnel (surgeons, anesthesiologists, nurses) completed a one-day intensive MTT training. A standardized briefing/debriefing/perioperative routine was developed, including documentation of OR miscues, delays, and defined case score (1–5) assigned by the team. A multi-disciplinary committee reviewed and rectified any systems problems identified. Debriefing items were analyzed comparing baseline data with 12 and 20-month follow-up. A safety attitudes questionnaire was administered at baseline and one year.

Results: 3,580 MTT debriefings were analyzed. One year following MTT, case delays decreased(23% to 9%, $p = 0.001$), mean case score increased (4.07 to 4.87, $p < 0.0005$); both changes were sustained at 20 months. One-year and 20-month follow-up data demonstrated decreased frequency of preoperative delays (16% to 8%, $p = 0.03$), hand-off issues (5.4% to 0.3%, $p = 0.022$), equipment issues/delays (24% to 6%, $p < 0.0005$), cases with low (<3) conduct scores (23% to 3%, $p < 0.0005$); and timing of prophylactic antibiotic administration improved (85% to 97%, $p < 0.0001$). Surveys documented perception of improved teamwork and patient safety. A major systems issue regarding preoperative medication orders was identified and corrected.

Conclusions: MTT produced sustained improvement in OR team function, including decreased delays and improved case scores. When combined with a high-level debriefing/problem-solving process, MTT can be a foundation for improving OR performance. This is the largest case analysis of MTT and one of the few to document an impact of MTT on objective measures of operating room function and patient safety.

* By Invitation

9

A Validated Value-Based Model to Improve Hospital-Wide Perioperative Outcomes

Thanjavur S. Ravikumar, MD¹, Cordelia Sharma, MD^{1*},
Garry Ritter, PAC^{2*}, Corrado Marini, MD^{1*},
Rafael Barrera, MD^{2*}, Mimi Kim, ScD^{3*},
Kathy Vandervoort, BS^{4*}, Marcella DeGermino, MS^{2*},
Lindsay Baker, BS^{4*}, Peter Levi, MD^{4*}

¹Geisinger Health System, Wilkes-Barre, PA; ²LIJ Medical Center, New Hyde Park, NY; ³Albert Einstein College of Medicine, Bronx, NY; ⁴Montefiore Medical Center, Bronx, NY

Objective(s): We hypothesized that building safe hospital systems to improve value-based surgical outcomes is predicated on workflow redesign for dynamic risk stratification, coupled with “real time” mitigation of risk.

Methods: Prospective implementation of “Surgical Continuum of Care”.

(SCoC) Model: Interdisciplinary team rounds, acuity stratified care rounding based on dynamic risk score, intensivist/hospitalist co-management of surgical patients and targeted response.

Study: Pre-and Post-intervention with concurrent cohort control design.

Setting: Academic Medical Centers.

Patient Groups: Pilot Study – Campus A: Pre-intervention Control Group (PCG) 1998–2000, Intervention Group (IG) 2001–2004; Campus B: Comparator Control Group (CCG) 1998–2004. Validation Study – Campus C: Pre-intervention Group (PG-V) 2001–2005; Intervention Group (IG-V) 2006–2008. Metrics: Mortality, Length of Stay (LOS): overall, SICU and Progressive Care Unit (PCU). Case Mix Index (CMI) for risk adjustment Select cost reports. Analysis: Regression, ANOVA, Fischer, chisquare, student t-test.

Results: See table. Total >100,000 admissions. CMI unchanged during study in each campus. SICU, PCU and total hospital patient-days significantly decreased in IG group ($p < 0.05$) reflecting enhanced throughput. In addition to decreased LOC, cost savings were in PCU (\$1.74M/yr) and top DRGs (e.g.) \$452K/yr. Nested study in validation cohort of hospital wide vs. surgery alone (observed/expected mortality index) demonstrated significant benefit to SCoC.

Conclusions: SCoC is patient-centered, outcomes-driven, value-based approach for hospital wide surgical patient safety. The principles of this value paradigm are adaptable to other hospitals.

* By Invitation

PILOT STUDY

VARIABLE	IG	PCG	P VALUE
Overall Mortality*	232/21,838 (1.0%)	243/17,256 (1.4%)	0.002
PCU Mortality	17/3693 (0.4%)	35/2181 (1.6%)	0.0001
SICU Mortality	127/1587 (8.0%)	134/1434 (9.3%)	0.19
SICULOS	4.4 ± 4.6	4.5 ± 4.3	0.52
PCULOS	2.7 ± 1.7	3.7 ± 2.0	0.0001

* No Δ in mortality @ CCG, 1.25% vs 1.20% (p=ns)

VALIDATION STUDY

VARIABLE	PG-V	IG-V	P VALUE
Overall Mortality	436/22,067 (1.97%)	191/11,934 (1.60%)	<0.02
Hosp/Surg	1.26/1.16	1.1/0.85	<0.01
LOS	Actual > Budget 0.4 d	Actual < Budget 0.65 d	<0.01

10

Tep Inguinal Hernia Repair Compared with Lichtenstein (The Level-Trial): A Randomised Controlled Trial

H.H. Eker, MD^{1*}, H.R. Langeveld, MD^{1*},
W.F. Weidema, MD, PhD^{2*}, L.P.S. Stassen, MD, PhD^{3*},
E.W. Steyerberg, MD, PhD^{1*}, H.J. Bonjer, MD, PhD^{1*},
J.F. Lange, MD, PhD^{1*},
J. Jeekel, MD, PhD¹

¹Erasmus Medical Center, Rotterdam, Rotterdam, Netherlands;

²Ikazia Ziekenhuis, Rotterdam, Rotterdam, Netherlands;

³Reinier de Graaf gasthuis, Delft, Netherlands

Objective(s): Comparison of minimally invasive versus open inguinal hernia repair. Although mesh repair is generally preferred for surgical correction of inguinal hernia, it is still debated whether open or endoscopic techniques should be used. In this study, the most common technique for open mesh repair (Lichtenstein) was compared with the currently preferred minimally invasive technique (total extra peritoneal, TEP).

Methods: In this multi center trial, 660 patients were randomised to either Lichtenstein or TEP. Primary outcome was postoperative pain. Recurrences, complications, operating time, hospital stay, period until complete recovery, QoL, chronic pain and costs were secondary endpoints.

Results: Three-hundred-thirty-six patients were randomised to TEP and 324 to Lichtenstein repair. TEP was associated with less postoperative pain until 6 weeks postoperatively ($p = 0.01$). Impairment of inguinal sensibility was less seen after TEP (7% versus 30%, $p = 0.01$). Perioperative complications were more frequent after TEP (6% versus 2%, $p < 0.001$), while there was no difference in length of hospital stay. Postoperative complications (33% versus 33%) and QOL were comparable. After TEP, patients had a faster recovery of daily activities (ADL) ($p < 0.002$) and less absence from work ($p = 0.001$). After a mean follow-up of 66 months, recurrences and total costs were comparable for both groups.

Conclusions: Although TEP procedure was associated with more pre-operative complications, postoperative recovery was faster with less post-operative pain, faster recovery of daily activities, quicker return to work, and less impairment of inguinal sensibility after 1 year. Recurrence rates and incidence of chronic pain were comparable. TEP can be recommended in experienced hands.

* By Invitation

11

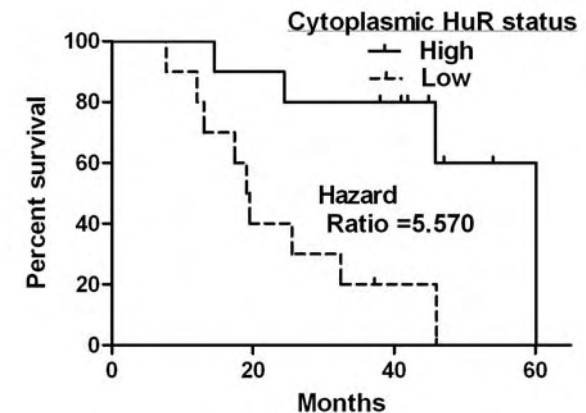
HuR Status Is a Powerful Marker for Prognosis and Response to Chemotherapy for Resected Pancreatic Ductal Adenocarcinoma Patients

Nathan G. Richards, MD*, Agnes K. Witkiewicz, MD*,
Christina L. Costantino, BA*, Dane R. Grenda, BS*,
David W. Rittenhouse, MD*, Eugene P. Kennedy, MD*,
Jonathan R. Brody, PhD*, **Charles J. Yeo, MD**

Thomas Jefferson University, Philadelphia, PA

Objective(s): Treatment of pancreatic ductal adenocarcinoma (PDA) typically includes chemotherapy with gemcitabine. No reliable biomarker exists for overall prognosis or response to chemotherapy. Two previously proposed prognostic markers, COX-2 and VEGF, are regulated by HuR, an mRNA binding protein that we have demonstrated to be a promising predictive marker of gemcitabine response (Cancer Research 2009, 69:4567–72). This study was designed to evaluate a clinically useful biomarker for PDA.

Methods: A tissue microarray of specimens including 53 with PDA, who underwent potentially curative resection, was analyzed. HuR, COX-2, and VEGF status were correlated with clinical data and compared for relative utility.



* By Invitation

Results: Roughly 50% (27/53) of patients had elevated cytoplasmic HuR expression (HuR+). These patients had worse pathologic features (i.e. positive lymph nodes [75%] and AJCC pathologic stage 2 or greater [94%]) compared to HuR- patients. Cytoplasmic HuR status correlated with staging better than VEGF or COX-2 expression alone. When used in combination, HuR cellular positivity with VEGF+ status yielded 100% lymph node positivity. Additionally, HuR status was an unprecedented positive predictive marker for overall survival in patients treated with gemcitabine pushing median survival over 40 months in the HuR+ patient population (p-value 0.0049).

Conclusions: HuR status is a robust predictor of outcome for patients with resected PDA. This study supports the notion that HuR should be used by clinicians for the individualized treatment for PDA.

12

Segmental Instead of Total Colectomy in Colon Cancer Patients Meeting Amsterdam Criteria: It's Not Worth the Metachronous Risk

Matthew F. Kalady, MD*, Ellen McGannon, BS*,
Jon D. Vogel, MD*, Susan Fay, BS*, Victor W. Fazio, MD,
James M. Church, ChB, MS

Cleveland Clinic, Cleveland, OH

Objective(s): Due to the nearly 80% lifetime colorectal cancer risk of patients meeting Amsterdam criteria for diagnosis of Hereditary Nonpolyposis Colorectal Cancer, a total rather than segmental resection to reduce the risk of metachronous colorectal cancer is advocated. The effectiveness of surveillance after segmental colectomy in preventing subsequent cancer is not well-documented. This study examines the results of such surveillance.

Methods: A hereditary colorectal cancer database was reviewed for patients meeting Amsterdam criteria who underwent colectomy for cancer. Patient demographics, surgical management, and subsequent follow-up were recorded. The primary endpoints were subsequent adenoma formation and second cancer development.

Results: 311 patients were included, 79 treated primarily at our institution and 232 referred to our registry after index resection. 157 cancers were right-sided. Mean age at index surgery was 52 years. 254 patients underwent a segmental colectomy of which 191 had documented colonoscopic surveillance. 105 of 191 (55%) had subsequent polypectomy, with removal of 198 adenomas including 95 that were high-risk by size or histology criteria. 51 of 191 (27%) segmental colectomy patients subsequently developed colorectal cancer at mean 120 months after index surgery. Stages at second resection were I-21, II-16, III-14. Five of 57 patients (8.8%) who underwent total colectomy developed subsequent cancer.

Conclusions: Amsterdam patients undergoing partial colectomy have a high rate of metachronous high-risk adenomas and cancers, including advanced stage. Total colectomy for the index cancer remains the procedure of choice. If patients have an initial segmental colectomy, yearly surveillance is essential, with intervention to prevent metachronous cancer.

* By Invitation

13

A Statewide Assessment of Surgical Site Infection (SSI) Following Colectomy: The Role of Oral Antibiotics

Michael J. Englesbe, MD^{1*}, Martin A. Luchtefeld, MD^{2*}, James Kubus, MS^{1*}, James P. Lynch, MD^{3*}, Vic Velanovich, MD⁴, Anthony J. Senagore, MD^{2*}, John C. Eggenberger, MD^{4*}, Lynda Brooks, RN^{1*}, Darrell A. Campbell, Jr., MD¹

¹University of Michigan, Ann Arbor, MI; ²Spectrum Health Medical Center, Grand Rapids, MI; ³William Beaumont Hospital, Troy, MI; ⁴Henry Ford Health System, Detroit, MI; ⁴St Joseph's Mercy Health System, Ann Arbor, MI

Objective: Bowel preparation prior to colectomy remains controversial. Our hypothesis is that mechanical bowel preparation with oral antibiotics (compared to without) is associated with lower SSI rates.

Methods: 24 Michigan hospitals participated in the Michigan Surgical Quality Collaborative – Colectomy Best Practices Project. Standard ACS NSQIP peri-operative data, bowel preparation process measures and C.difficile colitis outcomes were prospectively collected. Among patients receiving mechanical bowel preparation, a logistic regression model generated a propensity score that classified cases into receiving an oral antibiotic or not. A SAS Greedy macro was used for matching cases.

Results: Overall, 2062 elective colectomies occurred between January 2008 and June 2009. No bowel prep was given to 233 patients (11.3%) and they were excluded from the analysis; 49.6% received a mechanical prep and 36.4% received a mechanical prep and oral antibiotics. Propensity analysis created 382 paired cases (differing only in receiving oral antibiotics). Patients receiving oral antibiotics were less likely to have any SSI (4.5% vs. 11.8%, $p = 0.0001$), to have an organ space infection (1.8% vs. 4.2%, $p = 0.044$) and to have a superficial SSI (2.6% vs. 7.6%, $p = 0.001$). Patients receiving bowel prep with oral antibiotics were also less likely to have a prolonged ileus (3.9% vs. 8.6%, $p = 0.011$) and had similar rates of C. difficile colitis (1.3% vs. 1.8%, $p = 0.58$).

Conclusions: Most patients in Michigan still receive mechanical bowel preparation prior to colectomy. Oral antibiotics at the time of mechanical bowel preparation may reduce the incidence of SSI.

* By Invitation

FRIDAY MORNING, APRIL 9th

8:00 AM – 10:30 AM
Imperial Ballroom

SCIENTIFIC SESSION III

Moderator: Donald D. Trunkey, MD

14

Acute Glucose Elevation Is Highly Predictive of Infection and Outcome in Critically Injured Trauma Patients

Grant Bochicchio, MD, PhD*, Kelly Bochicchio, RN, MS*, Manjari Joshi, MD*, Obeid Ilahi, MD*, Thomas Scalea, MD

University of Maryland, Baltimore, MD

Objective(s): To evaluate whether acute glucose elevation (AGE) is predictive of infection and outcome in critically injured trauma patients during the first 14 days of ICU admission.

Methods: A prospective study was conducted on 2200 patients admitted to the ICU over a 2 1/2 year period. The diagnosis of infection was made via a multidisciplinary fashion utilizing CDC criteria. After early glucose stabilization occurred (no significant change for 48 hours after admission) monitoring for AGE was performed utilizing a computational and graded algorithmic model. Iatrogenic causes of AGE were excluded. Stepwise regression models were performed controlling for age, gender, mechanism of injury, diabetes, injury severity and APACHE 2 score. ROC curves were used to evaluate the positive predictive value of the test.

Results: 77% the cohort were male (77%) and admitted for blunt injury ($n = 1870$ or 85%). The mean age, ISS, and APACHE score were 44 ± 20 years, 29 ± 13 , and 13 ± 7 respectively. The mean admission serum glucose value was 141 ± 36 mg/dl (range 64–418 mg/dl). 616 (28%) patients were diagnosed with an infection during the first 14 days of admission. AGE had a 91% positive predictive value for infection diagnosis. In addition, AGE was associated with a significant increase in ventilator, ICU and hospital days as well as mortality even when adjusted for age, injury severity, APACHE score, and diabetes ($p < 0.001$).

Conclusions: AGE is a highly accurate predictor of infection and should stimulate clinicians to identify a new source of infection.

* By Invitation

15

Glucose Control in Severely Thermally Injured Pediatric Patients: What Glucose Range Should Be the Target?

Marc G. Jeschke, MD*, Robert Kraft, MD*,
Fatemeh Emdad, PhD*, Gabriela A. Kulp, MS*,
Felicia N. Williams, MD*, David N. Herndon, MD

UTMB, Galveston, TX

Objective(s): Tight euglycemic control was rapidly implemented in ICUs around the world, but there is increasing evidence that tight euglycemic control is associated with detrimental outcomes. Currently, no study exists that indicates which glucose range should be targeted. The objective of this study was to determine which glucose levels are associated with improved morbidity and mortality in thermally injured patients.

Methods: Two-hundred eight severely burned pediatric patients with burns over 30% of their total body surface area (TBSA) were included in this trial. Several statistical models were used to determine the daily average and 6 a.m. glucose target that were associated with improved morbidity and mortality. Patients were then divided into good glucose controlled and poor glucose controlled patients and demographics, clinical outcomes, infection, sepsis, inflammatory and hypermetabolic responses were determined.

Results: Statistical modeling showed that hyperglycemia is a strong predictor of adverse hospital outcome and that daily 6 a.m. glucose level of 130 mg/dl and daily average glucose levels of 140 mg/dl are associated with improved morbidity and mortality postburn. When patients were divided into good glucose control and poor glucose control we found that patients with glucose levels of 130 mg/dl exert attenuated hypermetabolic and inflammatory responses, as well as significantly lower incidence of infections, sepsis, and mortality compared to patients with poor glucose control, $p < 0.05$.

Conclusions: Given the controversy over glucose range, glucose target, and risks and detrimental outcomes associated with hypoglycemia we suggest that in severely burned patient's blood glucose of 130 mg/dl should be targeted.

* By Invitation

16

A National Study of Attrition During General Surgery Training: Which Residents Leave, and Where Do They Go?

Heather Yeo, MD¹*, Emily Bucholz, BA¹*, Julie Ann Sosa, MD¹*,
Leslie Curry, PhD, MPH¹*, Frank R. Lewis, MD, Jr.²,
Andrew T. Jones, PhD²*, Kate Viola, MD¹*, Zhenqui Lin, PhD¹*,
Richard H. Bell, Jr., MD²

¹*Yale University, New Haven, CT;* ²*American Board of Surgery, Philadelphia, PA*

Objective(s): Implementation of the 80-hour mandate was expected to reduce attrition from general surgery (GS) residency. This is the first quantitative report from a national prospective study of resident/program characteristics associated with attrition.

Methods: Analysis included all categorical GS residents entered on American Board of Surgery (ABS) residency rosters in 2007–8. Cases of attrition were identified by program report, individually confirmed, and linked to demographic data from the National Study of Expectations and Attitudes of Residents in Surgery (NEARS) administered January 2008.

Results: 6,303 categorical GS residents were analyzed for overall attrition. Complete NEARS demographic information was available for 3,962; the total and survey groups were similar with regard to important characteristics. 3.1% of U.S. categorical residents resigned in 2007–8, and 0.4% had contracts terminated. Across all years (including research), there was a 19.5% cumulative risk of resignation. Attrition was highest in R1 (6.1%), R2 (4.4%) and research year(s) (4.3%). Women were no more likely to leave programs than men (2.4% vs. 2.0%). Of several program/resident variables examined, PGY-level was the only independent predictor of attrition in multivariate analysis. Residents who left GS whose plans were known most often pursued non-surgical residencies (85%), particularly anesthesiology (26%) and radiology (15%). Only 15% left for surgical specialties.

Conclusions: Attrition rates are high despite mandated work hour reductions; one in five GS categorical residents resigns, and most pursue nonsurgical careers. Residents are at risk for attrition early in training and during research, and this could afford educators a target for intervention.

* By Invitation

17

Prevention of Surgical Resident Attrition By a Novel Selection Strategy

Rachel R. Kelz, MD, MSCE*, James L. Mullen, MD,
Larry R. Kaiser, MD, Lori A. Pray, BA*, Gregg Shea, MBA*,
Jeff A. Drebin, MD, Chris J. Wirtalla, BA*, Jon B. Morris, MD
*Department of Surgery, University of Pennsylvania,
Philadelphia, PA*

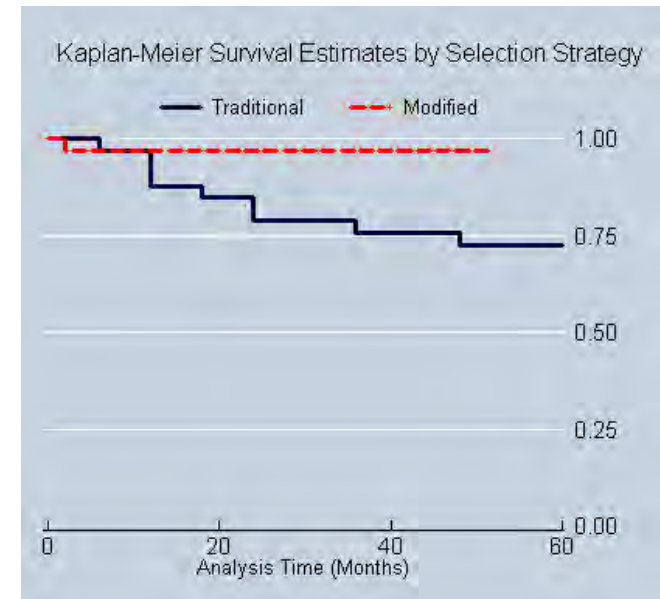
Objective(s): Despite implementation of the ACGME work rules, life-style and generational priorities have fostered a persistently high attrition rate for surgical trainees. We proactively sought to evaluate/modify the resident selection strategy (RSS) to reduce resident attrition (RA).

Methods: An independent external review of residents who left the training program and a detailed analysis of the RSS were performed by an organizational management expert. Modifications implemented in 2005 (the intervention) included standardization of the screening and interview format. Applicants were required to submit a 500 word essay related to stress management, organizational skills, future aspirations, and prioritization abilities. This formed the basis of an extended, personalized, and structured interview script. Candidate characteristics and RA were compared for the five years before and after the intervention using Fisher's exact test or chi-square.

Impact of Selection Model on Resident Performance and Attrition

Characteristic	Selection Model		p-value
	Traditional	Modified	
#applicants interviewed	368	232	
Faculty Evaluation			0.001
Below Mean	19	5	
Above Mean	14	26	
Attrition			0.013
Yes	9 (27.3%)	1(3.2%)	
No	24	30	

* By Invitation



Results: Age, sex, birthplace, medical school ranking, step 1 score and ABSITE performance were not significantly different between the interview strategies. Risk factors for RA included gender, ABSITE performance and faculty evaluations. Resident performance and RA were significantly affected by the RSS.

Conclusions: RA was dramatically reduced following the intervention. A custom designed process to identify candidates most likely to succeed substantially improved resident retention in a demanding academic training program.

18**Primary Payer Status Affects Mortality for Major Surgical Operations**

Damien J. LaPar, MD*, Castigliano M. Bhamidipati, DO*, Carlos M. Mery, MD, MPH*, George J. Stukenborg, PhD*, David R. Jones, MD, Bruce D. Schirmer, MD, Irving L. Kron, MD, Gorav Ailawadi, MD*

University of Virginia, Charlottesville, VA

Objectives: Medicaid and Uninsured populations are a significant focus of current healthcare reform. We hypothesized that outcomes following major surgical operations in the United States is dependent on primary payer status.

Methods: From 2003–2007, 893,658 major surgical operations were evaluated using the National Inpatient Sample (NIS) database: lung resection, esophagectomy, colectomy, pancreatectomy, gastrectomy, abdominal aortic aneurysm repair, hip replacement, and coronary artery bypass. Patients were stratified by primary payer status: Medicare (n = 491,829), Medicaid (n = 40,259), Private Insurance (n = 337,535), and Uninsured (n = 24,035). Multivariate regression models were applied to assess outcomes.

Results: Unadjusted mortality for Medicare (4.4%, OR = 3.51), Medicaid (3.7%, OR: 2.86) and Uninsured (3.2%, OR: 2.51) patient groups were higher compared to Private Insurance groups (1.3%, p < 0.001). Moreover, mortality was lowest for Private Insurance patients independent of operation. Importantly, after controlling for age, gender, income, geographic region, operation, and 30 comorbid conditions, Medicaid payer status was associated with the longest length of stay and highest total costs (p < 0.001). In addition, Medicaid (p < 0.001) and Uninsured (p < 0.001) payer status independently conferred the highest adjusted risks of mortality (Table 1).

Table 1: Multivariate Regression Analyses for Adjusted Outcomes

Outcome	Medicaid	Uninsured	Medicare	Private Insurance
In-Hospital Mortality*	1.97 (1.84–2.10)	1.74 (1.60–1.90)	1.54 (1.48–1.61)	Ref
Length of Stay (days)*	10.49 ± 0.04	7.01 ± 0.03	8.77 ± 0.01	7.38 ± 0.01
Total Costs (\$)*	\$79,140 ± 251.4	\$65,667 ± 231.0	\$69,408 ± 53.1	\$63,057 ± 53.0

* p < 0.001. Reference group: Private Insurance. In-hospital mortality reflected as Odds Ratios (95% Confidence Interval), Length of Stay and Total Costs reflected as adjusted means.

* By Invitation

Conclusions: Medicaid and Uninsured payer status confers increased risk of adjusted mortality. Medicaid was further associated with the greatest adjusted length of stay and total costs despite risk factors or operation. Possible explanations include delays in access to care or disparate differences in health maintenance.

19**Hospital Factors Do Not Explain Away Socioeconomic-Based Disparities in Surgical Outcomes**

Kyla M. Bennett, MD*, John E. Scarborough, MD*,
Theodore N. Pappas, MD, Thomas B. Kepler, PhD*

Duke University Medical Center, Durham, NC

Objective: Recent studies drawn from Medicare data suggest that hospital-related factors largely explain socioeconomic-based disparities in surgical outcomes. We used an all-payor nationally representative database to test this hypothesis.

Methods: The Nationwide Inpatient Sample from 2001–2006 was used to determine association between postoperative in-hospital mortality and patient- and hospital-level variables for 13 complex cardiovascular and oncologic procedures. Given available predictor variables, a subset of all possible logistic regression models for prediction of mortality was examined exhaustively and the Akaike Information Criterion (AIC) computed for each model. Model selection was performed by minimizing the AIC over all models. Model averaging was performed by weighting each model by AIC-based probability and summing over models.

Results: 1,059,003 patients were included for analysis. After adjustment for patient-related factors (age, gender, race, comorbidity), hospital procedure volume and hospital socioeconomic status (SES), low patient SES remained a significant positive predictor of postoperative mortality for 11 of 13 procedures analyzed. By both model selection and model averaging, patient SES was as important as or more important than hospital SES or hospital procedure volume in predicting postoperative mortality.

Conclusions: In contrast to recent reports, we find that patient SES is as important as or more important than hospital-related factors such as procedure volume and hospital SES in predicting mortality after complex surgery. Policies that attempt to reduce socioeconomic-based disparities by addressing only these hospital-related factors are likely to be inadequate.

* By Invitation

FRIDAY MORNING, APRIL 9th, CONTINUED

10:30 AM – 12:00 PM
Imperial Ballroom

FORUM DISCUSSION**The Impact of Healthcare Reform on Surgery**

Moderator: Donald D. Trunkey, MD

Richard A. Cooper, MD*

*University of Pennsylvania
Philadelphia, PA*

George F. Sheldon, MD

*University of North Carolina at Chapel Hill
Chapel Hill, NC*

* By Invitation

FRIDAY AFTERNOON, APRIL 9th

1:30 PM – 4:00 PM

SCIENTIFIC SESSION IV

Moderator: Tom R. DeMeester, MD

20

Management of Diseases of the Descending Thoracic Aorta in the Endovascular Era: A Medicare Population Study

Mark F. Conrad, MD*, Emel A. Ergul, MS*,
Virendra I. Patel, MD*, Christopher J. Kwolek, MD*,
Richard P. Cambria, MD

Massachusetts General Hospital, Boston, MA

Objective(s): Prospective trials have shown improved peri-operative mortality with endovascular repair of thoracic aortic pathologies (TEVAR) compared to conventional surgery (OPEN). However, there are currently no long-term population data detailing the impact of TEVAR on practice patterns and mortality rates for treatment of descending thoracic aortic pathology (DTA); which is the goal of this study.

Methods: All procedures performed on the DTA captured in the Medicare database from 2004–2007 were identified by ICD-9 codes and stratified into OPEN and TEVAR cohorts. Outcomes included peri-operative mortality (chi-square) and 5-year actuarial survival.

Results: There were 11166 patients identified (4838 [43%] TEVAR, 6328 [57%] OPEN) with 7247 (65%) non-ruptured aneurysms (TAA), 2701 (24%) dissections, 1033 (9%) ruptures and 185 (2%) traumatic aortic tears. The distribution of cases changed significantly during the study period ($p < 0.0001$) with an increase in TEVAR, decrease in OPEN, and increase in total cases over time (Table). The peri-operative mortality was lower in the TEVAR group for the entire population (360 [7.4%] TEVAR vs. 1175 [18.5%] OPEN, $p < 0.0001$), and for the individual pathologies: TAA (182/3529 [5%] TEVAR, 451/3718 [12%] OPEN, $p < 0.001$), dissections (76/833 [9%] TEVAR, 399/1868 [21%] OPEN, $p < 0.001$), ruptures (87/368 [24%] TEVAR, 298/665 [45%] OPEN, $p < 0.0001$). The 5 year survival (all curves

* By Invitation

Distribution of Cases Over Time

YEAR	TEVAR	OPEN	Total
2004	467 (21%)	1798 (79%)	2265
2005	1012 (38%)	1627 (62%)	2639
2006	1630 (52%)	1503 (48%)	3133
2007	1729 (55%)	1400 (45%)	3129
Totals	4838 (43%)	6328 (57%)	11166

significantly favored TEVAR due to perioperative mortality) by indication was: entire population (53.4% TEVAR, 53.3% OPEN), TAA (55.8% TEVAR, 59.7% OPEN), dissection (58.2% TEVAR, 50.6% OPEN) and ruptures (23.3% TEVAR, 25.3% OPEN).

Conclusions: There has been a significant increase in the use of TEVAR to manage disease of the descending thoracic aorta. TEVAR offers a significant peri-operative survival advantage when compared to OPEN regardless of the indication for repair. However, in the Medicare population, the 5-year survival is similar between the two cohorts.

21

Bariatric Surgery Is Safe and Effective Treatment for Diabetes in Non-Morbidly Obese Patients: Results Reported By ASMBS Bariatric Surgery Centers of Excellence (BSCOE) in Bariatric Outcomes Longitudinal Database (BOLD)

Eric J. DeMaria, MD^{1*}, Deborah Winegar, PhD^{2*}, Virginia Pate, MS^{2*}, Quinn Swanger, MS^{2*}, Walter J. Pories, MD³
¹Duke University, Durham, NC; ²Surgical Review Corporation, Raleigh, NC; ³East Carolina University, Greenville, NC

Objective(s): Small case series suggest bariatric surgery may be effective treatment for diabetes in patients who do not meet criteria for morbid obesity (BMI < 35 kg/M²), but large multi-institutional series, which allow better assessment of the safety/efficacy of treatment, have not been reported.

Methods: Data from 66,264 research-consented patients with a surgery encounter in BOLD were queried to identify patients with BMI ≥30 but <35 kg/m² (1.2%, n = 794) and diabetes (DM) requiring any medication (29% of group).

Results: 235 patients met inclusion criteria. The 2 most common procedures (adjustable gastric banding AGB, n = 109 and gastric bypass, n = 109) were compared. Laparoscopic access was utilized in 92% of procedures. Gender (77% female), race (80% Caucasian), and age (mean 52.6 ± 10.4 yrs) did not differ between procedure groups.

Table: Data Reported at Baseline (BL) and at Intervals ≤12 Months Following Surgery (*p < 0.05 vs. BL, α p < 0.05 bypass vs. Band)

	n		BMI		# DM meds		% DM remission	
	AGB	Bypass	AGB	Bypass	AGB	Bypass	AGB	Bypass
BL	109	109	33.9 ± 1.2	33.7 ± 1.1	1.34 ± 1.14	1.51 ± 1.15	–	–
0–3 mos	90	88	31.6 ± 2.5*	30.6 ± 3.0* α	0.96 ± 1.11*	0.76 ± 1.02*	21.1	37.5* α
3–6 mos	63	44	31.0 ± 2.7*	27.2 ± 3.8* α	0.76 ± 1.04*	0.39 ± 0.65*	31.8*	50.0*
6–12 mos	40	29	30.9 ± 2.9*	27.1 ± 4.5* α	0.60 ± 0.81*	0.48 ± 0.69*	27.5*	55.2* α

Conclusions: Remission (cessation of medications) of DM was reported in 47.8% of patients within 6–12 months of surgery. Gastric bypass provided superior weight loss and DM remission, but demonstrated more frequent complications (90-day AE: 12% vs. 3%, p < 0.05). No mortalities were reported. The data suggest successful surgical treatment of diabetes in patients not meeting criteria for morbid obesity. Gastric bypass provides more effective early treatment for DM within 6–12 months.

* By Invitation

22

A Clinical Nomogram Predicting Pathologic Lymph-Node Involvement in Esophageal Cancer Patients

Puja Gaur, MD^{1*}, Boris Sepesi, MD^{2*}, Wayne L. Hofstetter, MD^{1*}, Arlene M. Correa, MD^{1*}, Manoop S. Bhutani, PhD^{1*}, Jack A. Roth, MD¹, Ara A. Vaporciyan, MD^{1*}, Jeffrey H. Peters, MD², Thomas J. Watson, MD^{2*}, Stephen G. Swisher, MD¹

¹UT MD Anderson Cancer Center, Houston, TX; ²University of Rochester School of Medicine, Rochester, NY

Objective(s): Esophageal cancer patients with pathologic lymph-node involvement (pN1) generally have a poor prognosis with surgery alone. We, therefore, constructed a nomogram to predict the risk of pN1 prior to surgical resection and externally validated the clinical utility of the model.

Methods: 273 esophageal adenocarcinoma patients treated with surgery alone were reviewed from two different institutions (MDACC = 164, training set; URMCC = 109, validation set). Pretreatment clinical parameters were utilized to construct a nomogram for predicting the risk of pN1. Internal and external validation of the nomogram was performed to assess clinical utility.

Results: Of the 164 patients in the training set, 56 patients (34%) had lymph-node involvement (pN1). Significant factors associated with pN1 on univariable logistic regression analysis (using a p-value of <.05) included endoscopically-determined clinical tumor depth (cT), clinical nodal (cN) status, and clinical tumor length (cL). Multivariable analysis suggested the significant independent factors were cT (OR:5.6, 95% CI:1.7–18.6, p < 0.01) and cL >2 cm (OR:7.0, 95% CI:2.7–18.1, p < 0.001). Regression tree analysis was used to determine the best cutoff for cL. A nomogram was created for pN1 using these clinical parameters and was internally validated by bootstrapping with a predicted accuracy of 85.1%. External validation performed on the validation set demonstrated an original C-index of 0.777 suggesting good clinical utility.

Conclusions: Our analyses demonstrate that the risk of pathologic nodal involvement in esophageal adenocarcinoma patients can be estimated by this clinical nomogram, which will allow the identification of patients at high-risk of harboring positive lymph-nodes who may be candidates for en-bloc resection and/or neoadjuvant treatment.

* By Invitation

23

Determinants of Embolization During Carotid Angioplasty and Stenting: Symptomaticity and Coronary Artery Disease Increase Embolic Risk

Christine Chung, BS*, Tejas Shah, MD*, Hyun Joo Shin, MD*, Michael Marin, MD, Peter Faries, MD*

Mount Sinai School of Medicine, New York, NY

Objective: Patients at high risk for surgery have been routinely offered carotid angioplasty and stenting (CAS) as an alternative to endarterectomy for the treatment of severe carotid disease. However, the safety of CAS in this population continues to be a matter of debate, and appropriate patient selection for carotid interventions has emerged as the key to reducing adverse outcomes. Our goal is to determine whether the presence of coronary artery disease (CAD) is associated with greater embolic risk by analyzing debris from protective filters during CAS.

Methods: 233 CAS procedures were performed between 2003–2009. Filters from 162 patients (CAD [N = 86], non-CAD [N = 76]) were quantified by stereomicroscopy and video imaging software.

Results: Mean age of patients was 71.6 years, and 56.2% were male. Particulate debris was present in 134 (83%) filters. Univariate analysis revealed a greater number of particles in CAD patients than non-CAD patients (CAD: 12.6 ± 13.0 vs. non-CAD: 7.2 ± 7.8 , $p = .002$). CAD patients had smaller mean (CAD: $351 \mu\text{m} \pm 216$ vs. non-CAD: $429 \mu\text{m} \pm 429$, $p < .001$) and minimum (CAD: $136 \mu\text{m} \pm 115$ vs. non-CAD: $195 \mu\text{m} \pm 237$, $p < .001$) particle sizes compared with non-CAD patients.

Conclusions: Our study suggests that CAD is associated with increased embolic risk during CAS. CAD patients release a greater number of particles of smaller size that may pose increased neurologic risk by escaping capture by protection devices. Therefore, the benefits of a percutaneous carotid intervention must be carefully weighed against the potential for worse neurologic outcome in CAD patients referred for CAS.

* By Invitation

24

Identification of E-Selectin as a Novel Target for the Regulation of Post-Natal Neovascularization: Implications for Diabetic Wound Healing

Zhao-Jun Liu, MD, PhD*, Runxia Tian, MD*, Weijun An, MD*, Ying Zhuge, MD*, Yan Li, BS*, Hongwei Shao, MD*, Bianca Habib, BS*, Alan S. Livingstone, MD, Omaida C. Velazquez, MD*

University of Miami, Miami, FL

Objectives: We previously reported that stromal cell-derived factor-1 α (SDF-1 α ; homing signal for recruiting endothelial progenitor cells (EPC) to areas of neovascularization), is down-regulated in diabetic wounds (*J Clin Invest*, 2007). We now investigate signals whereby mature endothelial cells (EC) and circulating EPC achieve SDF-1 α -mediated EPC homing.

Methods: SDF-1 α levels in diabetic wounds were therapeutically increased by injection of SDF-1 α -engineered bone marrow-derived fibroblasts versus control cells (N = 48 (20, NOD), (28, STZ-C57)). PCR-array gene expression differences were validated by Western blotting and immunohistochemistry. The role of adhesion molecule(s) in mediating SDF-1 α -induced EPC homing and wound healing was furthered studied using antagonists *in vitro* and *in vivo*.

Results: Increasing wound SDF-1 α via cell-base therapy promotes healing in diabetic mice (20% increase, $P = 0.006$). SDF-1 α increased EC-EPC adhesion and specifically upregulated E-selectin expression in human microvascular ECs (4.6-fold increase, $P < 0.01$). This effect was also significant in blood vessels of the experimental mice and resulted in increased wound neovascularization. The regulatory effects of SDF-1 α on EC-EPC adhesion and EPC homing were specifically mediated by E-selectin, as the application of E-selectin antagonists significantly inhibited SDF-1 α -induced EC-EPC adhesion, EPC homing, wound neovascularization, and wound healing.

Conclusions: SDF-1 α -engineered cells promote diabetic wound healing in mice by specifically upregulating E-selectin expression in mature ECs leading to increase EC-EPC adhesion, EPC homing and increased wound neovascularization. These findings provide novel insight into the signals underlying the effect of SDF-1 α on EPC homing and point to E-selectin as new potential target for therapeutic manipulation of EPC traffic in diabetic wound healing.

* By Invitation

25

Impact of Hospital Volume on In-Hospital Mortality of Children Undergoing Repair of Congenital Diaphragmatic Hernia

Brian T. Bucher, MD^{1*}, Rebecca M. Guth, MPH^{2*},
Jacqueline M. Saito, MD^{1*}, Tasnim A. Najaf, MD^{1*},
Brad W. Warner, MD¹

¹Washington University School of Medicine, St. Louis, MO;

²St. Louis Children's Hospital, St. Louis, MO

Objectives: Congenital diaphragmatic hernia (CDH) continues to remain a significant cause of neonatal morbidity and mortality. Previous studies have suggested hospital volume is an independent predictor of in-hospital mortality. We sought to validate this effect using a large National database incorporating 38 free-standing Children's Hospitals in the United States.

Methods: Infants whom underwent repair of CDH from 2000–2008 at Pediatric Health Information Systems (PHIS)-member hospitals were evaluated. Using generalized linear mixed models with random effects, we computed the risk adjusted odds ratio of mortality by yearly hospital volume, after adjustment for salient patient and hospital characteristics.

Results: There were 2231 infants whom underwent repair with an overall survival of 82%. Average yearly hospital volume varied from 1.4 to 17.5 cases per year. Smaller birthweight, year of birth, need for governmental assistance, chromosomal abnormalities, longer time to repair, and requirement for Extracorporeal Membrane Oxygenation (ECMO) or Nitric Oxide were all independently associated with mortality (Table). Compared to low volume, medium and high volume hospitals have a significantly lower mortality. The rate of ECMO use at each facility was not independently associated with mortality.

Conclusion: This large, population based study suggests that hospitals who perform high volumes of CDH repairs achieve lower in-hospital mortality. This data support the paradigm of regionalized centers of excellence for the management of infants with this morbid condition.

* By Invitation

Independent Risk Factors for Mortality in Children with CDH

Risk Factor		Univariate Analysis	Multivariate Analysis	
		Crude OR	Adjusted OR	p-Value
Birthweight	per Kg	0.63 (0.53–0.75)	0.49 (0.39–0.63)	<0.0001
Year of Birth	per year from 2000	0.99 (0.95–1.05)	0.89 (0.84–0.95)	0.0006
Payer Source	Government Insurance	1	1	
	Private Insurance	0.60 (0.46–0.77)	0.60 (0.43–0.84)	0.004
	Self-Insured	0.55 (0.21–1.46)	0.76 (0.22–2.66)	0.6
	Other	0.69 (0.50–0.96)	0.93 (0.61–1.44)	0.8
Chromosomal Abnormalities	Present vs. Absent	2.34 (1.24–4.43)	4.60 (1.81–11.71)	0.001
Time to Repair	per Week	1.34 (1.24–1.46)	1.07 (1.00–1.23)	0.047
Need for ECMO	Present vs. Absent	18.27 (13.62–24.52)	10.54 (7.28–15.24)	<0.0001
Need for Nitric Oxide	Present vs. Absent	9.59 (7.11–12.92)	4.54 (3.02–6.84)	<0.0001
Hospital Volume	Low Volume (<6 cases/year)	1	1	
	Medium Volume (6–13 cases/year)	0.75 (0.50–1.10)	0.55 (0.33–0.91)	0.02
	High Volume (>13 cases/year)	0.52 (0.30–0.89)	0.33 (0.14–0.74)	0.008
Hospital ECMO Rate	per 10%	1.34 (1.17–1.54)	1.10 (0.90–1.34)	0.25

FRIDAY AFTERNOON, APRIL 9th, CONTINUED

4:00 PM – 5:00 PM
Imperial Ballroom

EXECUTIVE SESSION
Fellows Only

PRESENTATION OF THE FLANCE-KARL AWARD

FRIDAY EVENING, APRIL 9th

7:00 PM
International Ballroom

ANNUAL RECEPTION

8:00 PM
International Ballroom

ANNUAL BANQUET

SATURDAY MORNING, APRIL 10th

8:00 AM – 11:00 AM
Imperial Ballroom

SCIENTIFIC SESSION V

Moderator: New President- Elect

26

Circulating Thyrotropin Receptor (TSHR) mRNA as a Novel Marker of Thyroid Cancer: Clinical Applications Learned From 1,758 Samples

Mira Milas, MD*, Joyce Shin, MD*, Manjula Gupta, PhD*, Tomislav Novosel, MD*, Christian Nasr, MD*, Jamie Mitchell, MD*, Eren Berber, MD*, Allan Siperstein, MD

Cleveland Clinic, Cleveland, OH

Objectives: Since thyroglobulin, no new blood tests for differentiated thyroid cancer (DTC) have been introduced into routine clinical practice. In initial studies, the detection of circulating DTC cells by TSHR mRNA measurement distinguished benign from malignant thyroid diseases. This prospective validation study tests the ability of TSHR mRNA to diagnose DTC preoperatively and to detect cancer recurrence.

Methods: TSHR mRNA was measured by quantitative RT-PCR from blood drawn preoperatively in patients undergoing thyroid surgery (n = 526), postoperatively in patients undergoing DTC follow-up (n = 418) and in patients monitored for known benign disease (n = 151). The reference range for TSHR mRNA was previously defined from 663 samples from patients with normal, benign and malignant thyroid disease.

Results: In patients with indeterminate or suspicious cytology, preoperative TSHR mRNA >1 ng/ug had 96% predictive value for DTC, whereas no patients with undetectable mRNA and benign thyroid sonography had cancer at operation. In patients with DTC, elevated TSHR mRNA levels became undetectable in all patients (n = 45) on the first postoperative day,

* By Invitation

except in 5 who manifested persistent or recurrent cervical disease within the year. In long-term follow-up of DTC patients with thyroglobulin antibodies, all with undetectable TSHR mRNA also had no radiologic evidence of cancer recurrence.

Conclusions: TSHR mRNA provides an additional clinical tool for the evaluation of patients with thyroid nodules. It is particularly useful in guiding appropriate initial surgery for indeterminate thyroid lesions. TSHR mRNA also represents a new blood test to aid assessment of disease status in thyroid cancer follow-up.

27

Long-Term Patient Outcome and Quality of Life After Liver Transplantation: A Prospective Analysis of 20-Plus Year Survivors

John P. Duffy, MD*, Kenneth Kao, MD*, Clifford Ko, MD, Douglas G. Farmer, MD*, Sue V. McDiarmid, MD*, Robert S. Venick, MD*, Susan Feist, RN*, Leonard Goldstein, MD*, Jonathan R. Hiatt, MD, **Ronald W. Busuttil, MD, PhD**

UCLA, Los Angeles, CA

Objective: To evaluate allograft function and Quality-of-Life (QOL) 20-years after liver transplantation (LT).

Summary Background Data: While LT is the treatment of choice for acute and chronic liver failure, long-term allograft function and recipient quality-of-life (QOL) remain undefined.

Methods: We performed a prospective, single-institution study of LT recipients surviving 20+ years. From 2/1/84–12/31/88, 293 patients (179-adults, 114-children) received 348 LTs. Graft function, QOL (SF-36; Liver Disease Quality-of-Life) and cognition (NeuropsychiatricImpairmentScale) were evaluated.

Results: After 20-years, 68 of 87 survivors (78%) retained original allografts. Twenty year survival for adults transplanted for HCC (20%) or HBV (16%) was lower than for other diagnoses ($p < 0.001$). Actuarial 10- and 20-year survival were 56% and 52% (patient) and 49% and 42% (graft). Factors associated with 20-year survival are shown in the table.

	20 Year Survivors	Non-20 Year Survivors	P value
Age <18 yr, %	53	33	0.01
Urgent transplantation, %	25	46	0.01
Retransplantation, %	9	19	0.02
Male, %	38	47	0.03
Rejection, %	35	27	0.03
Biliary complication, %	7	11	0.04
Total ischemia times (cold + warm), hr	6.2 ± 1.5	8.7 ± 2.3	0.05

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Survivors' laboratory values showed intact graft function: mean creatinine-1.2 mg/dL, bilirubin-3.2 mg/dL, albumin-3.9 g/dL, and INR-1.3. The majority (64%) completed school; 78% resumed employment. Compared to the general population, survivors had lower physical scores ($p < 0.01$) but comparable mental scores. Overall QOL was significantly better than in patients with CHF, diabetes, depression, and ESLD.

Conclusion: Fifty-percent of LT recipients survive 20-years with intact graft function. Twenty-year survivors demonstrate better QOL than patients with chronic conditions and are free of cognitive deficits. LT is a durable operation which restores both long-term physiologic and psychologic well-being in patients with end-stage liver disease.

28

Combinatorial Effect of Donor and Recipient Age Is Critical in Determinating Host Immunoresponsiveness and Renal Transplant Outcome

Stefan G. Tullius, MD, PhD*, Huong Tran, MD*, Indira Guleria, MD*, Sayeed K. Malek, MD*, Nicholas L. Tilney, MD, Edgar Milford, MD*

Brigham and Women's Hospital and Harvard Medical School, Boston, MA

Objective(s): A variety of risk factors influence the survival of transplanted kidneys and their hosts. We tested the impact of donor and recipient age by cohorts and covariant risks.

Methods: We followed more than 108,000 recipients of deceased donor kidneys in the UNOS data base transplanted between 1995–2008. Graft, patient survival and rejections were evaluated by uni- and multivariate analysis and compared by age cohorts.

Results: Overall, transplant survival was lowest in elderly recipients. However, when censored for patient's death with a functioning transplant, graft survival improved with every decade of increasing recipient age, although older recipients had received less well matched and poorer quality organs (5 year graft survival: 67% and 81% in recipients aged 18–29 and >50; $p = 0.001$). Acute rejection rates decreased with every decade of increasing age (29% and 16% for young and older recipients by 1 year, $p < 0.0001$). In contrast, increasing donor age correlated with more frequent acute rejections ($p < 0.001$). Moreover, effects of both donor and recipient age on graft outcome became particularly obvious in a combinatorial analysis. Older kidneys had a relative risk of graft loss of >9 when transplanted into young recipients compared to <3 in old recipients ($p < 0.0001$).

Conclusions: Increasing recipient age is associated with improved transplant survival, lower rates of rejection and superior outcome of older donor organs. Physiological and/or immunological aspects of organ and recipient age determine, at least in part, transplant outcome. Those results have implications for optimized utilization of organs and immunosuppression.

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29

Analysis of Over 3,000,000 Patients Screened for Abdominal Aortic Aneurysm: Development of a Novel Scoring Tool for the Identification of Large >5 cm Aneurysms

Giampaolo Greco, PhD, MPH^{1*}, Natalia N. Egorova PhD, MPH^{1*}, Robert M. Zwolak PhD, MPH^{2*}, Thomas S. Riles, MD³, Andrew J. Manganaro, MD^{4*}, Alan J. Moskowitz, MD^{1*}, Annetine C. Gelijns, PhD^{1*}, K. Craig Kent, MD⁵

¹Mount Sinai School of Medicine, New York, NY;

²Dartmouth-Hitchcock Medical Center, Lebanon, NH; ³NYU

Langone Medical Center, New York, NY; ⁴Life Line Screening,

Independence, OH; ⁵University of Wisconsin, Madison, WI

Objective(s): Current screening criteria for Abdominal Aortic Aneurysm (AAA) are designed to identify >3 cm aneurysms in ever smoking 65–75 yo males. However, more than 50% of ruptures occur in individuals not within this patient cohort and only a subset of AAAs detected are large enough to warrant surgery. In this analysis, we evaluated over 3 million screened individuals and developed a scoring tool that allows identification of ≥5 cm AAAs in the entire population at risk.

Methods: From 2003–2008, demographics and risk factors were collected from 3.1 million patients undergoing ultrasound screening for AAA by Life Line Screening. Using multivariable logistic regression analysis, we identified risk factors and developed a scoring system to predict the presence of (≥5 cm) AAAs.

Results: Smoking had a profound influence on the risk of AAA, which increased with cigarettes smoked and years of smoking and decreased following smoking cessation. Novel findings included a protective effect of exercise, healthy diet, normal weight and black/Hispanic ethnicity. Using these and other factors, a simple scoring system was created with good predictive accuracy (c-statistic = 0.76). Using this scoring system we estimated the presence of 130,000 [95% CI:110,000–150,000] ≥5 cm aneurysms in the US population (prevalence: 0.16%). Demonstrating the inadequacy of the current screening recommendations, half of AAAs were among females, non-smokers and individuals younger than 65.

Conclusions: Based upon the largest cohort of patients ever screened for AAA, we have developed a novel easily implemented screening strategy that, when compared to current guidelines, identifies large AAAs in a broad population of individuals at risk.

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30

Choledochoceles: Are They Choledochal Cysts?

Kathryn M. Ziegler, MD*, Henry A. Pitt, MD,
 Nicholas J. Zyromski, MD*, Aakash Chauhan, MS*,
 Stuart Sherman, MD*, Glen A. Lehman, MD*,
 Keith D. Lillemoe, MD, Frederick J. Rescorla, MD,
 Karen W. West, MD*, Jay L. Grosfeld, MD

Indiana University School of Medicine, Indianapolis, IN

Objective(s): Choledochoceles have been classified as Type III choledochal cysts. However, most surgical series of choledochal cysts have reported few choledochoceles because they are managed primarily by endoscopists. Therefore, the aim of this analysis was to report a multidisciplinary series comparing choledochoceles to Types I, II, IV and V choledochal cysts.

Methods: Surgical, endoscopic, and radiologic records were reviewed at our children's and university hospitals to identify patients with choledochal cysts. Patient demographics, presenting symptoms, radiologic studies, associated abnormalities, surgical and endoscopic procedures as well as outcomes were reviewed.

Results: One hundred forty-five patients with "choledochal cysts" including 44 children (29%) and 26 with choledochoceles (18%) were identified, which represents the largest Western series. The relative proportion of Types I (53%), II (6%), IV (15%) and V (8%) did not differ between adults and children. Types I, II, IV, and V also were similar with respect to age, gender and presentation. Patients with choledochoceles, however, were more likely to be adult (25 vs 2%, $p < 0.05$), older (55.5 vs 29.0 yrs, $p < 0.001$), and male (42 vs 22%, $p < 0.05$), to present with pancreatitis (60 vs 18%, $p < 0.001$) to have pancreas divisum (31 vs 9%, $p < 0.01$), and to develop a pancreatic neoplasm (8 vs 1%, $p < 0.08$).

Conclusions: Choledochoceles differ from choledochal cysts with respect to age, gender, presentation, pancreatic ductal anatomy and propensity to develop pancreatic tumors. The significant associations between choledochoceles, pancreas divisum, and pancreatic neoplasms are new observations. Therefore, we conclude that classifications of choledochal cysts should not include choledochoceles.

* By Invitation

31

Operative Failures After Parathyroidectomy for Hyperparathyroidism: The Influence of Surgical Volume

Herbert Chen, MD¹, Tracy Wang, MD, MP^{2*},
 Tina Yen, MD, MS^{2*}, Kara Doffek, BS^{2*},
 Elizabeth Krzywda, NP^{2*}, Sarah Schaefer, NP^{1*},
 Rebecca S. Sippel^{1*}, Stuart Wilson, MD²

¹University of Wisconsin, Madison, WI; ²Medical College of Wisconsin, Milwaukee, WI

Objective(s): The surgical success rate for hyperparathyroidism from high volume centers exceeds 95%, but many patients have unsuccessful parathyroidectomies. While operative failure can be due to hyperfunctioning parathyroids in ectopic locations, less experienced surgeons may miss an abnormal parathyroid in normal anatomic locations, which we describe as "preventable operative failure". We hypothesize that surgical volume influences the cause of operative failures.

Methods: We utilized two prospective databases containing over 2000 consecutive patients who underwent parathyroidectomy. We identified 159 patients with persistent/recurrent hyperparathyroidism subsequently cured with additional surgery. The initial failed operations were classified as being performed at high (>50 cases/year) or low volume (<50 cases/year) hospitals. Hospital volume was obtained from a state database of 89 hospitals which reported 6,336 parathyroid operations during the same decade.

Hospital Parathyroid Operations	Failed ops	Age	Pre-op Serum Calcium (mg/dl)	Pre-op PTH (pg/ml)	Missed Gland Weight (mg)	% Multiglandular Hyperplasia	Preventable Operative Failures
HIGH VOLUME	61	54 ± 7	11.0 ± 0.1	271 ± 56	749 ± 68	66%	13%
LOW VOLUME	98	57 ± 1	11.0 ± 0	192 ± 19	1116 ± 246	35%	89%
P-value	-	0.19	0.97	0.12	0.26	0.032	<0.0001

Results: Patients having their initial operation performed at the high or low volume centers were similar with regard to age, laboratory values, gender, and parathyroid weights. Despite a higher incidence of multi-gland disease (which increases the likelihood of operative failure) in the high volume

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group, patients in the low volume group were more likely to have a missed parathyroid gland in a normal anatomic location (89% vs. 13%, $p < 0.0001$) and thus a higher proportion of preventable operative failures.

Conclusions: Surgical volume influences the failure pattern after parathyroidectomy for hyperparathyroidism. Preventable surgical failures are more common in low volume centers.

32**Normothermia After Gastrointestinal Surgery: Holy Grail or False Idol?**

Simon J. Lehtinen, BA*, Georgiana Onicescu, ScM*,
Kathy Kuhn, RN*, **David J. Cole, MD**, Nestor F. Esnaola, MD*
Medical University of South Carolina, Charleston, SC

Objectives: Although active warming during colorectal (CR) surgery decreases surgical site infections (SSIs), there is limited evidence that immediate postoperative hypothermia (IPH, $T < 36^{\circ}\text{C}$) *per se* is associated with SSIs. Nonetheless, hospitals currently report postoperative normothermia rates after CR surgery as part of CMS' Surgical Care Improvement Project.

Methods: We conducted a nested, matched, case-control study to analyze the association between IPH and SSIs after gastrointestinal (GI) surgery. Cases consisted of all GI surgery patients (pts) entered into our National Surgical Quality Improvement Program (NSQIP) database between 3/2006–3/2009 who developed SSIs. Patient/surgery risk factors for SSI were obtained from the NSQIP database. Perioperative temperature/antibiotic/glucose data was obtained from medical records. Cases/controls were compared using univariate random effects regression models. Independent risk factors for SSIs were identified using multivariate random effects logistic regression models.

Results: 146 cases and 323 matched controls were identified; 82% of pts underwent non-CR surgery. Cases/controls were similar with respect to percentage of pts with IPH (29.4% v. 34.7%, respectively, $P = 0.27$). Emergent surgery and/or contaminated wounds were associated with lower rates of IPH. Independent risk factors for SSIs were diabetes, surgical complexity, and small bowel/non-laparoscopic surgery. There was no association between IPH and SSIs, even when controlling for pt/surgery/wound-characteristics and perioperative antibiotics/glucose (adjusted OR, 1.14; 95% CI, 0.65–2.00; $P = 0.66$).

Conclusions: IPH is not associated with SSIs after GI surgery. Pay-for-reporting measures focusing on normothermia after CR surgery may be of limited clinical value. Trials to determine the benefit of active warming during non-CR GI surgery are warranted.

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9	Cordelia Sharma
17	Gregg Shea
7	Perry Shen
30	Stuart Sherman
23	Hyun Joo Shin
26	Joyce Shin
26	Allan Siperstein
31	Rebecca S. Sippel
16	Julie Ann Sosa
3	Steven C. Stain
10	L.P.S. Stassen
8	Lygia Stewart
10	E.W. Steyerberg
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18	George J. Stukenborg
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28	Stefan G. Tullius
5	Marshall Urist
3	R.J. Valentine
9	Kathy Vandervoort
22	Ara A. Vaporciyan
13	Vic Velanovich

Prog. #	Author
24	Omaida C. Velazquez
27	Robert S. Venick
16	Kate Viola
12	Jon D. Vogel
7	Zev Wainberg
31	Tracy Wang
25	Brad W. Warner
6	Daniel Warren
22	Thomas J. Watson
8	Lawrence W. Way
10	W.F. Weidema
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1	Pat W. Whitworth
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15	Felicia N. Williams
31	Stuart Wilson
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17	Chris J. Wirtalla
11	Agnes K. Witkiewicz
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31	Tina Yen
11	Charles J. Yeo
16	Heather Yeo
24	Ying Zhuge
30	Kathryn M. Ziegler
29	Robert M. Zwolak
30	Nicholas J. Zyromski



The Fairmont | Chicago, Illinois
April 8–10, 2010

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	Session(s) Attended	Available Credits	Earned Credits
Thursday:	Scientific Session	2.00	_____
	Presidential Address	1.00	_____
	Scientific Session	4.00	_____
Friday:	Scientific Session	2.50	_____
	Forum Discussion: "The Impact of Healthcare Reform on Surgery"	2.00	_____
	Scientific Session	2.50	_____
Saturday:	Scientific Session	3.00	_____
TOTAL HOURS (maximum 17 credits):			_____

This is to certify that I, _____, M.D.,
attended the 130th Annual Meeting of the *American Surgical Association*
from April 8–10, 2010 in Chicago, Illinois.

THIS CARD IS YOUR PERSONAL RECORD OF ATTENDANCE FOR CONTINUING
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**American Surgical Association
130th Annual Meeting
The Fairmont | Chicago, Illinois
April 8–10, 2010**

PLEASE NOTE:

Most organizations and state licensing boards are accepting for CME credit those programs that qualify for credit under the American Medical Association's Physician's Recognition Award under the ACCME's accrediting program. To the best of our knowledge, these organizations and boards will accept a listing or log of your CME credits on an honor system. They do, however, expect you to keep in your files accurate records of your CME activities in the event there is need to audit your claim.

We encourage you to study any CME regulations that affect you and write the Association for verification only when it is absolutely necessary.

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Beverly, MA 01915 USA

SCHEDULE-AT-A-GLANCE

THURSDAY, APRIL 8th

- 8:15 a.m. President's Opening Remarks Imperial Ballroom
Secretary's Welcome and Introduction of New Fellows
Elected in 2009
President's Introduction of Honorary Fellows
Report of the Committee on Arrangements
Presentation of the Medallion for Scientific Achievement
- 9:10 a.m. Scientific Session I Imperial Ballroom
Moderator: Donald D. Trunkey, MD
- 11:00 a.m. Address by the President Imperial Ballroom
Donald D. Trunkey, MD
- 1:30 p.m. Scientific Session II Imperial Ballroom
Moderator: Kirby I. Bland, MD

FRIDAY, APRIL 9th

- 8:00 a.m. Scientific Session III Imperial Ballroom
Moderator: Donald D. Trunkey, MD
- 10:30 a.m. Forum Discussion: Imperial Ballroom
"The Impact of Healthcare Reform on Surgery"
Moderator: Donald D. Trunkey, MD
- 1:30 p.m. Scientific Session IV Imperial Ballroom
Moderator: Tom R. DeMeester, MD
- 4:00 p.m. Executive Session (*Fellows Only*) Imperial Ballroom
Presentation of the Flance-Karl Award
- 7:00 p.m. Annual Reception International Ballroom
- 8:00 p.m. Annual Banquet International Ballroom
(*Black tie preferred, but dark suits are acceptable.*)

SATURDAY, APRIL 10th

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

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