



MIDWEST SURGICAL ASSOCIATION

59th ANNUAL MEETING

Grand Hotel
Mackinac Island, Michigan
August 7-10, 2016

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Officers, Councilors, & Past Presidents

OFFICERS

| | | |
|--------------------------------|-------------------------------------|-----------|
| Conor P. Delaney, MD, MCh, PhD | President | 2015-2016 |
| Margo C. Shoup, MD | President - Elect | 2015-2016 |
| James G. Tyburski, MD | Immediate Past President | 2015-2016 |
| William C. Cirocco, MD | Treasurer | 2013-2016 |
| Constantine Godellas, MD | Secretary | 2015-2018 |
| Nicholas J. Zyromski, MD | Recorder | 2014-2017 |
| Donn Schroder, MD | Representative, ACS | 2015-2018 |
| Christopher R. McHenry, MD | ACS Advisory Council for Surgery | 2013-2016 |

COUNCILORS

| | | |
|-------------------------|---------------------|-----------|
| Richard Berri, MD | Grosse Pointe, MI | 2015-2018 |
| David Farley, MD | Rochester, MN | 2015-2018 |
| Samir K. Gupta, MD | Peoria, IL | 2013-2016 |
| Peter Hallowell, MD | Charlottesville, VA | 2014-2017 |
| Jeffrey Hardacre, MD | Cleveland, OH | 2015-2018 |
| Christian Jones, MD | Columbus, OH | 2013-2016 |
| David Linz, MD | Canton, OH | 2014-2017 |
| Robert P. Sticca, MD | Grand Forks, ND | 2013-2016 |
| Richard Stoltenberg, MD | Racine, WI | 2014-2017 |

PAST PRESIDENTS

| | | |
|-----------------------|---------------|------|
| James G. Tyburski, MD | Detroit, MI | 2015 |
| Raymond P. Onders, MD | Cleveland, OH | 2014 |
| Stephen F. Sener, MD | Pasadena, CA | 2013 |

Committees

LOCAL ARRANGEMENTS COMMITTEE

| | | |
|--------------------------|--------------|--------------|
| Steven De Jong, MD | Maywood, IL | 2017 MSA/CSA |
| William Cirocco, MD | Columbus, OH | 2016 |
| Constantine Godellas, MD | Maywood, IL | 2015 |

AUDIT COMMITTEE

| | | |
|-----------------------|--------------------------|-----------|
| Donn Schroder, MD | Grosse Pointe Shores, MI | 2015-2016 |
| Raymond P. Onders, MD | Cleveland, OH | 2015-2016 |

PROGRAM COMMITTEE

| | | |
|--------------------------------|------------|-----------|
| Scott M. Wilhelm, MD | Chair | 2012-2017 |
| Conor P. Delaney, MD, MCh, PhD | Ex Officio | 2015-2016 |
| Constantine Godellas, MD | Ex Officio | 2015-2018 |
| Nicholas J. Zyromski, MD | Ex Officio | 2014-2017 |
| Jeffrey S. Bender, MD | Advisor | 2011-2016 |
| Theodor Asgerisson, MD | | 2013-2018 |
| Jonathan M. Saxe, MD | | 2014-2019 |
| Allan Ladd, MD | | 2015-2020 |

MEMBERSHIP COMMITTEE

| | | |
|--------------------------------|------------|-----------|
| Arthur M. Carlin, MD | Chair | 2013-2016 |
| Conor P. Delaney, MD, MCh, PhD | Ex Officio | 2015-2016 |
| Constantine Godellas, MD | Ex Officio | 2015-2018 |
| Heather Dolman, MD | | 2015-2018 |
| Carlos Rodriguez, MD | | 2015-2018 |
| Mary C. McCarthy, MD | | 2013-2016 |
| Keith W Millikan, MD | | 2013-2016 |
| Brian Shapiro, MD | | 2014-2017 |

Committees continued

EDITORIAL COMMITTEE

| | | |
|------------------------------|-------|-----------|
| Nicholas J. Zyromski, MD | Chair | 2014-2017 |
| Samir K. Gupta, MD | | 2012-2016 |
| James Madura, MD | | 2015-2019 |
| Michael F. McGee, MD | | 2013-2017 |
| Roderich E. Schwarz, MD, PhD | | 2013-2017 |

NOMINATING COMMITTEE

| | | |
|-----------------------|-------|-----------|
| James G. Tyburski, MD | Chair | 2016-2020 |
| Raymond P. Onders, MD | | 2015-2019 |
| Stephen F. Sener, MD | | 2014-2018 |
| Richard A. Berg, MD | | 2013-2017 |
| Roxie M. Albrecht, MD | | 2012-2016 |

Meeting Information

OBJECTIVES

Upon completion of this activity, participants should be able to:

1. Discuss information presented on the research activities of the association's members and make clinical decisions based on current evidence within their practices.
2. Apply information gained through broad view, collaborative research into future basic and clinical research activities which may in turn benefit the next cycle of members.
3. Utilize research results to initiate optimization of the educational experience to maximally benefit resident training within the framework of work hour restrictions.

The purpose of this conference is to provide a vehicle for the distribution of peer-reviewed basic and clinical science research and to provide an opportunity for dialogue concerning topics of interest to the members of the Midwest Surgical Association. The target audience is surgeons.

DISCLOSURE INFORMATION

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

CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

Accreditation

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

AMA PRA Category 1 Credits™

The American College of Surgeons designates this live activity for a maximum of **10.75** AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Of the AMA PRA Category 1 Credits™ listed above, a maximum of **8.25** credits meet the requirements for Self-Assessment.



AMERICAN COLLEGE OF SURGEONS
*Inspiring Quality:
Highest Standards, Better Outcomes*



AMERICAN COLLEGE OF SURGEONS
DIVISION OF EDUCATION
*Accredited with Commendation by the
Accreditation Council for Continuing Medical Education*

Future Meetings

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>CENTRAL SURGICAL ASSOCIATION MIDWEST SURGICAL ASSOCIATION</p> | <p>2017 ANNUAL MEETING</p> |  <p>July 30 – August 1, 2017 IN Chicago, IL</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|

Past Presidents of the MSA

| | | |
|------------------------------|--------------------------------------|------|
| James Tyburski, MD | Lake Geneva, WI | 2015 |
| Raymond P. Onders, MD | Mackinac Island, MI | 2014 |
| Stephen F. Sener, MD | Acme, MI | 2013 |
| Richard A. Berg, MD | Mackinac Island, MI | 2012 |
| Roxie M. Albrecht, MD | Galena, IL | 2011 |
| Donn M. Schroder, MD | Mackinac Island, MI | 2010 |
| Jerry M. Hardacre, II, MD | Lake Geneva, WI | 2009 |
| James R. DeBord, MD | Mackinac Island, MI | 2008 |
| Anthony Senagore, MD | Farmington, PA | 2007 |
| Christopher McHenry, MD | Mackinac Island, MI | 2006 |
| Steven A. De Jong, MD | Niagara-on-the-Lake, Ontario, Canada | 2005 |
| Donald W. Moorman, MD | Mackinac Island, MI | 2004 |
| John P. Hoffman, MD | Galena, IL | 2003 |
| Larry R. Lloyd, MD | Mackinac Island, MI | 2002 |
| Donald J. Scholten, MD | Lake Geneva, WI | 2001 |
| Thomas A. Stellato, MD | Mackinac Island, MI | 2000 |
| Norman C. Estes, MD | Galena, IL | 1999 |
| Darrell A. Campbell, Jr., MD | Mackinac Island, MI | 1998 |
| Richard A. Prinz, MD | Sawmill Creek, OH | 1997 |
| Thomas A. Broadie, MD | Mackinac Island, MI | 1996 |
| Jason H. Bodzin, MD | Grand Traverse, MI | 1995 |
| Willard S. Stawski, MD | Mackinac Island, MI | 1994 |
| Gerard V. Aranha, MD | Lincolnshire, IL | 1993 |
| William C. Boyd, MD | Mackinac Island, MI | 1992 |
| Douglas B. Dorner, MD | Grand Traverse, MI | 1991 |
| John L. Glover, MD | Mackinac Island, MI | 1990 |
| Jack Pickleman, MD | Kohler, WI | 1989 |
| Samuel D. Porter, MD | Mackinac Island, MI | 1988 |
| William H. Baker, MD | Lake Geneva, WI | 1987 |
| Scott W. Woods, MD | Mackinac Island, MI | 1986 |
| Angelos A. Kambouris, MD | Lake Geneva, WI | 1985 |
| Richard E. Dean, MD | Mackinac Island, MI | 1984 |
| Anna M. Ledgerwood, MD | Sawmill Creek, OH | 1983 |
| Robert T. Soper, MD | Mackinac Island, MI | 1982 |
| G. Howard Glassford, MD | Lake Geneva, WI | 1981 |
| Clark Herrington, MD | Mackinac Island, MI | 1980 |

Past Presidents of the MSA continued

| | | |
|----------------------------|----------------------|------|
| Kenneth J. Printen, MD | Lincolnshire, IL | 1979 |
| Robert D. Allaben, MD | Mackinac Island, MI | 1978 |
| Richard S. Webb, MD | Itasca, IL | 1977 |
| Charles E. Lucas, MD | Mackinac Island, MI | 1976 |
| Frank A. Folk, MD | Itasca, IL | 1975 |
| Robert F. Wilson, MD | Mackinac Island, MI | 1974 |
| William H. Marshall, MD | Oakbrook, IL | 1973 |
| Ernest M. Berkas, MD | Mackinac Island, MI | 1972 |
| Wendell J. Schmidtke, MD | Valparaiso, IN | 1971 |
| Robert J. Freeark, MD | Kalamazoo, MI | 1970 |
| Robert A. De Bord, MD | Peoria, IL | 1969 |
| Vernon L. Guynn, MD | Lake Geneva, WI | 1968 |
| Jack C. Cooley, MD | Champaign-Urbana, IL | 1967 |
| Robert P. Hohf, MD | St. Charles, IL | 1966 |
| Douglas R. Morton, MD | St. Charles, IL | 1965 |
| William H. Harridge, MD | St. Charles, IL | 1964 |
| John B. Moore, III, MD | Champaign-Urbana, IL | 1963 |
| Peter V. Moulder, MD | Genoa City, WI | 1962 |
| Thomas W. Samuels, Jr., MD | Chicago, IL | 1961 |
| James Cross, MD | Rockton, IL | 1960 |
| Loring S. Helfrich, MD | Rockton, IL | 1959 |
| Loring S. Helfrich, MD | Rockton, IL | 1958 |

Mission Statement

The Midwest Surgical Association is a surgical organization made up of surgeons who have established reputations as practitioners, authors, teachers, and/or original investigators. The objective of this society is to exemplify and promote the highest standards of surgical practice, especially among young surgeons in the Midwest. The annual meeting is held in late July/early August each year in different locations throughout the Midwest and consists of a stimulating scientific program of the highest quality and a social program planned with children and families in mind.

PLEASE NOTE OUR NEW ADDRESS

THE MIDWEST SURGICAL ASSOCIATION

2625 West 51st Terrace
Westwood, KS 66205

Telephone: 913-402-7102

Fax: 913-273-1140

Email: events@lp-etc.com

Web: www.midwestsurg.org

New Members 2015

**Congratulations and welcome to the following
New Members elected at the 2015 Annual Meeting:**

Joshua Matthew Varghise Mammen, MD

Kansas City, KS

Dharmesh M. Patel, MD

Evansville, IN

John Ammori, MD

Cleveland, OH

John Daniel Abad, MD

Warrenville, IL

Mujjahid Abbas, MD

Cleveland, OH

Faaiza T. Vaince, MD

Maywood, IL

Carlos Hermes Rodriguez, MD

Grand Rapids, MI

Christian Jones, MD

Baltimore, MD

Steven Stergios Tsoraides, MD, MPH

Peoria, IL

Amber Linnell Traugott, MD

Columbus, OH

Craig Alan Miller, MD

Hendersonville, NC

Steven M. Steinberg, MD

Columbus, OH

Marc Adam Singer, MD

Chicago, IL

Midwest Surgical Association Foundation

The Midwest Surgical Association Foundation funding will be used solely for research awards, programming, special lectureship honorariums, and other appropriate scientific, research, or educational purposes.

The Midwest Surgical Association Foundation is a non-profit organization that is committed to exemplify, support, and promote the highest standards of surgical practice, especially among young surgeons of the Midwest. The Foundation has been organized to pursue exclusively charitable, educational, scientific, benevolent, and eleemosynary purposes including the promotion of surgical education and research that qualifies it as an exempt organization under Section 501(c)3 of the Internal Revenue Code of 1986 and exempt from taxation under Section 501(a).

The Foundation may engage directly in charitable, educational, scientific, benevolent, or eleemosynary activities, including activities to promote surgical education and research. With increased support, these key arenas will strengthen the Association.

Not everyone has the time to participate in all Midwest Surgical Association activities and conferences, but by donating to the Foundation you are able to help support current activities, conferences, research, and lectureships as well as future projects.

The Foundation is now able to accept donations from members or nonmembers. If you would like to support the Association through its Foundation, both current and deferred gifts may be made. These donations are tax deductible and should be made out directly to:

Midwest Surgical Association Foundation

2625 West 51st Terrace
Westwood, KS 66205

Telephone: 913-402-7102 Fax: 913-273-1140
Email: events@lp-etc.com Web: www.midwestsurg.org

Federal Tax I.D. Number: 20-8529483

You may also make donations on our web site using your Visa, MasterCard, Discover, or American Express credit card: **www.midwestsurg.org**, under MSA Foundation and select Make a Donation.

If you have any questions, please contact MSA Headquarters at **913-402-7102**.

Schedule of Events

SUNDAY, AUGUST 7, 2016

- 12Noon – 6:00pm **MSA Registration Open**, Garden terrace
- 2:00pm – 4:00pm **MSA Executive Council Meeting**, Frank J. Kelley Conference Room
- 5:30pm – 6:00pm **New Member Reception**, West Front Porch
- 6:00pm – 7:00pm **Welcome Reception**, West Front Porch
- 8:00pm – 10:00pm **Children's Movie Presentation**, Headquarters of the Capitol Club
- 9:00pm – 11:00pm **Spectacular Problems in Surgery**, Theatre

MONDAY, AUGUST 8, 2016

- 7:00am – 8:00am **Annual 5k Fun Run**, Tennis Courts
- 7:00am – 1:00pm **MSA Registration Open**, Theatre Foyer
- 7:45am – 8:05am **Poster Viewing**, Theatre
- 8:05am – 8:15am **Welcome & Introductions**, Theatre
- 8:15am – 9:30am **Scientific Session I**, Theatre
- 9:15am – 9:45am **Scott Woods Memorial Lecture**, Theatre
- 9:45am – 10:00am **Break, Poster & Exhibit Viewing**, Theatre Foyer and Gerald Ford Conference Room
- 10:00am – 12:15pm **Scientific Session II**, Theatre
- 10:00am – 12Noon **MSA Spouse Program: Grand Hotel Cooking Demonstration**, Cottage Restaurant
- 12:15pm – 1:00pm **William H. Harridge Memorial Lecture**, Theatre
- 1:30pm **MSA Golf Tournament**, The Jewel Course
- 6:00pm – 7:00pm **Cocktail Reception**, West Front Porch
- 7:00pm – 10:30pm **MSA Annual Banquet & Dinner Dance**, Theatre

Schedule of Events

TUESDAY, AUGUST 9, 2016

| | |
|-------------------|--------------------------------------------------------------------------------------------------------------------|
| 7:00am – 1:30pm | MSA Registration Open , <i>Theatre Foyer</i> |
| 8:00am – 1:30pm | Exhibitor & Poster Displays Open , <i>Theatre Foyer and Gerald Ford Conference Room</i> |
| 8:05am – 8:15am | Morning Announcements , <i>Theatre</i> |
| 8:15am – 10:30am | Scientific Session III , <i>Theatre</i> |
| 10:00am – 12Noon | Spouse Program: Walking Tour presented by the Michigan State Historic Parks , <i>Front Porch – West End</i> |
| 10:30am – 10:45am | Break, Posters & Exhibit Viewing , <i>Theatre Foyer and Gerald Ford Conference Room</i> |
| 10:45am – 12:15pm | Scientific Session IV , <i>Theatre</i> |
| 12:15pm – 12:45pm | MSA Presidential Address , <i>Theatre</i> |
| 12:45pm – 1:30pm | MSA Annual Business Meeting , <i>Theatre</i> |
| 8:00pm | Taxis to Arnold Boat Cruise |
| 8:30pm – 10:30pm | MSA Boat Cruise |
| 10:30pm | Taxis to Return to Grand Hotel |

WEDNESDAY, AUGUST 10, 2016

Guest Departures

Family Program

SUNDAY, AUGUST 7, 2016

| | |
|------------------|--------------------------------------------------------------------------------|
| 12Noon – 6:00pm | MSA Registration Open , <i>Garden terrace</i> |
| 5:30pm – 6:00pm | New Member Reception , <i>West Front Porch</i> |
| 6:00pm – 7:00pm | Welcome Reception , <i>West Front Porch</i> |
| 8:00pm – 10:00pm | Children's Movie Presentation , <i>Headquarters of the Capitol Club</i> |
| 9:00pm – 11:00pm | Spectacular Problems in Surgery , <i>Theatre</i> |

MONDAY, AUGUST 8, 2016

| | |
|------------------|------------------------------------------------------------------------------------------|
| 7:00am – 8:00am | Annual 5k Fun Run , <i>Tennis Courts</i> |
| 7:00am – 1:00pm | MSA Registration Open , <i>Theatre Foyer</i> |
| 10:00am – 12Noon | MSA Spouse Program: Grand Hotel Cooking Demonstration , <i>Cottage Restaurant</i> |
| 1:30pm | MSA Golf Tournament , <i>The Jewel Course</i> |
| 6:00pm – 7:00pm | Cocktail Reception , <i>West Front Porch</i> |
| 7:00pm – 11:30pm | MSA Annual Banquet & Dinner Dance , <i>Theatre</i> |

TUESDAY, AUGUST 9, 2016

| | |
|-------------------|--------------------------------------------------------------------------------------------------------------------|
| 7:00am – 1:30pm | MSA Registration Open , <i>Theatre Foyer</i> |
| 10:00am – 12Noon | Spouse Program: Walking Tour presented by the Michigan State Historic Parks , <i>Front Porch – West End</i> |
| 12:15pm – 12:45pm | MSA Presidential Address , <i>Theatre</i> |
| 8:00pm | Taxis to Arnold Boat Cruise |
| 8:30pm – 10:30pm | MSA Boat Cruise |
| 10:30pm | Taxis to Return to Grand Hotel |

WEDNESDAY, AUGUST 10, 2016

Guest Departures

Note: Children are welcome at all social events.

Note: See MSA Registration Desk for additional details on recreational activities



SCIENTIFIC PROGRAM

Scientific Program

SUNDAY, AUGUST 7, 2016

12Noon - 6:00pm

MSA Registration Open

2:00pm - 4:00pm

MSA Executive Council Meeting

5:30pm - 6:00pm

New Member Reception

6:00pm - 7:00pm

Welcome Reception

7:00pm - 8:45pm

Dinner Seating (on own)

8:00pm - 10:00pm

Children's Movie Presentation

9:00pm - 11:00pm

Spectacular Problems in Surgery

Moderators: Conor P. Delaney, MD, MCh, PhD

Margo C. Shoup, MD

9:00pm - 9:15pm

SP # 1. ENDOSCOPIC TREATMENT OF UNDIAGNOSED MIRIZZI SYNDROME LEADS TO NECROTIZING PANCREATITIS COMPLICATED BY DELAYED BOWEL PERFORATIONS

Nally MC, Gupta SK

Rush University Medical Center

9:15pm - 9:30pm

SP # 2. GUNSHOT WOUND WITH CELIAC ARTERY TRANSECTION AND AORTO-CAVAL FISTULA REPAIRED USING A HYBRID OPEN AND RESUSCITATIVE ENDOVASCULAR BALLOON OCCLUSION TECHNIQUE

Fredericks C, Yon JR, Starr F, Gupta S, Bokhari F

John H. Stroger, Jr. Hospital of Cook County

Scientific Program *continued*

9:30pm – 9:45pm

SP # 3. THE CASE OF THE HERNIATED RENAL TRANSPLANT... OR IS IT?

Kupstas A, Granger D, Butt F

St. John Hospital and Medical Center

9:45pm – 10:00pm

SP # 4. LEARNING FROM OUR FAILURES: TWO CASES OF BLUNT CELIAC ARTERY INJURIES

Peschman JR, Loomis EA, Cullinane D, Jenkins D, Kim BD,

Zielinski M

Mayo Clinic

10:00pm – 10:15pm

SP # 5. DESTRUCTIVE CHEST WALL INJURY WITH ASSOCIATED DISARTICULATION FROM THE THORACIC SPINE: CHALLENGES TO MANAGING THE PATIENT WITH MULTIPLE INJURIES

Landmann A, Lees JS, Scifres AM, Roberts PR, Albrecht RM

University of Oklahoma Health Science Center

10:15pm – 10:30pm

SP # 6. MANAGEMENT OF ASYMPTOMATIC INTRA-CARDIAC GUNSHOT WOUND

Boron JG, Yon J, Fredricks C, Kaminsky M, Nash J, Gupta SK

John H. Stroger, Jr. Hospital of Cook County

10:30pm – 10:45pm

SP # 7. SIGNIFICANT VASCULAR CHALLENGES DURING AND AFTER PANCREATIC RESECTION

Correa-Gallego C, Schwarz RE

IU Health Goshen

10:45pm – 11:00pm

SP # 8. NON-OPERATIVE MANAGEMENT OF CENTRAL VENOUS CATHETER INJURY TO SUPERIOR VENA CAVA.

Albrecht RM, Greif BA

University of Oklahoma Health Science Center

Scientific Program continued

MONDAY, AUGUST 8, 2016

7:00am - 8:00am

Annual 5k Fun Run

7:00am - 1:00pm

MSA Registration Open

7:45am - 8:05am

Poster Viewing

8:05am - 8:15am

Welcome & Introductions

Conor P. Delaney, MD, MCh, PhD

8:15am - 9:30am

Scientific Session I

Moderator: Scott Wilhelm, MD

8:15am - 8:30am

**#1. ULTRASOUND BASED FOCUSED NECK EXPLORATION
FOR PRIMARY HYPERPARATHYROIDISM**

Bradley SJ, Knodle KF

Wayne State University

8:30am - 8:45am

**#2. EFFECT OF RESIDENT PARTICIPATION ON OPERATIVE
DURATION IN OUTPATIENT GENERAL SURGERY**

Dull MB, Gier CP, Hutchinson DD, Carroll JT, Hobbs DJ, Gawel JC

Grand Rapids Medical Education Partners - Michigan State University

8:45am - 9:00am

**#3. IMPACT OF INTEGRATED RESIDENCIES ON GENERAL SURGERY
OPERATIVE VOLUME**

Choi JN, Nickel B, Jensen A, Canal D, Torbeck L

Indiana University School of Medicine

Scientific Program continued

9:00am – 9:15am

#4. ARE LARGE BENIGN THYROID NODULES MORE LIKELY TO HARBOR CANCER MISSED ON FINE-NEEDLE ASPIRATION?

Shi HH, Bobanga ID, McHenry CR

MetroHealth Medical Center Case Western Reserve University

9:15am – 9:45am

Scott Woods Memorial Lecture:

“Current Controversies in Pancreatic Cystic Neoplasms”

Matthew Walsh, MD

Cleveland Clinic Foundation

9:45am – 10:00am

Break, Poster & Exhibit Viewing

10:00am – 12:15pm

Scientific Session II

Moderator: Conor P. Delaney, MD, MCh, PhD

10:00am – 10:15am

#5. PHARMACOGENOMICS-GUIDED ANALGESICS IN MAJOR ABDOMINAL SURGERY: FURTHER BENEFITS WITHIN AN ENHANCED RECOVERY PROTOCOL?

Senagore AJ, Dosokey E, Steele S, Brady J, Stein S, Neupane R, Bosio R, Reynolds H, Champagne B

University Hospitals/Case Western Reserve University

10:15am – 10:30am

#6. DO SIMPLE BEDSIDE LUNG FUNCTION TESTS PREDICT MORBIDITY AFTER RIB FRACTURES?

Butts C, Wilhelm S, Castor L, Sherwood A, Patch J, McCall A, Brady J, Ong AW
Reading Hospital

10:30am – 10:45am

#7. ONLINE PUBLIC REPORTING OF SURGEON OUTCOMES AFTER LAPAROSCOPIC CHOLECYSTECTOMY: WHERE IS THE INFORMATION COMING FROM AND IS IT ACCURATE?

Nally MC, Packer DM, Millikan K, Luu MB

Rush University Medical Center

Scientific Program continued

10:45am – 11:00am

#8. IS ROUTINE USE OF ADJUVANT CHEMOTHERAPY FOR RECTAL CANCER WITH COMPLETE PATHOLOGICAL RESPONSE JUSTIFIED?

Gamaleldin M, Stocchi L, Kalady M, Church J, Gorgun E
Cleveland Clinic Foundation

11:00am – 11:15am

#9. IS INTRAOPERATIVE PARATHYROID HORMONE MONITORING NECESSARY FOR PRIMARY HYPERPARATHYROIDISM WITH CONCORDANT PREOPERATIVE IMAGING?

Bobanga ID, McHenry CR
MetroHealth Medical Center Case Western Reserve University

11:15am – 11:30am

#10. THE ROLE OF SURGICAL EXCISION WITH IMPROVED BREAST IMAGING AND BIOPSY TECHNIQUES: IS THERE STILL A NEED?

Nally MC, Kang D, Iwanicki M, Park L, Poirier J, Kopkash K, Madrigano A
Rush University Medical Center

11:30am – 11:45am

#11. TRANEXAMIC ACID AND THE GUT BARRIER: PROTECTION BY INHIBITION OF TRYPSIN UPTAKE AND ACTIVATION OF DOWNSTREAM INTESTINAL PROTEASES

Diebel LN, Diebel ME, Liberati DM
Wayne State University

11:45am – 12Noon

#12. DOES TOBACCO EXPOSURE ACCELERATE INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM MALIGNANT PROGRESSION?

Carr RA, Roch AM, Shaffer K, Aboudi S, Schmidt CM II, Ceppa EP, House MG, Zyromski NJ, Nakeeb A, Schmidt CM
Indiana University School of Medicine

12Noon – 12:15pm

#13. PATIENT FACTORS INFLUENCE ASPIRATION RISK AFTER ABDOMINOPELVIC ONCOLOGIC SURGERY

Grindstaff EM, Blackwell RH, Yau RM, Evans AE, He EC, Kothari AN, Gupta GN, Kuo PC, Abood GJ
Loyola University Medical Center

Scientific Program continued

10:00am – 12Noon

MSA Spouse Program: Grand Hotel Cooking Demonstration

12:15pm – 1:00pm

**William H. Harridge Memorial Lecture:
“Current Status of Small Bowel Transplantation”**

John Fung, MD

Cleveland Clinic Foundation

1:30pm

MSA Golf Tournament

6:00pm – 7:00pm

Cocktail Reception

7:00pm – 10:30pm

MSA Annual Banquet & Dinner Dance

Scientific Program continued

TUESDAY, AUGUST 9, 2016

7:00am - 1:30pm

MSA Registration Open

8:00am - 1:30pm

Exhibitor & Poster Displays Open

8:05am - 8:15am

Morning Announcements

Conor P. Delaney, MD, MCh, PhD

8:15am - 10:30am

Scientific Session II

Moderator: Jonathan Saxe, MD

8:15am - 8:30am

#14. ASSESSING SURGICAL RESIDENTS' IMAGING INTERPRETATION SKILLS

Eid JJ, Pabani A, Mittal VK

Providence Hospital and Medical Centers

8:30am - 8:45am

#15. PERIOPERATIVE SUPPORT, NOT VOLUME, NECESSARY TO OPTIMIZE OUTCOMES IN SURGICAL MANAGEMENT OF NECROTIZING ENTEROCOLITIS

Cobb AN, Wong YM, Brownlee SA, Blanco BA, Ezure Y, Kuo PC, Kothari AN

Loyola University Medical Center

8:45am - 9:00am

#16. AN INSTITUTIONAL COMPARISON OF TOTAL ABDOMINAL COLECTOMY AND DIVERTING LOOP ILEOSTOMY AND COLONIC LAVAGE IN THE TREATMENT OF SEVERE, COMPLICATED CLOSTRIDIUM DIFFICILE INFECTIONS

Hallowell PT, Fashandi AZ, Martin AN, Wang PT, Hedrick TL,

Friel CM, Smith PW, Hays AR

University of Virginia

9:00am – 9:15am

#17. LAPAROSCOPIC PANCREATICODUODENECTOMY FOR ADENOCARCINOMA RESULTS IN SHORT-TERM ONCOLOGIC OUTCOMES AND LONG-TERM OVERALL SURVIVAL RATES IDENTICAL TO THOSE FOR OPEN PANCREATICODUODENECTOMY BUT AFFORDS SHORTER HOSPITALIZATION

Kantor O, Talamonti M, Sharpe S, Lutfi W, Winchester DJ,
Prinz RA, Baker MS
NorthShore University Health System

9:15am – 9:30am

#18. IMPACT OF HOSPITAL TRANSFER ON SURGICAL OUTCOMES OF INTESTINAL ATRESIA

PG Vana, TR Erickson, BA Blanco, SA Brownlee, PC Kuo,
AN Kothari
Loyola University Medical Center

9:30am – 9:45am

#19. IS EXTERNAL BEAM RADIATION FOR NEOADJUVANT THERAPY OF EARLY STAGE PANCREATIC CANCER A VALUE ADDED PROPOSITION?

Lutfi W, Talamonti MS, Kantor O, Wang CH, Stocker SJ, Bentrem DJ, Roggin KK,
Winchester DJ, Marsh R, Prinz RA, Baker MS
NorthShore University Health System

9:45am – 10:00am

#20. DOES SCRIPTING OPERATIVE PLANS IN ADVANCE LEAD TO BETTER PREPAREDNESS OF TRAINEES? A PILOT STUDY

Gas BL, Mohan M, Jyot A, Farley DR
Mayo Clinic

10:00am – 10:15am

#21. UTILITY OF FEEDING JEJUNOSTOMY TUBES IN PANCREATICODUODENECTOMY

Chung MH, Waliye HE, Wright GP, McCarthy C, Johnson J, Scales A
Spectrum Health Medical Group

Scientific Program continued

10:15am – 10:30am

#22. THE IMPACT OF IMMEDIATE BREAST RECONSTRUCTION AFTER MASTECTOMY ON TIME TO FIRST ADJUVANT TREATMENT IN WOMEN WITH BREAST CANCER IN A COMMUNITY SETTING

Henry LR, Morris L, Downs R, Schwarz RE

Indiana University School of Medicine

10:00am – 12Noon

Spouse Program: Walking Tour presented by the Michigan State Historic Parks

10:30am – 10:45am

Break, Posters & Exhibit Viewing

10:45am – 12:15pm

Scientific Session III

Moderator: Constantine Godellas, MD

10:45am – 11:00am

#23. POST-CHOLECYSTECTOMY MORBIDITY AND MORTALITY AMONG OBESE AND SUPER-OBESE PATIENTS: A NSQIP MATCHED ANALYSIS

Augustin T, Schneider E, Brethauer S, Ali A, Kroh M, Walsh RM

Cleveland Clinic Foundation

11:00am – 11:15am

#24. DISCHARGE CRITERIA AFTER COLON RESECTION: IS RETURN OF BOWEL FUNCTION NECESSARY?

Ellis CN

Texas Tech University Health Science Center Permian Basin

11:15am – 11:30am

#25. COLORECTAL CANCER: QUALITY OF SURGICAL CARE IN MICHIGAN

Hendren S, Kanters A, Mullard AJ, Arambula J, Fasbinder L, Wong SL, Campbell DA

University of Michigan

Scientific Program *continued*

11:30am – 11:45am

#26. EVALUATING SURGICAL MANAGEMENT AND OUTCOMES OF COLOVAGINAL FISTULA REPAIR

Wen Y, Choi D, Dossokey EMG, Althans AR, Brady JT, Nishtala M, Delaney CP, Steele SR

University Hospitals/Case Western Reserve University

11:45am – 12:00pm

#27. SURGICAL FIRES AND OPERATIVE BURNS: LESSONS LEARNED FROM A 30 YEAR REVIEW OF MEDICAL LITIGATION

Choudhry AJ, Haddad NN, Zielinski MD

Mayo Clinic

12:00pm – 12:15pm

#28. LAPAROSCOPIC LIVER RESECTION: AN EXPERIENCE OF 219 CASES

Elshamy M, Takahashi H, Akyuz M, Yazici P, Yigitbas H, Aucejo F, Quintini C, Berber E

Cleveland Clinic Foundation

12:15pm – 12:45pm

MSA Presidential Address: "Chasing Surgical Value"

Conor P. Delaney, MD, MCh, PhD

Cleveland Clinic Foundation

12:45pm – 12:50pm

2016 "Surgeon in Training Paper Competition" Award Announcement

12:50pm – 1:30pm

MSA Annual Business Meeting

Posters

POSTER # 1. ASSOCIATION OF POLYMORPHISMS IN FENTANYL METABOLISM WITH POSTOPERATIVE ILEUS

Caldwell MD, Clay JA

Marshfield Clinic-St. Joseph's Hospital

POSTER # 2. EDUCATIONAL CONFERENCE PARTICIPATION RATES BETWEEN INTERNS DURING ACGME 16 HOUR DUTY RESTRICTIONS AND THE INTERVENTION ARM OF THE FLEXIBILITY IN DUTY HOUR REQUIREMENTS FOR SURGICAL TRAINEES TRIAL

Stallman B, Vavra J, Marcero J, Edhayan E

St. John Hospital and Medical Center

POSTER # 3. PREDICTORS OF INCREASED HOSPITAL LENGTH OF STAY IN ELECTIVE COLORECTAL SURGERY

Hobbs DJ, Dull MB, Wilkes AW, Smith JR, Ogilvie Jr. JW, Luchtefeld MA

Michigan State University/Grand Rapids Medical Education Partners General Surgery Residency

POSTER # 4. ARE ADVANCED AGE PATIENTS ON ANTICOAGULATION OR ANTIPLATELET THERAPY WHO SUFFER LOW-ALTITUDE FALLS MORE LIKELY TO BENEFIT FROM REPEAT HEAD COMPUTED TOMOGRAPHY?

Ruggero JM, Bauman ZM, Barnes S, Lopez PP

Henry Ford Macomb Hospital

POSTER # 5. FACTORS ASSOCIATED WITH PORTO-MESENERIC VENOUS THROMBOSIS AFTER TOTAL COLECTOMY WITH ILEORECTAL ANASTOMOSIS OR END ILEOSTOMY

Onder A, Aydinli HH, Stocchi L, Ozuner G, Remzi F, Gorgun E

Cleveland Clinic Foundation

POSTER # 6. IS NASOTRACHEAL INTUBATION SAFE IN FACIAL TRAUMA PATIENTS?

Tse W, Jazayeri-Moghaddas OP, Gans AJ, Herzing KA, Markert RJ,

McCarthy MC

Wright State University Boonshoft School of Medicine

POSTER # 7. ATTEMPTING A LAPAROSCOPIC APPROACH IN PATIENTS UNDERGOING LEFT-SIDED COLORECTAL SURGERY WHO HAVE HAD A PREVIOUS LAPAROTOMY:

IS IT FEASIBLE?

Jabir MA, Wen Y, Dosokey EMG, Choi D, Brady JT, Stein SL, Delaney CP, Steele SR
University Hospitals/Case Western Reserve University

POSTER # 8. TRAUMA SURGEON UTILIZATION OF CT: ROOM FOR IMPROVEMENT?

Moyer JA, Wordofa FD, Sigal A, Sandel K, Fernandez FB,
Ong AW
Reading Hospital

POSTER # 9. ARE THYROIDECTOMY AND PARATHYROIDECTOMY SAFE DURING PREGNANCY?

Rajjoub SR, Cherenfant J, Kuchta K, Gage M, Lutfi W, Wang CH, Winchester DJ,
Prinz RA, Moo-Young TA
NorthShore University Health System

POSTER # 10. COMPLETION THYROIDECTOMY: INDICATIONS AND OUTCOMES

Choong KC, McHenry CR
MetroHealth Medical Center Case Western Reserve University

POSTER # 11. EARLY FOLEY CATHETER REMOVAL IS NOT ASSOCIATED WITH DECREASED URINARY TRACT INFECTIONS IN PATIENTS AFTER THORACIC SURGERY WITH EPIDURAL CATHETERS

Hayakawa E, Vlahu T, Ellens N, Arthur R, Hamersma Z,
Kern B, Jaklitch P, Willekes C
Grand Rapids Medical Education Partners - Michigan State University

POSTER # 12. INTRAOPERATIVE RADIATION THERAPY FOR PATIENTS WITH LOCALLY ADVANCED COLORECTAL TUMORS: 16 YEARS OF EXPERIENCE

Brady JT, Wen Y, Dosokey EMG, Jabir MA, Steele SR, Stein SL, Reynolds HL
University Hospitals/Case Western Reserve University

POSTER # 13. PHEOCHROMOCYTOMA: A CLINICAL ENIGMA

McHenry CR, Khoncarly SM, Albert JM

MetroHealth Medical Center Case Western Reserve University

POSTER #14. SELECTIVE NONOPERATIVE MANAGEMENT OF ABDOMINAL GUNSHOT WOUNDS WITH ISOLATED SOLID ORGAN INJURY

Reed BL, Patel NJ, McDonald AA, Baughman WC, Claridge JA, Como JJ

MetroHealth Medical Center Case Western Reserve University

POSTER # 15. THE HARM SCORE FOR GASTROINTESTINAL SURGERY: APPLICATION AND VALIDATION OF A NOVEL, RELIABLE AND SIMPLE TOOL TO MEASURE SURGICAL QUALITY AND OUTCOMES

Crawshaw BP, Keller DS, Brady JT, Augestad KM, Schiltz NK, Chandra Pillai AL, Koroukian SM, Navale SM, Steele SR,

Delaney CP

University Hospitals/Case Western Reserve University

POSTER # 16. COMPLETED FDA FEASIBILITY TRIAL OF SURGICALLY PLACED TEMPORARY DIAPHRAGM PACING ELECTRODES: A PROMISING OPTION TO PREVENT AND TREAT RESPIRATORY FAILURE

Onders RP, Elmo MJ, Markowitz A, Hardacre J, Novitsky Y, Nearman H, Cindy Kaplan C

University Hospitals/Case Western Reserve University

POSTER # 17. CAN OLD DOGS LEARN NEW TRICKS? A NOVEL MODEL FOR TRAUMA SERVICE DEVELOPMENT

Saxe, JM, Jacobson, L, Edwards, M, Kaderabek, D, Tigges, T, Glass, T, Rowe, M
St. Vincent Medical Center

POSTER # 18. ASSESSMENT OF A NON-EXCISIONAL COHORT OF PATIENTS WITH ATYPICAL DUCTAL HYPERPLASIA ON CORE-NEEDLE BIOPSY

Leepalao MC, Kamien AJ, Seydel AS, Wernberg JA

Marshfield Clinic-St. Joseph's Hospital

POSTER # 19. CYTOREDUCTIVE SURGERY WITH HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY: MORBIDITY AND MORTALITY OF 120 CONSECUTIVE CASES PERFORMED AT A COMMUNITY HOSPITAL.

Jennifer Ford MD, John Morreale MD, Jeff Chores MS CCP,
Anna Boston ANP-BC, Karen Hagglund, Kimberly Coughlin,
Milton Desgrandchamps MS CRNA and Richard Berri MD FACS
St. John Hospital and Medical Center

POSTER # 20. VENOUS THROMBOEMBOLISM IN NECROTIZING PANCREATITIS: AN UNDERAPPRECIATED RISK

Roch AM, Carr RA, Lopes J, Ceppa EP, Yoder J, House MG, Nakeeb A,
Schmidt CM, Zyromski NJ
Indiana University School of Medicine

POSTER # 21. PROGRESS IN THE MANAGEMENT OF RUPTURED ABDOMINAL AORTIC ANEURYSMS

Simmons JM, Mansour AM, Cuff RF, Wong P, Chambers CM, Yassa ES,
Bordoli SJ, Slaikeu J
Spectrum Health Medical Group

POSTER # 22. HEAD INJURY ON WARFARIN: LIKELIHOOD OF DELAYED INTRACRANIAL BLEEDING IN PATIENTS WITH NEGATIVE INITIAL HEAD CT

Afaneh AA, Ford JM, Gharzeddine JR, Mazar AJ, Buck JR
St. John Hospital and Medical Center

POSTER # 24. POST-OPERATIVE MANAGEMENT OF PERFORATED APPENDICITIS; IMPROVING QUALITY AND OUTCOMES. A RETROSPECTIVE COHORT STUDY AND QUALITY IMPROVEMENT PROJECT

Gerard R, Kielhorn B, Petersen B, Mullard A, McCahill L
MetroHealth Medical Center Case Western Reserve University

POSTER # 25. OUTCOMES AFTER LAPAROSCOPIC OR ROBOTIC ASSISTED COLECTOMY AND OPEN COLECTOMY WHEN COMPARED BY OPERATIVE TIME FOR THE PROCEDURE

Philip SJ, Jackson N, Mittal VJ
Providence Hospital and Medical Centers



SPECTACULAR PROBLEMS IN SURGERY ABSTRACTS

Spectacular Problems in Surgery

SP1. ENDOSCOPIC TREATMENT OF UNDIAGNOSED MIRIZZI SYNDROME LEADS TO NECROTIZING PANCREATITIS COMPLICATED BY DELAYED BOWEL PERFORATIONS

Nally MC, Gupta SK

Rush University Medical Center

We present 57yo with choledocholithiasis. After ERCP, she developed pancreatitis requiring biliary drainage and prolonged ICU admission. She recovered, but had a large peripancreatic abscess that was drained. She returned in septic shock with respiratory failure and peritonitis. During emergent laparotomy, several bowel perforations were resected and a posterior duodenal injury was repaired and drained. She was unstable and returned to the ICU with temporary abdominal closure. She underwent ileostomy creation and cholecystectomy, when a cholecystocholedochal fistula with choledocholithiasis was identified requiring biliary exploration and choledochoscopy. The patient recovered and was discharged tolerating tube feeds with duodenal and biliary drains.

SP2. GUNSHOT WOUND WITH CELIAC ARTERY TRANSECTION AND AORTO-CAVAL FISTULA REPAIRED USING A HYBRID OPEN AND RESUSCITATIVE ENDOVASCULAR BALLOON OCCLUSION TECHNIQUE

Fredericks C, Yon JR, Starr F, Gupta S, Bokhari F

John H. Stroger, Jr. Hospital of Cook County

A 22-year old male presented after a gunshot wound. Chest x-ray revealed a bilateral thoracoabdominal trajectory. Following tube thoracostomies, a midline laparotomy was performed. Multiple injuries were encountered and repaired, and a central non-expanding retroperitoneal hematoma was seen but not explored, and the patient was packed and brought to the ICU for continued resuscitation. Subsequent abdominal CT-A demonstrated a celiac artery disruption and aorto-cava fistula. Open repair using fluoroscopic guidance and placement of a Resuscitative Endovascular Balloon Occlusion of the Aorta device was performed. This hybrid approach allowed for successful control of this rare, devastating, and often fatal injury.

Spectacular Problems in Surgery

SP3. THE CASE OF THE HERNIATED RENAL TRANSPLANT... OR IS IT?

Kupstas A, Granger D, Butt F

St. John Hospital and Medical Center

The care of renal transplant patients is a well-coordinated multidisciplinary practice. Prompt and accurate evaluation of post-operative complications is important to prevent injury to the newly transplanted organ. We report the case of a 28-year-old female who presented with a large mass, initially thought to be a hernia at the surgical site, 6 weeks after transplantation. The patient was eventually diagnosed with an encapsulated hematoma that required excision. This case illustrates that all may not be as it first appears and provides some insight into the diagnosis and management of surgical complications in the immunosuppressed transplant patient.

SP4. LEARNING FROM OUR FAILURES: TWO CASES OF BLUNT CELIAC ARTERY INJURIES

Peschman JR, Loomis EA, Cullinane D, Jenkins D, Kim BD, Zielinski M
Mayo Clinic

A 65 year old woman presented with multiple rib fractures and retroperitoneal fluid on CT following a MVC. After ICU admission, new onset hemorrhagic shock prompted re-review of the CT revealing a previously unrecognized celiac artery avulsion. She died of massive exsanguination during emergent laparotomy.

Four months later, a 55 year old woman presented with multiple rib fractures, grade 2 left renal injury, pelvic fractures, and a recognized retroperitoneal hematoma with celiac artery transection on CT. Favorable anatomy due to a replaced common hepatic artery allowed successful coil embolization of her celiac artery. She was dismissed on day 20.

Spectacular Problems in Surgery

SP5. DESTRUCTIVE CHEST WALL INJURY WITH ASSOCIATED DISARTICULATION FROM THE THORACIC SPINE: CHALLENGES TO MANAGING THE PATIENT WITH MULTIPLE INJURIES

A Landmann, JS Lees, AM Scifres, RM Albrecht

University of Oklahoma Health Science Center

Management of the critically injured patient with a destructive injury to the chest wall causing disarticulation from the thoracic spine presents unique challenges. When concurrent lung injury, hemorrhagic shock and associated abdominal injuries are present, the results become life threatening. Our patient developed severe ARDS requiring multimodal therapy and eventually progressing to ECMO. We look to present this case as a discussion with association members for future treatment options of destructive chest wall injuries.

Spectacular Problems in Surgery continued

SP6. MANAGEMENT OF ASYMPTOMATIC INTRA-CARDIAC GUNSHOT WOUND

Boron JG, Yon J, Fredricks C, Kaminski M, Nash J, Gupta SK

John H. Stroger, Jr. Hospital of Cook County

A 17 year-old male presented with stable vitals after a single gunshot wound to the left flank. Chest x-ray (PA + lateral) demonstrated left hemothorax and retained missile overlying the car-diac silhouette. Chest tube placement evacuated 500cc of blood. ECHO demonstrated no peri-cardial effusion and normal cardiac function. The patient underwent an emergent laparotomy with splenectomy and diaphragm repair. The suspected cardiac injury was closely observed until further dedicated cardiac imaging could be performed. The patient then underwent elective car-diac surgery with bulletectomy via atriotomy with pericardial patch and closure of septal injury. The patient made a full recovery.

Spectacular Problems in Surgery

SP7. SIGNIFICANT VASCULAR CHALLENGES DURING AND AFTER PANCREATIC RESECTION

Correa-Gallego C, Schwarz RE

IU Health Goshen

A 69 year-old female presented with a T3N0M0 head of pancreas cancer, proximal celiac occlusion and a 4.5 cm thoracoabdominal aneurysm. At pancreatoduodenectomy, hepatic artery (HA) pressure was < 20 mm Hg, and a SMA to HA saphenous vein bypass was performed. She developed a pancreatic fistula on postoperative day 13, followed by arterial bleeding that ultimately required angiographic coiling of HA and graft which ultimately led to good recovery. The patient remained without adjuvant therapy and is currently free of disease more than 2 years after resection. Insight regarding operative planning and hemorrhage management can be shared.

SP8. NON-OPERATIVE MANAGEMENT OF CENTRAL VENOUS CATHETER INJURY TO SUPERIOR VENA CAVA.

Albrecht RM, Greif BA

University of Oklahoma Health Science Center

The placement of a central venous catheter can be associated with multiple complications: pneumothorax, hematoma, and line infections are commonly seen with established algorithms for management. A less appreciated complication is the delayed injury to the superior vena cava. While this is an acknowledged complication, the sparse nature of the injury precludes development of management protocols. We describe the non-operative management of two patients who, after a benign insertion, were found to have perforation of the superior vena cava. Our successful non-operative management outlines a potential algorithm for this rare, but potentially catastrophic, injury.



ORAL PAPER ABSTRACTS

Scientific Paper Abstracts

1. ULTRASOUND BASED FOCUSED NECK EXPLORATION FOR PRIMARY HYPERPARATHYROIDISM

Bradley SJ, Knodle KF

Wayne State University

Objective: We review our experience with focused neck exploration(FNE) based on ultrasound(US) alone, in patients with primary hyperparathyroidism(PHP) and negative sestamibi scans(SES).

Methods: 124 patients with PHP were evaluated for FNE and studied with SES and US. 53 patients (43%) had a negative SES. 49 of those patients (92%) were selected for FNE based on US criteria of a single abnormal gland, .5cm or greater, as determined by an experienced surgeon-sonographer.

Results: 40 of 49 patients (82%) selected on US criteria alone underwent successful FNE. Of the 9 patients converted to complete bilateral neck exploration, 6 (12%) were incorrectly localized, 2 (4%) were found to have hyperplasia, and 1 (2%) was correctly localized but not found on the initial FNE. US had a 97.5% sensitivity and a 25% specificity as a diagnostic test for single adenomas, both within the 95% confidence interval. Of those glands successfully imaged by US, image size correlated well with the measured size of the adenoma at path, on average within .40cm (Standard deviation .30cm).

Conclusion: We feel our data show that US provides reliable information in patient selection for FNE. The literature supports SES as a more reliable study when positive for parathyroid adenoma, but false negative rates of 30-40% have been reported. Routine use of preoperative US by experienced surgeon-sonographers would result in more patients selected for FNE vs. routine neck exploration with expected benefits

2. EFFECT OF RESIDENT PARTICIPATION ON OPERATIVE DURATION IN OUTPATIENT GENERAL SURGERY

Dull MB, Gier CP, Hutchinson DD, Carroll JT, Hobbs DJ, Gawel JC

Grand Rapids Medical Education Partners - Michigan State University

Objective: One of the unappreciated costs of resident education is a decrease in surgeon productivity. The purpose of this study is to evaluate the impact of resident involvement on operative duration in elective outpatient general surgical cases.

Methods: A single-center retrospective review was performed (2012-2015). Surgeons consisted of a single attending and multiple residents from a single general surgery residency program. Operations studied were laparoscopic cholecystectomy (LC), umbilical hernia repair (UHR), and laparoscopic Inguinal hernia repair (LIHR). Operative times were compared for cases performed without a resident versus cases in which the resident acted as surgeon junior.

Results: Seven hundred seventeen index cases were analyzed from the 3-year study period, of which 18% were UHR, 39% were LC, and 43% were LIHR. There was no statistically significant demographic differences between the groups. Operative duration increased with resident involvement for each operation-UHRs were associated with a 19% increase in operative time (22.346.7 versus 26.547.5 minutes, $p=0.001$), LC demonstrated a 15% increase (25.848.7 versus 29.7410.2 minutes, $p<0.01$), and LIHR demonstrated a 25% increase (32.1411.3 versus 40.248.9 minutes, $p=0.001$).

Conclusion: Operative duration for cases performed by residents were longer. The impact of resident involvement was more pronounced for advanced laparoscopic cases than for open cases or simple laparoscopic cases. This is the first study to look at resident effect on operative duration for advanced laparoscopic cases and to compare resident effect on case duration based on type of operation.

3. IMPACT OF INTEGRATED RESIDENCIES ON GENERAL SURGERY OPERATIVE VOLUME

Jennifer N Choi, MD, Brianne Nickel, MA, Amanda Jensen, MD, David Canal, MD, Laura Torbeck, PhD

Indiana University School of Medicine

Objective: Integrated residencies are now commonplace, coexisting with categorical general surgery residencies. Requirements for foundational general surgery among the integrated programs are ill defined and disparate, making the design of a foundational experience difficult. The purpose of this study is to define the impact of integrated residents on categorical general surgery operative volume.

Methods: Case logs from categorical general, integrated plastics, vascular, and thoracic surgery residents from a single institution from 2006-2015 were analyzed. All roles of general surgery cases were compiled. Training requirements for each integrated specialty were reviewed in detail to learn requirements for the general surgery portion of the training.

Results: Over the last five years, integrated residents logged >600 cases/year that would previously have been general surgery resident cases; this primarily impacted resident case volume in the PG3 year. These 600 cases are not inclusive of specialty cases previously done by general surgery residents. Specialty cases were lost in the later years of training. Further, although general surgery specifically defines its requirements for core operative experiences in the specialties, the specialties have minimal or non-specific reciprocal requirements for general surgery experiences.

Conclusion: The decision to add educational programs within an institution must account for longitudinal needs of the trainee and the ability to provide these educational experiences for all trainees. Integrated and categorical program directors must collaborate intensely to ensure the integrity of training for all residents. Finally, integrated programs must specifically define core general surgery requirements to allow the ideal training opportunities be afforded each learner.

4. ARE LARGE BENIGN THYROID NODULES MORE LIKELY TO HARBOR CANCER MISSED ON FINE-NEEDLE ASPIRATION?

Shi HH, Bobanga ID, McHenry CR

MetroHealth Medical Center Case Western Reserve University

Objective: Thyroidectomy is being recommended for patients with thyroid nodules ≥ 4 cm because of a reported higher false negative rate for fine-needle aspiration biopsy (FNAB). Our aim was to investigate whether nodules ≥ 4 cm with a benign FNAB have an increased rate of malignancy.

Methods: A retrospective review of all patients with a thyroid nodule and a benign FNAB who underwent thyroidectomy from 1990-2015 was completed. Age, sex, family history of thyroid cancer, radiation exposure, nodule size, and final pathology were determined. Patients were divided into two groups based on nodule size: < 4 cm or ≥ 4 cm, and the rates of malignancy were compared. Data was analyzed using Student's t-test and Chi-square test.

Results: There were 361 patients who underwent thyroidectomy: 109 had nodules < 4 cm (2.7 +/- 0.6 cm) and 252 had nodules ≥ 4 cm (6.0 +/- 2.0 cm). Malignancy was found in 13 (3.6%) patients, 6 (5.5%) with a nodule < 4 cm and 7 (2.8%) with a nodule ≥ 4 cm ($p=0.20$). There was no difference in age, sex, radiation exposure, or family history of thyroid cancer between groups ($p>0.05$).

Conclusion: The false negative rate for benign FNAB was 3.6%, and the rate of malignancy was not significantly different for a nodule < 4 cm or ≥ 4 cm. Our results do not support the recommendation for thyroidectomy based solely on nodule size ≥ 4 cm.

5. PHARMACOGENOMICS-GUIDED ANALGESICS IN MAJOR ABDOMINAL SURGERY: FURTHER BENEFITS WITHIN AN ENHANCED RECOVERY PROTOCOL?

Senagore AJ, Dosokey E, Steele S, Brady J, Stein S, Neupane R, Bosio R, Reynolds H, Champagne B

University Hospitals/Case Western Reserve University

Objective: Narcotic sparing analgesia is major component of Enhanced Recovery Protocols (ERP), however poor analgesia and opioid related side effects (ORADE) can degrade outcomes and is associated with narcotic dependence after surgery. Important genes impacting analgesic efficacy include: CYP family (drug metabolism); COMT/ABCB1/OPRM1 (receptor and transport activity); This study was the first assessment of pharmacogenomics guided analgesia following major abdominal surgery versus standard ERP.

Methods: A consecutive series of open and laparoscopic colectomies or major ventral hernia repair (P group) had a guided analgesic protocol based upon assessment of CYP2D6, CYP3A4, CYP1A2, CYP2C9, CYP2C19, COMT, OPRM1, and ABCB1 genes. Study patients were compared to a historical series of patients (H group) managed using our well validated ERP. The primary outcome measure was the overall benefit of analgesia score (OBAS) score which assesses the quality of analgesia, opioid side effects, and satisfaction.

Results: There was a similar mix of procedures and gender between groups and >50 of the P group had changes from the standard ERP analgesia from the standard ERP. The P group had significantly lower OBAS scores on POD 1 (3.9 vs 5.6, $p=0.04$) and POD 3 (2.5 vs 4.4, $p=0.02$). The P group had better analgesia versus H on POD 1 (1.8 v 2.4, $p=0.04$), and POD 3 (1.3 v 1.8, $p=0.04$).

Conclusion: Pharmacogenomics guided frequent changes to our ERP analgesia program, while improving pain control and reducing side effects as defined by the OBAS score. Further assessment of this patient centric approach to safe and effective pain management is warranted.

6. DO SIMPLE BEDSIDE LUNG FUNCTION TESTS PREDICT MORBIDITY AFTER RIB FRACTURES?

Butts C, Wilhelm S, Castor L, Sherwood A, Patch J, McCall A, Brady J, Ong AW
Reading Hospital

Objective: The utility of peak expiratory flow rate (PEFR) and incentive spirometry volume (ISV) in predicting respiratory failure after rib fractures has not been well studied. We aimed to evaluate these bedside tests in patients with rib fractures.

Methods: A 9-month prospective study of patients with rib fractures was completed. Normotensive non-intubated adult patients with a Glasgow Coma Score 14 and above were enrolled on admission. ISV and PEFR were measured respectively on admission (ISV1, PEFR1), 24 hours (ISV2, PEFR2) and 48 hours (ISV3, PEFR3). Acute respiratory failure (ARF) was defined as requiring invasive or noninvasive positive pressure ventilation.

Results: 99 eligible patients were enrolled with a median age of 77 (interquartile [IQR] range 60-88), median Abbreviated Injury Scale- chest (AIS-chest) of 3 (IQR 3-3) and a median Injury Severity Score (ISS) of 10 (IQR 9-14). ARF occurred in 9 of 99 (9%). Of the lung function measurements, only ISV1 was associated with ARF (median, 500 ml [ARF] vs 1250 ml [no ARF], $p=0.04$). Three of 69 (4%) with ISV1 > 1000 ml developed ARF versus 6 of 30 (20%) with ISV1 of < 1000 ml. Other factors associated with ARF were the total number of rib fractures, tube thoracostomy, AIS-chest and ISS. There was no association between ARF and age, body mass index, presence of chronic obstructive pulmonary disease, current bronchodilator use and current tobacco use. 30-day mortality was 4/99 (4.6%).

Conclusion: ISV on admission may have value in predicting ARF in patients with rib fractures and deserves further study.

7. ONLINE PUBLIC REPORTING OF SURGEON OUTCOMES AFTER LAPAROSCOPIC CHOLECYSTECTOMY: WHERE IS THE INFORMATION COMING FROM AND IS IT ACCURATE?

Nally MC, Packer DM, Millikan K, Luu MB

Rush University Medical Center

Objective: Online health information is increasingly more prevalent and largely unregulated. Recently, 2 websites presented physician outcomes data to aid patient's selection of healthcare providers. We reviewed the website data and compared it with surgeon specific outcomes from our institution.

Methods: A retrospective chart review of all laparoscopic cholecystectomies performed at our institution from 2009-2013 was completed to identify each surgeon of record. Online databases claiming to objectively report physician outcomes were reviewed and compared to our institutional results to determine accuracy of the online databases.

Results: From 2009 to 2013, 35 attending surgeons performed laparoscopic cholecystectomies (n=1266) at our institution. The mean number of cases per surgeon was 36.2. Twenty-five surgeons performed <20 laparoscopic cholecystectomies over the time period, with the median and mode of 5 and 1, respectively. Thirteen of the 35 surgeons currently remain at our institution and performed 1136 or 89.7% of the operations over the time period. A ProPublica search of our institution identified only 1 surgeon who, per the website, performed 21 laparoscopic cholecystectomies during the study period. Per our review, this surgeon actually performed 266 laparoscopic cholecystectomies. A search of the second website, SurgeonRatings by Consumers Checkbook, of our institution identified a different surgeon than the previous search. The report failed to identify the other 9 surgeons at our institution who performed >20 laparoscopic cholecystectomies from 2009 to 2013.

Conclusion: Despite claims of actual outcomes data, public online reporting of surgical outcomes appears to be incomplete and inaccurate.

8. IS ROUTINE USE OF ADJUVANT CHEMOTHERAPY FOR RECTAL CANCER WITH COMPLETE PATHOLOGICAL RESPONSE JUSTIFIED?

Gamaleldin M , Stocchi L, Kalady M, Church J, Gorgun E

Cleveland Clinic Foundation

Objective: A subset of patients with locally advanced rectal cancer who undergo neoadjuvant chemoradiation (nCRT) have a complete pathologic response (CPR). Such patients are frequently given adjuvant chemotherapy, based on the preoperative staging. The aim of this study was to report long-term oncological outcomes of complete pathological responders who received adjuvant chemotherapy after surgery compared to patients without adjuvant chemotherapy.

Methods: A prospectively maintained, institutional review board-approved, outcomes database was queried for patients who had CPR following nCRT for locally advanced rectal cancer from January 2000 to August 2012. Local recurrence and survival were analyzed according to whether patients received adjuvant chemotherapy.

Results: A total of 139 patients were identified; 89 were male. Mean age was 59.2 +/- 11.7 years. 90 patients (64.7%) did not receive adjuvant chemotherapy (Group A) and 49 (35.3%) did (Group B). Mean follow-up was 6.0 years for Group A and 5.6 years for Group B ($p=0.35$). There were no differences between the groups in age, gender, tumor differentiation, or pretreatment clinical stages. There were no differences in 5-year Kaplan-Meier estimated likelihood of recurrence (2.9% vs. 4.6%), overall survival (87.7% vs. 89.0%) or disease free survival (87.6% vs. 89.0%).

Conclusion: Avoiding routine use of adjuvant chemotherapy in complete pathologic response patients after nCRT may be considered. Further justification of this approach warrants prospective randomized studies.

9. IS INTRAOPERATIVE PARATHYROID HORMONE MONITORING NECESSARY FOR PRIMARY HYPERPARATHYROIDISM WITH CONCORDANT PREOPERATIVE IMAGING?

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Objective: The purpose of this study was to determine if intraoperative parathyroid hormone (PTH) monitoring is necessary in patients undergoing focused parathyroidectomy with concordant ultrasound and sestamibi imaging demonstrating a single adenoma.

Methods: We identified patients with primary hyperparathyroidism who had a single focus concordant finding on ultrasound and sestamibi imaging and underwent parathyroidectomy. Demographics, preoperative PTH and calcium (Ca), intraoperative findings and postoperative outcomes were recorded. Statistical analysis was performed using Student's t test.

Results: There were 127 patients with primary hyperparathyroidism and concordant preoperative imaging who underwent parathyroidectomy; 79% were female and the mean age was 60 years (range 27-93). The mean preoperative Ca and PTH levels were 11.5 \pm 0.8 mg/dl and 227 \pm 4616 pg/ml, respectively. The mean postoperative Ca was 9.2 \pm 0.6 mg/dl, and 100% of patients were cured. Seven patients (5.5%) had intraoperative findings that were discordant with preoperative imaging: 2 (1.6%) had an adenoma at a different location, 2 (1.6%) had double adenomas and 3 (2.4%) had multi-gland hyperplasia. The average gland weight was significantly higher for patients with operative findings that were concordant with preoperative imaging (2530g vs. 326g, $p=0.001$).

Conclusion: 94% of patients with concordant ultrasound and sestamibi imaging had a single adenoma at the location identified preoperatively and 7 patients had unexpected intraoperative findings. Intraoperative PTH monitoring remains a necessary adjunct for focused parathyroidectomy even with concordant imaging to ensure identification of abnormal parathyroid glands and cure of hyperparathyroidism.

10. THE ROLE OF SURGICAL EXCISION WITH IMPROVED BREAST IMAGING AND BIOPSY TECHNIQUES: IS THERE STILL A NEED?

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Objective: Advancements in breast imaging and percutaneous biopsy have led to increased ability to sample suspicious lesions. Past principles of surgical excision may no longer remain appropriate. This study aims to review concordance of core needle biopsies and surgical pathology for high risk and indeterminate lesions.

Methods: A retrospective chart review of wire localized excisional biopsies and lumpectomies from 2013-2015 at a tertiary academic institution was conducted. Core needle biopsy and surgical pathology results were collected and analyzed for congruence and upstaging.

Results: Of the patients who underwent wire localized excisional biopsy or lumpectomy (n=458), 53% had a core needle biopsy showing invasive carcinoma or DCIS (n=165 and n=77, respectively) with sensitivities of 0.9 and 0.81 and specificities of 0.92 and 0.94, respectively. Benign core needle biopsies (n=47) had specificity of 0.96 with sensitivity of only 0.33. Of patients with benign core needle biopsies, 4.3% and 2.1% were diagnosed with invasive carcinoma and DCIS. Core needle biopsies of high risk lesions (n=121) had low sensitivities (0.25-0.6) with high specificities (0.92-0.99) making the positive predictive value 0.09-0.39 and negative predictive value 0.82-0.99. Of the patients with high risk lesions on core biopsy, 13 were diagnosed with invasive carcinoma and 11 were diagnosed with DCIS.

Conclusion: Despite improvements in breast imaging, biopsy technique, and breast specialty centers, there is still significant upstaging between biopsy and final surgical pathology. With patients diagnosed with a new breast cancer not identified on core needle biopsy, we recommend the continued use of surgical excisional biopsy for high risk lesions.

11. TRANEXAMIC ACID AND THE GUT BARRIER: PROTECTION BY INHIBITION OF TRYPSIN UPTAKE AND ACTIVATION OF DOWNSTREAM INTESTINAL PROTEASES

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Objective: Intraluminal pancreatic trypsin and other digestive enzymes injure the gut barrier following trauma-hemorrhagic shock (T/HS). We have shown that tranexamic acid (TXA), when administered to the systemic side of intestinal epithelial cells (IEC), protects the gut barrier from injury. The mechanism(s) are uncertain. Intestinal proteases (sheddases) exert important effects on normal gut function but may cause barrier disruption due to exaggerated production following T/HS. We hypothesized that the protective mechanism of TXA on the gut barrier following T/HS includes the inhibition of these “downstream” proteases. This was studied in vitro.

Methods: Intestinal epithelial cell (IEC) monolayers were established in a two-chamber system and exposed to hypoxia-reoxygenation (HR) + trypsin. TXA was added 90 minutes later and IEC permeability and intracellular trypsin activity measured. Downstream sheddase activation was indexed by metalloproteinase (MMP-9) protein and ADAM-17 activity.

Results: HR + trypsin treatment resulted in a 6-fold increase in IEC permeability and a 4-fold increase in trypsin activity. This was associated with a 6-fold increase in MMP protein ($p < 0.05$). These effects were abolished by TXA administration.

Conclusion: TXA administration early after shock insults protects the gut barrier by inhibiting trypsin uptake and activity and the subsequent downstream protease cascade. To be effective, TXA should be administered early in all “at risk” patients.

12. DOES TOBACCO EXPOSURE ACCELERATE INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM MALIGNANT PROGRESSION?

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Objective: Cigarette smoking has been linked to numerous gastrointestinal malignancies including pancreatic adenocarcinoma. Patients with intraductal papillary mucinous neoplasm (IPMN) are a group at risk for invasive pancreatic cancer. We aim to characterize the impact of smoking on IPMN malignant progression.

Methods: Patients undergoing pancreatic resection for IPMN between September 1991 and April 2015 at Indiana University Hospital were retrospectively reviewed using a prospectively collected database. Patients were classified as smokers or non-smokers.

Results: Of the 422 patients identified, 324 had complete data for analysis and were included in this study (mean age 65.7 years, gender ratio=1). One hundred seventy seven (54.6%) were smokers. Smoking status did not impact IPMN malignant progression (Invasive grade: 21.8% in smokers vs 18.1% in non-smokers; $p=0.48$).

Smokers were younger than non-smokers at the time of IPMN diagnosis (mean 63.3 vs. 67.5 years, $p=0.001$). This association also held in the invasive IPMN subgroup (mean 65.3 vs. 71.6 years, $p=0.01$). Despite this, smokers and non-smokers in the invasive IPMN subgroup had a similar rate of symptoms at diagnosis (87.1% versus 82.1%, $p=0.72$), and no difference in cancer stage distribution, (stage I/II: 21.9%/68.6% vs. 37.5%/62.5%), or median overall survival (36.2 vs. 31.2 months, $p=0.56$).

Conclusion: Although smoking is not associated with IPMN malignant progression, invasive IPMN is diagnosed at a younger age in smokers. These data suggest tobacco exposure may accelerate IPMN malignant progression.

13. PATIENT FACTORS INFLUENCE ASPIRATION RISK AFTER ABDOMINOPELVIC ONCOLOGIC SURGERY

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Objective: Aspiration events are preventable complications and may represent a target for intervention. The objectives of this study was to quantify the risk associated with aspiration events in major abdominopelvic oncologic surgery.

Methods: The Healthcare Utilization Project State Inpatient Database (HCUP SID) was queried to identify patients who underwent major abdominopelvic oncologic surgery in Florida and California from 2007- 2011. The primary outcome was mortality following an aspiration event and secondary outcomes included length of stay and location of discharge. Multivariable analyses were conducted with mixed-effects logistic regression models.

Results: 153,495 patients met inclusion criteria. The overall rate of aspiration was 1.3% (n=1,990). Patients with an aspiration event had a 16.2 times greater odds of mortality than those without (23.3% vs. 1.8%, $p<0.001$). Mortality rates after an aspiration event varied by procedure ranging from 13.5% for hysterectomy to 35.5% for liver resection. Aspiration events also led to increased hospital length of stay (19 days vs. 6 days, $p<0.001$) and likelihood of non-home discharge (83.6% vs. 32.9%, $p<0.001$). Several patient factors were associated with aspiration including electrolyte disorders (aOR 3.30*), neurologic disorders (aOR 2.28*), weight loss (aOR 2.69*), dysphagia (aOR 2.29), and altered mental status (aOR 1.37).

Conclusion: Aspiration has significant impact on patient outcomes, with markedly increased rates of mortality that vary depending on the index surgery. Several patient factors, including electrolyte disorders, neurologic disorders, weight loss, dysphagia and altered mental status increase the risk of aspiration and can be used to develop a preoperative risk score to identify at-risk patients.

14. ASSESSING SURGICAL RESIDENTS' IMAGING INTERPRETATION SKILLS

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Objective: During general surgery (GS) training, residents are expected to learn how to accurately interpret radiologic images. This skill is utilized in the peri-operative, acute care, and intensive care setting. Objective evidence evaluating residents' ability to provide accurate interpretation of imaging studies is currently lacking.

Methods: A 30-question web-based quiz was developed to evaluate residents' skills in interpreting images using different radiologic modalities. Residents from 6 ACGME accredited GS programs participated. Postgraduate year (PGY) 1 and 2 residents were considered junior residents (JR) and PGY3-5 were considered senior residents.

Results: A total of 72 GS residents participated: PGY1 (n=26), PGY2 (n=14), PGY3 (n=10), PGY4 (n=12), and PGY5 (n=10) residents. The average score was 75% (8.1), which did not differ significantly ($p=0.8$) among programs. JRs scored lower than SRs (71.5% [9.1] vs. 78.2% [6.4], $p=0.0006$). Residents correctly answered 5.7/9 [63% (14)] chest/abdomen x-rays, 5.9/7 [85% (15)] chest/abdomen/pelvis CT scans, 2.2/3 [74% (21)] head CT scans, 4.1/6 [68% (17)] ultrasound, and 4.4/5 [89% (13)] tube/line localization questions ($p<0.0001$). JRs answered fewer question correctly involving pathologies found on CT scan of the chest/abdomen/pelvis (5.6/7 [80% (16)]) compared to SR (6.4/7 [91% (11)]), $p=0.0007$). Similar results were found when JRs assessed ultrasound images (3.9/5 [65 % (19)] compared to SRs 4.4/5 [73% (15)], ($p=0.04$). JRs and SRs performed similarly for x-rays, head CT scans, and images for invasive tube/line placement.

Conclusion: GS residents were unable to accurately interpret all basic radiologic images. GS programs should consider integrating radiological education during surgical training.

15. PERIOPERATIVE SUPPORT, NOT VOLUME, NECESSARY TO OPTIMIZE OUTCOMES IN SURGICAL MANAGEMENT OF NECROTIZING ENTEROCOLITIS

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Objective: Necrotizing enterocolitis (NEC) is a serious intestinal illness in neonates, with many patients requiring surgical intervention. Generally, such patients are transferred to high volume pediatric surgical centers. This study examines the relationship between hospital volume of NEC cases and patient outcomes.

Methods: A retrospective cross-sectional review was performed using the Healthcare Cost and Utilization Project State Inpatient Database for California from 2007-2011. Patients with a diagnosis of NEC and an associated surgical intervention were identified using ICD-9-CM codes and included for study. Hospitals were divided into quintiles based on procedure volume per year. Risk-adjustment models were constructed with mixed-effects logistic regression using patient and demographic covariates.

Results: 23 hospitals with a total of 618 patients undergoing NEC-related surgical intervention were included. Overall mortality rate was 22.5% per year. Following risk adjustment, no difference in mortality rate was observed between hospitals in the highest quintile (11-15 cases per year) and the lower 4 quintiles in aggregate (1-9 cases per year) (24.9% vs. 19.7%, $p=0.388$). In addition, although the number of pediatric beds differed between the two groups (152.8 vs. 47.4, $p<0.001$), there were no significant differences between number of NICU beds ($p=0.1352$) or pediatric intensivists ($p=0.4577$).

Conclusion: Our observation that neonates with NEC treated at low-volume centers have no increased risk of mortality may be explained by similar availability of NICU and intensivists resources across hospitals. Therefore, transfer to a high-volume pediatric surgery center is not mandatory if appropriate perioperative support is available.

16. AN INSTITUTIONAL COMPARISON OF TOTAL ABDOMINAL COLECTOMY AND DIVERTING LOOP ILEOSTOMY AND COLONIC LAVAGE IN THE TREATMENT OF SEVERE, COMPLICATED CLOSTRIDIUM DIFFICILE INFECTIONS

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Objective: Total abdominal colectomy with end ileostomy (TAC) is the gold standard treatment of severe, complicated *Clostridium difficile* infection (CDI), although mortality rates remain high, ranging from 35-80%. A 2011 case-control series showed promising results for an alternative therapy, loop ileostomy and colonic lavage (IL), but these results have not been validated. The aim of this study was to evaluate a single institution's outcomes with this novel surgical approach.

Methods: Patients treated surgically for severe, complicated CDI between April 2011 and June 2015 were included in the study. Patients with concurrent inflammatory bowel disease or whose final pathology did not show pseudomembranous colitis were excluded. Bivariable analysis was used to compare the distributions of the primary outcome, 30-day mortality, between IL and TAC. Additional outcomes included 1-year mortality, CDI recurrence, colon preservation and ileostomy reversal.

Results: Ten patients underwent IL and thirteen patients underwent TAC; both groups had similar demographics and degree of critical illness. Both 30-day mortality (30% vs 23%, $p=1.0$) and 1-year mortality (40% vs 46%, $p=1.0$) were similar in the IL and TAC groups. Four IL patients and three TAC patients (57% vs 30%, $p=0.35$) experienced recurrent CDI. All six surviving IL patients had successful colon preservation and five underwent ileostomy reversal compared to three in the TAC group (83% vs 30%, $p=0.12$).

Conclusion: Although IL did allow colon preservation and return of intestinal continuity in most patients, IL was not shown to decrease mortality or recurrent CDI when compared to TAC. Larger studies are warranted for further investigation of IL.

17. LAPAROSCOPIC PANCREATICODUODENECTOMY FOR ADENOCARCINOMA RESULTS IN SHORT-TERM ONCOLOGIC OUTCOMES AND LONG-TERM OVERALL SURVIVAL RATES IDENTICAL TO THOSE FOR OPEN PANCREATICODUODENECTOMY BUT AFFORDS SHORTER HOSPITALIZATION

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Objective: The long-term efficacy of laparoscopic pancreaticoduodenectomy (LPD) relative to open pancreaticoduodenectomy (OPD) for pancreatic adenocarcinoma (PDAC) has not been well studied.

Methods: We use the National Cancer Database to compare patients undergoing LPD for localized PDAC between 2010 and 2013 to those undergoing OPD.

Results: 7947 (90.2%) patients underwent OPD and 867 (9.8%) underwent LPD. There were no statistical differences between the two cohorts with regard to age, demographics, tumor factors, or neoadjuvant and adjuvant treatment between groups. Patients undergoing LPD had had higher lymph node counts (17.949.5 vs 16.849.7, $p<0.01$), higher rates of margin negative resection (79.5% vs 76.0%, $p=0.01$) but also shorter initial lengths of stay (10.348.4 vs 11.849.3, $p<0.01$) and lower rates of unplanned readmission (6.8% vs 9.3%, $p=0.01$) than those undergoing OPD. 30-day mortality rates were similar between groups (4.1% vs 3.8%, $p=0.38$). On multivariate regression adjusting for patient and tumor factors, patients undergoing LPD demonstrated lymph node yields and rates of margin negative resection as well as 30-day mortality identical to those undergoing OPD, but were less likely to suffer unplanned readmission (OR 0.72, $p=0.02$) and prolonged LOS (0.74, $p=0.03$). Cox-regression analysis adjusting for age, charlson score, tumor stage, and receipt of adjuvant and neoadjuvant chemotherapy demonstrated rates of overall survival for patients undergoing LPD to be identical those undergoing OPD (20.6 vs 20.9months, $p=0.88$).

Conclusion: For patients with PDAC, LPD provides postoperative oncologic and long-term survival outcomes identical to OPD but is associated with accelerated inpatient recovery and decreased rates of postoperative readmission.

18. IMPACT OF HOSPITAL TRANSFER ON SURGICAL OUTCOMES OF INTESTINAL ATRESIA

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Objective: Regionalization of health care necessitates patient transfers to ensure access to high quality surgical care. This study examines the impact of hospital transfer into a quaternary care center on surgical outcomes of intestinal atresia.

Methods: Children <1 yo with a principle diagnosis of intestinal atresia were identified using the Kids' Inpatient Database for 2012. Patients who received all their care at a single treating hospital were compared to those who required transfer prior to undergoing definitive surgical treatment. Primary outcome was inpatient mortality. Secondary outcomes were hospital length of stay (LOS) and location of discharge. Linearized standard errors and design-based F tests compared weighted continuous and categorical variables. Multivariable logistic regression was performed.

Results: 1,672 weighted discharges were used to develop a nationally representative cohort. On univariate analysis, patients transferred did not differ based on gender or race. The highest income group (>\$63k/yr) and those with private insurance had significantly lower odds of being transferred (OR:0.53 and 0.74, $p<0.05$). Patients from rural areas had significantly higher transfer rates (OR: 2.73, $p<0.05$). Multivariate analysis revealed no difference in mortality (OR:0.71, $p=0.464$) or non-home discharge (OR: 0.79, $p=0.166$), but did show prolonged LOS (OR:1.79, $p<0.05$) amongst transferred patients.

Conclusion: Triage functions for transfers appear to be adequate due to no difference in mortality. However, significant differences in hospital LOS and treatment access reveal a potential healthcare gap. Policymakers should focus on improving post-acute care resources to avoid unnecessary prolongation of LOS in transferred patients.

19. IS EXTERNAL BEAM RADIATION FOR NEOADJUVANT THERAPY OF EARLY STAGE PANCREATIC CANCER A VALUE ADDED PROPOSITION?

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Objective: Neoadjuvant protocols for early stage pancreatic adenocarcinoma (PDAC) frequently involve external beam radiation; however, the value of adding radiotherapy (NCRT) to neoadjuvant chemotherapy (NCT) has not been well studied.

Methods: We compared patients from the National Cancer Data Base between 2006 and 2012 presenting with clinical stage I-II PDAC treated with NCRT followed by pancreaticoduodenectomy (PD) to those treated with NCT alone followed by PD.

Results: 1,183 patients underwent neoadjuvant therapy followed by PD. 769 (65.0%) received NCRT and 414 (35.0%) received NCT without radiation. There were no differences between groups with regard to age, demographics, facility characteristics, co-morbid disease states, or clinical stage. Patients receiving NCRT were more likely to have had vascular abutment at diagnosis (32.6% vs. 22.7%, $P<0.001$) than those receiving NCT. Rates of margin negative resection (84.5% vs. 80.2%, $P=0.068$) and mean lengths of stay (11.5 days vs. 10.4 days, $P=0.056$) were similar between groups. Patients receiving NCRT were more likely to have lymph node negative resections (66.8% vs. 42.6%, $P<0.001$) but less likely to receive postoperative chemotherapy (28.2% vs. 40.6%, $P<0.001$), had higher rates of 90-day mortality (7.1% vs. 4.0%, $P=0.037$), and on Cox analysis adjusting for age, Charlson score, clinical stage and vascular abutment, demonstrated diminished overall survival compared to those receiving NCT (24.7 vs. 27.6 months; HR: 1.19, $p<0.03$).

Conclusion: In early stage PDAC, NCRT provides no demonstrable benefit compared to NCT without radiation and is associated with a higher perioperative mortality and diminished overall survival.

20. DOES SCRIPTING OPERATIVE PLANS IN ADVANCE LEAD TO BETTER PREPAREDNESS OF TRAINEES? A PILOT STUDY

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Objective: To determine the effect of scripting a patient specific operative plan (script) before a procedure on the preparedness of surgical trainees in the operating room (OR).

Methods: Interns rotating on a general surgeon's service were instructed to script randomized cases a day prior to the OR. Scripts were expected to contain 20 or less points that highlighted patient information that they perceived important for pre-, intra- and post-op surgical management. The surgeon was blinded to the scripting process. A feedback sheet (5 point Likert scale) was filled out by the surgeon immediately after every procedure. Feedback questions were categorized into "preparedness" (the intern was aware of patient specific details, knew procedure steps, etc.) and "personality" (provided better assistance, was insightful, understood directions etc.). The scores for the scripted and non-scripted cases were then compared.

Results: Five surgical interns completed 32 scripted and 34 non-scripted cases. Interns were significantly more aware of the patient specific details for scripted cases as compared to non-scripted cases (3.8 versus 3.5, $p=0.04$). Additionally, overall personality feedback score was higher for scripted cases (3.1 versus 2.9 $p=0.03$). Overall preparedness, however, did not differ between the two groups (3.6 and 3.5, $p=0.38$).

Conclusion: Scripting a case prior to the surgery may lead to an increased patient specific preparedness in the surgical interns; however, larger numbers of trainees are required to confirm these findings.

21. UTILITY OF FEEDING JEJUNOSTOMY TUBES IN PANCREATICODUODENECTOMY

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Objective: A jejunostomy tube (JT) is routinely placed following pancreaticoduodenectomy. Current literature is unclear on criteria for JT placement or morbidity associated with JT placement. The study objective was to determine the utility of jejunostomy tube (JT) placement at the time of pancreaticoduodenectomy.

Methods: A retrospective review of consecutive patients undergoing pancreaticoduodenectomy from 1/1/08-12/31/14 was performed. The patients were divided into two groups based on whether or not a JT was placed at the time of the original operation. Comparisons between groups for quantitative variables were performed using the t-test, and for nominal variables using the chi-square or Fisher's Exact test. Significance was assessed at $p < 0.05$.

Results: There were 256 study patients, with 153 who received JT at the time of pancreaticoduodenectomy. There were no significant differences in 90-day morbidity (39.9% vs. 37.9%, $p = 0.747$), 90-day mortality (3.9% vs. 1.0%, $p = 0.247$) or TPN use (24.8 vs. 25.2%, $p = 0.941$) between the JT vs. no JT groups. However, there was a significant difference ($p < 0.001$) between the groups with regards to delayed gastric emptying (DGE). Patients with JT had higher rates of both mild & severe DGE. Patients without JT had shorter hospital stays (11.6 vs. 14.3, $p = 0.006$) and faster tolerance of solid diet (7.3 vs 9.4, $p = 0.011$). Only 7.2% (11/153) of the JT patients had JT related morbidity and two patients required surgical intervention.

Conclusion: Placement of JT at the time of pancreaticoduodenectomy is associated with a higher rate of DGE, longer hospital stays and increased time to tolerate solid oral intake.

22. THE IMPACT OF IMMEDIATE BREAST RECONSTRUCTION AFTER MASTECTOMY ON TIME TO FIRST ADJUVANT TREATMENT IN WOMEN WITH BREAST CANCER IN A COMMUNITY SETTING

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Objective: The impact of immediate breast reconstruction on the timing to first adjuvant therapy is controversial. We sought to identify if immediate reconstruction impacted the time to first adjuvant therapy or was associated with adjuvant treatment delays greater than 90 days in a community cancer center.

Methods: A retrospective chart review of patients undergoing breast cancer operations at our facility from March 2013 through March 2015. Demographic, clinic-pathologic, treatment, and time to first adjuvant treatment were compared between groups undergoing mastectomy with and without immediate reconstruction.

Results: Of 271 breast cancer operations performed during the time period, 82 (30%) were mastectomies of which 76 were evaluable. 44 (58%) underwent mastectomy (34% unilateral, 66% bilateral) with immediate reconstruction (all tissue expanders or direct implants). Women undergoing immediate reconstruction were on average 15 years younger (49.6 yrs. SD 10 versus 64 yrs. SD 11, $p < 0.0001$). The mean time to first adjuvant therapy was significantly longer in the immediate reconstruction group (94 days SD 62 versus 50 days SD 21, $p = 0.01$). 14 of 42 patient had the start of adjuvant treatment over 90 days after resection, 13 of whom (93%) had immediate reconstruction versus 1 (7%) who did not, $p = 0.01$.

Conclusion: In this study, immediate breast reconstruction after mastectomy is associated with both a longer time to first adjuvant treatment and a higher likelihood of adjuvant therapies being delayed over 90 days. These delays may be of increased clinical consequence given the younger age of patients undergoing immediate reconstruction.

23. POST-CHOLECYSTECTOMY MORBIDITY AND MORTALITY AMONG OBESE AND SUPER-OBESE PATIENTS: A NSQIP MATCHED ANALYSIS

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Objective: Previous institutional series have investigated risks associated with cholecystectomy in obese patients; however, population-based studies are few and little is known about risks among patients with super obesity.

Methods: Retrospective analysis of patients undergoing cholecystectomy in NSQIP from 2005-2011. To limit age-and-sex-based variability across BMI categories, non-morbidly obese patients (BMI 20-35) were matched one-to-one by age and sex with obese (BMI 35-50), and separately with super-obese (BMI ≥50) individuals. Incident post-operative complications (quantified using a composite morbidity index [CMI]) and 30-day mortality were compared.

Results: Out of 104,250 cholecystectomy patients, 22,880 with BMI 35-50 were matched with 22,880 with BMI <35. Obese patients were more likely to be African-American (11.6% vs. 6.8%), have diabetes (17.0% vs. 8.1%), hypertension (41.5% vs. 26.7%), CHF (0.6% vs. 0.4%), poor functional status (2.4% vs. 1.8%) and ASA ≥3 (2.5% vs. 1.6%); open cholecystectomy was more common among obese patients (8.9% vs. 7.6%) as were postoperative complications (CMI 3.3 vs. 2.7) and obese patients demonstrated slightly longer LOS (2.2 vs. 2.0 days) [all $p < 0.001$] but mortality did not differ. After matching, similar but more pronounced differences were observed between non-morbidly-obese and super-obese patients; super-obese patients additionally also demonstrated a 2.8 times greater odds of mortality (95%CI 1.6-5.1).

Conclusion: Both obesity and super-obesity were associated with increased morbidity after cholecystectomy with increased mortality among super-obese patients. Further research is warranted to support the development of guidelines for cholecystectomy in super-obese patients. Cholecystectomy in concert with or after bariatric surgery maybe the safest option for these patients.

24. DISCHARGE CRITERIA AFTER COLON RESECTION: IS RETURN OF BOWEL FUNCTION NECESSARY?

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Objective: This study was performed to evaluate tolerance of liquids as discharge criteria in an enhanced recovery after surgery (ERAS) protocol.

Methods: Patients undergoing elective colon resections were prospectively enrolled in an ERAS protocol that included oral liquids immediately post recovery, opioid receptor blocker (alvimopam), scheduled nonsteroidal anti-inflammatory agents and discontinuation of intravenous fluids on the first postoperative day. Perioperative care did not include bowel preparation or carbohydrate loading. Patients were considered eligible for discharge when able to tolerate sufficient fluids to prevent dehydration as determined by urine output. The patient's routine diet was begun after discharge.

Results: Over an 18 month period, 107 consecutive patients were enrolled. Minimally invasive techniques were used in 76 (71%) patients. The ERAS protocol was discontinued in 13 (12%) patients for various clinical issues. Of the remaining 94 patients, 75 (80%) were eligible for discharge by the second and all by the third postoperative day. Patients received an average of 4 doses of the opioid receptor blocker. Discharge was delayed in 21 (22%) patients primarily for post hospital care arrangements. The average postoperative length of stay was 2.8 days. At the time of discharge, 59 (63%) and 20 (21%) patients reported passage of flatus and stool respectively. On 30 day follow up, 8 (8.5%) patients were re-admitted, all for surgical site infections.

Conclusion: These data suggest that after elective colon surgery, patients can be discharged when able to tolerate liquids. Tolerance of a solid diet and return of GI function is not necessary prior to discharge.

25. COLORECTAL CANCER: QUALITY OF SURGICAL CARE IN MICHIGAN

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Objective: Colorectal cancer (CRC) is diagnosed in >134,000 Americans annually, and surgery is a cornerstone of treatment. However, research has shown variability in the quality of surgical care for CRC. Our goal was to assess surgical outcomes, resource utilization, and CRC process measures in Michigan hospitals.

Methods: This was a retrospective cohort study of prospectively-collected data from the Michigan Surgical Quality Collaborative. 30 hospitals abstracted medical records data on patient characteristics, processes of care, and 30-day outcomes for CRC cases (2014-2015). Measures were case-mix and reliability-adjusted, using multilevel logistic regression models.

Results: Of 871 cases, 76% were colon and 24% rectal cancer resections. 24% of resections were urgent/emergent. Use of minimally-invasive surgery varied (adjusted overall 57%; range by hospital 17 - 76%). Analysis of outcomes revealed an adjusted mortality rate of 0.9%, morbidity rate of 20.2%, SSI rate of 7.1%, and anastomotic leak rate of 1.3%. Analysis of adjusted resource utilization revealed variations in length of stay (overall median 7.8 d, hospital medians range 6.4 - 9.0), reoperation (6.8%, 4.4 - 12.0%), and blood transfusion (6.8%, 3.0 - 16.0%). Adjusted process measures performance also varied, including lymph node procurement (81.3% with 12+ nodes, range 73.7 - 85.9%), performance of mesorectal excision for rectal cancer (59.4%, 12.8 - 93.5%), and ostomy site marking (36.0%, 15.7 - 51.1%).

Conclusion: CRC surgery in Michigan is associated with low risk of morbidity and mortality, compared to previously-published results. However resource utilization and performance on CRC-specific quality measures vary by hospital, suggesting the opportunity for regional CRC quality improvement.

26. EVALUATING SURGICAL MANAGEMENT AND OUTCOMES OF COLOVAGINAL FISTULA REPAIR

Wen Y, Choi D, Dosokey EMG, Althans AR, Brady JT, Nishtala M, Delaney CP, Steele SR

University Hospitals/Case Western Reserve University

Objective: Colovaginal fistula is a rare condition associated with significant morbidity. The literature characterizing surgical management and outcomes is sparse. We present our institution's experience treating colovaginal fistulas.

Methods: A retrospective chart review was performed of all patients undergoing surgery for colovaginal fistula at a tertiary academic medical center between 2007 and 2015. Demographics, co-morbidities, intra-operative and post-operative metrics were collected and compared between laparoscopic and open groups.

Results: We identified 27 patients with a mean age of 71 and BMI of 30.2. Diverticulitis was the most common etiology for fistula formation (N=24, 89%), with pelvic inflammatory mass, IBD and rectal cancer encompassing the rest. Twenty (74%) patients had a previous hysterectomy, and 1 patient (3.7%) had prior pelvic radiation. Overall, 23 patients had a colovaginal fistula alone (85.2%) while 4 patients had multiple fistulas (14.8%). Laparoscopic repair was attempted in 20 (74.1%) patients and 7 (25.9%) underwent an open repair. Conversion from laparoscopy to open was required in 8 (40%) patients due to adhesions (N=4, 50%), phlegmon (N=3, 37.5%), and poor visualization due to distended bowel (N=1, 12.5%). Postoperative complications were similar between groups (27.3% vs 62.5%, $P>0.1$). Mean length of stay was significantly shorter in the laparoscopic group (4.3 vs. 7.2 days; $P=0.005$). Mean follow up was 18 months (1-182 months) with no recurrences.

Conclusion: We present the largest series of surgical management of colovaginal fistulas. Laparoscopic resection was associated with lower complication rates and reduced hospital stay, despite the relatively increased conversion rate. Laparoscopy should be the preferred approach when feasible.

27. SURGICAL FIRES AND OPERATIVE BURNS: LESSONS LEARNED FROM A 30 YEAR REVIEW OF MEDICAL LITIGATION

Choudhry AJ, Haddad NN, Zielinski MD

Mayo Clinic

Objective: Surgical fires and operative burns are rare but potentially devastating never events. Little is known about the medico-legal consequences arising from such mistakes. We aimed to better understand the legal repercussions of such errors to lessen future liability for practicing clinicians.

Methods: Using Westlaw Next (Thomson Reuters, New York, NY), a comprehensive online legal research tool we searched the terms “medical malpractice”, “surgery”, “burns” and “fires.” All cases dating from 1985 to 2015 with alleged litigation primarily related to the surgical fire or burn were included. Data were collected on patient demographics, procedural characteristics, alleged reason(s) for litigation, and case outcomes.

Results: Over a 30 year period we identified 412 cases, of which 81 met inclusion criteria. Fifty of the (63%) plaintiffs (patients) were female. The most common surgical specialty resulting in a patient burn or surgical fire was general surgery (n=17, 21%) followed by plastic surgery (n=14, 17%). A bovie or an active electrosurgical electrode device was the cause for 24 (30%) patient burns or surgical fires. Thirty-five cases (43%) were delivered a verdict in favor of the defendant (physician). A total of 35(43%) cases and 11(14%) cases respectively were decided in favor of the plaintiff or settled prior to the trial. Median award payouts favoring the plaintiff were \$300,000 (IQR \$121,250-\$872,566).

Conclusion: Although an infrequent event; surgical fires and operative burns do occur and are a potential source for medical litigation. Understanding the setting in which these events occur and reasons for medical litigation may mitigate future lawsuits for physicians.

28. LAPAROSCOPIC LIVER RESECTION: AN EXPERIENCE OF 219 CASES

Elshamy M, Takahashi H, Akyuz M, Yazici P, Yigitbas H, Aucejo F, Quintini C, Berber E

Cleveland Clinic Foundation

Objective: Although techniques for laparoscopic liver resection (LLR) have been developed over the past two decades, large sample studies are necessary to assess the outcomes of these techniques. The aim of this study is to analyze the outcomes and trends of LLR.

Methods: 219 patients who underwent LLR between 2006 -2015 were identified. Trends in techniques and perioperative outcomes were assessed after dividing the experience into 2 periods (before and after 2011) using student-t and chi-square tests.

Results: Tumor type was malignant in 150 (68.5%), the most common malignant tumor was colorectal liver metastases in 94 (63.1%) patients. Procedures included segmentectomy/wedge resection in 153 (69.9%), and hemihepatectomy in 23 (10.5%). In malignant cases, an R0 resection was achieved in 132 (88.6%).

Surgical techniques included a purely laparoscopic approach in 138 (63%), and robotic 24 (11%). Conversion to open surgery was necessary in 23 (10.5%) cases. Operative time was 224.48 ± 6.92 minutes and estimated blood loss 310.37 ± 30.18 mLs. Perioperative blood transfusion was necessary in 24 patients (11.1%). Mean hospital stay was 4.10 ± 0.23. 90-day mortality was 0%, morbidity 21.8% (n=46). When the first and second periods were compared, pre-coagulation techniques and the robot were used significantly less often in the second period.

Conclusion: This study confirms the safety and efficacy of LLR. More complex resections can be performed safely with less frequent need for pre-coagulation. Because of the lack of advanced liver transection tools in the robot, laparoscopic technique has recently become the procedure of choice for minimally invasive liver resection.



POSTER ABSTRACTS

Poster Abstracts

Poster #1. ASSOCIATION OF POLYMORPHISMS IN FENTANYL METABOLISM WITH POSTOPERATIVE ILEUS

Caldwell MD, Clay JA

Marshfield Clinic-St. Joseph's Hospital

Objective: Personalized medicine is a tailored health care approach to the detection, prevention, and treatment of disease based on individual genetic profiles. The response to medications can also be affected by genetic factors. Ileus is a common cause of increased hospital length of stay following operations and increases the cost of healthcare. Postoperative ileus has been associated with narcotic use. Fentanyl is one of the more commonly prescribed perioperative narcotics. Cytochrome p450 3A4 and 3A5 (CYP 3A4 and CYP 3A5) have been found to be key enzymes in fentanyl metabolism, with single nucleotide polymorphisms (SNP) in the genes encoding for these enzymes showing decreased enzymatic activity related to fentanyl metabolism. We investigated whether there is an association between ileus and SNPs of CYP 3A4 and 3A5 in patients who received fentanyl.

Methods: This is a retrospective observational pilot study that compared the prevalence of SNPs of CYP 3A4 and 3A5 in 12 patients who had undergone non-abdominal operations, received fentanyl, and developed ileus to the prevalence of the same polymorphisms in a publicly available genetic database.

Results: A SNP of CYP 3A4, rs246709, in the ileus group had a significantly increased prevalence compared to a similar patient population, 66.7% vs 27.9%, $p=0.0076$, RR 2.39, CI 1.52-3.76.

Conclusion: A single nucleotide polymorphism of CYP 3A4 may be associated with ileus in those patients that receive fentanyl in the perioperative period. Further research into this association may be beneficial for a personalized medicine approach to uncomplicated postoperative pain management.

Poster #2. EDUCATIONAL CONFERENCE PARTICIPATION RATES BETWEEN INTERNS DURING ACGME 16 HOUR DUTY RESTRICTIONS AND THE INTERVENTION ARM OF THE FLEXIBILITY IN DUTY HOUR REQUIREMENTS FOR SURGICAL TRAINEES TRIAL

Stallman B, Vavra J, Marcero J, Edhayan E
St. John Hospital and Medical Center

Objective: This study aims to compare Intern conference attendance during the ACGME mandated 16 hour work day year, academic year 2013-14, and attendance during the intervention arm of the FIRST trial, academic year 2014-15.

Methods: Intern conference attendance during the 16 hour duty period year (2013-14) was compared to conference attendance of PGY-2 residents who were not under 16 hour duty restrictions. Intern conference attendance during the first year of the FIRST trial (2014-15) was compared with their corresponding PGY-2 residents. During the 16 hour duty period, interns on night float were dismissed from conference to comply with duty hour restrictions. During the FIRST trial, conference time was protected and all residents were mandated to attend all conferences. In each of the two years PGY-2 conference attendance was used as a control for total conference time offered and attended. The results were compared using the two-sample t-test.

Results: Under ACGME Duty Hour Restrictions (2013-14), interns ($n = 7$) attended an average of 130 hours/year of educational conferences and PGY-2 ($n = 5$) averaged 160 hours/year. During the FIRST Trial (2014-15), interns ($n = 7$) attended an average of 155 hours/year and PGY-2 ($n = 5$) averaged 159 hours/year. The percent of conferences attended increased from 77% (ACGME) to 90.1% (FIRST Trial), which is statistically significant, t-test, $p < 0.0005$. The average hours of educational conference attended by PGY-2 were unchanged in both years.

Conclusion: The ACGME 16-Hour Duty Restrictions on interns negatively impacted the amount of educational opportunities available.

Poster #3. PREDICTORS OF INCREASED HOSPITAL LENGTH OF STAY IN ELECTIVE COLORECTAL SURGERY

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Objective: As enhanced recovery after colorectal surgery becomes more universal, there are continued efforts to identify predictors of prolonged hospitalization after surgery. In the setting of a well-established enhanced recovery pathway, our purpose was to identify variables associated with prolonged length of stay (LOS) following elective colorectal surgery.

Methods: We retrospectively reviewed all patients undergoing elective colorectal surgery (2011-2014). Demographic and perioperative data were obtained, including preoperative narcotic usage (PN). Statistical analyses were performed with LOS as the primary endpoint.

Results: The population consisted of 929 patients over a 4-year study period. The mean age was 58.6±16.4 years, 53% of subjects were female, mean BMI was 28.5±49.6 kg/m², and 23% were using chronic PN. Fifty-four percent of cases were completed laparoscopically and most without stoma formation (83%). Univariate analysis indicated that open procedures, higher American Society of Anesthesiologist classification (ASA; 3/4), inflammatory bowel disease (IBD), PN, and diabetes were each associated with significantly longer LOS. Multivariate analysis associated PN with a 19% (95% CI 7.7-30.5%, p<0.01) and IBD a 20.3% (95% CI 4.2-38.9%, p<0.01) increase in LOS. Higher ASA was associated with the greatest increase in LOS of 34.4% (95% CI 23.2%-46.6%, p<0.001). There were no significant collinear relationships among independent variables tested.

Conclusion: In this elective colorectal cohort, higher ASA classification was the strongest predictor of prolonged LOS. Other significant predictors such as IBD and chronic usage of PN may be useful in targeting certain populations to further reduce LOS.

Poster #4. ARE ADVANCED AGE PATIENTS ON ANTICOAGULATION OR ANTIPLATELET THERAPY WHO SUFFER LOW-ALTITUDE FALLS MORE LIKELY TO BENEFIT FROM REPEAT HEAD COMPUTED TOMOGRAPHY?

Ruggero JM, Bauman ZM, Barnes S, Lopez PP

Henry Ford Macomb Hospital

Objective: Many trauma centers obtain repeat head computed tomography(HCT) to assess for delayed intracranial hemorrhage(ICH) in elderly patients who suffer low-altitude falls while taking anticoagulation or antiplatelet therapy(ACAP). We hypothesize advanced-age plays a role in developing delayed ICH.

Methods: Prospective, observational analysis comparing patients with advanced-age(≥ 85 years) and patients age < 85 who suffered low-altitude falls(< 6 feet) on ACAP with head-trauma at a level II hospital. All patients had an initial HCT(HCT1), were admitted, and received a repeat HCT(HCT2) 12 hours later, or earlier if the patient developed neurologic decline. A logistic regression model with receiver operating curve(ROC) was used for analysis. Statistical significance was $p < 0.05$.

Results: Total of 1304 patients were enrolled. All patients had a negative HCT1 and underwent HCT2. 761 patients were < 85 years of age. Of those 761 patients, only 1(0.13%) developed delayed ICH on HCT2. 543 patients were ≥ 85 years of age. Average age was 89.843.5 years, 68% were female. Of those 543 patients, 6(1.1%) developed delayed ICH on HCT2. ACAP for patients ≥ 85 years with delayed ICH included 2 patients taking Aspirin, 2 Clopidogrel, 1 Warfarin and 1 Rivaroxaban. ROC analysis shows at age ≥ 88 years, delayed ICH becomes more likely, suggesting good predictability with an area under the receiving curve of 0.71.

Conclusion: Advanced-age patients (≥ 85 years) on ACAP therapy have a much higher incidence of delayed ICH after sustaining low-altitude falls. Therefore, a higher index of suspicion for delayed ICH and potential need for repeat HCT should be considered in this age group.

Poster #5. FACTORS ASSOCIATED WITH PORTO-MESENTERIC VENOUS THROMBOSIS AFTER TOTAL COLECTOMY WITH ILEORECTAL ANASTOMOSIS OR END ILEOSTOMY

Akin Onder, H. Hande Aydinli, Luca Stocchi, Gokhan Ozuner, Feza Remzi, Emre Gorgun
Cleveland Clinic Foundation

Objective: The aim of this study is to evaluate the incidence and factors associated with portomesenteric venous thrombosis (PMVT) after total colectomy with ileorectal anastomosis or end ileostomy (TC/IRA or EI).

Methods: Patients who underwent elective TC/IRA or EI for all diagnosis between January 2010 and December 2014 were identified from our prospectively collected database. All patients who had postoperative PMVT diagnosed by computed tomography within 30 days postoperatively were included [PMVT (-) /PMVT (+)].

Results: 34 patients were diagnosed with PMVT out of a total of 832 patients (20 females; mean age 36 years). The incidence of PMVT was 3.9% in patients with inflammatory bowel disease (IBD). PMVT (-) and (+) groups were comparable in terms of comorbidities, diagnosis [IBD: 611/798(76.4%) vs. 25/34(73.5%), constipation: 99/798(12.4%) vs. 7/34(20.5%), polyposis syndromes: 56/798(7%) vs. 1/34(3%), colon cancer: 31/798 (3.8%) vs. 1/34 (3%), respectively, $P=0.52$]. PMVT (+) patients were younger (35.8 vs. 41 years, $p=0.03$]. Postoperative organ space surgical site infection [17.6% vs. 4.8%, $p=0.007$], deep venous thrombosis [8.8% vs.1.5%, $p=0.02$], ileus [38.2%vs.20.8%, $p=0.018$], readmission [50.0% vs. 12.7%, $p<0.001$], and length of hospital stay [10.24 5.7vs.7.64 5.7 days, $p=0.002$] were significantly higher in patients with PMVT. Multivariate analysis indicated younger age (OR: 0.853, 95% CI: 0.748- 0.973, $p=0.014$) is the only independent risk factor in the study group.

Conclusion: Porto-mesenteric vein thrombosis after total colectomy with ileorectal anastomosis or end ileostomy is not an uncommon finding even in non-IBD patients and is associated with increased hospital stay and higher readmission.

Poster #6. IS NASOTRACHEAL INTUBATION SAFE IN FACIAL TRAUMA PATIENTS?

Tse W, Jazayeri-Moghaddas OP, Gans AJ, Herzing KA, Markert RJ,
McCarthy MC
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Objective: Potential injury due to nasotracheal intubation in facial trauma patients led to a preference for oral intubation in the prehospital setting. This study compared the complications of nasal and orotracheal intubations performed by an air ambulance crew.

Methods: For this study, 212 patients with facial trauma were abstracted from the trauma registry; 77 were nasally and 135 orally intubated. The matching process resulted in an oral group that was older (41.1 \pm 17.6 vs. 35.1 \pm 14.7 years, $p=0.02$), and had a higher facial abbreviated injury mean score (1.8 \pm 0.6 vs. 1.4 \pm 0.5, $p<0.001$). Nasotracheal tubes were removed or converted to endotracheal tubes in 61 of the 77 (79.2%) patients within three days. Data were analyzed with the Mann-Whitney Test, Fisher's Exact Test, and chi square test.

Results: The two groups did not differ in mortality (nasal 23.4% vs. oral 17.8%, $p=0.33$), intensive care unit length of stay (nasal 7.5 \pm 9.1 vs. oral 7.4 \pm 8.0 days, $p=0.73$), or total length of stay (nasal 13.3 \pm 14.3 vs. oral 13.4 \pm 14.1 days, $p=0.67$). Nor did the groups differ on the complications of sinusitis, pneumonia, arrhythmia, deep vein thrombosis, urinary tract infection, cardiac arrest, atelectasis, or respiratory failure. However, nasally intubated patients were more likely to have any complication (44.2% vs. 28.1%, $p=0.018$) and more likely to be extubated within 24 hours (26.0% vs. 8.9%, $p=0.003$).

Conclusion: Prehospital nasal intubation may be a viable alternative to oral intubation in patients with facial trauma.

Poster #7. ATTEMPTING A LAPAROSCOPIC APPROACH IN PATIENTS UNDERGOING LEFT-SIDED COLORECTAL SURGERY WHO HAVE HAD A PREVIOUS LAPAROTOMY: IS IT FEASIBLE?

Jabir MA, Wen Y, Dosokey EMG, Choi D, Brady JT, Stein SL, Delaney CP, Steele SR

University Hospitals/Case Western Reserve University

Objective: The feasibility of a laparoscopic approach in patients who have had a prior laparotomy (PL) remains controversial. We hypothesized that laparoscopic colorectal resection (LR) was safe and feasible in patients with previous open abdominal surgery.

Methods: A retrospective review (2007-2015) of all patients undergoing LR for sigmoid and rectal adenocarcinoma with or without PL was performed. Primary endpoints included conversion and perioperative morbidity. Secondary endpoints included length of stay and perioperative outcomes. Demographics, surgical history, oncologic staging, and short-term outcomes were reviewed.

Results: We identified 225 patients; 183 (81.3%) patients had no PL while 42 (18.7%) did have PL. Patient age, gender, ASA score, BMI and comorbidities were comparable between groups ($P>0.05$). Oncologic staging as well as neoadjuvant therapy was similar (both $P>0.2$). Additional trocar placement was significantly higher in PL group ($P=0.03$), while conversion rate was higher in the group with PL, but did not reach statistical significance (23.8% vs. 13.1%, $P=0.07$). Intraoperative bleeding precipitated conversion in 1 case in each cohort. There were no inadvertent bowel injuries. Blood loss, operative times and oncological outcomes were similar between groups ($P>0.3$). The overall complication rate was 26.2 %, with similar rates in each cohort (31.3% PL vs. 25.2%, $P=0.474$). Length of hospital stay, rate of reoperation and readmission within 30 days were similar ($P>0.05$).

Conclusion: Laparoscopic approach to sigmoid and rectal resections after prior laparotomy is feasible with acceptable short-term outcomes.

Poster #8. TRAUMA SURGEON UTILIZATION OF CT: ROOM FOR IMPROVEMENT?

Moyer JA, Wordofa FD, Sigal A, Sandel K, Fernandez FB, Ong AW
Reading Hospital

Objective: The study aimed to evaluate CT utilization and diagnostic yield rates by trauma surgeons during trauma activations (TA).

Methods: Data was collected retrospectively for all TAs for blunt trauma over six months (February to August 2014). Criteria for significant findings (SF) on CT were pre-determined. Overall diagnostic yield rates for SF for head, cervical spine (CSP), chest and abdomen/pelvis (A/P) CTs were recorded and also determined for these variables: systolic blood pressure (SBP) < 110 mmHg, age ≥ 65 years, Glasgow Coma Scale (GCS) < 14, high energy mechanism of injury and lactate level ≥ 2.5 mmol/L. Logistic regression analysis was used to identify predictors of SF for each CT type.

Results: Of 598 TAs, median Injury Severity Score (ISS) was 4 (interquartile range [IQR] 1-10) with 12% having an ISS ≥ 16 . Utilization rates for CT of the head, CSP, chest and A/P each were 95%, 93%, 86% and 86% with rates of SF of 14%, 6%, 22% and 15% respectively. For each patient, a median of 4 CTs (IQR 4-4) was performed, with a median of 1 (IQR 1-2) positive for any SF. Predictors of SF were GCS (odds ratio [O.R.] 3.3) for head CTs; mechanism (O.R. 2.9) for CT CSP; mechanism (O.R. 3.7) and lactate (O.R. 1.9) for CT chest; mechanism (O.R. 2.4), age (O.R. 1.9), lactate (O.R. 2.4) and SBP (O.R. 2.3) for CT A/P.

Conclusion: Trauma surgeon utilization of CT is high with relatively low yield rates. Recognizing predictors for significant findings might improve CT utilization.

Poster #9. ARE THYROIDECTOMY AND PARATHYROIDECTOMY SAFE DURING PREGNANCY?

Rajjoub SR, Cherenfant J, Kuchta K, Gage M, Lutfi W, Wang CH, Winchester DJ, Prinz RA, Moo-Young TA

NorthShore University Health System

Objective: To compare the indications, procedure types, and perioperative complications of thyroidectomy and parathyroidectomy in pregnant and matched non-pregnant women.

Methods: The NSQIP database was used to identify pregnant women undergoing thyroid and parathyroid surgery between 2006 and 2013. Age, adjusted body mass index, diabetes, hypertension, ASA class, smoking status, chronic obstructive pulmonary disease, coronary artery disease, congestive heart failure and renal failure were compared between groups of pregnant and non-pregnant propensity matched women (1:4) having thyroidectomy and parathyroidectomy. Surgical indications, procedure types, and perioperative complications were compared between pregnant and non-pregnant patients by Fischer's Exact test and Independent t-test ($p < 0.05$).

Results: Pregnant ($n=110$) and matched non-pregnant women ($n=440$) had different indications for thyroidectomy ($p < .0001$). Pregnant women were more likely than non-pregnant women to be treated for thyroid malignancy (44% vs. 31%, $p < .01$) and toxic nodular goiter (31% vs 10%, $p < .01$). Toxic goiter was more often treated with lobectomy in pregnant patients and with total thyroidectomy in non-pregnant patients ($p = .006$). Postoperative thyroid complications were similar in both groups. Length of stay was longer in pregnant patients (1.6 vs. 1.2 days, $p = 0.04$). Primary hyperparathyroidism was the most common indication for parathyroidectomy in both pregnant ($n=23$) and matched non-pregnant ($n=92$) women. Postoperative complications and lengths of stay after parathyroidectomy were similar in pregnant and non-pregnant patients.

Conclusion: Postoperative complications were similar in pregnant and non-pregnant women for both operations. A slightly longer, but clinically insignificant, length of stay occurred with thyroidectomy for pregnant women. When indicated, thyroidectomy and parathyroidectomy can be safely performed during pregnancy.

Poster #10. COMPLETION THYROIDECTOMY: INDICATIONS AND OUTCOMES

Choong KC, McHenry CR

MetroHealth Medical Center Case Western Reserve University

Objective: Completion thyroidectomy (CT) is an established approach for recurrent thyroid disease or unsuspected thyroid cancer discovered on final pathologic exam. The purpose of this study was to determine the indications and outcomes of CT.

Methods: A retrospective review of all patients who underwent CT was completed. CT was defined as removal of all remaining thyroid tissue after any previous thyroid surgery. Demographics, extent of initial operation, indications and timing of CT, pathology, and post-operative complications were determined.

Results: From 1990-2015, 84 patients underwent CT; 83% were women and the average age at initial and completion thyroidectomy was 39 and 51 years, respectively. Prior surgeries included: 65 (77%) lobectomies, 7 (8.3%) partial, 4 (4.8%) subtotal, 3 (3.6%) surgeon reported total thyroidectomies, and 5 (6%) multiple thyroid resections. Post-operative complications included recurrent laryngeal nerve (RLN) palsy in 3 (3.5%), hypocalcemia in 35 (42%), and wound infection in 1 (1.2%) patients. There were no permanent complications. Patients who had their initial thyroidectomy at an outside institution (58%), were older at CT, had a longer duration between operations, and were more likely to have benign disease. Patients operated on for malignant pathology (52%), were older at initial operation, younger at CT, and had smaller residual thyroids. There were no significant differences in complication rates for patients whose initial thyroidectomy was performed at an outside institution or for malignancy.

Conclusion: Completion thyroidectomy can be safely performed with no long-term complications regardless of indication or who performs the initial thyroidectomy.

Poster #11. EARLY FOLEY CATHETER REMOVAL IS NOT ASSOCIATED WITH DECREASED URINARY TRACT INFECTIONS IN PATIENTS AFTER THORACIC SURGERY WITH EPIDURAL CATHETERS

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Michigan State University/Grand Rapids Medical Education Partners

Objective: To evaluate the incidence of postoperative urinary retention and urinary tract infection rates in thoracic surgery patients with postoperative epidural anesthesia.

Methods: This is a retrospective cohort chart review of 466 patients who have undergone either a thoracotomy or video assisted thoracoscopic surgery (VATS) and had an epidural catheter placed for post-operative pain control. The study sample is comprised of patients of a single cardiothoracic group comprised of seven surgeons at Spectrum Health Butterworth Hospital from 2010 to 2014. Rates of postoperative urinary tract infection (UTI), urinary retention, and re-catheterization were determined.

Results: There was no significant difference in postoperative UTI rates if the foley was removed prior to 24 hrs ($p=0.709$) or 36 hrs ($p=0.266$). However, there was a significant difference in both straight catheterization rates ($p=0.002$) and foley catheter reinsertion ($p=0.014$) if the foley was removed prior to 36 hrs. When looking at the patients that developed UTIs, the majority were women (16/18) and all 16 of them had diabetes.

Conclusion: Our study suggests that, following VATS or thoracotomy, it is reasonable to leave foley catheters in for longer periods of time without an increased risk of urinary tract infection. However, females with a history of diabetes have a much higher rate of UTI. Therefore, in patients with thoracic epidural anesthesia, we suggest that the decision of when to remove a foley catheter should be made on a case to case basis weighing the benefits and risks of each situation.

Poster #12. INTRAOPERATIVE RADIATION THERAPY FOR PATIENTS WITH LOCALLY ADVANCED COLORECTAL TUMORS: 16 YEARS OF EXPERIENCE

Brady JT, Wen Y, Dosokey EMG, Jabir MA, Steele SR, Stein SL, Reynolds HL
University Hospitals/Case Western Reserve University

Objective: Evaluate outcomes of patients with locally advanced primary or recurrent colorectal cancer (CRC) undergoing Intraoperative Radiation Therapy (IORT).

Methods: Retrospective chart review (1999-2015) of a prospectively-maintained database of all patients undergoing IORT for locally advanced or recurrent CRC. Preoperatively, all patients had evidence of disease extension into contiguous structures and were considered likely to have an incomplete resection by the multidisciplinary team. Patients with carcinomatosis, non-CRC or undergoing palliative IORT without resection were excluded.

Results: 78 patients (mean age 63 years; range, 39-86) met inclusion criteria. By location, 19 had colon cancer, 57 had rectal cancer, and 2 were appendiceal cancer patients. R0 resection was performed in 51 patients (65.4%), R1 resection in 20 (25.6%) and R2 resection in 7 (9%). Overall, mean survival was 42.7 +/- 39.4 months, with 11 (14.1%) local recurrences (LR) and 35 (44.9%) distant recurrences. LR occurred in 3 (5.9%) patients with R0 resection versus 7 (35%) with R1 resection and 1 (14.3%) with R2 resection (mean, 20.7 vs. 17.4 vs. 29 months, respectively; $P=0.226$). By margin, LR occurred in 6 (60%) patients with positive margins, 4 (9.3%) with fibrosis at the margin, and 1 (14.3%) with mucin at the margin (mean, 22.5 vs. 17.8 vs. 7 months, respectively; $P=0.752$). Overall survival was similar for all patients with LR ($P>0.3$).

Conclusion: IORT resulted in a low overall LR rate that was highest in those with pathologically positive margins. IORT may delay LR, as the time to LR was similar between groups even in those with positive margins.

Poster #13. PHEOCHROMOCYTOMA: A CLINICAL ENIGMA

McHenry CR, Khoncarly SM, Albert JM

MetroHealth Medical Center Case Western Reserve University

Objective: Pheochromocytoma is a rare entity. The manifestations, laboratory indices and imaging phenotype can be diverse, delaying recognition and making diagnosis difficult. The purpose of this study was to investigate whether there is a difference in clinical course and outcome for incidentally-discovered versus classic pheochromocytoma.

Methods: A retrospective review of all patients who underwent adrenalectomy from 1996-2016 was completed and patients with a pathologically confirmed pheochromocytoma were identified and divided into two groups: incidental (group I) or clinically apparent (group II). Demographic, clinical, biochemical, imaging and pathological characteristics were recorded and analyzed. Student's T test and Chi-square test were used to make comparison between the two groups.

Results: Of the 121 patients who underwent adrenalectomy, 26 (21%) had a pheochromocytoma, 18 in group I and 8 in group II; 5 (19%) were familial, 3 (12%) involved the Organ of Zuckerkandl and 1 was malignant. Patients in group I were younger (42 vs 56). 4 patients in group I and 2 patients in group II were normotensive. 2 patients in group I had near normal urinary metanephrines. Only 4 of 10 patients in group I compared to 2 of 2 patients in group II had an MRI with a hyperintense T2 weighted image. 3 of 18 (17%) patients with an incidentally-discovered pheochromocytoma had a needle biopsy, one who was subsequently referred for hypertensive crisis and a CVA.

Conclusion: Pheochromocytoma is a clinically diverse entity and most are discovered incidentally. Incidental pheochromocytomas often lack classic features and failure to consider the diagnosis may lead to bad decision making and serious sequelae.

Poster #14. SELECTIVE NONOPERATIVE MANAGEMENT OF ABDOMINAL GUNSHOT WOUNDS WITH ISOLATED SOLID ORGAN INJURY

Reed BL, Patel NJ, McDonald AA, Baughman WC, Claridge JA, Como JJ
MetroHealth Medical Center Case Western Reserve University

Objective: In 2010 we initiated a practice of selective nonoperative management (NOM) in stable gunshot wound (GSW) patients with isolated solid organ injury. We reviewed how this change in practice influenced outcomes.

Methods: All stable patients who sustained GSW to the abdomen with isolated solid organ injury from 2003-2014 at an urban trauma center were included. Comparisons of pre- (2003-2009) and post-NOM (2010-2014) implementation, as well as initial NOM and operative management (OM) groups, were performed.

Results: Of 128 patients, 63 (49%) underwent NOM. These patients had injuries to the liver (n=57; mean grade 3.0), kidneys (n=20; mean grade 3.2), and spleen (n=2; mean grade 2.5). There were no significant differences between either the early/late or NOM/OM groups in demographics, physiologic presentation, or Injury Severity Score. NOM increased significantly from the early to late cohorts (31% to 66%, $p<0.001$), without any significant change in hospital length of stay (LOS), PRBCs transfused, complication rates, or mortality. NOM patients had shorter LOS (5.8 vs. 9.9 days, $p<0.001$), received fewer PRBCs (0.8 vs. 4 units, $p<0.001$), and suffered fewer complications (13% vs. 28%, $p<0.05$) than the OM group. Of the NOM group, 10 patients underwent angioembolization of the liver, 4 underwent subsequent laparotomy for reasons other than hemorrhage, and 1 died from delayed hemorrhage.

Conclusion: In this large series, the use of NOM more than doubled over time and was not associated with increased resource utilization or complications. Patients undergoing NOM received fewer PRBCs than patients receiving initial OM and had shorter LOS.

Poster #15. THE HARM SCORE FOR GASTROINTESTINAL SURGERY: APPLICATION AND VALIDATION OF A NOVEL, RELIABLE AND SIMPLE TOOL TO MEASURE SURGICAL QUALITY AND OUTCOMES

Crawshaw BP, Keller DS, Brady JT, Augestad KM, Schiltz NK, Chandra Pillai AL, Koroukian SM, Navale SM, Steele SR, Delaney CP
University Hospitals/Case Western Reserve University

Objective: The Hospital length of stay, Readmissions and Mortality (HARM) score is a simple, inexpensive quality tool, linked directly to patient outcomes, which is reliable for colorectal surgery. We assess the HARM score for measuring surgical quality in a risk-adjusted manner across multiple surgical populations.

Methods: Open and laparoscopic upper gastrointestinal, hepatobiliary, and colorectal surgery cases between 2005-2009 were identified from the Healthcare Cost and Utilization Project California State Inpatient Database. Composite HARM score was calculated from length of stay, 30-day readmission and mortality, correlated to complication rates for each hospital graded by Clavien-Dindo score, and stratified by operative type.

Results: 71,419 admissions were analyzed, 51% elective and 49% emergent. Mean individual patient HARM score was 1.35 ± 1.81 for elective and 3.43 ± 2.47 for emergent cases. Logistical regression analysis for HARM score components correlated with complications, with elective complication rates of 30%, 53%, 64%, and 82% for HARM categories <2, >2-3, >3-4, and >4. Emergent complications correlated similarly. After risk factor adjustment, HARM correlated with complications when stratified by upper GI, hepatobiliary, and colorectal procedures and stratified by major and minor classification. Evaluating HARM score by hospital demonstrated score distribution and the ability of the HARM score to discriminate between hospitals.

Conclusion: The HARM score is a simple and valid quality measurement for upper gastrointestinal, hepatobiliary and colorectal surgery, which uses administrative data to measure outcomes for all cases performed at test institutions. The HARM score could facilitate benchmarking to improve patient outcomes and resource utilization, and may facilitate outcome improvement.

Poster #16. COMPLETED FDA FEASIBILITY TRIAL OF SURGICALLY PLACED TEMPORARY DIAPHRAGM PACING ELECTRODES: A PROMISING OPTION TO PREVENT AND TREAT RESPIRATORY FAILURE

Onders RP, Elmo MJ, Markowitz A, Hardacre J, Novitsky Y, Nearman H, Cindy Kaplan C
University Hospitals/Case Western Reserve University

Objective: This report describes utilization of a new temporary Diaphragm Pacing(DP) electrode that can identify and treat respiratory compromise.

Methods: A prospective FDA(IDE #G150040); IRB approved(#4-15-03) and listed on clinicaltrial.gov(NCT 02410798) trial evaluated the feasibility of temporary diaphragm electrodes to provide ventilation with stimulation and monitor respiration through diaphragm electromyography(dEMG). At the end of their primary surgical procedure, two electrodes were placed intramuscularly in each hemi-diaphragm at the motor point of where the phrenic nerve enters the muscle.

Results: Twelve patients, 8 males, underwent 3 different surgical approaches: 4 median sternotomy, 4 laparoscopic and 4 laparotomy. Subjects had multiple comorbidities with ASA of 2-4 (2.9 average). Ages ranged from 41-84 years (62.25 average) with average BMI's average of 32.3. In all patients electrode stimulation exceeded ideal tidal volumes by an average of 37%(0% -95%). There was no significant cardiac interference while stimulating the diaphragm at maximum settings. Daily dEMG analyses found unrecognized diaphragm hypoventilation in one patient leading to hypercarbia. It also provided visual recovery of diaphragm breathing prior to extubation in post-operative cardiac patients. There were no complications with placement, security and removal of all 48 electrodes.

Conclusion: Temporary DP electrodes successfully identified diaphragm abnormalities. They can be utilized to prevent diaphragm atrophy that is so often associated with prolonged mechanical ventilation. The electrodes are easily placed, removed and maintained their integrity throughout the trial.

Poster #17. CAN OLD DOGS LEARN NEW TRICKS?

A NOVEL MODEL FOR TRAUMA SERVICE DEVELOPMENT.

Saxe, JM, Jacobson, L, Edwards, M, Kaderabek, D, Tigges, T, Glass, T, Rowe, M
St. Vincent Medical Center

Objective: Recent increases in statewide trauma system development have led to an increase in the numbers of trauma centers. Trauma center development in both hospital and surgical practices unaccustomed to the disruption has become a common theme. We present a novel model where a mature general surgical group working in concordance with hospital administration has achieved level one status in a five year period.

Methods: We reviewed the development of the trauma service at a new level one-trauma center. A single private practice group established the trauma service. Process improvement data, key educational programs, and trauma morbidity and mortality conferences were analyzed. Review of onboarding of trauma specific members to the group and integration into the hospital system was considered.

Results: A single private practice group fulfilled the responsibility of developing the trauma service. The group at initiation of the trauma service included six male general surgeons and one female surgeon with an average age of 50. A senior experience trauma surgeon was recruited to lead the service. Level two development and verification was accomplished in a two year period. Growth of the service and onboarding of a surgical residency, and coalescing of research interests provided the incentive for level one verification. The average age of the surgeons at the time of level one verification was 55. TQIP quality indicators for the program were reported at 50th percentile or better.

Conclusion: Mature private practice general surgeons can advance a well functioning trauma service.

Poster #18. ASSESSMENT OF A NON-EXCISIONAL COHORT OF PATIENTS WITH ATYPICAL DUCTAL HYPERPLASIA ON CORE-NEEDLE BIOPSY

Leepalao MC, Kamien AJ, Seydel AS, Wernberg JA
Marshfield Clinic-St. Joseph's Hospital

Objective: Atypical ductal hyperplasia (ADH) increases the risk for breast cancer. When diagnosed on core needle biopsy (CNB), excision is generally recommended. The upgrade rate to malignancy on surgical excision ranges from 4-87%. Some patients, however, do not undergo excisional biopsy. We evaluated those patients who did not undergo excision.

Methods: Retrospective review of patients with ADH on CNB from 2008-2013 was performed. Patients not having excision were identified and followed for 18 months. Statistical analysis was done using Fisher's Exact and Wilcoxon Rank Sum tests.

Results: 314 patients who had ADH on CNB were included. 262 (83.4%) underwent excision with an upgrade rate of 14.1%. 52 (16.6%) patients did not undergo excision. Patients in this non-excisional cohort were older and had more comorbid disease ($p < 0.05$). Average age of our non-excisional cohort was 65.8 years. Thirty-nine of the 52 patients (75%) followed up; median follow-up was 27 months. Five (9.6%) were diagnosed with a concurrent non-breast cancer at the time of CNB. During surveillance, one patient was diagnosed with secretory carcinoma (1.9%); one with LCIS (1.9%) in the same breast. Nine (17.3%) patients expired during follow up, none from breast cancer.

Conclusion: Surveillance patients underwent mammogram or MRI six months after initial CNB. If negative, they were followed with annual mammography. During our follow-up period, 1.9% of our cohort developed DCIS or invasive cancer; and 1.9% developed LCIS. This is markedly lower than our upgrade rate of 14.1%. Observation with close follow-up may be an option in select patient populations.

Poster #19. CYTOREDUCTIVE SURGERY WITH HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY: MORBIDITY AND MORTALITY OF 120 CONSECUTIVE CASES PERFORMED AT A COMMUNITY HOSPITAL

Jennifer Ford, John Morreale, Jeff Chores, Anna Boston, Karen Hagglund, Kimberly Coughlin, Milton Desgrandchamps, Richard Berri
St. John Hospital and Medical Center

Objective: Cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC) can be used for peritoneal dissemination from various primary malignancies. Historically CRS + HIPEC experienced high morbidity and mortality: reported Clavien-Dindo grade III complication rates of 26-33% and grade IV of 12-26%. Our study evaluated morbidity, mortality and outcomes after 120 consecutive CRS + HIPEC performed at a 770 bed community hospital by a single surgeon (RB).

Methods: From October 2011 to January 2016, 134 consecutive patients successfully underwent CRS + HIPEC. The initial 120 consecutive patients were analyzed. Using an institutional review board approved study a comprehensive database of all patients was developed. A paired t test was used to analyze survival outcome with statistical significance ($p < 0.05$).

Results: The average age was 54.8 years; 62% were female and 38% male. The most common diagnosis was mucinous appendiceal adenocarcinoma (64%). Average length of stay was 9.8 days, 30 day readmission rate was 9.1%. Rate of grade III Clavien-Dindo complications was 11.4% and grade IV complications was 1.6%. There was no inpatient or 90-day postoperative mortality. For patients without complete CRS, OS at 1 year 83%, 2 years 72% and 3 years 64%. For patients with CRS + HIPEC, OS at 1 year was 97%, 2 years 85% and 3 years 70%. This was statistically significant $p = 0.048$.

Conclusion: Our study demonstrates that this procedure can be safely performed in the community setting with low morbidity and no mortality. This is made possible if a surgeon led multidisciplinary team is assembled and provides high quality multidisciplinary care.

Poster #20. VENOUS THROMBOEMBOLISM IN NECROTIZING PANCREATITIS: AN UNDERAPPRECIATED RISK

Roch AM, Carr RA, Lopes J, Ceppa EP, Yoder J, House MG, Nakeeb A, Schmidt CM, Zyromski NJ

Indiana University School of Medicine

Objective: Necrotizing pancreatitis (NP) is a severe systemic inflammatory process. In our high volume pancreatic surgery practice, we have observed a high incidence of venous thromboembolism (VTE) in NP patients. However, remarkable few data exist to document the true incidence of VTE -including deep venous thrombosis (DVT) and pulmonary embolism (PE) -in NP. Therefore, we sought to determine the incidence and risk factors for VTE in NP patients.

Methods: Retrospective review of all NP patients treated at a single academic center between 2005 and 2015. VTE diagnosis was secured by ultrasound (US), computed tomography (CT), magnetic resonance imaging (MRI) and ventilation/perfusion (V/Q) scan. Descriptive statistics and univariate analysis were applied; p -value <0.05 was considered statistically significant.

Results: 537 NP patients (mean age 53 years; 66% males) had gallstones (45%) and alcohol (17%) as the leading disease etiology. VTE was diagnosed in 311 patients (58%). DVT was found in splanchnic veins only in 72%, extremity veins only in 12% and both extremity and splanchnic veins in 16%. Pulmonary embolism was detected in 32 patients (6%). VTE was diagnosed at a median of 37 days following initial diagnosis of NP. Eighty percent of patients required at least one surgical procedure over the course of their NP. VTE was diagnosed preoperatively in 63% of surgical patients. Only male gender was identified as a risk factor for VTE ($p=0.0005$) by univariate analysis.

Conclusion: Venous thromboembolism is extremely common in necrotizing pancreatitis. Regular ultrasound screening may be considered to facilitate early diagnosis in this high-risk population.

Poster #21. PROGRESS IN THE MANAGEMENT OF RUPTURED ABDOMINAL AORTIC ANEURYSMS

Simmons JM, Mansour AM, Cuff RF, Wong P, Chambers CM, Yassa ES, Bordoli SJ, and Slaikou J
Spectrum Health Medical Group

Objective: To review the clinical outcomes of consecutive patients with ruptured abdominal aortic aneurysms (AAA) by either open repair (OAR) or endovascular repair (EVAR) at a single university-affiliated community hospital since the inception of a ruptured endovascular aneurysm repair program (rEVAR).

Methods: We retrospectively reviewed the clinical data of 211 patients who presented to our facility directly or via transfer with a ruptured abdominal aortic aneurysm between January 2003 and September 2015. Of these, 36 (17.1%) were non-operative based on clinical presentation, anatomy, and family decision. The remaining 175 patients were divided into two groups: traditional open repair (OAR) comprising 84 patients (39.8%) and endovascular repair (EVAR) comprising 91 patients (43.1%). Main outcome variables were 30-day mortality and peri-operative complications. Additional variables reviewed included operative time, transfusion rates, hospital length of stay, and patient disposition.

Results: Since adopting an EVAR first protocol at our institution, the number of ruptures being treated endovascularly has increased. With this advent, we have noticed a decline in 30-day mortality in the EVAR group compared to the OAR group. Overall, patients treated with an EVAR for a ruptured aneurysm had shorter hospital lengths of stay, significantly fewer blood transfusions, and were more likely to be discharged home.

Conclusion: We conclude that EVAR for rAAA is associated with improved and favorable outcomes in comparison to OAR. In order to offer this type of treatment to all patients, a rAAA protocol needs to be established to facilitate early alerting of the vascular surgery team in the operating room.

Poster #22. HEAD INJURY ON WARFARIN: LIKELIHOOD OF DELAYED INTRACRANIAL BLEEDING IN PATIENTS WITH NEGATIVE INITIAL HEAD CT

Afaneh AA, Ford JM, Gharzeddine JR, Mazar AJ, Buck JR
St. John Hospital and Medical Center

Objective: To determine the likelihood that head injured patients on Warfarin with a negative initial head CT will have a positive repeat head CT.

Methods: A retrospective chart review of our institution's trauma registry was performed for all patients admitted for blunt head trauma and on Warfarin anti-coagulation from January 2009 to April 2014. Demographic information included age, sex, and gender. Inclusion criteria included patients over 18 years of age with initial GCS \geq 13, INR greater than 1.5 and negative initial head CT. Initial CT findings, repeat CT findings and INR were recorded. Interventions performed on patients with a delayed bleed were also investigated.

Results: 394 patients met the study inclusion criteria. 121 (31%) of these patients did not receive a second CT while 273 patients (69%) underwent a second CT. 178 (45%) patients were male and 216 (54%) were female. The mean age was 74 years and the mean INR was 2.74. Six patients developed a delayed bleed (6/273). None of the patients had any neurosurgical intervention. 2 of the 6 patients had a clinically significant bleed.

Conclusion: Based on our data, the rate of delayed bleeding was 2.2% (6/273). Our results demonstrate a low rate of delayed bleeding. The utility of repeat head CT in the neurologically stable patient is thus questioned and may not be necessary in all patients. Patients who have an abnormal baseline neurological status and those with INR >3 may represent a subgroup of patients in whom repeat head CT should be performed.

Poster #25. OUTCOMES AFTER LAPAROSCOPIC OR ROBOTIC ASSISTED COLECTOMY AND OPEN COLECTOMY WHEN COMPARED BY OPERATIVE TIME FOR THE PROCEDURE

Philip SJ, Jackson N, Mittal VJ

Providence Hospital and Medical Centers

Objective: Laparoscopic colectomy is associated with important early postoperative advantages. These procedures can however increase total operative duration. Our hypothesis is that increased operative duration is associated with post-operative complications that may outweigh the benefits of a minimally invasive approach.

Methods: We analyzed data from the Michigan Surgical Quality Collaborative (MSQC)R. This is a statewide database of patients who have undergone colon or rectal resections. Colorectal procedures were divided into four groups by surgical approach: open, laparoscopic, robotic and laparoscopic and robotic procedures converted to open. The sample was divided into three groups by operative duration: less than 2 hours, between 2-4 hours and greater than 4 hours and compared by selected preoperative variables and outcomes. The number of procedures by surgical approach was noted within each time group.

Results: Of a total of 10415 colorectal resections, 4434(42.5%) were performed in less than or 2hours, 4874(46.5%) in 2-4hours and 1134(10%) in more than 4 hours. In the subgroup exceeding 4 hours, 43% of procedures were performed open, 31% were performed laparoscopically and 11% robotically. Procedures exceeding 4 hours had a higher average body mass index (BMI) and a longer total length of stay (9.7 days). No significant differences in other postoperative complications were noted.

Conclusion: An operative duration exceeding 4 hours is associated with a longer length of stay regardless of surgical approach. Differences in other postoperative outcomes such as anastomotic leaks, deep surgical site infections or 30 day readmission and reoperation rates were not evident.



LECTURES

Scott Warner Woods, 1927-2003



When attending a Midwest Surgical Association meeting, it takes little effort to almost believe that the haunting notes of a bagpipe still echo in the air. For many years, that sound accompanied the sight of a kilt-clad Scott Warner Woods as he stood wearing his trademark hand-tied tartan bow tie and played to announce the beginning of another annual meeting.

Scott W. Woods, except for his brief stint in Korea with the U.S. Army at the end of World War II, was a life-long Michiganiaan. He was born in Detroit and in 1950 he received his undergraduate degree from the University of Michigan. He then attended Wayne State University College of Medicine and graduated in 1954. After an internship at Wayne County General Hospital, he

completed a surgical residency at Wayne State University in 1960. That same year, he achieved his second greatest accomplishment when he established his first solo practice in Ypsilanti, MI. By 1964, he managed to attain his life's greatest accomplishment when he married his beloved Bette.

Second only to his family, Scott loved the Midwest Surgical Association best and served it tirelessly. He was Treasurer of the Association for a decade before ascending to its presidency in 1986. He championed the controversial decision to bring the Annual Meeting to Mackinac Island. Widely questioned at the time due to the island's remoteness and perceived inaccessibility, this location has easily become the best attended and most well-loved site for the annual conference. In 1987, after a long and successful surgical career as a private practitioner and as Clinical Associate Professor of Surgery at Wayne State University, Scott retired from active surgical practice in 1987 due to complications from arthritis. Scott and Bette remained together in Ypsilanti for the rest of his life.

Scott viewed retirement as a chance to cut back to only 50 or 60 hours of work each week. He remained an important part of his community in Ypsilanti, where he served on the city council, the board of the Ypsilanti Savings Bank, the Chamber of Commerce (including a term as president), with the Lions Club and as a trustee of Cleary College. He reviewed disability claims for the state and worked for the Michigan Peer Review Organization. Scott received many honors and awards from the numerous professional organizations that were proud to call him a member. These organizations included the American College of Surgeons, the Academy of Surgery of Detroit and the Detroit Surgical Association. He was awarded an honorary doctorate from Cleary College for his years of service. His highest accolade occurred in 1995 when both Scott and Bette were selected to receive the Distinguished Philanthropist Award from the American College of Surgeons.

Surgeon, teacher, community leader, philanthropist, husband, father and friend—Scott's death left an empty place in the hearts of all who knew him. He gave selflessly during life and will continue to give in death. Gone is the man, but not the memory.

2016 Scott Warner Woods Memorial Lecture



Current Controversies in Pancreatic Cystic Neoplasms

Monday, August 8, 2016

9:15am – 9:45am

Introduction: Conor P. Delaney, MD, MCh, PhD

Featuring

R. Matthew Walsh, MD

Cleveland Clinic Foundation

Matthew Walsh is currently Chairman of General Surgery at the Cleveland Clinic in Cleveland, Ohio. He came to Cleveland originally to train in HPB surgery with Robert Hermann, prior Chair of the Department of General Surgery. He continued in the Department as faculty for the balance of his career, rising to Professor of Surgery at CWRU and awarded the Rich Family Distinguished Chair in Digestive Diseases. His interests lie in pancreatic surgery, minimally invasive surgery, endoscopy and education. He has been honored with several teaching awards including the highest teaching excellence awards of the Ohio State University and Case Western Reserve University. Originally from Green Bay, Wisconsin he attended college in Nebraska and medical school in Wisconsin. His surgery residency was at Loyola University of Chicago and at Massachusetts General Hospital prior to his HPB Fellowship.

William Hunter Harridge, 1919-1971



Bill Harridge was a man of uncommon energy, integrity, and honesty. His personal enthusiasm, as well as his organizational abilities, made him an outstanding leader of men and organizations. This was evident early in his life as he served with distinction as a company commander of an Army tank unit. In 1945, he suffered a severe open-chest wound in France causing his discharge from the Army with the rank of major.

In 1963, after much discussion and thought, a decision was made to disband the Midwest Surgical Society. Fortunately for our present Society, Bill was persuaded to assume the Presidency for the coming year. Under his leadership, the Society was resurrected, its geographical base was expanded, and it has flourished ever since.

With the exception of his father, Will Harridge, Sr., who was the President of the American Baseball League, Bill's relationship with Dr. Warren Cole was the most important in his life. Dr. Cole writes: "Bill had good judgment, sincerity, determination, willingness to discipline himself...he had complete honesty and integrity...compassion, a characteristic so necessary if one is to become a fine physician."

Bill graduated from the University of Illinois College of Medicine in 1950 and served his internship and residency under Dr. Cole from 1950 to 1956. While he entered private practice in Evanston, Illinois, he maintained an active clinical affiliation with the University and was promoted to the rank of Clinical Professor. In May of 1970, he received the Distinguished Service Award in recognition of his contribution to the Department of Surgery.

Bill was a strong advocate of doctors determining their own professional organizations. He was a Diplomat of the American Board of Surgery and belonged to the Warren H. Cole Society (President 1968-69), Midwest Surgical Association (President 1964-65), North Suburban Branch of the Chicago Medical Society (President 1969-70), Chicago Surgical Society (Recorder 1967-70), The Western Surgical Association, The Illinois Surgical Society, The Society for Surgery of the Alimentary Tract, North Shore Chapter American Cancer Society (President 1966-68), The Institute of Medicine of Chicago and the American College of Surgeons. His many contributions to the surgical literature were primarily related to peripheral vascular and biliary tract disease.

Beloved by his patients and respected for his abilities by his surgical colleagues, Bill Harridge is most remembered for his rigid adherence to the principle of fairness, honesty, and forthrightness in all situations.

2016 William Hunter Harridge Memorial Lecture



Current Status of Small Bowel Transplantation

Monday, August 8, 2016

12:15pm – 1:00pm

Introduction: Conor P. Delaney, MD, MCh, PhD

Featuring

John J. Fung, MD, PhD

Director, Cleveland Clinic Health System Center
for Transplantation

Medical Director, Allogen Laboratories

Professor of Surgery

John J. Fung, MD, PhD is the Director of the Cleveland Clinic Health System Center for Transplantation. Prior to that, he served as Chairman of the Digestive Disease Institute at the Cleveland Clinic, as well as the former Chief of the Division of Transplant Surgery at the University of Pittsburgh. With over 30 years of involvement in kidney, liver, pancreas, islet, and intestinal transplantation, he is also an accomplished immunologist.

Dr. Fung received his BA from the Johns Hopkins University in 1975, followed by a PhD in Immunology in 1980 and MD in 1982 from the University of Chicago. He completed his surgical residency at the University of Rochester, and a transplant surgery fellowship at the University of Pittsburgh, under the guidance of Dr. Thomas Starzl. Between 1987 and 1988, he served as Director of Histocompatibility Testing at the University of Rochester. In 1989, he joined the faculty at the University of Pittsburgh, and held the tenured position as the inaugural Thomas E. Starzl Professor in Surgery. He joined the Cleveland Clinic in 2004 as the Chairman of the Department of General Surgery. He was appointed Professor of Surgery at the Lerner College of Medicine at Case Western University. He is also the Medical Director of Allogen Laboratory, one of the largest histocompatibility laboratories in the United States.

Dr. Fung is a member of numerous scientific and surgical societies and served as President of the International Liver Transplantation Society from 1997-1999. He is currently Secretary of the Transplantation Society. He has published over 950 articles and book chapters and serves on the editorial board for several medical journals. He is the immediate past Editor-in-Chief for Liver Transplantation, the highest impact factor specialty transplant journal. His principal research interests are in transplantation immunology, immunosuppressive therapies, and liver related immunology. He has received funding from the NIH, Juvenile Diabetes Foundation, and industry. In addition, he has received numerous prestigious lay and professional awards. His research interests are in transplant immunology, liver immunity, immunosuppression, and outcomes analysis.

Dr. Fung is active in community affairs and has been a member of the Board of Directors at the Americans for Medical Progress and the LifeBanc Organ Procurement Organization. He received an honorable discharge from the United States Army Reserve Medical Corps with the rank of Lieutenant Colonel. He and his wife, Beth have four children, Justin, Lauren, Brendan and Shannon and live in Chagrin Falls, OH.

William Hunter Harridge Lecturers

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|-------------------------------|------|-------------------------|------|
| Richard A. Santucci, MD | 2015 | Jerry M. Shuck, MD | 1984 |
| Jeffrey L. Ponsky, MD | 2014 | Robert E. Hermann, MD | 1983 |
| Fred A. Weaver, MD, MMM | 2013 | Ward O. Griffen, MD | 1982 |
| Daniel B. Michael, MD, PhD | 2012 | Robert Condon, MD | 1981 |
| Leigh Neumayer, MD | 2011 | Robert J. Freeark, MD | 1980 |
| Kirby I. Bland, MD | 2010 | John Glover, MD | 1979 |
| Jay L. Grosfeld, MD | 2009 | Robert Bartlett, MD | 1978 |
| Douglas J. Mathisen, MD | 2008 | J. Wesley Alexander, MD | 1977 |
| Terry Hicks, MD | 2007 | Raymond Read, MD | 1976 |
| George I. Irvin, III, MD | 2006 | *Hushang Javid, MD | 1975 |
| J. David Richardson, MD | 2005 | Alexander J. Walt, MD | 1974 |
| Josef E. Fischer, MD | 2004 | Warren H. Cole, MD | 1973 |
| Stephen D. Leach, MD | 2003 | Lester R. Dragstedt, MD | 1972 |
| Charles E. Lucas, MD | 2002 | Allan M. Lansing, MD | 1971 |
| J. Wayne Meredith, MD | 2001 | Lester R. Dragstedt, MD | 1962 |
| Michael W. L. Gauderer, MD | 2000 | Warren H. Cole, MD | 1960 |
| Glenn D. Steele, Jr., MD, PhD | 1999 | | |
| Layton F. Rikkers, MD | 1998 | | |
| Gregorio A. Sicard, MD | 1997 | | |
| John P. Delaney, MD, PhD | 1996 | | |
| Keith A. Kelly, MD | 1995 | | |
| Robert E. McAfee, MD | 1994 | | |
| Richard L. Simmons, MD | 1993 | | |
| David S. Mulder, MD | 1992 | | |
| Donald D. Trunkey, MD | 1991 | | |
| Lazer Greenfield, MD | 1990 | | |
| Erwin R. Thal, MD | 1989 | | |
| J. Patrick O'Leary, MD | 1988 | | |
| Robert W. Barnes, MD | 1987 | | |
| Jeremiah G. Turcotte, MD | 1986 | | |
| Steven G. Economou, MD | 1985 | | |

**First official Harridge Lecturer*

In Remembrance

Sidney F. Miller, MD

Columbus, OH

In Remembrance



Nonie Lowry

*MSA Association Management Director
Overland Park, KS*

Notice of Change

Please make the following changes to my listing:

NAME

SPOUSE'S NAME

ADDRESS

ADDRESS

ADDRESS

CITY, STATE, ZIP

PHONE

FAX

E-MAIL

SURGICAL SPECIALTY

YEAR OF INDUCTION INTO MSA MEMBERSHIP

Send to: **Midwest Surgical Association**

2625 West 51st Terrace
Westwood, KS 66205

Telephone: 913-402-7102

Fax: 913-273-1140

Email: events@lp-etc.com

Web: www.midwestsurg.org

Notice of Death

NAME

DATE

Send to: **Midwest Surgical Association**

2625 West 51st Terrace

Westwood, KS 66205

Telephone: 913-402-7102

Fax: 913-273-1140

Email: events@lp-etc.com

Web: www.midwestsurg.org

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