Southwestern Surgical Congress
5019 W. 147th Street
Leawood, KS 66224

swscongress.org
events@lp-etc.com
Fax: 913.273.9940
Phone: 913.402.7102

FINAL PROGRAM

2013 Annual Meeting
March 24-27, 2013
Bacara Resort | Santa Barbara, CA
The Southwestern Surgical Congress would like to thank the following companies for their generous support of our meeting through educational grants:

American College of Surgeons Division of Education
Veracyte

The Southwestern Surgical Congress gratefully acknowledges the support of the following exhibiting companies:

AGENDIA
Aloka
American College of Surgeons Foundation
Baxter Biosurgery
Cubist Pharmaceuticals, Inc.
Karl Storz Endoscopy America Inc
LifeCell
Simbionix USA Corp.
TEI Biosciences
Veracyte

Special thanks to the SWSC 2013 Program Committee:

Randall Smith - Chair
David Antonenko
Walter Biffl
Brian Eastridge
Shanu Kothari
John Myers
Jackie Osland
Kevin Reavis
Courtney Scaife
Michael Truitt

THE SOUTHWESTERN SURGICAL CONGRESS

66th Annual SWSC Meeting

April 13-16, 2014
Westin Kierland Resort | Scottsdale, AZ
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*See inside back cover for future meetings.*
LETTER FROM THE PRESIDENT

On behalf of the Southwestern Surgical Congress, I welcome you to the 65th annual meeting at the Bacara Resort in Santa Barbara, California where you will have a chance to access an excellent educational program and “recharge your batteries” meeting with old and new colleagues and friends. The Bacara Resort is an ocean beach front hotel on 78 acres on the Santa Barbara Coast. In addition to the traditional golf and tennis on Monday afternoon, there are a host of activities available for you, your family and friends. Available activities on site include the Monarch Kid’s Club for children ages 5 through 12, walking and hiking paths, spa and fitness center, swimming pools and wine classes. Nearby there are trolley tours of the local areas including shopping centers, the Santa Barbara Museum, Ty Warner Sea Center and also available for a fee are tours of the wine country, Ronald Reagan Ranch and Casa del Herrero. There are multiple other attractions in the immediate or nearby areas to peak your interest.

The program committee, under the guidance of Dr. Randy Smith, has organized an excellent meeting to meet the educational interests of all who attend. Sunday, will start with a postgraduate course on Basic Ultrasound for Surgeons which will be under the direction of Dr. Stephen Smith, an internationally recognized expert on ultrasound use by surgeons. Faculty for the course are Drs. Dan Vargo, Jay Harness, William Fry and Jonathan M. Dort, all national ultrasound instructors. With ultrasound becoming more important as part of surgical practice, I strongly encourage you to participate. Fees for the course are a fraction of what is the normal at national meetings and completion of the course will qualify you for more advanced ultrasound courses provided by the American College of Surgeons.

The main meeting beginning Sunday afternoon will include the popular quick shot presentations and scientific presentations including those resident papers competing for the Jack Barney Award for the outstanding paper by a resident. This year we have added 2 debates. The first is “MRI in Breast Surgery: Friend or Foe” with Dr. Anees Chagpar supporting the affirmative and Dr. Jackie Osland supporting the negative view. The second debate will pit Dr. Richard Frazee against Dr. Walter Biffl on the topic “Hartman vs the Field for Perforated Hinchey III Peritonitis”, both topics very pertinent to today’s surgical practice. We have added a Practice in Partners Luncheon which will feature a discussion on the role of advance practice clinicians in a surgical practice. Dr. Ajit Sachdeva will be giving the graduate medical education luncheon presentation on Tuesday.

Our invited featured lecturers are Dr. R.Stephen Smith, Dr. Alicia Mangram and Dr. Kelley McMasters. The American College of Surgeons will present 2 panels on Monday morning. The first will be an update from the College moderated by Dr. David Hoyt with panelists Dr. Julie Freischlag, Dr. Ajit Sachdeva and Christian Shalgian. The second panel will be a Focus on Rural Surgery, moderated by Dr. Tyler Hughes, current chair of the Rural Surgery Advisory Panel of the American College of Surgeons. Members of the panel are Dr. Robert Sticca, Dr. Ron Gagliano and Dr. J Patrick Walker. We are also very pleased that Dr. ‘Rick’ Greene, President of the Southeastern Surgical Congress will be our guest.

Welcome, enjoy the scientific programs, the social activities and at the end of the meeting please give us feedback and suggestions for future meetings.

Kind regards

David Antenenko, MD, PhD
President, Southwestern Surgical Congress
# OFFICERS, STATE COUNCILORS, & REPRESENTATIVES

## EXECUTIVE OFFICERS

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<thead>
<tr>
<th>Position</th>
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<td>President</td>
<td>David Antonenko</td>
<td>Grand Forks, ND</td>
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<td>Kenric Murayama</td>
<td>Philadelphia, PA</td>
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<td>Ronald Stewart</td>
<td>San Antonio, TX</td>
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<td>Clay Cothren Burlew</td>
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## STATE COUNCILORS

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<td>Utah</td>
<td>Daniel Vargo</td>
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<td>Wisconsin</td>
<td>Shanu Kothari</td>
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<td>Wyoming</td>
<td>Sara Smith</td>
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OFFICERS, STATE COUNCILLORS, & REPRESENTATIVES (continued)

COMMITTEES

CME CHAIR
Michael Truitt
Dallas, TX

CONSTITUTION & BYLAWS CHAIR
Daniel Margulies
Los Angeles, CA

GRADUATE MEDICAL EDUCATION
John R. Potts, III
Chicago, IL

HISTORIAN
William F. Sasser
St. Louis, MO

MEMBERSHIP CHAIR
S. Rob Todd
New York, NY

NOMINATING CHAIR
Edward Nelson
Salt Lake City, UT

PROGRAM COMMITTEE CHAIR
Randall Smith
Temple, TX

PUBLICATIONS AND RESEARCH CHAIR
Courtney Scaife
Salt Lake City, UT

CONGRESS REPRESENTATIVES

AMERICAN COLLEGE OF SURGEONS
- BOARD OF GOVERNORS
S. Rob Todd
New York, NY

AMERICAN COLLEGE OF SURGEONS - ADVISORY COUNCIL FOR SURGERY
Alicia Mangram
Phoenix, AZ

AMERICAN BOARD OF SURGERY REPRESENTATIVE
Roxie Albrecht
Oklahoma City, OK
PAST PRESIDENTS & MEETING LOCATIONS

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<td>Walter Stuck, MD</td>
<td>Shamrock Hotel, Houston, Texas</td>
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<td>1950</td>
<td>Thomas G. Orr, MD</td>
<td>Shirley Savoy, Denver, Colorado</td>
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<td>1951</td>
<td>Leo J. Starry, MD</td>
<td>Hotel Jefferson, St. Louis, Missouri</td>
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<td>1952</td>
<td>Michael E. DeBakey, MD</td>
<td>Baker Hotel, Dallas, Texas</td>
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<td>1953</td>
<td>Louis P. Good, MD</td>
<td>Hotel Utah, Salt Lake City, Utah</td>
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<td>1954</td>
<td>Philip B. Price, MD</td>
<td>Skirvin Hotels, Oklahoma City, Oklahoma</td>
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<td>1955</td>
<td>Lawrence P. Engel, MD</td>
<td>Hotel Muehlebach, Kansas City, Missouri</td>
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<td>Charles R. Rountree, MD</td>
<td>Pioneer Hotel, Tucson, Arizona</td>
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<td>John V. Goode, MD</td>
<td>Broadway Hotel, Wichita, Kansas</td>
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<td>1958</td>
<td>Kenneth C. Sawyer, MD</td>
<td>Shamrock Hotel, Houston, Texas</td>
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<td>1959</td>
<td>Lewis M. Overton, MD</td>
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<td>Fred H. Krock, MD</td>
<td>Riviera Hotel, Las Vegas, Nevada</td>
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<td>1961</td>
<td>Howard D. Cogswell, MD</td>
<td>Chase Park Plaza, St. Louis, Missouri</td>
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<td>1962</td>
<td>Charles M. O’Leary, MD</td>
<td>Western Skies Hotel, Albuquerque, New Mexico</td>
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<td>1963</td>
<td>Edgar J. Poth, MD</td>
<td>Maria Isable Hotel, Mexico City, Mexico</td>
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<td>1964</td>
<td>Eugene M. Bricker, MD</td>
<td>Granada Hotel, San Antonio, Texas</td>
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<td>1965</td>
<td>Wayne C. Bartlett, MD</td>
<td>Velda Rose Towers, Hot Springs, Arkansas</td>
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<td>1966</td>
<td>O. Ernest Grua, MD</td>
<td>Flamingo Hotel, Las Vegas, Nevada</td>
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<td>1967</td>
<td>John A. Growdon, MD</td>
<td>Del Webb-Town House, Phoenix, Arizona</td>
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<tr>
<td>1968</td>
<td>Robert B. Howard, MD</td>
<td>Brown Palace Hotel, Denver, Colorado</td>
</tr>
</tbody>
</table>
PAST PRESIDENTS & MEETING LOCATIONS (continued)

1969
*John H. Clark, MD
Sahara Tahoe Hotel, Lake Tahoe, Nevada

1970
*Jean C. Gladden, MD
Sheraton-Dallas Hotel, Dallas, Texas

1971
*J. Robert Spencer, MD
Caesar’s Palace Hotel, Las Vegas, Nevada

1972
*John G. Shellito, MD
Hilton Inn, Albuquerque, New Mexico

1973
*James B. Growdon, MD
Mountain Shadows Hotel, Scottsdale, Arizona

1974
*Lawrence H. Wilkinson, MD
Del Monte Hyatt House, Monterey, California

1975
*George H. Mertz, MD
Caesars Palace Hotel, Las Vegas, Nevada

1976
*John B. Gramlich, MD
Hyatt Regency Hotel, Houston, Texas

1977
*Howard T. Robertson, MD
Princess Hotel, Acapulco, Mexico

1978
*Cyril Costello, MD
Riviera Hotel, Palm Springs, California

1979
*MacDonald Wood, MD
Caesars Palace Hotel, Las Vegas, Nevada

1980
Gilbert S. Campbell, MD
Broadmoor Hotel, Colorado Springs, Colorado

1981
*Wallace L. Chambers, MD
Hyatt del Monte, Monterey, California

1982
*Albert J. Kukral, MD
Hotel del Coronado, Coronado, California

1983
Livingston Parsons, Jr., MD
The Pointe Resort, Phoenix, Arizona

1984
Raymond C. Read, MD
The Hyatt Regency, Honolulu & Maui, Hawaii

1985
*Claude H. Organ, Jr., MD
Caesars Palace Hotel, Las Vegas, Nevada

1986
Ronald C. Elkins, MD
Hyatt Regency San Francisco, San Francisco, California

1987
*Joseph L. Kovarik, MD
Hotel del Coronado, Coronado, California
<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Location</th>
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<tr>
<td>1988</td>
<td>Arlo S. Hermreck, MD</td>
<td>The Pointe at Squaw Peak, Phoenix, Arizona</td>
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<td>1989</td>
<td>Frederic C. Chang, MD</td>
<td>Hyatt Regency Monterey, Monterey, California</td>
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<td>1990</td>
<td>Kent C. Westbrook, MD</td>
<td>LaQuinta Golf &amp; Tennis Resort, La Quinta, California</td>
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<td>1991</td>
<td>William F. Sasser, MD</td>
<td>The Mirage, Las Vegas, Nevada</td>
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<td>1992</td>
<td>David V. Feliciano, MD</td>
<td>Marriott’s Camelback Inn Resort, Scottsdale, Arizona</td>
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<td>1993</td>
<td>Dominic Albo, Jr., MD</td>
<td>Hyatt Regency Monterey, Monterey, California</td>
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<td>1994</td>
<td>Ernest Poulos, MD</td>
<td>The Westin LaPaloma, Tucson, Arizona</td>
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<td>1995</td>
<td>Robert B. Sawyer, MD</td>
<td>Hyatt Regency Hill Country Resort, San Antonio, Texas</td>
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<td>1996</td>
<td>Carey P. Page, MD</td>
<td>Marriott’s Camelback Inn Resort, Scottsdale, Arizona</td>
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<td>1997</td>
<td>James H. Thomas, MD</td>
<td>Westin Mission Hills Resort, Rancho Mirage, California</td>
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<td>1998</td>
<td>Charles H. McCollum, MD</td>
<td>Hyatt Regency Hill Country Resort, San Antonio, Texas</td>
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<td>1999</td>
<td>Ernest E. Moore, Jr., MD</td>
<td>Loews Coronado Bay Resort, Coronado, California</td>
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<td>2000</td>
<td>Victor J. Zannis, MD</td>
<td>The Broadmoor, Colorado Springs, Colorado</td>
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<td>2001</td>
<td>Nicholas P. Lang, MD</td>
<td>Fiesta Americana Coral Beach Resort, Cancun, Mexico</td>
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<td>2002</td>
<td>James A. Edney, MD</td>
<td>Hotel del Coronado, Coronado, California</td>
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<td>2003</td>
<td>Russell G. Postier, MD</td>
<td>Loews Ventana Canyon Resort, Tucson, Arizona</td>
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<td>2004</td>
<td>Jon S. Thompson, MD</td>
<td>Hyatt Regency Monterey, Monterey, California</td>
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PAST PRESIDENTS & MEETING LOCATIONS (continued)

2005
Jeffrey R. Saffle, MD
Westin La Cantera Resort
San Antonio, Texas

2006
Ernest L. Dunn, MD
Kauai Marriott Resort and Beach Club
Kauai, Hawaii

2007
Scott R. Petersen, MD
Rancho Las Palmas Resort and Spa
Rancho Mirage, California

2008
Alan G. Thorson, MD
Fairmont Acapulco Princess
Acapulco, Mexico

2009
Maria D. Allo, MD
Hotel del Colorado
Coronado, California

2010
Frederick A. Moore, MD
Loews Canyon Resort
Tucson, Arizona

2011
Edward Nelson, MD
JW Marriott Ihilani
Oahu, Hawaii

2012
Robert C. McIntyre, Jr., MD
Terranea Resort
Rancho Palos Verdes, California

* Deceased
EDUCATIONAL OBJECTIVES

The scientific program of the Annual Meeting of the Southwestern Surgical Congress will provide up-to-date information for community surgeons, academic surgeons and the surgeon in training. Topics will cover a broad range of surgical practice interests including the care of breast cancer and melanoma, trauma, surgical education, surgical oncology, surgical endocrinology and surgical infections. The intent of the program is to improve the quality of patient care and improve patient safety. Audience participation and interaction will be encouraged. The content and format of the program have been determined based on evaluations and suggestions of attendees of previous programs.

At the end of this activity, attendees will:

• Have an understanding and knowledge of basic ultrasound for the general surgeon
• Possess new information regarding the latest data and surgical techniques for the general surgeon, specifically in the areas of melanoma, trauma, breast, endocrine, abdominal and gastrointestinal disease.
• Understand and develop an implementation plan to introduce new technologies into current practice.

CME CERTIFICATES AND EVALUATION FORMS

Please complete your evaluation form and return it to the Registration Desk. You may pick up your CME Certificate at this time. CME and Self-Assessment Credit may also be completed online.

ACCREDITATION STATEMENT

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the American College of Surgeons and the Southwestern Surgical Congress. The American College 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 18.75 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 7.75 credits meet the requirements for Self-Assessment.

DISCLOSURE INFORMATION

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

HOTEL
Bacara Resort & Spa
8301 Hollister Ave
Santa Barbara, CA 93117
Telephone: 805-968-0100
Website: www.bacararesort.com

REGISTRATION
The registration desk hours are as follows:

- Sunday: 7:30am – 5:00pm
- Monday: 7:00am – Noon
- Tuesday: 7:00am – 5:00pm
- Wednesday: 7:00am – 11:00am

SPOUSE HOSPITALITY
A Spouse Breakfast & Hospitality Suite will be offered for all registered spouses and guests on Monday and Tuesday mornings from 8:00am – 10:00am. All individuals must be registered and wear their name badge in order to be admitted.

SPOUSE ACTIVITY
Mixology
Sunday, March 24
3:00pm – 5:00pm
Fee: $99 per person
Spouses and Companions, come join us for this special late afternoon session, as the meeting is getting underway. This two hour class at the Bacara is based on three different liquors - Vodka, Rum and Tequila.

Casa del Herrero
Tuesday, March 26
1:15pm – 4:00pm
Fee: $70 per person
Tour Montecito’s Casa del Herrero, built in 1925 and known as one of the finest examples of Spanish Colonial Revival architecture in America. Round trip transportation is included.
GENERAL INFORMATION  (continued)

RECREATIONAL ACTIVITIES

Monday, March 25

Annual Golf Tournament
Sandpiper Golf Club
1:00pm Shotgun Start – Scramble Format Cost: $145 per person

Tennis Tournament
Bacara Resort and Spa
1:00pm - Round Robin Doubles Cost: $40 per person

Wine Country Tour
1:00pm – 5:00pm
Fee: $175 per person
Santa Ynez Valley Wine Country The geography, topography, and climate of Santa Barbara County make it one of the most versatile and world class grape growing regions in the state. Enjoy the fine wines and the exceptional beauty of the Santa Barbara County Wine Country at an unhurried pace. Our leisurely tour includes private tastings at two or three of the area’s finest wineries and takes you through picturesque farmland dotted with thousands of acres of lush green vineyards. Breathtaking vistas of valleys and mountains are vivid against a background of clear blue skies. Lunch can be included along the way in a multitude of choices for a unique food and wine experience. Round trip transportation is included in the fee.

Reagan Ranch Center Tour
1:00pm – 3:00pm
Fee: $70 per person
Join us for a guided museum tour through galleries featuring original Reagan Ranch artifacts matched with state-of-the-art, interactive, multimedia exhibits that highlight the history of Ronald Reagan’s quarter-century at Rancho del Cielo and the accomplishments of his presidency. The galleries also feature several unique collections on display, including the Lorraine Wagner Letter Collection, a massive, 5,000 pound section of the Berlin Wall and the president’s famous blue Jeep Scrambler, complete with “Gipper” license plate sits in the Center of gallery. Round trip transportation included.

Please stop by the registration desk for additional details and registration information
PRESIDENTIAL ADDRESS

IS THE GENERAL SURGEON BECOMING OBSOLETE?

SUNDAY, MARCH 24, 2013
4:00pm – 5:00pm
Bacara Ballroom A&B

Speaker:
David Antonenko, MD, PhD
Grand Forks, ND

Dr. David Antonenko obtained his medical degree and completed his residency at the University of Alberta, Edmonton, Alberta, Canada. During his residency he completed a Ph.D. in experimental surgery examining the subcellular response to hemorrhagic shock. He then completed a surgical critical care trauma fellowship at Wayne State University in Detroit, Michigan. After 2 years back in Edmonton he returned to Detroit where he was Director of Surgical Critical Care at Harper hospital for 8 years. Following a brief practice in a rural community he became Chairman of the Department of Surgery at the University of North Dakota in Grand Forks and remained as chairman for 15 years. He has also served as program director of the general surgical residency, director of surgical education, surgery clerkship director, director of the surgical simulation program and director of trauma and critical care services in Grand Forks. He has also been involved in multiple national committees and surgical organizations.

Dr. Antonenko’s primary clinical interests are in fluids, electrolytes, acid-base and shock as they apply to surgical patients, particularly in trauma and critical care. He has been a surgical educator his entire career, mainly in clinical bedside teaching with general surgery residents and in surgical simulation. He has received many teaching awards and is a very strong supporter and advocate for the general surgeon, particularly in community and rural locations.
EDGAR J. POTH MEMORIAL LECTURESHIP
DISRUPTIVE TECHNOLOGY IN THE TREATMENT OF THORACIC INJURY

TUESDAY, MARCH 26, 2013
10:00am – 10:45am
Bacara Ballroom A&B

Speaker:
R. Stephen Smith, MD
Columbia, SC

Dr. Smith is a nationally recognized trauma surgeon, with an accomplished career in both medicine and military service. Prior to joining USC, he worked as System Chief of the Division of Acute Care Surgery at West Penn Allegheny Health System and Adjunct Professor of Surgery at Temple University School of Medicine. He previously held faculty appointments at the University of California, Davis – East Bay, the University of Kansas School of Medicine-Wichita, and the Virginia Tech Carilion School of Medicine. He has authored more than 95 peer-reviewed journal articles, 22 book chapters, and numerous multimedia publications and has given more than 425 lectures nationally and internationally. In 2006, he retired as Captain in the United States Naval Reserve Medical Corps. His military service included working as a surgeon and medical director of the intensive care and casualty reception units on the USNS Mercy Hospital Ship during Operations Desert Shield and Storm.

Dr. Smith's surgical expertise includes trauma, critical care, emergency and general surgery. His recent surgical interests includes thoracic trauma and hyperglycemia in injured patients. Additionally, he has been involved nationally and internationally in advancing the use of ultrasound in several surgical specialties and served as the Chair of the American College of Surgeons National Ultrasound Faculty for 5 years.

Dr. Smith is a fellow of the American College of Surgeons (ACS). For more than 20 years, he has taken an active role in serving the ACS on a national and regional level. He has been president of the Kansas Chapter of ACS and chairman of the ACS Kansas State Committee on Trauma. He is currently a member of the ACS Committee on Trauma. Dr Smith is board certified by the American Board of Surgery with a certificate of special qualifications in surgical critical care.
## GUEST SPEAKERS (continued)

### EDGAR J. POTH MEMORIAL LECTURESHP

#### PAST PRESENTERS

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<th>Speaker</th>
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<td>1975</td>
<td>George H. Mertz, MD</td>
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<td>Frank G. Moody, MD</td>
<td>1989</td>
<td>Carey P. Page, MD</td>
<td>2002</td>
<td>Layton F. Rikkers, MD</td>
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<td>Claude H. Organ, Jr., MD</td>
<td>1990</td>
<td>James H. Tomas, MD</td>
<td>2003</td>
<td>Kenneth W. Sharp, MD</td>
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<td>1978</td>
<td>Raymond C. Read, MD</td>
<td>1991</td>
<td>Lawrence W. Way, MD</td>
<td>2004</td>
<td>B. Timothy Baxter, MD</td>
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<td>1979</td>
<td>William W. Monafo, MD</td>
<td>1992</td>
<td>Jon M. Burch, MD</td>
<td>2005</td>
<td>John F. Eidt, MD</td>
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<td>1980</td>
<td>George C. Morris, MD</td>
<td>1993</td>
<td>Jeffrey R. Saffle, MD</td>
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<td>David Antonenko, MD, PhD</td>
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<td>MacDonald Wood, MD</td>
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<td>Jon S. Thompson, MD</td>
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<td>J. Bradley Aust, MD</td>
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<td>Wayne H. Schwesinger, MD</td>
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<td>Ernest E. Moore, Jr., MD</td>
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<td>1985</td>
<td>Stephen L. Wangensteen, MD</td>
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<td>Courtney M. Townsend, Jr., MD</td>
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<td>Anees Chagpar, MD</td>
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<td>David V. Feliciano, MD</td>
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<td>1987</td>
<td>David Roos, MD</td>
<td>2000</td>
<td>Robert J. Fitzgibbons, MD</td>
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THOMAS G. ORR MEMORIAL LECTURESHIP
INNOVATIONS IN GERIATRIC TRAUMA AND RESIDENT RESEARCH EDUCATION: BRIDGING THE GAP

TUESDAY, MARCH 26, 2013
2:45pm – 3:30pm
Bacara Ballroom A&B

Speaker:
Alicia Mangram, MD
Phoenix, AZ

Alicia Jeannine Mangram, MD, FACS, is the current director of Trauma Services for John C. Lincoln Health Network. In that role she serves as Medical Director of the Level I Trauma Center at John C. Lincoln North Mountain Hospital.

Dr. Mangram, a native of Kansas, came to John C. Lincoln from Methodist Hospitals of Dallas, Texas, where she was medical director of the Intensive Care Unit and assistant director of the General Surgery Residency Program. She also spent two years working with the Centers for Disease Control and Prevention.

Dr. Mangram completed a residency in general surgery at the Texas Health Science Center at the University of Texas, Houston, where she also completed fellowships in trauma/critical care and surgical critical care. Dr. Mangram earned her medical degree from Meharry Medical College in Nashville, Tenn., and completed her undergraduate degree from the Southern University A & M College in Baton Rouge, LA.
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<thead>
<tr>
<th>Year</th>
<th>Guest Speaker</th>
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<tr>
<td>1966</td>
<td>Michael E. DeBakey, MD</td>
<td>1981</td>
<td>Arthur C. Beall, Jr., MD</td>
<td>1997</td>
<td>Nicholas P. Lang, MD</td>
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<td>1967</td>
<td>Edgar J. Poth, MD</td>
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<td>Arlo S. Hermreck, MD</td>
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<td>Stanley R. Friesen, MD</td>
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<td>G. Rainey Williams, MD</td>
<td>1999</td>
<td>Frederick A. Moore, MD</td>
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<td>1969</td>
<td>Philip B. Price, MD</td>
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<td>Samuel A. Wells, Jr., MD</td>
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<td>H. Harlan Stone, MD</td>
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<td>Kenneth C. Sawyer, MD</td>
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<td>Layton F. Rikkers, MD</td>
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<td>Russell G. Postier, MD</td>
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<td>1972</td>
<td>C. Frederick Kittle, MD</td>
<td>1987</td>
<td>W. Sterling Edwards, MD</td>
<td>2003</td>
<td>Keith Lillemoe, MD</td>
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<td>1973</td>
<td>Erie E. Peacock, MD</td>
<td>1988</td>
<td>Laurence Y. Cheung, MD</td>
<td>2004</td>
<td>Alan Thorson, MD</td>
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<td>1974</td>
<td>Eugene M. Brickner, MD</td>
<td>1989</td>
<td>Tom R. DeMeester, MD</td>
<td>2005</td>
<td>Nathaniel Soper, MD</td>
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<td>1975</td>
<td>William R. Waddell, MD</td>
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<td>Charles M. Balch, MD</td>
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<td>Thomas Weber, MD</td>
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<td>Alex G. Little, MD</td>
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<td>1977</td>
<td>Gilbert S. Campbell, MD</td>
<td>1992</td>
<td>Donald E. Fry, MD</td>
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<td>1978</td>
<td>Howard T. Robertson, MD</td>
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<td>Mark A. Talamini, MD</td>
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<td>1979</td>
<td>Norman M. Rich, MD</td>
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<td>C. James Carrico, MD</td>
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<td>Barbara Lee Bass, MD</td>
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<td>1980</td>
<td>W. Gerald Rainer, MD</td>
<td>1995</td>
<td>Frederick L. Grover, MD</td>
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<td>John Potts, III, MD</td>
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<td>1996</td>
<td>Ernest E. Moore, Jr., MD</td>
<td>2012</td>
<td>David Mercer, MD</td>
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CLAUDE H. ORGAN, JR. MEMORIAL LECTURESHPHSHIP
LESSONS LEARNED FROM THE SUNBELT MELANOMA TRIAL

WEDNESDAY, MARCH 27, 2013
8:30am – 9:15am
Bacara Ballroom A&B

Speaker:
Kelly McMasters, MD
Louisville, KY

Dr. McMasters is the Ben A. Reid, Sr. Professor and Chair of the Department of Surgery, University of Louisville School of Medicine. He is also Director of the Multidisciplinary Melanoma Clinic at the James Graham Brown Cancer Center. He received his PhD in Cell and Developmental Biology at Rutgers University in 1988 and his MD at the University of Medicine and Dentistry of New Jersey/ Robert Wood Johnson (formerly Rutgers) Medical School in 1989. Dr. McMasters completed general surgery residency at the University of Louisville in 1994. After completion of the surgical oncology fellowship program at MD Anderson Cancer Center in 1996, he returned to Louisville as the Sam and Lolita Weakley Professor of Surgical Oncology and served as Chief of the Division of Surgical Oncology before being named the Chair of the Department of Surgery in 2005. His clinical areas of interest are melanoma, breast cancer, sarcoma, hepatobiliary tumors, and pancreatic and gastric cancers. He served as President of the Southeastern Surgical Congress in 2009-2010, is the current Recorder for the Western Surgical Association, and served on the executive council of the Society of Surgical Oncology for many years. For the past 16 years, he has directed a basic and translational science laboratory studying adenovirus-mediated cancer gene therapy and melanoma biomarkers, which has been funded by the National Institutes of Health, the American Cancer Society, the Melanoma Research Foundation, and other agencies. He is the author and Principal Investigator (PI) of the Sunbelt Melanoma Trial, a multi-institutional study involving 3500 patients from 79 institutions across North America. He has also been principal investigator of or co-investigator in over 30 clinical trials. Dr. McMasters has presented his research to numerous national and international organizations and is a member of numerous professional societies, including the American Surgical Association, the Southern Surgical Association, the Western Surgical Association, the International Surgical Group, the Halsted Society, and the Surgical Biology Club. He is the Melanoma Section Editor of Annals of Surgical Oncology. He has authored nearly 300 peer-reviewed publications and recently published a book entitled Hepatocellular Carcinoma: Targeted Therapy.
<table>
<thead>
<tr>
<th>Year</th>
<th>Presenter</th>
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<tr>
<td>1996</td>
<td>V. Suzanne Klimberg, MD</td>
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<td>LaSalle D. Leffall, Jr., MD</td>
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<td>Hiram C. Polk, Jr., MD</td>
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<td>F. Charles Brunicardi, MD</td>
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<td>John B. Cone, MD</td>
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<td>Douglas S. Reintgen, MD</td>
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<td>Frank Lewis, MD</td>
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<td>Philip Schauer, MD</td>
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<td>Sean J. Mulvihill, MD</td>
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<td>John Hanks, MD</td>
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<td>Glen D. Warden, MD</td>
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<td>Dmitry Oleynikov, MD</td>
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<td>2009</td>
<td>Mary L. Brandt, MD</td>
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<td>Ernest E. Moore, MD</td>
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<td>2011</td>
<td>Ronald M. Stewart, MD</td>
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<td>2012</td>
<td>Eugene Foley, MD</td>
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AWARDS

JACK A. BARNEY RESIDENT’S AWARD

Dr. Jack A. Barney received his medical degree in 1956 from the University of Oklahoma. He completed his surgical residency training at St. Anthony Hospital and the University of Oklahoma Health Science Center before entering private practice in Oklahoma City. Dr. Barney continued in private practice in Oklahoma City and Clinical Assistant Professor of Surgery at the University of Oklahoma.

This award was established in 1986 to recognize the dedicated service of Dr. Barney, who served as Secretary-Treasurer of the Southwestern Surgical Congress from 1966 to 1986. It is awarded to the best paper presented by a resident. The first Jack A. Barney award was presented at the 1987 Annual Meeting.

1987
Ronald M. Stewart, MD

1988
T.L. Demmy, MD

1989
Ronald M. Stewart, MD

1990
George Orloff, MD

1991
L. Lee Nelson, MD

1992
Phillip M. Brown, MD

1993
Timothy C. Hollingsed, MD

1994
Walter L. Biffl, MD

1995
Daniel R. Meldrum, MD

1996
David A. Partrick, MD

1997
Evan R. Kokoska, MD

1998
Tari King, MD

1999
David G. Affleck, MD

2000
Philip A. Woodworth, MD

2001
Elizabeth K. Paulsen, MD

2002
Sandra Wong, MD

2003
Ketan Desai, MD

2004
Joseph A. Davis, MD

2005
Elizabeth Fitzsullivan, MD

2006
Hyong Kim, MD

2007
Marcene McVay, MD

2008
Jodi Gerdes, MD

2009
Jennifer Keller, MD

2010
Brenda Kopriva, MD

2011
Stephanie Cohen, MD, MS

2012
Paul Bjordahl, MD

March 24-27, 2013  |  Bacara Resort, Santa Barbara, CA
AWARDS

BEST POSTER AWARD
This award is presented to the highest ranked poster presented at the Southwestern Surgical Congress Annual Meeting.

1996
Abdelkrim Touijer, MD

1997
Joseph Huh, MD

1998
Hedieh Stefanacci, MD

1999
Stacy L. Stratmann, MD

2000
Archana Ganaraj, MD

2001
Erik B. Wilson, MD

2002
Danny Little, MD

2003
Anees Chagpar, MD

2004
Shawn St. Peter, MD

2007
Shanu Kothari, MD

2008
Candy Arentz, MD

2009
Christian Jones, MD

2010
Shuan Brown, MD

2011
Amani Jambhekar, BA, BS

2012
Gaurav Kaushik, PhD
SPECIAL SESSIONS

POSTGRADUATE COURSE
BASIC ULTRASOUND FOR SURGEONS

Sunday, March 24, 2013
7:30am – 12:00pm
Santa Ynez
Additional Fees apply for this course

Faculty:
Jonathan M. Dort, MD – Falls Church, VA
William R. Fry, MD – Roanoke, VA
Jay K. Harness, MD – Orange, CA
Daniel Vargo, MD – Salt Lake City, UT
R. Stephen Smith, MD – Columbia, SC

Successful participants will receive a certificate that satisfies prerequisites for more advanced ultrasound courses supported by the American College of Surgeons.

AMERICAN COLLEGE OF SURGEONS PRESENTATION

Monday March 26, 2013
8:00am – 11:30am
Bacara Ballroom A & B

8:00am – 9:30am
Panel 1: Update From the ACS
Moderator: David B. Hoyt, MD
Panelists: Julie Freischlag, MD; Ajit Sachdeva, MD; Christian Shalgian

9:30am – 10:00am
Beverage Break

10:00am – 11:30am
Panel 2: Focus on Rural Surgery
Moderator: Tyler G. Hughes, MD
Panelists: Robert Sticca, MD; Ron Gagliano, MD; J. Patrick Walker, MD
SPECIAL SESSIONS (continued)

GRADUATE MEDICAL EDUCATION LUNCHEON
“MOC and the Transition to Practice”

Tuesday, March 26, 2013
12:15pm - 1:30pm
Salon 2
Moderator: John Potts, III, MD Chicago, IL
Presenter: Ajit Sachdeva, MD Chicago, IL
Registration Fee: $25 per person

ADVANCED PRACTICE CLINICIANS LUNCHEON

Tuesday, March 26, 2013
12:15pm – 1:30pm
Rotunda
Registration fee: $25 per person

DEBATE PRESENTATIONS

Tuesday March 27, 2013
7:30am – 8:30am
Bacara Ballroom A & B

7:30am – 8:00am
MRI in Breast Surgery: Friend or Foe?
Affirmative: Anees Chagpar, MD - New Haven, CT
Negative: Jackie Osland, MD - Wichita, KS

8:00am – 8:30am
Hartmann vs the Field for Perforated Hinchey III Peritonitis
Hartmann: Richard Frazee, MD - Temple, TX
Field: Walter Biffl, M - Denver, CO
IN MEMORIAM

DEATHS REPORTED 2012-2013
As of March 5, 2013

Billie L. Aronoff, MD – Dallas, TX
Michael E. Fenoglio, MD – Denver, CO
Joseph L. Kovarik, MD – Englewood, CO
Robert M. Tenery, MD – Dallas, TX

Please report any known member deaths to the Southwestern Surgical Congress:

Southwestern Surgical Congress
5019 W. 147th Street
Leawood, KS, 66224
Telephone: 913.402.7102
Fax: 913.273.9940
Email: events@lp-etc.com
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<th>NEW ASSOCIATE MEMBERS</th>
<th>NEW ACTIVE FELLOWS</th>
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<tbody>
<tr>
<td>Alison Acott, MD</td>
<td>Jeremiah Deneve, DO</td>
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<td>Little Rock, AR</td>
<td>Memphis, TN</td>
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<td>Joshua Froman, MD</td>
<td>Daniel Dent, MD</td>
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<td>La Crosse, WI</td>
<td>San Antonio, TX</td>
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<td>Megan Gilmore, MD</td>
<td>Richard Frazee, MD</td>
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<td>La Crosse, WI</td>
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<td>Scott Short, MD</td>
<td>Matthew Goldblatt, MD</td>
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<td>Los Angeles, CA</td>
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<td>Travis Walker, MD</td>
<td>Jon Gould, MD</td>
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<td>Aurora, CO</td>
<td>Milwaukee, WI</td>
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<td>Richard Gray, MD</td>
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<td>Narong Kulvatunyou, MD</td>
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<td>Tucson, AZ</td>
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<td>Sean Langenfeld, MD</td>
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<td>Omaha, NE</td>
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<td>Lillian Liao, MD</td>
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<td>Sarah Majercik, MD</td>
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<td>Bryan Morse, MD</td>
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<td>Brian Peterson, MD</td>
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<td>Fredric Pieracci, MD, MPH</td>
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<td>David Plurad, MD</td>
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<td>Brian Schneider, MD</td>
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<td>Randolph Szlabick, MD</td>
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<td>Victor Tsirline, MD</td>
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<td>Lake Forest, IL</td>
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PROGRAM SCHEDULE
PROGRAM SCHEDULE

SATURDAY, MARCH 23, 2013

1:00pm – 2:00pm
Executive Committee Meeting
Salon 2

2:00pm - 5:00pm
Council Meeting
Salon 2

7:00pm - 8:30pm
President's & Resident Reception
Ballroom Terrace and Lawn

SUNDAY, MARCH 24, 2013

7:30am - 5:00pm
Registration
Bacara Ballroom Foyer

7:30am – 12Noon
Post-graduate Course: Basic Ultrasound for Surgeons
Santa Ynez

1:00pm - 2:15pm
Opening Scientific Session I
Bacara Ballroom A&B

2:15pm - 2:30pm
Introduction of New Members
Bacara Ballroom A&B

2:30pm - 3:00pm
Beverage Break/Exhibits & Poster Displays
Bacara Ballroom C

3:00pm - 4:00pm
Scientific Session II: Breast & Endocrine
Bacara Ballroom A&B
4:00pm - 5:00pm  
**Presidential Address: Is the General Surgeon Becoming Obsolete?**  
Bacara Ballroom A&B

5:00pm - 6:00pm  
**Featured Poster Presentations**  
Bacara Ballroom C

5:30pm - 7:00pm  
**Welcome & Exhibitor Reception**  
Bacara Ballroom C

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**MONDAY, MARCH 25, 2013**

7:00am - 8:30am  
**Continental Breakfast**  
Bacara Ballroom C

7:00am – 12:00pm  
**Registration**  
Bacara Ballroom Foyer

7:00am - 8:00am  
**Quick Shot Presentations**  
**Abdominal & Gastrointestinal Surgery** – Rotunda  
**Trauma/Critical Care/Acute Care Surgery** – Santa Ynez  
**Trauma/Vascular** – Bacara Ballroom A&B

8:00am – 10:00am  
**Spouse Hospitality**  
Salon I

8:00am – 11:30am  
**American College of Surgeons Presentation**  
Bacara Ballroom A&B

9:30am – 10:00am  
**Exhibits & Poster Displays**  
Bacara Ballroom C

1:00pm - 6:00pm  
**Afternoon Golf, Tennis and Optional Activities**
TUESDAY, MARCH 26, 2013

6:30am – 7:30am  
Quick Shot Presentations  
Trauma/Critical Care/Acute Care Surgery – Bacara Ballroom A&B, Rotunda  
Breast/Endocrine & Video Sessions – Santa Ynez

7:00am – 5:00pm  
Registration  
Bacara Ballroom Foyer

7:00am – 9:00am  
Continental Breakfast  
Bacara Ballroom C

7:00am – 2:45pm  
Exhibits & Poster Displays  
Bacara Ballroom C

7:30am - 8:00am  
Debate: MRI in Breast Surgery: Friend or Foe?  
Bacara Ballroom A&C

8:00am - 8:30am  
Debate: Hartmann vs. the Field for Perforated Hinchey III Peritonitis  
Bacara Ballroom A&C

8:00am - 10:00am  
Spouse Hospitality  
Salon I

8:30am - 10:00am  
Scientific Session III: Trauma  
Bacara Ballroom A&C

10:00am - 10:45am  
Edgar J. Poth Memorial Lecture: Disruptive Technology in the Treatment of Thoracic Injury  
Bacara Ballroom A&C

10:45am – 11:15am  
Beverage Break / Exhibits & Poster Displays  
Bacara Ballroom C
11:15am - 12:15pm  
Scientific Session IV: Gastrointestinal  
Bacara Ballroom A&B  

12:15pm - 1:30pm  
Graduate Medical Education Luncheon: MOC and the Transition to Practice  
Rotunda  

12:15pm – 1:30pm  
Advanced Practice Clinicians Luncheon  
Salon 2  

1:30pm - 2:30pm  
Scientific Session V: Other/Surgical Oncology  
Bacara Ballroom A&B  

2:30pm - 2:45pm  
Beverage Break / Exhibits & Poster Displays  
Bacara Ballroom C  

2:45pm - 3:30pm  
Thomas G. Orr Memorial Lecture  
Innovations in Geriatric Trauma and Resident Research Education: Bridging the Gap  
Bacara Ballroom A&B  

3:30pm - 4:30pm  
Scientific Session VI: Trauma/Acute Care  
Bacara Ballroom A&B  

4:30pm - 5:00pm  
SWSC Annual Business Meeting  
Bacara Ballroom A&B  

7:00pm - 10:00pm  
SWSC Reception  
Miro Lawn & Ocean Bluff
PROGRAM SCHEDULE  (continued)

WEDNESDAY, MARCH 27, 2013

7:00am – 8:15am
Quick Shot Presentations
Surgical Oncology – Rotunda
Trauma/Critical Care/Acute Care Surgery – Bacara Ballroom A&B
Miscellaneous – Santa Ynez

7:00am – 9:00am
Continental Breakfast
Bacara Ballroom C

7:00am - 11:00am
Registration
Bacara Ballroom Foyer

8:30am - 9:15am
Claude H. Organ, Jr. Memorial Lecture: Lessons Learned from the
Sunbelt Melanoma Trial
Bacara Ballroom A&B

9:30am - 10:30am
Scientific Session VII: Other/Surgical Oncology
Bacara Ballroom A&B

10:30am - 11:00am
Award Presentations & Closing Session
Bacara Ballroom A&B
SCIENTIFIC PROGRAM

*S. Indicates resident paper competing for Jack A. Barney Award.

SUNDAY, MARCH 24, 2013

7:30am - 5:00pm
Registration
Bacara Ballroom Foyer

7:30am – 12Noon
Post-graduate Course: Basic Ultrasound for Surgeons
Santa Ynez
Course Director: R. Stephen Smith, MD
Faculty: Jonathan M. Dort, MD
William Fry, MD
Jay K. Harness, MD
Daniel Vargo, MD

1:00pm - 2:15pm
Opening Scientific Session I
Bacara Ballroom A&B
Moderator: David Antonenko, MD, PhD

1:00pm - 1:15pm
1. NEUROPROTECTIVE EFFECTS OF PROGESTERONE IN TRAUMATIC BRAIN INJURY; A NOVEL MECHANISM DEMONSTRATED IN VIVO
Presenter: Mohammad Murcy, MD
Philadelphia, PA
Discussant: David Antonenko, MD, PhD

1:15pm - 1:30pm
2. WEIGHT-BASED ENOXAPARIN DOSING FOR VENOUS THROMBOEMBOLISM PROPHYLAXIS IN THE OBESE TRAUMA PATIENT
Presenter: Annika Bickford, PA-C
Murray, UT
Discussant: Daniel Margulies, MD

1:30pm - 1:45pm
3. IMPACT OF A SURGICAL SAFETY CHECKLIST PROCESS ON OPERATING ROOM EFFICIENCY: RESULTS FROM A LARGE MULTISPECIALTY TERTIARY CARE HOSPITAL
Presenter: Harry Papaconstantinou, MD
Temple, TX
Discussant: Walter Biffl, MD
SCIENTIFIC PROGRAM  (continued)

1:45pm - 2:00pm
*4. OUTCOMES AND PROGNOSTIC FACTORS IN SUPERFICIAL SPREADING MELANOMA
Presenter: Michael Egger, MD
Louisville, KY
Discussant: Barbara Pockaj, MD

2:00pm - 2:15pm
5. LAPAROSCOPIC COMPONENT SEPARATION REDUCES POSTOPERATIVE WOUND COMPLICATIONS BUT DOES NOT ALTER RECURRENT RATES IN COMPLEX HERNIA REPAIRS
Presenter: Matthew Fox, MD
Louisville, KY
Discussant: Frederick L. Greene, MD

2:15pm - 2:30pm
Introduction of New Members
Bacara Ballroom A&B

2:30pm - 3:00pm
Beverage Break/Exhibits & Poster Displays
Bacara Ballroom C

3:00pm - 4:00pm
Scientific Session II: Breast & Endocrine
Bacara Ballroom A&B
Moderator: Anees Chagpar, MD

3:00pm - 3:15pm
*6. PERIOPERATIVE INDICATORS OF HYPOCALCEMIA IN TOTAL THYROIDECTOMY: THE ROLE OF VITAMIN D AND PARATHYROID HORMONE
Presenter: Eric Salinger, MD
Denver, CO
Discussant: Maria Albuja-Cruz, MD

3:15pm - 3:30pm
7. LATERALITY OF CENTRAL VENOUS SAMPLING DOES NOT AFFECT THE ACCURACY OF INTRAOPERATIVE PARATHYROID HORMONE MONITORING
Presenter: Lev Korovin, BS
Tucson, AZ
Discussant: Edward Nelson, MD
3:30pm - 3:45pm
*8. THE EVOLUTION IN MANAGEMENT OF PATIENTS WITH SUBCENTIMETER, NODE NEGATIVE, TRIPLE NEGATIVE BREAST CANCER
Presenter: Emily Wolfe, MD
New Orleans, LA
Discussant: James Edney, MD

3:45pm - 4:00pm
*9. NEOADJUVANT THERAPY AND BREAST CANCER SURGERY: A CLOSER LOOK AT POSTOPERATIVE COMPLICATIONS
Presenter: Erin Garvey, MD
Phoenix, AZ
Discussant: Anees Chagpar, MD

4:00pm - 5:00pm
Presidential Address: Is the General Surgeon Becoming Obsolete?
David Antonenko, MD, PhD
Bacara Ballroom A&B

5:00pm - 6:00pm
Featured Poster Presentations
Bacara Ballroom C

5:30pm - 7:00pm
Welcome & Exhibitor Reception
Bacara Ballroom C
MONDAY, MARCH 25, 2013

7:00am - 8:30am
Continental Breakfast
Bacara Ballroom C

7:00am – 12:00pm
Registration
Bacara Ballroom Foyer

7:00am - 8:00am
Quick Shot Presentations
Abdominal & Gastrointestinal Surgery – Rotunda
Moderator: Kevin Reavis, MD

QS 2
7:08am - 7:16am
LAPAROSCOPIC PREPERITONEAL SURGERY USING A SELF-ADHESIVE “VELCRO TYPE” MESH IN INGUINAL HERNIA REPAIR IS EFFECTIVE
James Dzandu, PhD
Phoenix, AZ

QS 3
7:16am - 7:24am
CHANGES IN LIPID PROFILE AFTER LAPAROSCOPIC GASTRIC BYPASS VS. GASTRIC BANDING: A MATCHED COHORT STUDY
Chris Armstrong, MD
Orange, CA

QS 4
7:24am - 7:32am
DOES A “HOLIDAY EFFECT” IMPACT SURGICAL TREATMENT OF SMALL BOWEL OBSTRUCTION? ANSWERS FROM A STATEWIDE PATIENT DATABASE
Joel Bradley, MD
Charlotte, NC

QS 5
7:32am - 7:40am
OUTCOMES COMPARISON OF HIGH AND LOW VOLUME LAPAROSCOPIC VENTRAL HERNIA REPAIR CENTERS
Kristopher Williams, MD
Charlotte, NC
QS 6
7:40am - 7:48am
THE NATURAL HISTORY OF ANEMIC PATIENTS AFTER COLORECTAL CANCER SURGERY
Jonathan Zellmer, MD
La Crosse, WI

QS 7
7:48am - 7:56am
TRACH & PEG: THE ODD COUPLE
Nicole Figel, MD
Pittsburgh, PA

7:00am - 8:00am
Quick Shot Presentations
Trauma/Critical Care/Acute Care Surgery – Santa Ynez
Moderator: Michael Truitt, MD

QS 8
7:00am - 7:08am
PERCUTANEOUS ENDOSCOPIC GASTROSTOMY IN THE CRITICALLY ILL: SAFE TO PLACE IN THE INFECTED PATIENT
Heather Brandfellner, DO
San Antonio, TX

QS 10
7:16am - 7:24am
CENTRAL VENOUS CATHETER CHANGE OVER GUIDEWIRE: RATE OF CATHETER-RELATED BLOOD STREAM INFECTIONS COMPARED WITH PRIMARY CENTRAL VENOUS CATHETER INSERTION
Blair Wormer, MD
Charlotte, NC

QS 11
7:24am - 7:32am
PREDICTING POSTTRAUMATIC STRESS DISORDER AMONG PATIENTS WHO HAVE EXPERIENCED A TRAUMATIC INJURY
Ann Marie Warren, PhD
Dallas, TX

QS 12
7:32am - 7:40am
EVALUATION OF NONINVASIVE HEMOGLOBIN MEASUREMENTS IN TRAUMA PATIENTS
Laura Moore, MD
Houston, TX
QS 13  
7:40am - 7:48am  
PRE INJURY CLOPIDOGREL WARRANTS REPEAT HEAD COMPUTED TOMOGRAPHIC SCANS IN TRAUMATIC BRAIN INJURY: A PROSPECTIVE STUDY  
Viraj Pandit, MD  
Tucson, AZ

QS 14  
7:48am - 7:56am  
NON-ACCIDENTAL TRAUMA AND DIFFUSE AXONAL INJURY: IS THE INFANT BRAIN MORE SUSCEPTIBLE?  
Samiksha Bansal, MD  
Aurora, CO

7:00am - 8:00am  
Quick Shot Presentations  
Trauma/Vascular - Bacara Ballroom A&B  
Moderator: Brian Eastridge, MD

QS 15  
7:00am - 7:08am  
OPTIMAL ADMISSION TEMPERATURE IN MODERATE TO SEVERE TRAUMATIC BRAIN INJURY  
Douglas Liou, MD  
Los Angeles, CA

QS 16  
7:08am - 7:16am  
OCTOGENARIAN MOTOR VEHICLE COLLISIONS: DO COMORBIDITIES, POLYPHARMACY AND INJURY PATTERN REALLY MATTER?  
Michael Lemon, DO  
Wichita, KS

QS 17  
7:16am - 7:24am  
DEFINING THE TEMPORAL DEVELOPMENT OF PERFORATION IN ACUTE APPENDICITIS ON THE BASIS OF COMPUTED TOMOGRAPHY  
Laura Harmon, MD  
Temple, TX
QS 18
7:24am - 7:32am
SURGERY FOR RECURRENT PECTUS EXCAVATUM: PRESENTATION, OPERATIVE TECHNIQUES AND OUTCOMES
Kevin Johnson, MD
Phoenix, AZ

QS 19
7:32am - 7:40am
VIDEO-ASSISTED THORACOSCOPIC SURGICAL APPROACHES FOR IMPLANTATION OF EPICARDIAL LEADS AND DEFIBRILLATOR SYSTEMS IN PATIENTS WITH LIMITED VASCULAR ACCESS
Nilay Shah, MD
Phoenix, AZ

QS 20
7:40am - 7:48am
VIDEO-ASSISTED THORACOSCOPIC SURGERY (VATS) FOR PULMONARY COCCIDIOIDOMYCOSIS
Awais Ashfaq, MD
Phoenix, AZ

QS 21
7:48am - 7:56am
VATS APPROACH IN DIAGNOSIS AND TREATMENT OF PERICARDIAL EFFUSION? A CASE SERIES AND A SYSTEMIC REVIEW OF THE LITERATURE.
Rayya Saadiq, DO

8:00am – 10:00am
Spouse Hospitality
Salon I
8:00am – 11:30am  
American College of Surgeons Presentation  
Bacara Ballroom A&B  

Panel 1: Update from the ACS  
Moderator: David B. Hoyt, MD  
Panelists: Julie Freischlag, MD  
Ajit Sachdeva, MD  
Christian Shalgian  

Panel 2: Focus on Rural Surgery  
Moderator: Tyler G. Hughes, MD  
Panelists: Robert Sticca, MD  
Ron Gagliano, MD  
J. Patrick Walker, MD  

9:30am – 10:00am  
Exhibits & Poster Displays  
Bacara Ballroom C  

1:00pm - 6:00pm  
Afternoon Golf, Tennis and Optional Activities  

TUESDAY, MARCH 26, 2013  

6:30am – 7:30am  
Quick Shot Presentations  
Trauma/Critical Care/Acute Care Surgery – - Rotunda  
Moderator: Frederick Pieracci, MD  

QS 22  
6:30am - 6:38am  
EMERGENCY DEPARTMENT PERICARDIAL DRAINAGE FOR PENETRATING CARDIAC WOUNDS IS A VIABLE OPTION FOR STABILIZATION  
Teresa Jones, MD  
Denver, CO  

QS 25  
6:54am - 7:02am  
INFLUENCE OF WARFARIN AND CLOPIDOGREL USE ON THE OUTCOME OF PATIENTS WITH GROUND-LEVEL FALL RELATED TRAUMATIC HEAD INJURIES  
Abraham Rodriguez, BS  
Peoria, IL
SCIENTIFIC PROGRAM  (continued)

QS 27
7:10am - 7:18am
COMPLICATIONS OF BARIATRIC SURGERY: THE ACUTE CARE SURGEONS’ EXPERIENCE
Joel Bradley, MD
Charlotte, NC

QS 28
7:18am - 7:26am
IMPACT OF PRE-EXISTING LUNG CONDITIONS ON COMPLICATIONS IN MECHANICALLY VENTILATED TRAUMA PATIENTS
Tuan Mai
Orange, CA

6:30am – 7:30am
Quick Shot Presentations
Trauma/Critical Care/Acute Care Surgery – Bacara Ballroom A&B
Moderator: David Antonenko, MD, PhD

QS 29
6:30am - 6:38am
CONTRAST INDUCED NEPHROPATHY IN TRAUMA PATIENTS
Hoylan Fernandez, MD, MPH
Phoenix, AZ

QS 30
6:38am - 6:46am
HOW LONG DOES IT TAKE TO DIAGNOSE BLUNT ABDOMINAL INJURY?
Edward Jones, MD
Denver, CO

QS 31
6:46am - 6:54am
ARRIVAL GLASGOW COMA SCORE AND AGE AS PROGNOSTIC INDICATORS AFTER SEVERE INJURY
Claire Isbell, MD
Temple, TX

QS 32
6:54am - 7:02am
LONG TERM CLINICAL AND SOCIOECONOMIC BENEFITS OF SURGICAL STABILIZATION OF RIB FRACTURES
Sarah Majercik, MD, MBA, FACS
Murray, UT
SCIENTIFIC PROGRAM (continued)

QS 33
7:02am - 7:10am
PENETRATING INJURY IN THE PEDIATRIC POPULATION
Deidre Wyrick, MD
Little Rock, AR

QS 34
7:10am - 7:18am
PREOSPITAL ELEVATED SYSTOLIC BLOOD PRESSURE INCREASES MORTALITY OF SEVERE TRAUMATIC BRAIN INJURY IN A STEPWISE FASHION
Galinos Barmparas, MD
Los Angeles, CA

QS 35
7:18am - 7:26am
ORGAN DONATION IN MORTAL GUNSHOT WOUNDS TO THE BRAIN: THE ROLE OF HYPEROSMOLAR THERAPY
Hassan Aziz, MD
Tucson, AZ

6:30am – 7:30am
Quick Shot Presentations
Breast/Endocrine & Video Sessions – Santa Ynez
Moderator: Jackie Osland, MD

QS 36
6:30am - 6:38am
THE EFFECT OF AGE ON RATE OF OPERATIVE FAILURE IN PATIENTS WITH PRIMARY HYPERPARATHYROIDISM UNDERGOING FOCUSED PARATHYROIDECTOMY
Elsa Stephen, BA
Louisville, KY

QS 37
6:38am - 6:46am
FEWER ADVERSE EVENTS AFTER REOPERATIVE PARATHYROIDECTOMY ASSOCIATED WITH INITIAL MINIMALLY INVASIVE PARATHYROIDECTOMY
Shabirhusain Abadin, MD
Houston, TX
SCIENTIFIC PROGRAM (continued)

QS 38
6:46am - 6:54am
ROBOT ASSISTED SINGLE INCISION GASLESS TRANS-AXILLARY THYROIDECTOMY IS A SAFE AND EFFECTIVE ALTERNATIVE AFTER FNA SHOWING FOLLICULAR/HURTHLE OR SUSPICIOUS CARCINOMA CYTOLOGY
Alicia Mangram, MD
Phoenix, AZ

QS 39
6:54am - 7:02am
DOES FAMILY HISTORY OF BREAST CANCER IMPACT SURGICAL DECISION-MAKING OF BREAST CANCER PATIENTS?
Amanda Hall, MD
Wichita, KS

QS 40
7:02am - 7:14am
LASER ASSISTED IDOCYANINE GREEN FLUORESCENCE: A GUIDE TO PERFUSION ASSESSMENT OF BOWEL ANASTOMOSIS IN TRAUMA AND ACUTE CARE SURGERY
Viraj Pandit, MD
Tucson, AZ

QS 41
7:15am - 7:30am
ROBOTIC ASSISTED LAPAROSCOPIC CYSTGASTOSTOMY FOR PANCREATIC PSEUDOCYST
Andrew Abrams, MD
Tucson, AZ

7:00am – 5:00pm
Registration
Bacara Ballroom Foyer

7:00am – 9:00am
Continental Breakfast
Bacara Ballroom C

7:00am – 2:45pm
Exhibits & Poster Displays
Bacara Ballroom C

Southwestern Surgical Congress :: 65th Annual Meeting
7:30am - 8:00am
Debate: MRI in Breast Surgery: Friend or Foe?
Affirmative: Anees Chagpar, MD
Negative: Jackie Osland, MD
Bacara Ballroom A&B

8:00am - 8:30am
Debate: Hartmann vs. the Field for Perforated Hinchey III Peritonitis
Hartmann: Richard Frazee, MD
Field: Walter Biffl, MD
Bacara Ballroom A&B

8:00am - 10:00am
Spouse Hospitality
Salon I

8:30am - 10:00am
Scientific Session III: Trauma
Bacara Ballroom A&B
Moderator: Walter Biffl, MD

8:30am - 8:45am
10. VASOPRESSOR USE AFTER INITIAL DAMAGE CONTROL LAPAROTOMY INCREASES RISK FOR ANASTOMOTIC DISRUPTION IN THE MANAGEMENT OF DESTRUCTIVE COLON INJURIES
Presenter: Peter Fischer, MD, MS
Charlotte, NC
Discussant: Randolph Szlabick, MD

8:45am - 9:00am
11. A PROSPECTIVE HUMAN STUDY OF THE PARADOXICAL COAGULATION CHARACTERISTICS OF HEMOTHORAX
Presenter: Zachary Smith, BS
Leon Valley, TX
Discussant: Stephanie Granger Barnes, MD

9:00am - 9:15am
12. ALTERNATIVE DOSING OF PROPHYLACTIC ENOXAPARIN IN THE TRAUMA PATIENT: IS MORE THE ANSWER?
Presenter: Tammy Kopelman, MD
Phoenix, AZ
Discussant: Christopher Dente, MD
9:15am - 9:30am
*13. BLUNT SOLID ABDOMINAL ORGAN INJURY: WHEN TO INITIATE ANTICOAGULATION
Presenter: Brandon Chapman, MD
Denver, CO
Discussant: Bellal Joseph, MD

9:30am - 9:45am
14. POST-EXTUBATION DYSPHAGIA IN TRAUMA PATIENTS; IT’S HARD TO SWALLOW
Presenter: Amy Kwok, MD, MPH
Fresno, CA
Discussant: Michael Truitt, MD

9:45am - 10:00am
*15. THE (F)UTILITY OF FLEXION/EXTENSION C-SPINE FILMS IN THE SETTING OF TRAUMA
Presenter: Vasiliy Sim, MD
New York, NY
Discussant: Sharmila Dissanaike, MD

10:00am - 10:45am
Edgar J. Poth Memorial Lecture: Disruptive Technology in the Treatment of Thoracic Injury
Presenter: R. Stephen Smith, MD
Columbia, SC
Bacara Ballroom A&B

10:45am – 11:15am
Beverage Break / Exhibits & Poster Displays
Bacara Ballroom C

11:15am - 12:15pm
Scientific Session IV: Gastrointestinal
Bacara Ballroom A&B
Moderator: Kevin Reavis, MD

11:15am - 11:30am
16. EMERGENT CHOLECYSTOSTOMY IS SUPERIOR TO CHOLECYSTECTOMY IN EXTREMELY ILL PATIENTS WITH ACALCULOUS CHOLECYSTITIS: A LARGE MULTICENTER OUTCOMES STUDY
Presenter: Anton Simorov, MD
Omaha, NE
Discussant: Randall Friese, MD
11:30-am - 11:45am
**17. READMISSION FOLLOWING OPEN VENTRAL HERNIA REPAIR: INCIDENCE, INDICATIONS, AND PREDICTORS**  
Presenter: Mylan Nguyen, MS  
Houston, TX  
Discussant: Dmitry Oleynikov, MD

11:45am - 12Noon
**18. DETERMINATION OF INDEPENDENT PREDICTIVE FACTORS FOR ANASTOMOTIC LEAK: ANALYSIS OF 682 INTESTINAL ANASTOMOSES**  
Presenter: Bryan Morse, MS MD  
Greenville, SC  
Discussant: Edward Kimm, MD

12Noon - 12:15pm
**19. LAPAROSCOPIC VERSUS OPEN REPAIR OF PERFORATED GASTRODUODENAL ULCERS: A REVIEW OF THE NATIONAL SURGERY QUALITY IMPROVEMENT PROJECT DATABASE**  
Presenter: Nickolas Byrge, MD  
Salt Lake City, UT  
Discussant: Brian Smith, MD

12:15pm - 1:30pm  
**Graduate Medical Education Luncheon: MOC and the Transition to Practice**  
Ajit K. Sachdeva, MD  
Rotunda

12:15pm – 1:30pm  
**Advanced Practice Clinicians Luncheon**  
Salon 2

1:30pm - 2:30pm  
**Scientific Session V: Other/Surgical Oncology**  
Bacara Ballroom A&B  
Moderator: Shanu Kothari, MD

1:30pm - 1:45pm  
**20. EFFECTS OF ALCOHOL ON SURGICAL DEXTERTITY AFTER A NIGHT OF MODERATE ALCOHOL INTAKE - A FOLLOW UP STUDY**  
Presenter: Irminne Van Dyken, MD  
Grand Forks, ND  
Discussant: Sean Langenfeld, MD
1:45pm - 2:00pm
*21. DETERMINANTS OF SURGICAL DECISION MAKING: A NATIONAL SURVEY.
Presenter: Niamey Wilson, MD, MSHP
Philadelphia, MA
Discussant: Paul Schenarts, MD

2:00pm - 2:15pm
*22. PRE-OPERATIVE IMAGING FOR EARLY STAGE MELANOMA - PREDICTORS, USAGE AND UTILITY AT A SINGLE INSTITUTION
Presenter: Dana Haddad, MD, PhD
Scottsdale, AZ
Discussant: Kelly McMasters, MD

2:15pm - 2:30pm
*23. SURGICAL EMERGENCIES IN THE NURSING HOME PATIENT: A PRACTICAL ANALYSIS TO HELP JUDGE THE UTILITY/FUTILITY OF OPERATIVE INTERVENTION.
Presenter: Brian Boland, MD
Greenville, SC
Discussant: S. Rob Todd, MD

2:30pm - 2:45pm
Beverage Break / Exhibits & Poster Displays
Bacara Ballroom C

2:45pm - 3:30pm
Thomas G. Orr Memorial Lecture
Innovations in Geriatric Trauma and Resident Research Education: Bridging the Gap
Presenter: Alicia Mangram, MD
Phoenix, AZ
Bacara Ballroom A&B

3:30pm - 4:30pm
Scientific Session VI: Trauma/Acute Care
Bacara Ballroom A&B
Moderator: Brian Eastridge, MD
SCIENTIFIC PROGRAM  (continued)

3:30pm - 3:45pm
24. CONTRAST BLUSH IN PEDIATRIC BLUNT SPLENIC TRAUMA DOES NOT WARRANT THE ROUTINE USE OF ANGIOGRAPHY AND EMBOLIZATION
Presenter: Samiksha Bansal, MD
Aurora, CO
Discussant: James Haan, MD

3:45pm - 4:00pm
*25. IS MRI NECESSARY TO IDENTIFY CLINICALLY SIGNIFICANT SPINE INJURIES IN OBTUNDED BLUNT TRAUMA PATIENTS?
Presenter: Brian Fisher, BS
Lubbock, TX
Discussant: Herbert Phelan, MD

4:00pm - 4:15pm
*26. GOAL DIRECTED FLUID RESUSCITATION MAY IMPROVE LONG-TERM OUTCOMES IN DAMAGE CONTROL SURGERY BUT NOT TIME TO CLOSURE
Presenter: Mira Ghneim, MD
temple, TX
Discussant: Fredric Pieracci, MD, MPH

4:15pm - 4:30pm
27. PNEUMOMEDIASTINUM: ETIOLOGY AND A GUIDE TO DIAGNOSIS AND TREATMENT.
Presenter: Farzaneh Banki, MD
Houston, TX
Discussant: Christopher Dente, MD

4:30pm - 5:00pm
SWSC Annual Business Meeting
Bacara Ballroom A&B

7:00pm - 10:00pm
SWSC Reception
Miro Lawn & Ocean Bluff
WEDNESDAY, MARCH 27, 2013

7:00am – 8:15am
Quick Shot Presentations
Surgical Oncology – Rotunda
Moderator: Courtney Scaife, MD

QS 42
7:00am - 7:08am
GASTROINTESTINAL STROMAL TUMORS OF THE SMALL BOWEL: THE
MAYO CLINIC EXPERIENCE
Chee-Chee Stucky, MD
Phoenix, AZ

QS 43
7:08am - 7:16am
IS THE FINANCIAL BURDEN OF CANCER AFFECTING SURVIVORS’
QUALITY OF LIFE?
Kathleen Fenn, BS
New Haven, CT

QS 44
7:16am - 7:24am
ARE SHAVE BIOPSIES ACCURATE TO APPROPRIATELY TREAT MALIGNANT
MELANOMA?
Steve Vander Nault, MD
Peoria, IL

QS 45
7:24am - 7:32am
A CARE-PATH FOR PANCREATICODUODENECTOMIES DECREASES
HOSPITAL STAY
Mitra Jafari, MD
Dallas, TX

QS 46
7:32am - 7:40am
PROGNOSTIC FACTORS IN YOUNG WOMEN WITH CUTANEOUS
MELANOMA
Alison Burton
Louisville, KY
QS 47
7:40am - 7:48am
FACTORS AFFECTING DETECTION OF METASTASIS IN THE “HOTTEST” SENTINEL LYMPH NODE IN BREAST CANCER
Cathryn A Doughtie, MD
Louisville, KY

QS 48
7:48am - 7:56am
FUNCTIONAL OUTCOMES OF SUPRACLAVICULAR ARTERY ISLAND FLAPS (SCAIFS) VERSUS MICROSURGICAL FREE FLAPS IN HEAD AND NECK RECONSTRUCTION
Andrew Li, MD
Torrance, CA

QS 49
7:56am - 8:04am
CYTOREDUCTIVE SURGERY AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY FOR PATIENTS WITH PERITONEAL CARCINOMATOSIS: EARLY RESULTS FROM MAYO CLINIC IN ARIZONA
Awais Ashfaq, MD
Phoenix, AZ

7:00am – 8:15am
Quick Shot Presentations
Miscellaneous – Santa Ynez
Moderator: Shanu Kothari, MD

QS 50
7:00am - 7:08am
SINGLE INCISION LAPAROSCOPIC (SILS) INGUINAL HERNIA REPAIR
Richard Frazee, MD
Temple, TX

QS 51
7:08am - 7:16am
SACCADIC EYE MOVEMENT REFLECTS SURGICAL RESIDENTS FATIGUE LEVEL
Nicole Hooft, MD
Phoenix, AZ
QS 52
7:16am - 7:24am
TRAINING MODEL FOR LEARNING TO PERFORM PER ORAL ENDOSCOPIC MYOTOMY (POEM)
Kevin Helling, MD
Stanford, CA

QS 53
7:24am - 7:32am
TELE-PHOTOGRAPHY ON THE ACUTE CARE SURGERY SERVICE: A TWO YEAR EXPERIENCE
Julie Wynne, MD
Tucson, AZ

QS 54
7:32am - 7:40am
THE ROLE OF A STANDARDIZED NOMENCLATURE AND TAXONOMY IN SURGICAL MORBIDITY AND MORTALITY CONFERENCE
John Aucar, MD
Urbana-Champaign, IL

QS 55
7:40am - 7:48am
ATTITUDES OF SURGEONS REGARDING A SECURE, ANONYMOUS REGISTRY OF SURGICAL INNOVATION
Kevin Hodges, BS
Chicago, IL

QS 56
7:48am - 7:56am
INTERNATIONAL FAMILY MEDICINE FELLOWSHIP: A TOOL FOR TRAUMA IN THE DEVELOPING WORLD
James Haan, MD
Wichita, KS

QS 57
7:56am - 8:04am
FACTORS INFLUENCING THE DECISION OF WOMEN IN ARMY MEDICINE TO PURSUE GENERAL SURGERY TRAINING
Sidney Bruce, MD
El Paso, TX
7:00am – 8:15am

Quick Shot Presentations

Trauma/Critical Care/Acute Care Surgery – Bacara Ballroom A&B
Moderator: Randall Smith, MD

QS 58
7:00am - 7:08am
TRENDS IN ORGAN DONOR MANAGEMENT OVER THE LAST DECADE
David Plurad, MD
Torrance, CA

QS 59
7:08am - 7:16am
DOES PRESENTATION AFFECT OUTCOMES IN GALLBLADDER DISEASE?
Anita Martinez, MD
Dallas, TX

QS 60
7:16am - 7:24am
OUTCOME ANALYSIS OF EMERGENCY DEPARTMENT THORACOTOMIES PERFORMED AT A LEVEL II TRAUMA CENTER
Lindsay Berbiglia, DO
Detroit, MI

QS 61
7:24am - 7:32am
EMPHASIZING ALCOHOL SCREENING AND INTERVENTION FOR OLDER TRAUMA PATIENTS
Esther Kim
Orange, CA

QS 62
7:32am - 7:40am
PEDIATRIC ALL-TERRAIN VEHICLE INJURIES: DOES BEING THE DRIVER VERSUS THE PASSENGER MAKE A DIFFERENCE IN SEVERITY OF INJURIES?
Andrew McCoy, MD
Grand Forks, ND

QS 63
7:40am - 7:48am
PULMONARY CONTUSIONS AFTER BLUNT TRAUMA INFREQUENTLY OCCUR IN ISOLATION AND ARE NOT BENIGN: THE 15 YEAR EXPERIENCE AT AN URBAN JOINT TRAUMA CENTER SYSTEM
Randeep Jawa, MD
**SCIENTIFIC PROGRAM**  (continued)

**QS 64**
7:48am - 7:56am
**MANAGEMENT OF PANCREATIC TRAUMA IN THE COMMON ERA**
Gregory Peck, DO
Atlanta, GA

**QS 65**
7:56am - 8:04am
**THE CONTRIBUTION OF OPIATE ANALGESICS TO THE DEVELOPMENT OF INFECTIOUS COMPLICATIONS IN A TRAUMA ICU POPULATION**
Travis Holloway, MD
San Antonio, TX

7:00am – 9:00am
**Continental Breakfast**
Bacara Ballroom C

7:00am - 11:00am
**Registration**
Bacara Ballroom Foyer

8:30am - 9:15am
**Claude H. Organ, Jr. Memorial Lecture: Lessons Learned from the Sunbelt Melanoma Trial**
Presenter: Kelly McMasters, MD
Louisville, KY
Bacara Ballroom A&B

9:30am - 10:30am
**Scientific Session VII: Other/Surgical Oncology**
Bacara Ballroom A&B
Moderator: Randall Smith, MD

9:30am - 9:45am
**28. A SURGICAL TEAM WITH FOCUS ON STAFF EDUCATION IN A COMMUNITY HOSPITALS IMPROVES OUTCOMES, COSTS AND PATIENT SATISFACTION**
Presenter: Farzaneh Banki, MD
Houston, TX
Discussant: David Antonenko, MD, PhD
9:45am - 10:00am
29. THE GENERAL SURGERY WORKFORCE CRISIS IS WORSE WHEN ASSESSED AT COUNTY LEVEL
Presenter: Ronald Stewart, MD
San Antonio, TX
Discussant: Joel Harris, MD

10:00am - 10:15am
*30. BLOOD TRANSFUSION IN COLORECTAL CANCER SURGERY: OUTCOMES AND PREDICTIVE FACTORS. AN AMERICAN COLLEGE OF SURGEONS NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM ANALYSIS
Presenter: Wissam J Halabi, MD
Orange, CA
Discussant: Ronald Stewart, MD

10:15am - 10:30am
31. A SURVEY OF AMERICAN COLLEGE OF SURGERY FELLOWS EVALUATING THEIR USE OF ANTIBIOTIC PROPHYLAXIS IN THE PLACEMENT OF SUBCUTANEOUSLY IMPLANTED CENTRAL ACCESS PORTS
Presenter: Edward Thomas Nelson, BA
Philadelphia, PA
Discussant: Alicia Mangram, MD

10:30am - 11:00am
Award Presentations & Closing Session
Bacara Ballroom A&B

*Indicates resident paper competing for Jack A. Barney Award.
SCIENTIFIC PAPER ABSTRACTS

*Indicates resident paper competing for Jack A. Barney Award.

1. NEUROPROTECTIVE EFFECTS OF PROGESTERONE IN TRAUMATIC BRAIN INJURY; A NOVEL MECHANISM DEMONSTRATED IN VIVO

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Background: Progesterone (PRO) appears to confer a survival advantage in patients with traumatic brain injury (TBI). While it may reduce brain edema, the precise mechanism of this effect is unknown and to date the live effect of PRO on the cerebral circulation remains unknown. We hypothesized that PRO reduced brain edema by blocking polymorphonuclear (PMN) interactions with endothelium (EC) in the blood brain barrier (BBB) microcirculation.

Methods: CD-1 male mice (30-35g) were randomized to PRO (160mg/kg IP) or vehicle (IP cyclodextrin-VEH) every 12 hours after TBI (controlled cortical impact [CCI]: speed 6m/s, depth 1mm, probe diameter 3mm through a craniotomy) for 36 hours. SHAM animals underwent craniotomy but no CCI. Functional neurologic recovery was assessed at these same time intervals by the neurological severity score (NSS: 1-18) and the animal's ability to nest in the cage (yes=1, no=0). 36 hours after TBI, animals underwent a 2nd craniotomy with placement of a cranial window for in vivo observation of the pial microcirculation to visualize live PMNs interacting with EC and fluorescent albumin leaking through the vessel wall to determine BBB permeability. Cerebral swelling (CS) out of the 1st craniotomy was graded (0-3). Brain tissue wet/dry (WTD) ratio assessed edema postmortem. In vivo EC/PMN interactions were counted off line by a blinded observer. The student's t test determined significance (p <0.05).

Results: All animals lost a significant amount of body weight during the observation period (mean 6.3% ± 0.5). Compared to VEH, PRO animals demonstrated reduced CS (2.9 ± 0.1 vs. 1.2 ± 0.1, p<0.001), PMN rolling (95 ± 1.8 vs. 57 ± 2.0 cells/100micron/min, p<0.001), total EC/PMN adhesion (2.0 ± 0.4 vs. 0.8 ± 0.1 PMN/100micron, p<0.01) and live BBB permeability (51.8 ± 4.9 vs. 27.1 ± 4.6%, p<0.01). NSS and nesting scores tended to be greater in PRO animals (p>0.05). Ipsilateral and contralateral brain WTD was lowest in PRO animals (p>0.05).

Conclusion: Progesterone appears to reduce interactions of activated PMN and EC in the brain microcirculation and this is associated with concurrent reduced BBB leakage and cerebral swelling. Thus, progesterone neuroprotection in TBI may be through blunting PMN-mediated neurovascular inflammation in the BBB microcirculation. Further determinations of the exact mechanism for this effect may lead to development of compounds that do not, as of yet, exist to improve outcomes in severe traumatic brain injury.
2. WEIGHT-BASED ENOXAPARIN DOSING FOR VENOUS THROMBOEMBOLISM PROPHYLAXIS IN THE OBESE TRAUMA PATIENT

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Background: Venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE), is a major source of morbidity and mortality in patients with traumatic injuries. Studies have demonstrated that low molecular weight heparin (LMWH), in fixed doses, is effective in preventing VTE after major trauma. Recent literature suggests that weight-based (WB) dosing of LMWH in obese medical patients may be more efficacious for VTE prevention. However, limited data exist regarding the efficacy of WB dosing of LMWH in obese trauma patients. We hypothesized that a WB enoxaparin dosing protocol for VTE prophylaxis in the obese trauma patient would be efficacious and safe, as assessed by peak antifactor-Xa (AFXa) levels, incidence of VTE, and bleeding complications.

Methods: Consecutive obese patients (BMI >30 kg/m²) admitted to a level I trauma center were placed on a WB protocol for VTE prophylaxis (enoxaparin 0.5 mg/kg subcutaneously every twelve hours). Peak AFXa levels were drawn 4 hours after the third or fourth dose, and doses were adjusted for results outside the goal prophylactic range (0.2-0.6 IU/mL). Bilateral lower extremity duplex ultrasound was performed on days 2, 4, 7, and weekly thereafter. Incidence of VTE and bleeding complications were monitored.

Results: 86 obese trauma patients met study criteria and were placed on the WB enoxaparin protocol. There were 60 males and 26 females, with an average age of 52. Average BMI and weight were 38.7 +/- 9.94 kg/m² and 116.7 kg +/- 31.48 kg, respectively. Average ISS was 15.1. Target prophylactic AFXa concentration was achieved by 74 patients after the third or fourth dose, with a mean AFXa level of 0.42 +/- 0.13 IU/mL. 12 patients were out of target prophylactic range: 8 patients had an AFXa level above range (>0.6 IU/mL), and 4 below range (<0.2 IU/mL). 18 patients were found to have DVT; in all but 2 cases the DVT was present prior to or on the day of enoxaparin initiation, and therefore should not be attributed to inadequate prophylaxis. One patient developed a proximal DVT one day after initiating the WB enoxaparin protocol, and thus required treatment. No bleeding complications related to enoxaparin administration, and no pulmonary emboli were identified.

Conclusion: In obese trauma patients, weight-based enoxaparin dosing appears to be effective and safe. Administration of enoxaparin 0.5 mg/kg every twelve hours is a manageable and well-tolerated regimen that provides adequate VTE prophylaxis measured by AFXa levels. Larger, randomized trials are needed to assess whether WB dosing is safer and more efficacious than standard dosing in obese trauma patients.
3. IMPACT OF A SURGICAL SAFETY CHECKLIST PROCESS ON OPERATING ROOM EFFICIENCY: RESULTS FROM A LARGE MULTISPECIALTY TERTIARY CARE HOSPITAL.
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Background: The Surgical Safety Checklist (SSC) has been introduced as a proven tool to improve patient safety and outcomes. Previously, we have shown that up to 50% of surgical team members possess significant negative perceptions on the impact of the SSC on operating room (OR) efficiency. This negative perception may serve as a barrier to effective use and implementation. The purpose of this study is to determine the effect of SSC implementation on (OR) efficiency in a large multispecialty tertiary care hospital.

Methods: In September 2010, our institution implemented a comprehensive SSC. We reviewed all patients that underwent an operation in our hospital based OR for 1-year prior (PRE) and 1-year after (POST) implementation. Measures of OR efficiency included operating-room time (ORT), operation time (OT), time from patient entering the OR to skin incision (prep-time), first starts in OR on time (IOROT), delay time in minutes, and OR disposable cost.

Results: A total of 17204 PRE operations and 18366 POST operations were analyzed. For the PRE and POST groups, the mean ORT (148.5±102.2 vs. 148.6±105.0 min; p=0.93), OT (99.1±88.8 vs. 99.5±91.5; p=0.66), and prep-time (35.2±17.1 vs. 35.0±17.2 min; p=0.50) were equivalent. There were 4882 first-starts in the PRE and 5201 in the POST group with no significant difference in IOROT (58.9% vs. 57.6%; p=0.15) or average time of delay (16.3±5.9 vs. 17.8±4.7 min; p=0.21). The mean OR disposable cost was significantly lower for the POST group by nearly $70/case ($1670±3644 vs. $1601±3405; p<0.01).

Conclusion: Our study strongly indicates that institutional use of the SSC does not adversely affect OR efficiency, and therefore, should not be considered a barrier to effective implementation. Furthermore, our data suggest that the SSC can significantly improve overall cost per surgical procedure. Analysis into surgical specialty and specific procedures is ongoing. We feel that refinement of the SSC process may actually improve efficiency and impact cost more significantly.
**SCIENTIFIC PAPER ABSTRACTS** (cont.)

*4. OUTCOMES AND PROGNOSTIC FACTORS IN SUPERFICIAL SPREADING MELANOMA*

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**Background:** Superficial spreading melanoma (SSM) carries the most favorable prognosis of all the subtypes of cutaneous melanoma. Prognostic factors and risk factors for a positive sentinel lymph node (SLN) biopsy are important to identify in SSM.

**Methods:** A single-center database and a prospective clinical trial database were reviewed for all patients with a diagnosis of SSM. All patients with a Breslow thickness (BT) ≥ 1.0 mm were staged with a SLN biopsy; all those with a tumor-positive SLN biopsy underwent completion lymphadenectomy. Univariate and multivariate logistic regression analyses were used to study SLN biopsy results. Kaplan Meier survival analysis as well as univariate and multivariate Cox models were used to study disease free survival (DFS) and overall survival (OS).

**Results:** A total of 1,643 patients with SSM were identified; median follow-up was 62 months. Overall, 220/1248 (17.6%) had a positive SLN and 344/1616 (21.3%) patients had a BT ≥ 2.0 mm. On multivariate analysis, independent risk factors for a positive SLN were BT ≥ 2.0 mm, age < 60, and presence of ulceration. KM analysis demonstrated significant differences in OS based on BT, age, gender, Clark level, ulceration, primary tumor location, lymphovascular invasion (LVI), and nodal status. On multivariate analysis, BT ≥ 2.0 mm, ulceration, LVI, and a positive SLN were independent risk factors for worse DFS; the same factors except for LVI were significant predictors of worse OS.

**Conclusion:** Known prognostic factors such as BT, ulceration, and SLN status are important predictors of survival in SSM. LVI, a primary tumor factor with variable prognostic significance in all melanoma subtypes, is an independent risk factor for recurrence in SSM.
5. LAPAROSCOPIC COMPONENT SEPARATION REDUCES POSTOPERATIVE WOUND COMPLICATIONS BUT DOES NOT ALTER RECURRENCE RATES IN COMPLEX HERNIA REPAIRS
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Background: To evaluate and compare the incidence of wound complications and hernia recurrence after laparoscopic component separation (LCS) versus open component separation (OCS) in patients with complex abdominal wall hernias.

Methods: A retrospective review was performed of all patients who underwent LCS or OCS for repair of a complex abdominal wall hernia at a single institution between 2009 and 2011. Patients were considered appropriate candidates for LCS if their hernia defect was < 20cm in width, and their abdominal wall thickness was < 6 cm at the costal margin; the final decision regarding surgical approach was at the discretion of the attending surgeon. Charts were reviewed to identify any postoperative wound complications that resulted in an interventional procedure or return to the operating room. Hernia recurrence was determined by CT scan and/or physical exam. Categorical variables were compared using Fisher’s exact test. Univariate and multivariate analyses were performed using linear and Cox regression. Recurrence rates were compared using log-rank tests (Kaplan-Meier method).

Results: A total of 44 patients underwent LCS (n=18) or OCS (n=26) during the study period. There was no statistically significant difference between groups in age, body mass index (BMI), gender, smoking history, level of case contamination, or number of prior operations. There was also no difference in estimated blood loss (265mL vs. 222mL; p=0.721) or hospital length of stay (6.9 vs. 7.3 days; p=0.982) between the LCS and OCS groups, respectively. Overall, 1/18 (6%) patients in the LCS group and 7/26 (27%) patients in the OCS group developed wound complications. Multivariate analysis using wound complications as the dependent variable demonstrated a statistically significantly lower rate of wound complications in the LCS group compared with the OCS group. In the LCS group, 3/18 (17%) patients developed hernia recurrence versus 7/26 (27%) patients in the OCS group; the rate of hernia recurrence was not statistically different between groups.

Conclusion: LCS is associated with a lower rate of wound complications when compared to OCS, but yields comparable recurrence rates. In appropriately selected patients, LCS may be considered the preferred approach for complex hernia repair.
**6. PERIOPERATIVE INDICATORS OF HYPOCALCEMIA IN TOTAL THYROIDECTOMY: THE ROLE OF VITAMIN D AND PARATHYROID HORMONE**

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Background: Hypocalcemia is a well-defined complication of total thyroidectomy. Traditionally, serum or ionized calcium levels are evaluated on the evening of surgery and again on post-operative day one to evaluate for low calcium. However, symptomatic hypocalcemia can occur 48-72 hours after discharge. This prospective analysis tests the hypothesis that low pre-operative levels of cholecalciferol (Vitamin D), and low post-operative parathyroid hormone (PTH) levels, might predispose patients to this complication. The identification of those patients at risk for delayed hypocalcemia would potentially facilitate earlier discharge and prevent readmission for hypocalcemic symptoms.

Methods: This prospective cohort analysis is comprised of 110 individuals (94 women, 16 men) undergoing total or completion thyroidectomy by a single surgeon. Patients were enrolled from March 2010 to July 2012. Patient demographics included age, BMI, and gender. Pre-operative Vitamin D levels and post-operative day #1 PTH levels were collected. Additionally, all surgical specimens were evaluated for inclusion of parathyroid tissue and the presence of coexistent malignant disease. Ionized calcium levels were monitored on the evening of surgery and morning of POD #1. Subjective symptoms were also monitored in both the inpatient and outpatient settings. The aforementioned variables were evaluated for association with hypocalcemia, both by laboratory and subjective measures. All patients were discharged on supplemental calcium and 25-OH cholecalciferol.

Results: In this patient cohort, younger patient age and low post-operative PTH levels were significantly associated with post-operative hypocalcemia both by laboratory findings and symptoms. The mean age for patients with ionized calcium less than 1.1 mmol/L was 8 years younger than patients with normal ionized calcium levels (43.4 years vs. 51.5, p < 0.001). The mean age for patients with symptoms was 7 years younger than asymptomatic patients (43.5 years vs. 50.8 years, p = 0.019). Patients with ionized calcium less than 1.1 mmol/L had a significantly lower mean PTH level than normocalcemic patients (13.0 pg/mL vs. 28.4 pg/mL, p < 0.001). The mean value for hypocalcemic patients was also outside of the reference range (14-72 pg/mL). PTH levels were also significantly lower in symptomatic patients (11.0 vs. 28.4 pg/mL, p < 0.001). Pre-operative Vitamin D levels, BMI, gender, malignant pathology, and presence of parathyroid tissue on pathology were not associated with low calcium levels or symptoms of hypocalcemia.

Conclusion: In this population, younger age and low post-operative PTH levels appear to be predictive of symptomatic hypocalcemia. A PTH level outside of the reference range may indicate a need for more aggressive postoperative calcium supplementation, delayed discharge and more frequent serum calcium level monitoring. Older patients with normal or near normal postoperative PTH levels may be safely discharged with appropriate calcium supplementation.
7. LATERALITY OF CENTRAL VENOUS SAMPLING DOES NOT AFFECT THE ACCURACY OF INTRAOPERATIVE PARATHYROID HORMONE MONITORING
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Background: Intraoperative PTH monitoring (IPM) plays a pivotal role in minimally invasive parathyroidectomy. It has been previously demonstrated that central venous sampling for IPM is an efficacious and acceptable alternative to the traditional peripheral sampling, which was used to develop the existing criterion to evaluate operative success using IPM. The purpose of this study was to determine whether there is a difference in the decrease of PTH levels and accuracy of the Miami criterion when using either the left or right internal jugular vein (IJV) for IPM in patients with primary hyperparathyroidism.

Methods: 108 patients with primary hyperparathyroidism underwent parathyroidectomy. 82 were found to have unilateral disease, while 26 had multigland disease. All of these patients had pre-excision PTH levels drawn from both left and right IJV, as well as post-excision levels drawn at 5 minutes, 10 minutes, and in select cases 20 minutes. The Miami criterion (≥50% PTH decrease at 10 minutes post-excision) was used to determine PTH success. Values from the left and right IJV were used to calculate the mean PTH decrease with standard deviation and statistical significance using the Student’s T-test.

Results: Parathyroidectomy was successful in 98% of cases. Mean PTH decrease with left and right IJV sampling was 74.2% with SD of 22.0% and 72.7% with SD of 21.1%, respectively. The Miami criterion was met in 100 left IJV and 99 right IJV samples, p = 0.62. In 97 patients the Miami criterion was accurate with both the left and right IJV sampling. Both the left and right IJV successfully confirmed the 3 operative failures.

Conclusion: This study indicates that there is no difference in the decrease of PTH when comparing IPM sampling from either the left and right IJV. Central venous laterality does not affect the accuracy of the Miami criterion. When central venous sampling is performed, the side selected will not impact operative success and can accurately predict operative failure.
*8. THE EVOLUTION IN MANAGEMENT OF PATIENTS WITH SUBCENTIMETER, NODE NEGATIVE, TRIPLE NEGATIVE BREAST CANCER
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Background: Historically, patients with node negative, subcentimeter breast cancer are considered to have an excellent prognosis that does not justify the use of adjuvant chemotherapy. However, the poor prognosis associated with triple negative breast cancer led to this study designed to determine the evolution in treatment recommendations and outcomes for this subset of patients.

Methods: We reviewed our prospectively maintained cancer registry to identify breast cancer patients with tumors less than a centimeter. We excluded noninvasive or microinvasive tumors, node positive patients, and patients with tumors positive for estrogen, progesterone, or her-2-neu receptors. The remaining subcentimeter, node negative, triple receptor negative patients were divided into two groups depending on the date of their cancer diagnosis. Patients diagnosed from 1997-2003 were considered in the remote group and patients diagnosed between 2004-2011 were considered in the recent group. We recorded the following information: demographics, tumor size, primary surgical treatment, and use of adjuvant chemotherapy. Survival and disease recurrence were evaluated by review of our electronic medical record.

Results: A total of 1067 patients were identified with subcentimeter cancers and 61 satisfied all study criteria. Thirty patients were managed in the remote group (1997-2003) and 31 patients in the recent group (2004-2011). Demographics, tumors size (5.1 vs. 6.3 mm), and primary surgical treatment (80% breast conservation vs. 61% breast conservation) were statistically similar between groups. However the use of adjuvant chemotherapy increased from 7% in the remote group to 42% in the recent group and this was statistically significant with a p value of 0.002 by Fisher’s exact test. There was no difference in overall or disease free survival between groups and only 4 patients (6.5%) suffered a recurrence which was not significant between groups and was not influenced by the use of chemotherapy.

Conclusion: Our study demonstrates that adjuvant chemotherapy is increasingly used in patients with the triple negative phenotype regardless of other favorable prognostic variables (small size and negative nodes). This study illustrates that as new prognostic variables are identified in breast oncology, the traditional recommendations for the use of adjuvant chemotherapy may be challenged. The value of adjuvant chemotherapy for the subgroup of patients in our study is unclear and mandates further investigation.
9. NEOADJUVANT THERAPY AND BREAST CANCER SURGERY: A CLOSER LOOK AT POSTOPERATIVE COMPLICATIONS

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Background: Neoadjuvant therapy plays an important role in the treatment of advanced breast cancer. A recent NSQIP study showed no association between neoadjuvant chemotherapy and postoperative wound complications. The purpose of our study was to evaluate for postoperative complications and stratify patients based on the type of breast surgery performed.

Methods: A prospective database at a single institution was reviewed from 2000-2012. Patients who underwent neoadjuvant therapy were identified and analyzed for postoperative complications.

Results: 140 patients underwent 147 breast cancer surgeries after neoadjuvant therapy encompassing 41 (28%) breast conserving therapy (BCT) procedures, 52 (35%) mastectomies, 42 (29%) mastectomies with immediate reconstruction (Mast+IRecon) and 12 (8%) mastectomies with delayed reconstruction (Mast+DRecon). Of the 106 patients who underwent mastectomy, 34 (32%) underwent contralateral prophylactic mastectomy. Of the 42 Mast+IRecon procedures, 14% were total mastectomy, 64% were skin sparing mastectomy (SSM) and 24% were attempted nipple sparing mastectomy (NSM), with one patient requiring conversion to SSM. Types of reconstruction included 31 tissue expander/implants, 27 deep inferior epigastric perforator (DIEP) flaps, 4 transverse rectus abdominis myocutaneous (TRAM) flaps and 4 other flaps. Forty-seven patients (34%) suffered 59 complications including 17% of those who underwent BCT, 29% of those who underwent mastectomy, 40% of those who underwent Mast+IRecon, and 67% of those who underwent Mast+DRecon. Major complications, defined as those requiring surgical intervention, occurred in 18% of patients: 10% of mastectomy patients, 36% of Mast+IRecon patients, and 42% of Mast+DRecon patients. Skin loss requiring operative debridement occurred in 6% of patients: 2% of mastectomy patients, 9% of Mast+IRecon, and 25% of Mast+DRecon. One of the nine NSM patients had partial nipple necrosis requiring operative debridement. Three skin sparing Mast+IRecon patients (10%) suffered implant loss after 2 infections and 1 rupture. Two DIEP flaps required early operative revision, both of which occurred after skin sparing MAST+IRecon. One patient had DIEP flap loss after MAST+DRecon. There were 11 (8%) hematomas and 1 infected seroma that required reoperation. There were 11 (8%) infectious complications, 5 of which were major. Other minor complications included 9 seromas managed conservatively, 8 seromas requiring aspiration, 6 hematomas managed conservatively and 6 wound infections treated with antibiotics. Lymphedema occurred in 14% of patients.

Conclusion: Surgery after neoadjuvant therapy can be performed safely, but careful counseling is warranted given 18% of patients experience a complication requiring reoperation. Complications rates are higher in those undergoing reconstruction but feared complications of skin, nipple, implant or flap loss were infrequent.
Background: Management of destructive colon injuries (requiring resection) during damage control (DC) laparotomy remains controversial. Ostomy formation complicates the management of the “open” abdomen and later abdominal wall reconstructions. The purpose of this study was to review a single institution's management of destructive colon injuries and identify risk factors for anastomotic failure after colon reconstruction following initial DC laparotomy.

Methods: All trauma patients sustaining a destructive colon injury requiring resection from 2002 – 2011 were identified from the trauma registry. Demographic, injury, physiologic, and operative data including the use of vasopressors and the final management of colon injury (diversion versus anastomosis) was recorded from the patient charts. Anastomotic leak was defined as suture or staple line disruption or enteral fistula formation. Chi-Square, Fisher’s exact, and Wilcoxon rank-sum tests were used to identify risk factors for leak.

Results: 171 patients were identified. 103 patients did not have a DC procedure. 69 (67%) of these patients had their colon injuries managed with resection and anastomosis and 34 (33%) with diversion. 68 patients did have an initial DC procedure. 41 (60%) had a subsequent anastomosis performed during the same hospitalization and 27 (40%) were diverted. The colon anastomotic leak rate in patients who underwent damage control was higher than those who were reconstructed at the primary operation in a non-DC setting (17% vs. 6%, p = 0.09). A blunt initial mechanism was associated with a 31% leak rate following colon reconstruction after DC compared with 11% with penetrating injury. The leak rate in DC patients was no different when stratified by type of anastomosis, technique of anastomosis (hand-sewn vs. stapled), or blood transfusion requirement. The use of vasopressors after the initial DC operation more than quadrupled the leak rate to 50% (p = 0.02). An anastomotic leak following initial DC led to a significantly higher mortality (29% vs. 3%, p=0.02).

Conclusion: Colonic anastomotic disruptions yield deadly consequences and any colon reconstruction following DC laparotomy must be performed selectively. Diversion rather than anastomosis should be performed in patients who required vasopressor support following the initial damage control procedure.
11. A PROSPECTIVE HUMAN STUDY OF THE PARADOXICAL
COAGULATION CHARACTERISTICS OF HEMOTHORAX
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Background: Based on our previous data, traumatic hemothorax chest tube effluent
(HTX) at 4 hours post evacuation contains decreased platelets, absent fibrinogen, and
is incoagulable; however when mixed with normal pooled (NPP) plasma coagulation is
enhanced. Conditions at earlier time-points when auto transfusion may occur are not
clear. Moreover, it is unclear how much HTX would need to be mixed with normal
plasma to replicate this in vitro observation. We evaluated HTX from 1 hr to 4 hrs
after evacuation, hypothesizing that clot formation would be absent at all time-points
in HTX and we further hypothesized that coagulation would be enhanced when even
small volumes of HTX were mixed with normal plasma, representing real-volume
autotransfusion (ie., 1250cc HTX: 5L circulating blood volume=1:4)

Methods: Adult trauma patients from whom >130mL of HTX was evacuated within 1
hr of tube thoracostomy were prospectively included. HTX was sampled at 1, 2, 3, 4
hrs after evacuation. A portion of each sample was centrifuged and the cell free portion
(CFHTX) was collected and frozen. Experiment 1: Each fresh sample was analyzed
(coagulation, hematology, electrolytes). Concurrent peripheral venous plasma (PV) values
were compared to HTX values. Experiment 2: Coagulation was further evaluated by
mixing serial dilutions of previously frozen CFHTX with normal pooled plasma (NPP).
As a control, coagulation of NPP alone was simultaneously measured. Data was non-
normal, and analyzed via a Kruskal-Wallis one-way ANOVA, and is reported as mean
with interquartile range (IQR).

Results: Subjects (n=34) were enrolled with HTX ranging from 130mL to >2000mL.
Experiments 1: At no time-point (1, 2, 3, or 4 hours post-evacuation) was thrombus
observed in any HTX collection chamber nor in any coagulation test. Mean HTX INR
was >9, compared to a mean PV INR of 1.15  (P<0.001). Mean HTX aPTT was  >180
(sec), compared to a mean PV aPTT  of 28.69 (sec)  (P<0.001).
Experiment 2: 1 hr specimens of CFHTX at clinically relevant dilutions were mixed with
NPP: Mean mixed INR was 0.90 at a 1:4 dilution CFHTX:NPP(IQR 0.86-0.93); mixed
INR was 0.91 at 1:8(IQR 0.87-0.94); mixed INR 0.92 at 1:16 (IQR 0.88-0.96) vs NPP
INR control of 1.00 (IQR 0.97-1.04) (all p<0.05 vs controls). The mean mixed aPTT
was: 25.3 (sec) at 1:4(IQR 24.4-26.5); mixed aPTT 26.7(sec) at 1:8(IQR 26.0-27.6);
mixed aPTT 28.3(sec) at 1:16(27.6-29.3) vs NPP aPTT control of 32.5 (sec) (IQR 31.1
–33.5) (all p<0.05 vs controls). The 4 hour specimens were also shown to be no different
than the 1 hour specimens (p<0.05).

Conclusion: HTX specimens from 1-4 hours are all incoagulable. In vitro mixing of
HTX with normal plasma was shown to consistently accelerate coagulation. Even a small
amount of HTX autotransfusion, on the order of 300cc (1:16), would produce blood that
could potentially clot faster than normal plasma. Although these data are preliminary, we
conclude that caution should be used when considering autotransfusion of HTX.
12. ALTERNATIVE DOSING OF PROPHYLACTIC ENOXAPARIN IN THE TRAUMA PATIENT: IS MORE THE ANSWER?
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Background: Inadequate anti-Factor Xa (anti-Xa) levels and an increase in venous thromboembolic events (VTE) have been demonstrated in trauma patients receiving standard prophylactic enoxaparin dosing. We hypothesized that higher dosing (40 mg twice daily) would lead to improvements in peak anti-Xa levels and a decrease in VTE.

Methods: Following IRB approval, a retrospective chart review was completed of all trauma patients who received prophylactic enoxaparin dosing and appropriately timed peak anti-Xa levels over a 27 month time period. Patients were excluded if they had a previous history or duplex evidence of a deep venous thrombosis (DVT) prior to receiving enoxaparin. Patients were divided into two groups based upon initial prophylactic dosage chosen at the discretion of the primary trauma attending: Group A, 30 mg; Group B, 40 mg. Administration of enoxaparin was twice daily via a subcutaneous route in all cases. Demographics and VTE rates, including both proximal DVT of the lower extremity and pulmonary emboli (PE), were compared between dosage groups and between patients with inadequate and adequate anti-Xa levels. Peak anti-Xa levels of <0.2 IU/mL were considered inadequate. To be included in the VTE dataset, patients had to receive a duplex ultrasound examination at least one week after initiating prophylaxis. Computed tomographic angiography was obtained to diagnose PE only when clinically indicated.

Results: Overall, 124 patients met inclusion criteria: Group A, 90 patients; Group B, 34 patients. Both groups were similar in regard to age, gender, hospital day of initiation of enoxaparin, and high risk injury patterns (traumatic brain injury, spinal cord injury, pelvic fracture, long bone fracture). However, a significant difference in average body weight was noted between the two groups (means +/- SD): Group A, 79 +/- 19 kg (range, 44-135) versus Group B, 103 +/- 21 kg (range, 60-147) (p<0.001). Despite this difference, only 9% (n=3) of patients within Group B had inadequate anti-Xa levels versus 33% (n=30) of patients within Group A (p=0.01). Of those with initially inadequate anti-Xa levels within Group A, 88% obtained adequate peak levels when dosing was increased to the Group B regimen. Subsequent imaging studies were available in 69 patients (56%) and revealed 8 VTE events (Group A, 6/47; Group B, 2/22 (p=ns)) with significantly more VTE occurring in those with low anti-Xa levels (19% vs. 7%, p=0.02). No patient with an anti-Xa level > 0.2 IU/mL had evidence of VTE (0/21).

Conclusion: The current study confirms that inadequate peak anti-Xa levels are associated with an increased risk of VTE. Although higher initial dosing of enoxaparin led to improved target anti-Xa levels, this did not equate to a statistical decrease in VTE. The adequate anti-Xa level for VTE prophylaxis in the trauma patient may need to be reconsidered.
*13. BLUNT SOLID ABDOMINAL ORGAN INJURY: WHEN TO INITIATE ANTICOAGULATION
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Denver, Colorado

Background: The optimal time to initiate venous thromboembolism (VTE) pharmacoprophylaxis during non-operative management of blunt solid organ injury is unknown. We characterized coagulation status using thromboelastography (TEG) in the early post-injury period, with the hypothesis that a transition from a hypo to hypercoagulable state occurs at some point in the first 72 hours.

Methods: Data from adult blunt trauma patients who sustained a liver or spleen injury that was managed non-operatively were abstracted (2009-2012). Post-injury TEGs were divided into 12 hour internals, from 0-72 hours post injury. Variables included the TEG shear elastic modulus strength (G, normal 5.2-12.4 Kd/cs), a measure of overall hypercoagulability and most strongly associated with VTE risk, and the maximum amplitude (MA, normal 54-72 mm), a measure of platelet hypercoagulability. Age, gender, injury severity score (ISS), maximum injury grade, and time from admission to first pharmacoprophylaxis were also abstracted. Data are expressed as mean ± standard error of the mean; stats: t-test, chi-squared, ANOVA. p<0.05.

Results: Of 304 patients identified, 42 (13.8%) had multiple post-injury TEGs drawn at 12-24 hour intervals. Age (p=0.45) gender (p=0.45), and maximum solid organ injury grade (p=0.71) were similar between TEG and non-TEG patients. However, TEG patients had a higher ISS as compared to non-TEG patients (33.2 vs. 18.3, respectively, p<0.01). Thirty-eight (90.5%) TEG patients received at least one dose of VTE pharmacoprophylaxis within the first week post-injury; the mean time from admission to first dose was 89 ± 9 hours (range 8-168). Among the TEG patients, the G value began in the normal range within the first 12 hour interval post-injury (7.4 ± 0.5 Kd/cs), increased linearly over each subsequent 12 hour interval, and crossed into the hypercoagulable range at 48 hours (15.1 ± 1.9 Kd/cs) (ANOVA p<0.01). Similarly, the MA began in the normal range (57.6 ± 1.6 mm), increased linearly over each 12-hour interval, and crossed into the hypercoagulable range at 48 hours (73.5 ± 0.7 mm) (ANOVA p<0.01). At no time interval were patients noted to be in the hypo-coagulable range as measured by either G or MA.

Conclusion: Blunt solid organ injury patients transition to a hypercoagulable state approximately 48 hours post-injury. Pharmacoprophylaxis should be initiated prior to the development of this hypercoagulable state for effective VTE prevention. Confirmation with prospective data is necessary.
14. POST-EXTUBATION DYSPHAGIA IN TRAUMA PATIENTS; IT’S HARD TO SWALLOW

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Background: In a mixed ICU population, the reported incidence of dysphagia after extubation ranges from 3% to 62%, but the incidence in trauma patients is not well defined. We hypothesized that trauma patients have a significant incidence of dysphagia post-extubation. The purpose of this study was to evaluate the incidence, factors and severity of dysphagia in trauma patients after extubation.

Methods: A prospective study was performed at a Level I trauma center from 1/11-8/12. Adult trauma patients that were intubated, subsequently extubated and had a swallow evaluation performed by a speech therapist within 24 hours after extubation were included. Patients who were extubated within 24 hours, died, or underwent tracheostomy were excluded. Reasons for swallow evaluation failure were differentiated into cognitive (somnolence/sedation and or inadequate mental ability to coordinate swallowing) and oropharyngeal dysfunction (OD). Data included age, GCS (Glasgow Coma Scale), AIS (Abbreviated Injury Score) by region, ISS (Injury Severity Score) and length of intubation. Statistical analysis was performed using Chi-square analysis, Mann-Whitney U Test, and z-test. Logistic regression analysis was used to adjust for confounding variables. Significance was attributed to a p value < 0.05.

Results: 680 trauma patients were intubated during the study period. Of those, 105 patients were extubated within 24 hrs, 210 died, 145 had tracheostomies, and 195 did not have a swallow evaluation within 24 hrs of extubation. 127 patients met study criteria. 53 (42%) patients passed the initial swallow evaluation and 74 failed. However, 7 patients failed due to sedation at the time of evaluation and subsequently passed once sedation was held, leaving 67 patients (53%) with dysphagia and 60 patients (47%) without. Of the dysphagia patients, 15 had dysphagia secondary to cognitive impairment and 52 had OD. The 15 patients with cognitive impairment had speech therapy, and a modified diet through discharge to rehabilitation or skilled nursing facility. The 52 patients with OD were compared to the 60 patients without dysphagia. There was no difference in age or ISS, but dysphagia patients had more ventilator days (3.5 vs. 8.7, p < 0.001), lower admission GCS (8.2 vs. 11.1, p < 0.01) and greater head AIS (2.3 vs. 1.6, p < 0.05). Using logistic regression, ventilator days remained the significant independent risk factor for OD. Importantly, 22 of the 52 patients (42%) were found to have silent aspiration placing them at the highest risk for complications.

Conclusion: In this prospective study, the incidence of post-extubation dysphagia was 53% and silent aspiration was noted in 42% of the patients with OD. Trauma patients requiring mechanical ventilation for longer than 3 days are at increased risk for dysphagia and should undergo routine swallow evaluations after extubation.
*15. THE (F)UTILITY OF FLEXION/EXTENSION C-SPINE FILMS IN THE SETTING OF TRAUMA

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Background: Injury to the c-spine is relatively common following major trauma. The 2009 Eastern Association for the Surgery of Trauma (EAST) “Practice Management Guideline for Cervical Spine Injuries following Trauma” includes flexion/extension films as an option for clearing the cervical-spine (c-spine) “in the neurologically-intact awake and alert patient complaining of neck pain with a negative CT”. The objective of this study is to evaluate the adequacy of flexion/extension films obtained for c-spine clearance following trauma. We hypothesize that a significant proportion of these films is inadequate.

Methods: This is a retrospective review of c-spine clearance at an urban Level 1 Trauma Center spanning 2002-2012. The medical record and a trauma radiology database were used to evaluate patient demographics, radiographic imaging, and clinical outcomes. A single Trauma-Trained Radiologist interpreted all flexion/extension films for adequacy, defined as visualization to the top of T1 and ≥ 30° of angulation from neutral in both flexion and extension. Studies performed within 7 days of injury were considered acute.

Results: Over the ten year period, 459 patients were identified who had flexion/extension films performed to evaluate the c-spine following trauma. The mean age of the cohort was 43.4 ± 18.3 years and 68% were male. The mean injury severity score was 9.5 ± 8.4. After excluding 83 patients with a computed tomography (CT) study positive for c-spine injury, 3 with penetrating injuries, and 18 with missing imaging, 355 flexion/extension films were examined for adequacy. Overall, 95% (336) of these studies were deemed inadequate. Of these films, 51% were deemed inadequate due to the inability to visualize the top of T1, while 44% had < 30° of angulation from neutral in either flexion or extension. Two hundred and ten studies were performed acutely. Of these, 97% (204) were inadequate. When performed ≥ 7 days from trauma (145), 91% (132) were inadequate.

Conclusion: Injury to the c-spine is relatively common following major trauma and may have significant consequences; therefore, its’ proper evaluation is critical. The majority of flexion/extension films obtained is inadequate. As such, they should not be included in the algorithm for c-spine clearance following trauma.
16. EMERGENT CHOLECYSTOSTOMY IS SUPERIOR TO CHOLECYSTECTOMY IN EXTREMELY ILL PATIENTS WITH ACALCULOUS CHOLECYSTITIS: A LARGE MULTICENTER OUTCOMES STUDY
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Background: Morbidity and mortality are very high for critically ill patients that develop acute acalculous cholecystitis (AAC). The aim of this study is to compare outcomes of extremely ill patients with (AAC) treated with either percutaneous cholecystostomy (PC) or cholecystectomy (CL).

Methods: Discharge data from University HealthSystem Consortium (UHC) database was accessed using International Classification of Disease codes. UHC’s Clinical Data Base/Resource Manager (CDB/RM) allows member hospitals to compare patient-level risk-adjusted outcomes. Extremely ill patients with multiple comorbidities undergoing PC, or surgical cholecystectomy, for a diagnosis of AAC were evaluated.

Results: 1,725 extremely ill patients were diagnosed with AAC between October 2007 and June 2011. Patients undergoing PC (704) compared to CL group (1,021) showed decreased morbidity (5.0% PC vs. 8.0 % CL, p<0.05), fewer ICU admissions (28.1% PC vs. 34.57% CL; p<0.05), decreased LOS (7 Days PC vs. 8 Days for CL; p<0.05), and less cost ($40,516 PC vs. $51,596 CL; p<0.05). While perioperative outcomes of PC compared with LC were statistically similar, PC had lower costs compared to LC ($40,516 vs. 51,596; p<0.005). Multivariate regression analysis has shown that LC (822), compared to OC (199), had lower mortality (OR 0.28, CI 0.119-0.658; p<0.05), morbidity (OR 0.4, CI 0.249-0.654; p<0.05), ICU admission (OR 0.33, CI 0.23-0.45; p<0.005) and similar 30-day readmission rates (OR 1.0, CI 0.654-1.543; p=0.9841). Also decreased LOS (7±5 days LC vs. 8±6 OC) and costs ($51,596 LC vs. $61,407 OC) were observed with a 26% conversion rate to an open procedure.

Conclusion: This paper demonstrates that patients who develop ACC and are critically ill should be managed initially with cholecystostomy tube placement. In our analysis patients fared the worse if either OC was attempted or LC had to be converted to OC. Patients who had LC performed had similar morbidity and mortality profile to PC but their costs were higher. PC should be considered as the preferred initial method of treatment of ACC in critically ill patients.
17. READMISSION FOLLOWING OPEN VENTRAL HERNIA REPAIR: INCIDENCE, INDICATIONS, AND PREDICTORS
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Background: Readmission following surgery is used as a marker of quality and performance for hospitals and surgeons. Procedure-specific studies of readmission rates and indications are scarce. This study evaluates the incidence, indications, and predictive factors for hospital readmission following open ventral hernia repair (OVHR).

Methods: A retrospective cohort study was performed of all patients undergoing OVHR at a single institution from 2000 to 2010. Electronic medical records were reviewed for patient demographics, preoperative, operative, and postoperative variables up to the date of discharge. Hospital readmission by 30 days, 90 days, and 91-365 days (late) were evaluated and indications for readmission were classified as surgical site infections (SSI), non-infectious wound complications (e.g. dehiscence), other surgical complications (e.g. intractable pain), and medical complications (e.g. cardiac event). Patients readmitted within 30 days of OVHR were compared to those who were not. A multivariate analysis was performed with variable selection and validation using a bootstrap technique to identify independent predictors associated with 30-day readmission. K-fold cross validation was performed.

Results: Of the 888 OVHRs performed over a 10-year period, 76 (9%) patients were readmitted 83 times within 30 days, 98 (11%) patients were readmitted 128 times within 90 days, and 78 (9%) patients had a total of 113 late readmissions. Of the 76 that were readmitted within 30 days, the most frequent indications for readmission were surgical site infections (26%), wound complications (18%), surgical complications (30%) and medical complications (13%). For those readmitted within 90 days, the most frequent indications for readmission were surgical site infections (34%), surgical complications (26%), wound complications (18%), and medical complications (16%). The most frequent indications for late readmission were medical complications (54%), surgical complications (24%), surgical site infections (19%), and wound complications (13%).

On multivariate analysis, only prior skin infection (OR=3.14, 95% CI: 1.79-5.52) and non-white ethnicity (Ref: Caucasian, OR=2.90, 95% CI: 1.42-5.92) were associated with 30-day readmission (K-Fold cross validation=0.08).

Conclusion: Complications necessitating readmission following OVHR are not uncommon. The majority of early readmissions are due to surgical complications while late readmissions are predominately due to medical complications. Future efforts to reduce readmissions should be directed at modifiable risk factors for SSI and other surgical complications, particularly among high risk patients such as minority patients and those with prior skin infections.
18. DETERMINATION OF INDEPENDENT PREDICTIVE FACTORS FOR ANASTOMOTIC LEAK: ANALYSIS OF 682 INTESTINAL ANASTOMOSES
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Background: Anastomotic leak (AL) after intestinal operations can have a devastating effect on patient outcomes. The objective of this study is to identify risk factors associated with intestinal AL in order to practically assist in surgical decision-making.

Methods: A retrospective review of the academic surgery database was performed from July 2008 to June 2012 to identify patients who had intestinal (small bowel [SB] and colon) anastomoses. The primary outcome was AL which was assessed according to 33 patient and operative factors using bivariate analysis. Factors found significant in bivariate analysis were entered into a logistic regression model to determine independent predictors of mortality.

Results: Of the 682 patients (mean age 59.5±18.1, 53% female, median BMI 27.5 [23.2, 33.2]) identified with anastomoses, the overall leak rate was 5.6% (38/682). Anastomotic anatomy included SB to SB (205/682, 30%), SB to colon (287/682, 42%), colon to colon (125/682, 18%), colon to rectum (35/682, 5%), and SB to rectum (30/682, 5%). Operations were categorized as open (424/682, 62%), laparoscopic (89/682, 13%), and laparoscopic assisted (169/682, 25%). In bivariate analysis, pulmonary disease, malnutrition, acute infection, pathology diagnosis, anastomotic tension, use of drains, anastomotic technique (stapled versus hand sewn), duration of operation, anastomotic anatomic location were statistically significant factors associated with AL. Of these factors in bivariate analysis, four were found to be independent predictors of AL using logistic regression model: anastomotic tension (OR 10.1 [1.3-76.9]), use of drains (OR 8.9 [4.3-18.4]), peri-operative blood transfusion (OR 4.2 [1.4-12.3]), and anastomotic anatomic location (OR 3.5 [1.2-8.3]).

Conclusion: Recognition of factors associated with AL after intestinal operations can assist surgeons in mitigating these risks in the peri-operative period and guide intra-operative decisions.
19. LAPAROSCOPIC VERSUS OPEN REPAIR OF PERFORATED GASTRODUODENAL ULCERS: A REVIEW OF THE NATIONAL SURGERY QUALITY IMPROVEMENT PROJECT DATABASE
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Background: Treatment for peptic ulcer disease has changed greatly in recent decades. With increased use of H2 blockers, proton pump inhibitors and H.pylori treatment, elective surgical repair for ulcers has decreased. Despite these changes the rates for emergent surgical repair have slightly increased. It is not uncommon for the general surgeon to perform emergent surgery for perforated gastroduodenal(GD) ulcers. Endoscopic evaluation and treatment has been first line for the bleeding ulcer, but surgical intervention is the mainstay of treatment for the perforated GD ulcer. The goal of such surgery is to repair the defect in the gastrointestinal tract. Classically this was achieved by an open approach with an omentopexy or with a definitive ulcer operation consisting of antrectomy, intestinal anastomosis and vagotomy. With the advances in medical management the definitive repair is no longer necessary in most cases. As the general surgeon has become more facile with laparoscopic surgery a laparoscopic approach (LA) to repairing a perforated GD ulcer is quite possible. Several small studies have shown that laparoscopic repair is effective in repairing these. A consensus has not been established with regards to which approach would provide improved patient outcomes. We seek to determine that laparoscopic and open surgical repair of perforated GD ulcers are equivocal in terms of length of hospital stay, organ space infection, surgical site infection and duration of ventilatory support.

Methods: The NSQIP database was reviewed for patients diagnosed with acute perforation of a GD ulcer based on ICD-9 coding. This revealed a total of 1200 patients. On further review fifty patients had a LA for repair. Fifty cases where an open approach (OA) was utilized were matched to those in the LA group. These patients in this matched case control study were matched on age within ten years, ASA class within 1 point, gender and presence or absence of cardiac disease consisting of hypertension, congestive heart failure, previous myocardial infarction, previous percutaneous intervention or open cardiac surgery. Equal proportions of gastric and duodenal ulcers were also matched in this study.

Results: There were 50 cases of perforated peptic ulcer disease that were repaired with a laparoscopic approach to which 50 open approaches (OA) were matched. Age, preoperative sepsis, ASA class and proportion of gastric ulcers were similar for LA and OA. The rate of wound complications, organ space infections, prolonged ventilation (>48 hours), postoperative sepsis, return to the operating room and mortality tended to be lower for LA compared to OA although not significantly (Table). Length of hospital stay was, however, significantly shorter for the LA by an average of 5.4 days (p=0.01).

Conclusion: This review which is limited by overall numbers shows improved patient outcomes, namely length of hospitalization, with the LA. A LA should be considered when treating an acute perforated GD ulcer.
SCIENTIFIC PAPER ABSTRACTS (cont.)

*20. EFFECTS OF ALCOHOL ON SURGICAL DEXTERITY AFTER A NIGHT OF MODERATE ALCOHOL INTAKE - A FOLLOW UP STUDY
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Background: Surgery is known to be a demanding, high stress field. Laparoscopic surgery in particular is a psychomotor challenge and places a high level of demand on cognitive, perceptual and visual-spatial abilities. Alcohol misuse is commonplace among health professionals, and persistent effects of alcohol on cognition and dexterity have been shown up to 14 hours after alcohol intake. Other industries such as the aerospace industry have placed restrictions on alcohol intake and there is pressure for the surgical field to do the same. A limited number of studies have addressed this issue in surgery, although none have measured surgical dexterity using well established Fundamentals of Laparoscopic Surgery (FLS) benchmarks. The aim of this study was to assess differences in dexterity using FLS measures with and without alcohol intake 8-10 hours prior. The pilot study was performed in Grand Forks, ND and the follow up study was performed at the 2012 Southwestern Surgical Congress Meeting at Rancho Palos Verde, California.

Methods: Twenty seven surgeons volunteered to participate in this study. 11 of them were attending surgeons, 2 were fellows, and 14 were resident surgeons. We used three FLS tasks to measure surgical dexterity: peg transfer, pattern cutting and intracorporeal suturing. All three tasks were timed. Both pattern cutting and intracorporeal suturing were also measured for accuracy. We first assessed these tasks with no prior alcohol intake. In an attempt to reconstruct everyday life we then had our participants drink alcohol until they chose to stop. We measured alcohol levels via breathalyzer 20 minutes after they had finished drinking. The participants were then instructed to get a good night of sleep (8-10 hours) and their skills were re-assessed the following morning. Time and accuracy was then compared.

Results: The mean blood alcohol level was 0.076, slightly below the legal limit for driving. Median peg transfer time was slightly longer the morning after alcohol intake, 98.93 seconds vs 96.78 seconds (p=.51). Pattern cutting time was slightly shorter the morning after alcohol intake, 120.7 seconds vs 129.19 seconds (p=0.083, r=0.24). Intracorporeal suture time was slightly longer the morning after alcohol intake, 232.7 seconds vs 226.6 seconds (p=-.40). None of these differences were statistically significant. There was no statistically significant difference in pattern cutting accuracy (p= 0.13, OR 6). There was, however, a statistically significant difference in accuracy on the intracorporeal suturing tasks: participants were less accurate the morning after alcohol intake (p=0.016, OR 15).

Conclusion: Alcohol intake did not significantly change the time needed to complete certain FLS tasks but did affect the accuracy in which these tasks were completed.
*21. DETERMINANTS OF SURGICAL DECISION MAKING: A NATIONAL SURVEY.
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Background: Although practice variation in surgery has been documented in a variety of clinical settings, little is known about the determinants of individual providers' practice patterns. Prior studies use surgical volume as a measure of a physician's treatment intensity, but this metric fails to account for the total number of cases evaluated and case-mix. It is unclear whether higher volume is truly associated with higher tendency to operate at the level of the individual surgeon. We conducted a national survey of general and sub-specialty surgeons to address the association between surgeon characteristics and tendency to recommend surgery. Our covariates of interest included surgical volume, specialty training, compensation structure, financial incentives and malpractice concerns.

Methods: Web-based survey. Surgeons were presented with 25 hypothetical clinical scenarios, which were designed to have a high degree of clinical uncertainty regarding the decision to operate; that is, surgical intervention was neither strictly indicated nor contraindicated, and the decision relied on the discretion of the surgeon. Answer choices were based on a 5-point Likert scale. Respondent-level tendency to operate (TTO) score was calculated as the average score over the 25 scenarios. Surgical volume was based on self-report of cases across a variety of surgical types over the prior year. Z-scores expressing the relative volume of each subtype of surgery were calculated, and the standardized surgical volume was calculated as the sum of the z-scores. Linear regression models were used to evaluate the associations between TTO, other covariates of interest and surgical volume.

Results: 907 respondents completed the survey. 78% of respondents were male. 50% had completed a surgical fellowship. 26% worked in academic practice, 67% in private practice, and 7% in government practice. Mean (SD) surgical TTO was 3.05 (0.43) based on the 5-point Likert scale. There was no association between higher surgical volume and surgical TTO overall (p=0.30). There was also no association between TTO and malpractice concerns, financial incentives or compensation structure. Surgeons had a much lower TTO when responding to questions within their area of practice (p<0.0001). A lower TTO in specialty-specific vs. overall score was independently associated with academic practices (p=0.03), female gender (p=0.003), older age (p=0.02) and lack of fellowship training (p=0.05).

Conclusion: A surgeon's tendency to operate is not significantly correlated with surgical volume, contrary to the belief that high volume surgeons recommend surgery more often than lower volume surgeons. Malpractice concerns and financial matters also do not appear to significantly affect surgical decision making. Surgeons recommend intervention far less frequently in cases with clinical equipoise within their area of specialization than in other areas.
*22. PRE-OPERATIVE IMAGING FOR EARLY STAGE MELANOMA - PREDICTORS, USAGE AND UTILITY AT A SINGLE INSTITUTION

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Background: Routine pre-operative imaging studies for early stage primary cutaneous melanoma are not recommended by the National Comprehensive Cancer Network (NCCN) guidelines. Detrimental aspects include potential for false-positive findings, additive cost and low probability of finding metastatic disease. Our goal was to investigate our institutional usage of pre-operative imaging for melanoma.

Methods: Patients with newly diagnosed, pathology proven, clinical stage I and II primary cutaneous melanoma undergoing surgery between 01/2000 – 11/2011 were identified retrospectively from a sentinel node database. Patients with melanoma in situ and those not undergoing sentinel node biopsy were excluded. Any melanoma-related imaging performed following initial diagnosis and prior to surgery was considered a staging study.

Results: A total of 313 patients were identified, of whom 152 (48.9%) were diagnosed as clinical stage I, and 160 (51.1%) as stage II. Median age at diagnosis was 67 years and males represented the majority of patients (55.9%). The mean Breslow depth was 2.0 ± 1.0 mm. The primary was located on an extremity in 143 (45.7%), the trunk in 94 (30%) and the head and neck in 76 (24%). A mitotic rate of >1/hpf was present in 184 (59%) of primaries, and ulceration in 69 (22%). Breakdown by stage was as follows: IA, 96 (31%); IB, 56 (18%); IIA, 112 (36%); IIB, 41 (13%); and IIC 7 (2%). A total of 270 pre-operative imaging studies were performed in 235 (75%) patients. Breakdown was as follows: chest Xray in 79%; CT chest in 7%; CT abdomen and pelvis in 4%; head MRI in 3%; PET/CT in 4%; extremity Xray in 1%; extremity MRI in 1%; and CT neck, extremity US, and bone scan in one patient (0.4%) each. Of patients undergoing imaging, one study was conducted in 202 (65%) patients, two studies in 18 (6%), three studies in 11 (4%), four studies in 2 (0.6%), and five studies in 2 (0.6%) patients. No metastatic lesions were identified in any of the pre-operative imaging studies (0/270). One patient underwent a biopsy of an incidental benign thyroid nodule. On univariate analysis, statistically significant factors associated with use of advanced imaging (CT, PET or MRI) were ulceration (19% vs. 9%, P=0.02), male gender (15% vs. 6.5%, P=0.02), and increased Breslow thickness. Mitotic rate >1/hpf trended towards significance. On multivariate analysis, Breslow thickness >4 mm (OR 5.05 vs. 1 mm, 95% CI 1.47 - 17.32) and male gender (OR 3.23 vs. female, 95% CI 1.37 - 7.63) were associated with increased likelihood of advanced imaging.

Conclusion: Pre-operative imaging was performed in 75% of patients with primary cutaneous melanoma. Although the majority of the studies were chest X-rays, and may have been ordered in preparation for surgery rather than for staging, 18% of patients underwent advanced imaging. No metastases were found in any of these studies, confirming the limited utility of pre-operative imaging in clinically node negative cutaneous melanoma.
*23. SURGICAL EMERGENCIES IN THE NURSING HOME PATIENT: A PRACTICAL ANALYSIS TO HELP JUDGE THE UTILITY/FUTILITY OF OPERATIVE INTERVENTION.
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Background: Surgeons are often confronted with nursing home patients in whom operations are of questionable utility. The purpose of this study is to identify risk factors associated with outcome in order to assist in surgical decision-making.

Methods: 263 nursing home patients (age 75.6± 14.5, 66.5% female, 38%) underwent the following urgent/emergent operations: orthopedic (37.6%), GI/gallbladder (22.4%), vascular (12.6%), neurosurgery (5.7%) and other (21.7%). Mortality was assessed according to 24 intrinsic risk factors using bivariate analysis. Significant factors were entered into a logistic regression model to determine probability of mortality for each significant variable alone and in combination.

Results: 30 day mortality was 16.3%. Of ten significant risk factors in bivariate analysis, six were found to be independent predictors of 30 day mortality using multivariate analysis: COPD (OR 2.4[1.1, 5.5]), altered mental status (OR 3.4[1.3, 8.7]), GI/gallbladder surgery (OR 4.0[1.8, 9.0]), non-ambulatory preoperative status (OR 4.2 [1.5, 12.1]), Caucasian ethnicity (OR 4.2[1.1, 15.8]), and acute respiratory failure (OR 9.9[2.5, 39.2]). If no independent predictors were present, the probability of mortality was only 2.5%. However, the probability of mortality increased to 6-18% (depending on factor) when one factor was present; 14-46% with two factors, 38-76% with 3 factors, 71-89% with 4 factors and 95% with all 5 factors, excluding ethnicity.

Conclusion: Operative mortality in nursing home patients quantifiably increases with the number of significant preoperative co-morbidities present. These data can help surgeons and families predict outcome in order to gauge utility/futility in situations where medical palliation may be preferable to operative intervention.
24. CONTRAST BLUSH IN PEDIATRIC BLUNT SPLENIC TRAUMA DOES NOT WARRANT THE ROUTINE USE OF ANGIOGRAPHY AND EMBOLIZATION
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Background: Nonoperative management (NOM) has become the standard of care for the majority of pediatric blunt splenic injuries. Splenic artery embolization (SAE) in the presence of a contrast blush (CB) on computed tomography (CT) has been recommended for adult and pediatric patients to reduce the failure rate of NOM. We hypothesize that SAE in the management of pediatric splenic trauma is over utilized and the presence of CB on CT does not affect patient outcomes.

Methods: A retrospective review was conducted of all children (younger than 18 years of age) who sustained blunt splenic trauma over a 10 year period (2002-2011) at a level 1 pediatric trauma center. Patient demographics, clinical, laboratory and radiographic findings, management and postoperative complications were recorded. Data is presented as mean + SEM.

Results: There were 740 pediatric patients who sustained blunt abdominal trauma, of which 549 (74%) had an identified solid organ injury. Blunt splenic injury was diagnosed in 270/740 (36%) patients, of whom 179 with high grade splenic injuries (grade 3, 4, and 5) were included for the analysis. There were 137 (76%) males and 42 (24%) females, with an age range of 3 months to 17 years (mean 9.3 years). Patients were divided into 2 groups based on the presence or absence of contrast blush (CB) on abdominal computed tomography. All patients were managed nonoperatively using a blunt splenic injury protocol without SAE. CB was seen on CT in 47 patients (26.3%; mean age 8.6 years). There were no statistically significant differences in the need for blood transfusion (9.3% vs 8%), need for operative intervention (0.75% vs 2.2%) or length of stay (3.8 ± 0.8 days vs 3.5 ± 0.4 days) between the 2 groups.

Conclusion: Despite the presence of contrast blush, pediatric trauma patients managed without utilization of angiography and embolization have comparable outcomes with no increased need for blood transfusion or need for operative intervention. While imaging should be used as a guide to the severity of solid organ injury, physiologic response and hemodynamic stability should be the primary variables that determine appropriate management of children with blunt splenic trauma.
*25. IS MRI NECESSARY TO IDENTIFY CLINICALLY SIGNIFICANT SPINE INJURIES IN OBTUNDED BLUNT TRAUMA PATIENTS?

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Background: It is estimated that cervical spine (CS) injuries occur in 2 - 7% of blunt trauma patients. Guidelines are in place to direct the clearance of the CS in patients who are awake, alert, and oriented, but a gold standard has not been recognized for patients who are obtunded. There has been an ongoing debate if computed tomography (CT) alone is able to safely clear the CS or if additional tools such as magnetic resonance imaging (MRI) are necessary. While these tools undoubtedly provide additional anatomic information, it is questionable whether this is usually of clinical significance, and whether the benefits outweigh the risks of obtaining the test, which are not insignificant in this critically ill, multiply injured population. This study was designed to determine if MRI detects clinically significant injuries not seen on CT scan, thereby potentially affecting clinical outcome.

Methods: Trauma registry data was used to identify adult blunt trauma patients admitted to a Level 1 trauma center between 2005 - 2012. Only patients with Glasgow Coma Score (GCS) <14 who underwent both CT and MRI of the CS were included in the study. Injuries were considered clinically significant if they included ligamentous injury in two adjacent spinal columns, subluxations, cord injury, nerve root injury, disc herniations, and fractures except the following types: spinous process fracture without involvement of the lamina; transverse process fracture without involvement of the facet joint; osteophyte fracture not including corner or teardrop fracture; isolated avulsion without ligamentous injury; simple wedge-compression fracture without loss of ≥25% of vertebral body height; endplate fracture; type 1 odontoid fracture or injury to the trabecular bone. Data was also collected on sex, age, mechanism of injury and clinical outcome.

Results: Overall 277 patients met the inclusion criteria, with a mean age of 35.2 (range) years, Injury Severity Score of 21.8 (0-75), GCS score of 5.5 (3-14), length of stay of 15.3 days (1-66), and 70% were men. Mechanism of injury included motor vehicle collisions (70.0%), fall (9.4%), assault (7.6%), and pedestrian/bike accidents (3.2%). MRI was obtained an average of 3.3 days post-admission. 81 (29.2%) cervical spine abnormalities were detected on CT, with 63 (22.7%) being clinically significant. 116 (41.9%) abnormalities were detected by MRI, with 58 (20.9%) being clinically significant. In 13 (4.7%) patients, MRI detected clinically significant cervical spine injuries which were missed by CT. 2 (0.7%) patients required surgical stabilization, with the remainder treated non-operatively. There were no adverse events as a result of missed injuries in this cohort.

Conclusion: In obtunded blunt trauma patients, CT scan misses a small proportion of clinically significant injuries. These findings suggest that the use of MRI may be necessary in clearing the cervical spine in this population.
26. GOAL DIRECTED FLUID RESUSCITATION MAY IMPROVE LONG-TERM OUTCOMES IN DAMAGE CONTROL SURGERY BUT NOT TIME TO CLOSURE

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Background: Damage control surgery (DCS) is a standard operating technique for complex abdominal trauma, abdominal compartment syndrome and septic abdominal contamination. DCS improves overall outcome, but with the cost of more frequent and prolonged open abdomen. Proper fluid management and the balance between organ hypoperfusion versus fluid overload with resultant bowel and abdominal wall edema are key effectors of patient outcomes. The objective of this study is to determine whether the use of modern pulse contour analysis devices, such as the Flowtrac Vigileo™, which are advertised to facilitate goal-directed fluid therapy (GDT) lead to lower fluid requirements, quicker abdominal closure, and overall improved outcomes in DCS patients with open abdomen

Methods: Data from patients admitted to the SICU for DCS secondary to trauma, sepsis or compartment syndrome between Jan 2008 and June 2012 was collected retrospectively. A total of 28 patients with open abdomen resuscitated under Vigileo-GDT were matched by age, mechanism of injury and Apache score with patients who were resuscitated based on clinical parameters, such as blood pressure, heart rate and urine output. Total fluid intake and number of vasopressors in the first 48 hours, number of reoperations, mechanisms of closure, days to correct lactate and base deficit, number of ventilator days, ICU and overall hospital length-of-stay and complications were compared between the groups. Data was analyzed using Chi square and non-paired t-test, as well as multivariate linear regression

Results: Total fluid intake and vasopressor requirements were higher, though not statistically significant in Vigileo patients (13913± 6L, 1.43±1.14), compared to control patients, (12321±4L, 1.04 ± 0.94), p=0.26 and 0.16, respectively. Vigileo patients had 0.80 more ventilator-dependent days (p=0.89). However, lactate clearance and correction of BD occurred earlier in the Vigileo group. In addition, ICU LOS was decreased by 1.95 days and overall hospital stay by 6.21 days, but without statistical significance. No statistically significant difference in operative characteristics, including number of reoperations, days until closure and type of closure, or subsequent complications was found

Conclusion: Vigileo-GDT did not decrease total fluid resuscitation volume in DCS patients or allow for earlier closure of the open abdomen. In contrast, Vigileo patients appear to have greater fluid and vasopressor requirements with more ventilator-dependent days. However, the Vigileo may facilitate quicker resuscitation, lower ICU and overall hospitalization days and a decrease in post-operative complications. Our results currently do not support the added expense of using this technology as an adjunct to facilitate open abdomen closure, but do suggest that the ability of GDT is applicable in the open abdomen patient. Overall the study does point to the need for further prospective trials to tailor the use of the Vigileo for GDT in open abdomens.
27. PNEUMOMEDIASTINUM: ETIOLOGY AND A GUIDE TO DIAGNOSIS AND TREATMENT.
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Background: Pneumomediastinum may be associated with mediastinal injury. No previous study has evaluated the etiology or predictive factors of mediastinal injury in a large cohort of patients with pneumomediastinum. The aim of this study was to assess the etiology of pneumomediastinum and identify the clinical significance in order to guide diagnosis and treatment.

Methods: We retrospectively reviewed the charts of patients age ≥18 that included the CPT code 518.1 (Interstitial emphysema), from 2005-2011 (n=1730). 449 patients were noted to have pneumomediastinum on imaging studies. Patients with pneumomediastinum post sternotomy, thoracotomy, tracheal resection/tracheostomy were excluded (n=106). A total of 343 patients were included in this study.

Results: There were 279/343 (81%) with a history of trauma and 64/343(19%) without history of trauma. In the trauma population mediastinal injury was identified in 13/279 (5%) of the population. 10/279 (4%) had airway injury and 3/279(1%) had esophageal injury. In the non-trauma population 36/64 (56%) had spontaneous pneumomediastinum. Esophageal injury was seen in 17/64(27%), airway injury in 2/64(3%) and pneumothorax in 9/64(14%). The predictors of esophageal injury were instrumentation [Odds Ratio (OR): 45.7, p<0.0001], pleural effusion (OR: 10.5, p<0.0001) and vomiting (OR: 9.3, p<0.0001). In the absence of these, the risk of esophageal injury was < 1%. The presence of pneumothorax was negatively associated with esophageal injury (OR: 0.06, p<0.0001). The predictor for airway injury was instrumentation (OR: 9.05, p<0.02). In the trauma population pneumomediastinum was associated with pneumothorax in 217/279 (78%) and pneumoperitoneum in 18/279(7%).

31/36 (86%) of patients with spontaneous pneumomediastinum were admitted to rule out mediastinal injury and all had negative studies.

Conclusion: The majority of patients with pneumomediastinum ultimately prove to have no evidence of mediastinal injury. In the trauma population pneumomediastinum is frequently associated with pneumothorax. In patients with pneumomediastinum the strongest positive predictor for esophageal injury is instrumentation followed by pleural effusion. Patients with pneumomediastinum with no history of instrumentation, pleural effusion and vomiting most commonly do not have a mediastinal injury.
28. A SURGICAL TEAM WITH FOCUS ON STAFF EDUCATION IN A COMMUNITY HOSPITALS IMPROVES OUTCOMES, COSTS AND PATIENT SATISFACTION.
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Background: Quality, outcome and patient satisfaction are the driving forces of a surgical practice. There is an essential need to determine methods to improve these metrics. The aim of the study was to assess improvement in outcomes, costs and patient satisfaction in a community hospital as a result of assembling a surgical team with focus on staff education.

Methods: A prospective study was conducted to assess the impact of assembling and educating a surgical team, on quality, outcome and patient satisfaction in a 267 bed community hospital (one of 11 linked hospitals in a metropolitan city in the United States). The study population included all the patients who underwent thoracic and foregut procedures from 08/01/2009 to 05/31/2012. A team of inpatient nurses (n=32), respiratory therapists (n= 8), physical therapist (n=6), nutritionists (n=2), circulating OR nurses (n=3), scrub technicians (n= 2), surgical assistants (n=2), surgeon (n=1) and anesthesiologists (n=2) was assembled on 10/01/2010. Monthly teaching sessions with staff, monthly multidisciplinary conferences, weekly meetings with team leaders and daily patient rounds with nurses were implemented. The outcomes and costs for patients who underwent laparoscopic fundoplication for hiatal hernia and laparoscopic Heller myotomy for achalasia before and after the team was assembled were compared. A patient satisfaction survey was sent via mail to all the patients and the results before and after the team was assembled were compared.

Results: The values are presented in medians and interquartile range. The team was assembled on 10/01/2010. From 08/01/2009 to 05/31/2012 there were a total 268 procedures (103 before and 165 after 10/012010). There were 64 laparoscopic fundoplications and Heller myotomies (23 before and 41 after 10/01/2010). There were significant reductions in operating time 185 minutes (155-257 ) vs. 126 (113-147), (p =0.001), length of stay, 2.0 days ( 2.0-4.0 ) vs. 1.0 (1.0-2.5), (p=0.05), operating room related costs, 2,407 dollars (2,171-2,893) vs. 2,147( 1,942-2,345), (p= 0.004) and hospital room related costs 937dollars (799-2,159) vs. 556(484-937), ( p=0.044), before and after 10/01/2010. A satisfaction survey was sent to all 268 patients. The results were received in 55/268 (21%), 16/103 (16%) before and 39/165 (24%) after 10/01/2010. Survey showed significant improvement in patient experience in communication with nurses (p= 0.025), pain management (p=0.000), communication about medications (p=0.037) and discharge instructions (p=0.024) after 10/01/2010.

Conclusion: Assembling a surgical team with focus on staff education has a significant impact on outcomes, costs and patient satisfaction in a community hospital.
29. THE GENERAL SURGERY WORKFORCE CRISIS IS WORSE WHEN ASSESSED AT COUNTY LEVEL
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Background: Recent studies have documented a significant decline (25.9%) in the General Surgery workforce in the U.S., both urban and rural (1981-2005). These studies have estimated the ideal workforce benchmark to be seven general surgeons per 100,000 population. This study evaluates the Texas general surgery workforce both in-total and by county over the past 10 years.

Methods: Data were obtained from the Texas Medical Board, the United States Census Bureau/Texas State Library and Archives Commission and the Texas Department of State Health Services and compared to benchmark workforce levels in individual counties and in the state as a whole.

Results: During the study time period, total Texas population increased 21% (p< 0.01). Actively practicing, licensed physicians increased 44% (p<0.01). General surgeons increased by 7.5%, however the number of general surgeons per 100,000 population decreased 10% (6.7 to 6.0 per 100,000 population). Based on the benchmark workforce projections of 7 general surgeons per 100,000, an additional 272 general surgeons are needed in the state as a whole; however, when analyzed by individual county population, 421 additional general surgeons are needed. At the local level, one half of 254 counties (5.2% of Texas’ population) have no general surgeon. 35 of these counties would qualify for an additional 62 general surgeons based on the ideal workforce. 65 of the counties with at least one general surgeon need another 359.

Conclusion: The net increase in Texas general surgeons over the past decade has not kept pace with an increase in Texas population or increases in other Texas physician specialties. This deficit appears worse when compared to ideal workforce benchmarks, and further worse when the data are analyzed at a local level (county) as compared to total state population. There is a recognized national general surgery workforce shortage; however, in states with rapidly increasing populations and heterogeneous geographic distributions between rural and urban areas this crisis is likely worse than it appears at the national or state level. Efforts to train, recruit, and retain general surgeons, especially in non-metropolitan areas, should be strongly incentivized.
*30. BLOOD TRANSFUSION IN COLORECTAL CANCER SURGERY: OUTCOMES AND PREDICTIVE FACTORS. AN AMERICAN COLLEGE OF SURGEONS NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM ANALYSIS

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Background: Blood transfusion (BT) is associated with adverse short and long term outcomes. There is a paucity of data investigating risk factors that predispose patients to BT and previous data investigating outcomes of BT is limited by small sample sizes and is controversial.

Methods: This is a retrospective review of the ACS-NSQIP database from 2005-2010. Patients that underwent operation for colon and rectal cancer were identified and were divided into 2 groups based on whether they received a BT preoperatively, perioperatively, or postoperatively. Linear regression and logistic regression with robust standard errors were used to compare groups on mortality, morbidity, length of stay, surgical site infection (SSI), and pneumonia, controlling for potential confounding factors. We also investigated the effect of blood units received on mortality and morbidity. Holm’s method was used to correct for multiple comparisons. We report marginal percentages and adjusted odds ratio. In a secondary analysis, the LASSO algorithm together with 10-fold cross-validation were used to build a predictive model for BT using 46 covariates based on patient factors, surgical factors (extent of resection, use of laparoscopy) and admission type.

Results: A total of 27,120 patients were identified and 3,815 (14.07%) had a blood transfusion. After controlling for potential confounding factors, we found BT to be associated with higher odds of mortality (6.08% vs. 1.99%; OR=1.95), morbidity (40.89% vs. 23.42%; OR 1.78), SSI (OR=1.33) and pneumonia (OR=1.60). Length of stay was longer by 3.28 days on average in the BT group. All multiplicity-adjusted p values were less than 0.0001. Those transfused with 3-4 units were associated with higher morbidity compared to those that received 1-2 units (OR=1.36; P=0.02) with a tendency towards higher mortality. Out of the 46 covariates used, 15 were found to be predictive of BT in our final predictive model with an AUC statistic of 0.78. The strongest risk factors were: hematocrit<38 (OR=3.60), open surgery (OR=1.95), rectal resection (OR=1.74), platelet <150,000 (OR=1.52), ASA class IV (OR=1.35).

Conclusion: This is the largest study investigating the predictors and outcomes of blood transfusion in colorectal cancer surgery. Blood transfusion is independently associated with a higher risk of mortality, morbidity, infectious complications and longer length of stay. The effect of additional blood units is also associated with worse outcomes. Knowledge of predictive factors will allow clinicians to better risk-stratify and counsel patients. Careful strategies to limit blood transfusions should be adopted.
Background: There is currently no standard of care (SOC) for prophylactic antibiotics (PABX) prior to the placement of fully implanted central venous access ports (CVAP). Our recently published review of CVAP placements showed a trend toward increased catheter related infection (CRI) without PABX use. In follow-up to this data, a survey of fellows of the American College of Surgeons (ACS) was undertaken to determine the current practice pattern of PABX in CVAP placement.

Methods: A single page survey regarding CVAP placement was mailed to 5,000 randomly chosen ACS General, Colorectal, GYN-Oncology, and Vascular surgeons. Randomization accounted for the distribution of members according to state of practice. This protocol was given both Institutional Review Board and ACS approval.

Results: There were 1,091 surveys returned (22%), with all states represented. The majority of respondents (75%) were in a non-academic setting. CVAP were placed by 81.6% of respondents of whom 88.2% routinely gave PABX and of those, 93.6% gave PABX in every case. The median number of ports placed per year, based on the minimum range, was 20. Of those placing CVAP, the median time of practice was 18 years (0.4-50). The left subclavian (SVC) was the preferred CVAP placement site followed by right SVC. Of those that did not use PABX, the primary reason(s) chosen for non-use were “not justified” or “not standard of care”. When used, a first generation cephalosporin was the PABX of choice. Regardless of their PABX use practice pattern, the majority (76%) of respondents chose the answer for “their estimated CRI rate” as <1%. Univariate analyses showed no significant difference in chosen CRI rate (<1% or ≥1%) based on the number of years placing ports (< 10 vs ≥ 10 years) or the estimated number of CVAP placed in a year (< 20 or ≥ 20). Using logistic regression we compared the CRI rate of < 1% versus ≥1%; those in an academic setting (vs non-academic) had an odds ratio (OR) of 1.74 for choosing the higher CRI of ≥1% and those that used the internal jugular (IJ) (vs SCV) as the primary placement site had an OR of 1.48 for choosing ≥1%. General comments included reasons for use of PABX as “medico-legal”, “required by hospital” and “liability”. Numerous comments encouraged more discussion on this topic.

Conclusion: With over 1,000 voluntarily returned responses, it appears ACS fellows are interested in practice patterns for the use of PABX in the placement of CVAP. Despite a Cochran statement against prophylactic antibiotic use in non-implanted central venous catheters, the majority of our responders defended antibiotic use for these fully implanted CVAP. The reasons for this may be multifaceted, but the most frequently cited were legal “liability”. So, despite no current SOC, nor definitive evidence regarding PABX use for fully implanted CVAP, the overwhelming majority of responding ACS fellows include perioperative antibiotic prophylaxis for CVAP placements.
FEATURED POSTER ABSTRACTS
1. OCCURRENCE AND SEVERITY OF CHILD ABUSE BEFORE AND DURING A RECESSION
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Background: Substantial evidence suggests that socioeconomic factors such as unemployment and income can affect the incidence of child physical abuse. However, there is disagreement in the literature regarding this association, with some studies suggesting that economic factors do not affect risk of abuse. The purpose of this study was to compare incidence of child abuse prior to and during the recent economic recession.

Methods: A retrospective chart review was conducted at a Level I trauma center in a large Midwestern metropolitan area for all patients suspected of child abuse who were 15 years and younger. Because indicators of recession were observed later in the Midwest than nationally, time periods were defined as 10/01/2005 to 12/31/2007 and 10/01/2008 to 12/31/2010 for the pre-recession period (PRP) and recession period (RP) respectively. Data collected included: demographics, insurance status, injury severity, injury details, hospital course, and mortality. Criteria for identification of cases of possible physical abuse included: 1) evaluation by a pediatric specialist, 2) an “eCode” indicating a diagnosis of abuse, or 3) child mortality not due to accident. Statistical analysis was carried out to compare incidence of child abuse during both economic time periods.

Results: One hundred forty five (N=145) cases met preliminary inclusion criteria and were considered cases of possible abuse. Of these, 50 were from the PRP and 95 were from the RP. Upon review of the medical records, 21 of 50 (42%) in the PRP and 33 of 95 (34.7%) in the RP were identified as having been abused (n=54). Of the 54 children included in this study, 66.7% were male. Median age in the PRP was 4.7 months and 8.0 months in the RP. Although overall number of cases of child abuse increased during the recession the rate of child abuse was not significantly different between the study periods (p=0.39). The severity of child abuse between the two periods, as reflected by Glasgow Coma Scale scores, trauma injury severity score, intensive care unit (ICU) requirement, duration of ICU stay, ventilator requirement, duration of ventilation, length of stay, insurance status, and mortality, was not significantly different.

Conclusion: The absolute number of children with injuries suspicious of physical child abuse increased in the recession period, however rate of child abuse was not significantly different. In addition, injury severity was not significantly different between the two periods although in keeping with prior studies head injuries were the most common. While it may be that the increased number of both possible abuse and confirmed abuse in the recession period reflect increasing surveillance during this period and a simultaneous increase in abuse, these results suggest the occurrence and severity of child abuse is not affected by economic conditions.
2. DIAGNOSING ACCURACY OF C-REACTIVE PROTEIN IN THE EARLY DETECTION OF ANASTOMOSIS LEAKAGE IN COLORECTAL SURGERY PATIENTS: A RETROSPECTIVE REVIEW.
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Background: C-reactive protein (CRP) is often used as a postoperative inflammatory marker. The sensitivity of CRP in predicting postoperative inflammatory complications is reported at 66%. A recent study found that a CRP level greater than 140 mg/L on postoperative day (POD) 3 is 78% sensitive and 86% specific for postoperative anastomosis leakage in colorectal surgery. These results suggest that a postoperative CRP level above 140 mg/L is highly specific for anastomosis leak. The aim of this study is to confirm this high specificity of CRP to detect postoperative anastomosis leak.

Methods: This two-year retrospective review evaluates postoperative CRP levels in colorectal surgery patients with bowel anastomosis. This population includes patients with an anastomosis and who have had a CRP level taken on POD 2, POD 3 and/or POD 4. The population excludes patients with CT confirmed anastomosis leakage. A CRP level < 140 mg/L is considered negative while CRP > 140 mg/L is positive.

Results: A total of 37 patients without anastomosis leak had a POD 2-4 CRP level. Twenty-five patients had negative a CRP level and 17 patients had a positive CRP level. Specificity of this study equals the true negatives (25) divided by the true negatives plus the false positives (17). CRP specificity in detecting postoperative anastomosis leak is 67%.

Conclusion: A previous report suggests CRP has an impressive specificity detecting postoperative anastomosis leak. Our results suggest CRP is not as robust an indicator of anastomosis leak as previously reported.
FEATuRED POSTER ABSTRACTS (cont.)

3. IMPACT OF PRE-HOSPITAL VERSUS EMERGENCY DEPARTMENT INTUBATION ON THE OUTCOME IN TRAUMA PATIENTS
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Background: The primary objective of prehospital intubation is to stabilize the critical trauma patients. However, on-site airway-management decisions are mostly controversial. We studied the patterns and outcome of patients who were intubated at the scene compared to Emergency Department (ED).

Methods: All trauma patients intubated between January 2010 and December 2011 were reviewed. Patients were classified according to the site of intubation (ED: Group-1 and at the scene: Group-2). Demographics profiles, mechanism of injury (MOI), mode of transportation, EMS time, Scene time, ISS, type of injuries, hospital and intensive care unit hospital stay, and mortality were analyzed.

Results: Of 482 trauma patients, 243 were intubated at the ED and 239 at the scene. Mean age of intubated patients was 29±14.6 years with 94% males. No significant differences were observed between the 2 groups in regard to age, sex, MOI, EMS time, head AIS, facial, chest, liver, and spleen injuries. Rates of polytrauma and head injury were significantly high in group-2 (p=.003). Scene GCS (6±2 vs 12±4), systolic BP (91±62 vs 127±33), and diastolic BP (59±40 vs 81±23) were significantly lower in group-2, whereas mean ISS and scene time were higher in group-2 (25±10 vs 21±11 and 29±17 vs 17±11 min, respectively). Total hospital and ICU stay were comparable in the 2 groups. Rate of Ground and life flight transportation were higher in group-2 (p=.001). Mortality rate was higher in group-2 (52% vs 19%, p=.001).

Conclusion: Prehospital intubation is associated with high morbidity and mortality and need critical assessment and evaluation. Moreover, mode of transportation does not affect the mortality among trauma patients.
4. ETHNICITY AND INSURANCE STATUS DO NOT AFFECT TRAUMA PATIENT MORTALITY IN A PREDOMINANTLY HISPANIC PATIENT POPULATION
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Background: The trauma department of Christus Spohn Hospital Corpus Christi Memorial investigated the overall treatment of trauma patients in a predominantly Hispanic population by analyzing patient outcomes across differing ethnic groups and insurance status. The goal was to disprove a previous study conducted by Haider et al in the Archives of Surgery, in which insured patients had lower crude mortality rates than uninsured patients.

Methods: This study was a retrospective analysis, which abstracted its data from the trauma registry from 2004-2007. The registry included all patients that met the trauma registry criteria of having at least one ICD-9 diagnosis code ranging from 800-959.9. Patients included in the registry must also have been admitted to the hospital, transferred in to the hospital from another hospital or have died from a traumatic injury. Insured patients included patients with Medicaid, Medicare, private Insurance, worker’s compensation, military health insurance or auto insurance. Ethnicity was self-reported, with only white, Hispanic and African American being analyzed. SPSS version 16.0 was used for data analysis and chi-square tests were used to analyze demographic differences among the three ethnicities. T-tests were used to calculate differences in injury severity among ethnicity insurance status with white insured being the reference group. Multiple logistic regression was performed to investigate survival differences of ethnicity insurance statuses compared to the reference group, adjusting for age, sex, injury severity score and mechanism of injury.

Results: The study included 2196 patients and consisted of 75 African Americans, 1362 Hispanics and 759 whites. There were no statistically significant differences found in sex, age, insurance status or crude mortality rates among the three ethnicities (p-value 0.12). Odds of mortality and being uninsured were not statistically significant, although odds of mortality were lower for African Americans and Hispanics, while odds of being uninsured were higher for Hispanics alone. Injury severity characteristics classified by ethnicity insurance status showed that there were no statistically significant differences in percent of patients with ISS 16-24, but there were statistically significant differences in patients with a penetrating injury and patients with an ISS greater than 25 in all groups compared to the reference group, except uninsured African Americans. Adjusted odds of mortality were found to be lower for insured African Americans, uninsured whites and uninsured Hispanics compared to the reference group, but there were no statistically significant differences found.

Conclusion: The results of the study showed no statistically significant differences in mortality based on ethnicity or insurance status. Therefore, it can be concluded that the patient population of Christus Spohn Hospital Corpus Christi Memorial receive equal treatment opportunities despite their ethnic or insurance status.
5. ALL-TERRAIN VEHICLE (ATV) ACCIDENTS IN CHILDREN
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Background: Background: All-terrain vehicle (ATV) accidents account for over 800 deaths and 135,000 injuries annually and have increased exponentially over the last 10 years. Approximately one third of these injuries occur in patients aged 16 and under. The purpose of this study was to evaluate injury severity and patterns in pediatric patients involved in ATV-related accidents.

Methods: Method: A retrospective review was conducted of pediatric patients (<18 years of age) presenting with ATV-related injuries at an ACS-verified level 1 trauma center between 7/1/2007 and 6/30/12. Data collected included: demographics, past medical history, mechanism of injury, accident details, safety equipment worn, injury severity and patterns, treatments required, hospitalization details, and discharge disposition. Data were summarized and comparisons made between helmeted and non-helmeted patients.

Results: Results: Of the 53 patients included in this study, 74.1% were male with a mean age of 12.4 ± 3.4 years. The median ISS and GCS scores were 5 and 15, respectively. The majority of patients were non-helmeted (69.8%) drivers (96.3%) of 4-wheeled ATV’s (96.3%). Accident mechanisms included collisions (18.5%), rollovers (42.6%), fell from the ATV (29.6%), and unknown (9.3%). Concussions and soft tissue injuries were the most common injuries observed (57.4% and 77.8%, respectively). Traumatic brain injuries (TBI) were suffered by 9.3% of patients (n=5), 3 of whom (5.6%) had a skull fracture and 1 (1.9%) who had a subdural hematoma. While not significant, 4 of the 5 with TBI (P=1.000) and all 3 with skull fractures (P=0.542) were non-helmeted. Seven patients (13%) had spine fractures with one of these suffering a cord injury and 2 a neurologic deficit. Of the 3 patients (5.6%) that suffered rib fractures, 2 experienced bilateral fractures. Thoracic injuries included 2 pneumothoraces, 2 pulmonary contusions, and 1 hemothorax. Splenic injuries were seen in 4 patients (7.4%), 1 of which required angiographic embolization. The most common fractures observed were extremity (33.4%), facial (11.1%) and pelvic (3.7%). One patient died in the trauma bay (with TBI and bilateral pneumothoraces), 43 (79.6%) were transferred to the floor and 10 (18.5%) were transferred to the intensive care unit. Mechanical ventilation was required for 2 patients and 17 (31.5%) required surgical intervention. The majority of the patients were discharged to home (n=53, 94.4%), 1 to home with home health, and 1 to a rehabilitation center.

Conclusion: Conclusion: Concussions and extremity fractures were the most common and significant injuries sustained by children in ATV-related accidents. While lack of helmet use was not significantly associated with worse outcomes, the high rate of non-helmeted riders (69.8%) may have contributed to the preponderance of cranial injuries. Overall, outcomes for this population were favorable, but measures to increase helmet and other safety device use should be advocated.
6. FACTORS PREDICTING FIRST SITE OF RECURRENCE IN CUTANEOUS MELANOMA
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Background: Although recurrence is known to carry a worse prognosis for patients with melanoma, specific clinical factors predicting locoregional recurrence vs. distant metastasis remain undefined. This study was conducted to investigate factors that predict the site of first recurrence in patients with cutaneous melanoma.

Methods: A post-hoc analysis of a multi-institutional prospective clinical trial and a single-center melanoma database was reviewed. All patients had a cutaneous melanoma with Breslow thickness ≥1.0 mm and underwent wide local excision and sentinel lymph node (SLN) biopsy. All patients included in this study experienced a melanoma recurrence. Locoregional recurrence was defined as any local, in-transit, or regional lymph node recurrence and all other sites, including concomitant locoregional and distant sites, were categorized as distant recurrence. Univariate and multivariate analyses of clinicopathologic risk factors for site of recurrence including age, gender, tumor characteristics, and lymph node status were examined. Kaplan-Meier (KM) analysis was also performed for time to recurrence and overall survival, calculated from the time of SLN biopsy.

Results: Five hundred and twenty-two patients were identified with melanoma recurrence (n=522). Site of first recurrence was evenly split between locoregional (49.6%) and distant (50.4%) sites. On multivariate analysis, factors associated with distant as opposed to locoregional site of first recurrence were Breslow thickness ≥ 2.3 (p = 0.0356) and male gender (p = 0.0006). Distant recurrence was also associated with greater Breslow thickness of the primary lesion (mean 3.35 mm vs 2.90 mm; p=0.0301). For patients with locoregional recurrence, Breslow thickness ≥2.3 mm (p=0.0430) and ulceration (p=0.0083) were independent risk factors for decreased time to recurrence. For patients with distant recurrence, positive SLN status was an independent risk factor for decreased time to recurrence and decreased OS (both p<0.0001). Considering factors affecting overall survival, the prognosis was significantly worse for men (p=0.0328 locoregional; p=0.0166 distant) and for ulcerated melanomas (p=0.0001 locoregional; p=0.0311 distant). KM analysis revealed that median time to recurrence was less for locoregional (19mo) compared to distant (27mo) recurrence (p=0.0009). Median overall survival rates for locoregional vs. distant recurrence were 72 and 50 months, respectively (p<0.0001). Patients with distant recurrence had an increased time to recurrence but decreased overall survival.

Conclusion: Male gender and greater Breslow thickness were associated with a greater likelihood of distant metastasis as the first site of recurrence. Positive SLN status carried a worse prognosis for patients with distant recurrence. These factors may be useful in tailoring follow-up strategies for patients with melanoma.
7. CT DIAGNOSIS OF INTUSSUSCEPTION: IS OPERATION NECESSARY?
JL Munn MD, AE Barber MD
Las Vegas, Nevada

Background: Although common in the pediatric population, intussusception is rare in adults and usually has a pathological lead point. The management of intussusception, in the absence of an identifiable lesion, remains controversial and is still under investigation. The purpose of our study was to review the treatment of intussusception in adults.

Methods: A 5 year retrospective review performed at University Medical Center of Southern Nevada identified 32 patients, 15 years and older, with CT evidence of intussusception. Our data evaluated operative versus nonoperative management, cause of intussusceptions, as well as length and cost of hospital stay.

Results: A 5 year retrospective review performed at University Medical Center of Southern Nevada identified 32 patients, 15 years and older, with CT evidence of intussusception. Our data evaluated operative versus nonoperative management, cause of intussusceptions, as well as length and cost of hospital stay.

Conclusion: Intussusception remains a rare entity in the adult population and the management of this condition remains controversial. Our data suggests that patients may benefit from conservative management, including repeat radiographic imaging, when there is a low suspicion for a pathological process being the cause of the intussusception. However, if there are obstructive symptoms, persistent pain, or relevant comorbidities and operative management is chosen, diagnostic laparoscopy appears to shorten the length of hospital stay.
8. TACKLING FOOTBALL-RELATED ABDOMINAL INJURIES IN CHILDREN
F Sheikh MD, M Coker BS, S Fallon MD, M Klajic BS, B Naik-Mathuria MD
Houston, Texas

Background: Current literature regarding football injuries focuses mostly on extremity and brain injuries. Given the high volume of football-related injuries seen at our children's hospital, we sought to evaluate the incidence of abdominal injuries in the pediatric population to increase public awareness on the epidemiology and severity of such injuries.

Methods: Our trauma registry was interrogated to identify patients (age < 16 years) who were admitted to our hospital following a sports-related injury between January 2009 to October 2012. Additional chart review was performed to assess injury type and mechanism, time to presentation and hospital course.

Results: Out of 165 patients who were admitted for sports injuries, 131 (79%) were football-related. There were 22 abdominal injuries (13%); of these 20 were football-related and only 2 were soccer-related. Of the 20 abdominal football injuries, the average age was 14 years (range 9 - 16 years). Two of the injuries occurred during flag football. Type of injuries were as follows: 7 splenic lacerations (of which 5 were grades III-IV), 5 renal injuries, 1 liver hematoma, 2 duodenal hematomas, 1 traumatic pancreatitis, 1 testicular injury, 1 soft tissue injury, 1 lumbar fracture and 1 hemorrhage from an incidentally discovered Burkitt's lymphoma. The mechanisms involved were: direct blow by a helmet in 6, knee to abdomen in 4, tackling in 3, stepped on in 2, fall onto tip of football in 1 and unknown in 4 patients. The most common presenting symptom was increasing or persistent abdominal pain as noted in 75% of patients, followed by hematuria, flank pain, dizziness and nausea/vomiting all at 20%. Delayed presentation occurred in 7 patients (35%) in whom an average of 3 days lapsed between the time of injury and presentation to the emergency department (range 1 to 7 days). All except 2 patients were successfully treated by non-operative management. Average length of stay was 4 days (range 1 - 25 days). No mortalities were noted within the cohort.

Conclusion: Children can sustain serious abdominal injuries as a result of playing football. Coaches and parents should maintain a high suspicion following a significant impact and seek early medical care to optimize outcomes.
POSTER ABSTRACTS
12. CHARACTERIZATION OF ACUTE APPENDICITIS PATIENTS WITH DIFFERENT TIMES OF PRESENTATION
M Apel MD, N Kulvatunyou MD, RS Friese MD, L Gries MD, T O’Keeffe MD, DJ Green MD, A Tang MD, B Joseph MD, JL Wynne MD, P Rhee MD
Tucson, Arizona

Background: The general assumption is that acute appendicitis (AA) will always progress to perforation because of time-delay factor. However, there might be other factors responsible for perforation, such as a different AA type, or a different immunologic response. The purpose of this study was to characterize AA patients with different times of presentation.

Methods: From October 2009 through September 2011, we performed a retrospective chart review on patients with AA seen by our acute care surgery service (ACS), using the registry maintained by our ACS. We collected demographic data, Alvarado score, body mass index (BMI), presence of fecaliths according to computed tomography or pathology reports, patient time (PT) (i.e., time from abdominal symptom onset to time of arrival in the emergency department [ED]), hospital time (HT) (i.e., time from arrival in the ED to time of surgical incision), and total time (TT) (i.e., PT + HT). For statistical purposes, we used analysis of variance (ANOVA).

Results: Of 373 patients seen by our service for possible AA, 133 presented early (<12 hours), 109 presented between 12 to 24 hours, and 131 presented > 24 hours. All baseline characteristics were similar, including gender, BMI, Alvarado score, and presence of fecaliths. Only mean age differed significantly by group: 32 ± 16 years (< 12 hours); 39 ± 18 years (12 to 24 hours); 34 ± 16 years (> 24 hours) (P = .01). Of 364 patients that underwent surgery, 62 (17%) had perforated AA, with perforation rate differed by group; 13% (< 12 hours); 10% (12 to 24 hours); 27% (> 24 hours) (P < 0.001). When analyzing the baseline characteristics, by group, of patients who experienced perforation, we found no difference. However, those with early presentation did experience longer time delay till surgery: 17±20 hours (< 12 hours); 10+7 hours (12 to 24 hours); 13+5 hours (> 24 hours), but was not statistically different (P = 0.25).

Conclusion: We could not identify any differences in baseline characteristics in AA patients with early versus delay presentation, particularly in those who experienced perforation. But our findings may be affected by the small sample size of our perforation subgroup (only 62 patients). Further research is necessary in order to determine what factors influence which patients with AA experience perforation—and when and why.
13. BICYCLE TRAUMA: INTOXICATION AND HELMET USE
A Gangi MD, R Chung MD, N Melo MD, M Bukur MD, D Margulies MD, A Salim MD, E Ley MD
Los Angeles, California

Background: Helmets reduce bicycle-related head and facial injuries in all types of crashes, including those involving motor vehicles. Helmet mandate laws may not increase the rate of helmet use or decrease the rate of head injury. Targeted injury prevention programs might improve helmet use and outcomes. We examined bicycle injuries over a ten-period to determine the association between alcohol intoxication and helmet use.

Objectives: Characterize helmet use patterns with intoxicated bicyclists.

Methods: A retrospective review of trauma patients after bicycle collision (BC) presenting to a Level I trauma center from January 2002 to December 2011 was conducted. Variables of age, gender, race, Glasgow Coma Score (GCS), Injury Severity Score (ISS), abbreviated injury score (AIS), injury patterns alcohol intoxication, hospital LOS, ICU admission, and helmet use were reviewed. Blood alcohol level (BAL) was considered positive if > 80 mg/dL.

Results: 504 patients met study criteria with 87% male gender; mean age was 33 years, mean ISS was 6.9, mortality was 0.4%. 26% patients wore helmets and approximately 12% were intoxicated, with a mean BAL of 235 mg/dL. BC per year increased over the study period from 29 in 2002 to 62 in 2011. Intoxicated bicyclists were older (37 v 32 years, p=0.009) and had a lower average GCS (13.9 v 14.9, p<0.001). Gender (95.1% male v. 86.0% male, p=0.064), Head AIS and ISS were not statistically significant between the two cohorts. Intoxicated bicyclist were less likely to wear a helmet (4.9% v 28.9%, p<0.001). Bicyclist who wore a helmet were less likely to be intoxicated (2.3% v 15.6%, p<0.001).

Conclusion:: Over a ten-year period an increase in BC were noted. Of these, approximately 1 in 10 were intoxicated and this population rarely wore helmets. Targeted injury prevention programs aimed at reducing alcohol use while bicycling and encouraging helmet use in populations likely to be intoxicated may reduce bicycle trauma.
14. PROPOSED MECHANISM FOR SMALL BOWEL DIVERTICULA PERFORATION
D Murariu, MD, MSPH, B Tatsuno, BA, P Pedro, MD, M Hayashi, MD, G Maldini, MD, J Balfour, MD
Honolulu, Hawaii

Background: Small bowel diverticula are relatively uncommon, but they are even less common to perforate. Actual mechanism for their perforation remains unknown. Based on eight successive duodenal, jejunal and ileal perforated diverticula in the course of a year, we propose the following pathophysiology and risk factors.

Methods: The cases of eight patients with small bowel perforated diverticula were retrospectively reviewed.

Results: Five of the patients had been traveling from mainland to the islands of Hawaii 24 to 36 hours prior to arrival in the emergency room, all of whom were in their seventh or eighth decade, had hypertension and several were either obese or immunocompromised due to steroids intake or diabetes mellitus.

Conclusion: Boyle’s law states that for a given temperature, the volume of a gas increases as the pressure decreases, hence why the lower pressure during an airplane flight causes a feeling of distention/flatus. During long flights, many experience hypovolemia from dehydration from the dry cabin air, decreased water intake or increased urination from diuretics like alcohol or coffee. A low flow state from prolonged sitting, in combination with hypovolemia and thinning wall of the diverticulum from increased volume due to decreased pressure effectively aggregate and cause microperforations in those already at risk, mainly the elderly and immunocompromised. The fact that patients arrived with peritoneal signs approximately 24 to 36 hours after landing supports the idea of microperforations that grow resulting in frank perforation and subsequent extremis.
POSTER ABSTRACTS (cont.)

15. FIXATION OF SUBCUTANEOUS PORT DEVICES IN OBESE PATIENTS
Calisto J, Landmann A, Poggi L, Dooley W
Oklahoma City, Oklahoma

Background: Migration and failure of port access remain important problems and interfere with the delivery of care. This is common after placement of ports for intravenous access and after gastric band ports in weight-loss surgery.

The port has to be fixed to a strong layer of tissue; in thin patients pectoralis wall fascia is ideal and leaves the port in a perfect location for access. The migration rate is 0.2% and the complication rate is 7%. There are no reports of techniques or outcomes in this difficult group of patients.

In morbidly obese patients, the subcutaneous layers are thick and suturing the port to the pectoralis fascia would make it impossible to palpate or reach, in this patients, the port is either not sutured or sutured to Scarpa’s fascia. We describe a simple technique that avoids migration in morbidly obese patients.

Methods: We used an O absorbable monofilament polydioxanone barbed suture (Quill TM device, Angiotech pharmaceuticals, Inc.), the port is fixed then to the dermis in a running basket configuration in 4 points, this suspends the port to the dermis and therefore the location is improved and the migration is avoided. There is no need to tie knots and the full fixation can be done with one suture. This suture is absorbed from day 120 to 180 keeping the structural strength of the repair during the first crucial months of treatment.

Results: We have not identified any migration issues in our group. We have performed the procedure on 36 patients and had one revision due to catheter malfunction.

Conclusion: This technique appears promising, is easily reproducible and can be used in obese patients. It may improve the delivery of medical treatment and reduce the costs of reoperation.
16. CYSTIC PNEUMATOSIS INTESTINALIS: A DILEMMA FOR THE ACUTE CARE SURGEON
RF Ginwalla MD, CF Diven MD, RS Friese MD, and JL Wynne MD
Tucson, Arizona

Background: Pneumatosis intestinalis describes a spectrum of radiologic findings of the intestinal wall that clinically ranges from abdominal catastrophe to incidental observations. Unstable patients or those with peritonitis proceed to the operating room via a fairly well-defined algorithm. However, stable patients with findings limited to a radiologic diagnosis of pneumatosis intestinalis and no physiologic aberrancies present the acute care surgeon with a diagnostic and management dilemma.

Methods: We present a case series of five patients, with radiologic findings of pneumatosis intestinalis and clinical findings of abdominal pain. Radiographic reports, patient history, laboratory, and operative reports were all reviewed for clinical predictors of physiologic deterioration, or known risk factors associated with benign cystic pneumatosis intestinalis.

Results: Four of five patients, aged 30 to 90 years, were taken immediately to surgery based on radiographic and clinical findings. All patients had radiographic findings of free air. None had significant physiologic derangements or peritonitis. One patient was managed non-operatively due to cessation of his abdominal pain. No patient had serious intra-abdominal pathology, suggesting that a period of pre-operative observation is warranted.

Conclusion: Benign cystic pneumatosis intestinalis is an under-recognized cause of pneumoperitoneum in clinically well patients. Non-operative, expectant management should be employed in select patients with findings of pneumatosis without physiologic aberrations.
17. TRAUMA PLANNING LESSONS LEARNED FROM EXPERIENCES IN FIELD AMPUTATION
A Raines MD, J Lees MD, W Fry MD, and D Tuggle MD
Oklahoma City, Oklahoma

Background: Surgical procedures in the field are occasionally required as life saving measures. Paramedics are trained for some procedures, but complex procedures, including field amputation, should be reserved for physicians and trained teams. Few centers have a planned infrastructure for field physician support. Focused efforts are needed to create teams that can meet such needs. This is especially true in preparing for mass casualty events. As the inspiration for this call for preparation, we report three cases where field dismemberment was required to save a life.

Methods: In one case, an earthquake caused the collapse of a road bridge. A piece of the structure entrapped a child within a car. A through-knee amputation was required to free the patient with local anesthetic as the only mode of anesthesia. The second case resulted from a truck-bomb causing the collapse of a building. One victim sustained lower limb entrapment by a pillar that was essential to the structural integrity of the partially destroyed building. A responding surgeon had to urgently return to their hospital to retrieve resources to dismember an awake individual; a through-knee amputation was performed. In these cases, urgency was critical as the involved structures were unstable.

The third case involved a man whose arm became entangled in an oil derrick. This patient was sedated and intubated in an erect position and the arm was surgically amputated.

Results: Fortunately, each case resulted in survival for the reported victims. However, the care these patients received was unplanned and had the potential for failure. The potential for even more dire and time-constrained circumstances is real. As disaster management becomes more important in America and internationally, plans for this eventuality should be addressed. We feel that disaster teams, including a surgeon, should be identified as responders to a disaster on short notice. This should be incorporated into local and regional disaster planning. More than one hospital should be identified as a provider of equipment and personnel for field procedures early after a disaster. If the structural integrity of a hospital providing services is violated, then a backup institution could be utilized. Both hospitals may be needed if the disaster is geographically widespread. Operative instrument packs should be identified at the institutions that would enable a variety of procedures to be quickly performed. Medications for sedation and analgesia should be available, with appropriate controls for narcotic dispensing, along with an administration method.

Conclusion: The need to perform a dismemberment or complex procedure to save a life during a disaster event is rare. However, as hospitals and trauma systems prepare for disaster situations, they should consider this eventuality. This involves identifying a team, including a surgeon, and devising an infrastructure allowing rapid response capabilities for the performance of medical procedures in chaotic scenes of disasters.
18. ANGIOTENSIN CONVERTING ENZYME (ACE) INHIBITOR INDUCED INTESTINAL ANGIOEDEMA
VA Augenstein MD, RF Sing DO, PE Fischer MD, BT Heniford MD
Charlotte, North Carolina

Background: ACE inhibitor induced intestinal angioedema is reportedly rare with only 21 cases reported in literature. Most commonly, patients are middle aged females with complaints of acute, severe abdominal pain, nausea, and emesis. This can occur within days to weeks after the initiation of an ACE inhibitor. Other findings frequently encountered are leukocytosis, ascites and edema of the small intestine. Peripheral angioedema usually does not accompany visceral findings.

Methods: Two patients with ACE inhibitor induced intestinal angioedema are presented. CT images will be provided.

Results: Patient 1: 50-year-old female presented with severe, crampy abdominal pain with nausea and emesis for 24 hours. Her medical history was significant for hypercholesterolemia and hypertension. Medications included atorvastatin, norethindrone/ethinyl estradiol and lisinopril initiated 48 hrs earlier. She had no prior surgery and was otherwise healthy. On physical exam she had significant peri-umbilical and right lower quadrant tenderness. Her heart rate was 80, blood pressure 117/87 and her white blood cell count was 14. An abdominal CT scan revealed moderate ascites (measuring 6.6 HU) and a segment of edematous small intestine. Radiographic interpretation suggested ischemia, vasculitis or inflammatory bowel disease. Lisinopril was discontinued. The symptoms resolved and she was discharged within 48 hours.

Patient 2: Six months after Patient 1, a 46 year old female presented to the GI service with abdominal pain and diarrhea. Her past medical history significant for hypertension, GERD, and diverticulitis. Medications included lisinopril. She was hospitalized twice over a 3 month period. Abdominal CT scan demonstrated thickened small intestine that was initially treated as enteritis versus acute inflammatory bowel disease without complete resolution of her symptoms (the ACE was interrupted due to her NPO status but resumed after discharge). Her symptoms worsened and she was re-admitted. A repeat CT at the second hospitalization demonstrated increasing bowel edema. Surgical consultation was obtained. Based on our recent experience with Patient 1 we elicited short duration of lisinopril use. The lisinopril was discontinued and her symptoms resolved after 72 hours. She remains asymptomatic.

Conclusion: Prevalence of ACE inhibitor use in the general population is vast, and awareness of potential intestinal angioedema is important. Early cessation is curative and avoids unnecessary surgery and morbidity associated with this syndrome.
19. INITIAL EXPERIENCE WITH PER ORAL ENDOSCOPIC MYOTOMY (POEM)
K Helling MD, S Ahmed, E Leroux, H Rivas MD MBA
Stanford, California

Background: Per oral endoscopic myotomy (POEM) is a new procedure for treatment of esophageal achalasia. We report our initial experience with the first five POEM procedures performed at our institution.

Methods: Preparation to perform POEM procedure was undertaken by using a combination of didactic study, observation, and simulation on animal and fresh human cadaveric specimens. Each procedure was performed using the technique described by Professor Haruhiro Inoue. All of the patients had a 10 cm myotomy extending from 7-8 cm proximal to the GE junction to 2-3 cm into the cardia of the stomach. Endoscopic examination at the conclusion of each procedure was performed to evaluate for injury or perforation, as well as for adequacy of the myotomy in improving passage of the endoscope into the stomach. All patients were admitted to the hospital following the procedure. A gastrograffin swallow study was performed for each patient on post-operative day #1. The diet followed.

Results: Patient data is presented in table 1.

<table>
<thead>
<tr>
<th>Patient</th>
<th>Age</th>
<th>Gender</th>
<th>Length of operation (min)</th>
<th>Subjective symptom relief</th>
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</thead>
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<tr>
<td>Intraoperative complications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>+</td>
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<td>190</td>
<td>+</td>
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<td>80</td>
<td>+</td>
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<td>+</td>
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<tr>
<td>5</td>
<td>77</td>
<td>Female</td>
<td>85</td>
<td>+</td>
</tr>
</tbody>
</table>

Table 1

No intraoperative complications were experienced. Mean and median operative times were 121 and 99 minutes, respectively. Upper GI swallow study on post-operative day #1 demonstrated smooth passage of contrast through the esophagus into the stomach in each patient. All patients were highly satisfied and with objective relief of dysphagia.

Conclusion: Per oral endoscopic myotomy is safe and effective for treatment of esophageal achalasia. With increased experience of the entire surgical team, case efficiency improved. Our patients each left the hospital reporting symptom relief and fast recovery times. POEM is an excellent alternative to other surgical treatments for esophageal achalasia as demonstrated by our initial five cases.
20. TRAUMA ADMISSION CONSULTS: THE RIPPLE EFFECT
LA Sievers RN MSN FNP, AF Kanne RN MSN, BR Troop MD
St. Louis, Missouri

Background: Trauma services require specialty consultation from non general trauma surgeons. The comparative frequency of their consultation has not been described.

Methods: The number of consults requested by trauma service to orthopedics, neurosurgery, spine surgery and oro maxillofacial surgery (OMFS) was reviewed from our trauma registry. The data base included all admissions from January 2004 through December 2011. The setting is a suburban level 1 trauma center, which has less than 5% penetrating trauma.

Results: The total number of admissions in the study period was 11,096. Of the surgical specialties studied, orthopedics were consulted on 3,161 or 36%. Neurosurgery consults were 2,322 or 26%. Orthopedic spine consults were 1110 (12.5%), and oral maxillofacial surgery consulted on 837 patients, or 9.5%. The rate of consultation remained stable from year to year, and as the total number of patients changed.

Conclusion: 1. Orthopedic surgery is consulted most frequently, 36% of the time. This is followed by neurosurgery (26%), spine surgery (13%) and OMFS (10%).
2. The frequency of consultation remained stable over the study period.
3. Suburban trauma centers which receive primarily blunt injuries must plan on high utilization of surgical specialties such as orthopedics and neurosurgery.
Background: Acute gastrointestinal bleeding is a common medical emergency, with mortality of 3-5% and up to 40% in cases of massive bleeds. Identification of the source of bleeding allows for timely therapy and control of hemorrhage. Multiple methodologies have been used to localize the bleeding foci including endoscopy, angiography and radionuclide imaging. Each of these tests has advantages and limitations. Recent technological advances in CT angiography (CTA) have resulted in the addition of this tool to the diagnostic algorithm for acute GI bleeding at many facilities, including our own. We present a case in which the findings on CTA led to successful surgical intervention.

Methods: An 80 year-old AA male presented with a significant lower GI bleed. He had a known history of diverticuli but no previous bleeding. Colonoscopy was initially attempted but was unsuccessful due to the large volume of blood in the colon. He underwent a CTA that demonstrated active bleeding in the cecum. He proceeded to Interventional Radiology where angiogram was performed but a bleeding vessel was not identified. A catheter was left in place in the ileocolic artery. He returned to the ICU, but later developed recurrent bleeding that did not respond to trans-catheter vasopressin infusion. He was taken to the operating room and right colectomy was performed, based on the findings of CTA. Intra-operative colotomy revealed bleeding from a diverticulum; pathology confirmed diverticuli and associated AVM. The patient had an uneventful recovery with no further episodes of hemorrhage.

Results: The diagnostic workup of gastrointestinal bleeding is changing with the continued development of imaging technologies. Our facility has begun using CTA as a primary means of evaluating GI bleed. The advantages of CTA include that it is non-invasive, rapid, reproducible, is widely available and can be done without a colon prep. The precise source of bleeding can be localized; a recent meta-analysis showed a sensitivity of 89% and a specificity of 85%. Limitations of CTA are the lack of immediate therapeutic options, radiation dose, and risks affiliated with contrast material. Also, metallic artifacts or oral contrast can interfere with visualization of IV contrast in the bowel lumen and lead to false positive results. Despite these limitations, CTA is rapidly increasing its role in the evaluation of GI bleeding.

Conclusion: This case illustrates the utilization of this emerging technology to accurately identify the source of bleeding and facilitate surgical intervention.
23. DELAYED NEUROVASCULAR SEQUELAE FOLLOWING BLUNT TRAUMATIC BRAIN INJURY  
GT Tominaga MD, KB Schaffer MPH, FK Yoo MD, F Coufal MD  
La Jolla, California  

Background: Rare but potentially lethal delayed neurovascular sequelae following blunt traumatic brain injury (TBI) include post-traumatic pseudoaneurysm (PTP) and cerebral dural sinus thrombosis (DST).  

Methods: We report on two patients with PTP and cerebral DST following blunt closed head injury (CHI).  

Results: CASE 1. 66 yr old male sustained a CHI while paragliding in Mexico. He crash landed sustaining a significant blow to the back of his head. Head CT (hCT) showed acute subdural hematoma (SDH) without mass effect and interhemispheric subarachnoid hemorrhage (SAH). Follow-up (FU) hCT showed interval reduction in size of the SDH. He was discharged from the facility in 7 days. On post-injury day 11, the patient (pt) presented to an outpatient office due to significant neurologic deterioration over the preceding 48 hours. Neurologic exam was notable for Glasgow coma scale (GCS) 13, aphasia with repetitive single words, no spontaneous expressive language, and global weakness. Cervical MRI showed unstable C4-5 ligamentous injury with spinal canal stenosis. On post-injury day 15, he underwent anterior cervical diskectomy and fusion without complications. Acute neurologic decompensation occurred 5 days later. hCT showed new acute intracranial hemorrhage with large intraventricular hemorrhage (IVC) and hydrocephalus. Cerebral angiogram demonstrated 7 x 4 mm aneurysm arising from the mid-distal right pericallosal artery. Due to overall poor prognosis, family elected no further invasive measures (embolization or surgery) and the pt expired 2 days later.  

CASE 2. 24 yr old male sustained CHI while skateboarding downhill without a helmet. Initial GCS 7; hCT demonstrated SDH, intracranial hematoma (ICH) with diffuse cerebral edema, SAH, and occipital skull fracture. ICP monitor was placed with ICP of 90. Urgent decompressive craniectomy, evacuation of SDH and ICH was performed. Postop, pt required aggressive medical management of intracranial hypertension. His neurologic status slowly improved and he was extubated on post-op day (POD) 14. He had problems with impulsive behavior, headaches and intermittent nausea with emesis. On POD #20, he developed severe headaches. Repeat hCT demonstrated superior sagittal sinus thrombosis. Heparin drip was instituted and then transitioned to coumadin. His neurologic status improved and he was discharged home on POD#39. He later had replacement of the bone flap and has returned to normal activity.  

Conclusion: A high index of suspicion for PTP and cerebral DST is required. Early angiography should be entertained if a hematoma or contusion presents adjacent to a bony prominence or dural reflection to identify PTP. Presentation of DST may be vague but left untreated, thrombosis progression leads to venous congestion, infarction and may be fatal. Risk factors include skull fractures extending to a dural venous sinus or jugular bulb. Early CT evaluation should be performed for detection and early treatment.
24. A RETROSPECTIVE ANALYSIS FOR INDICATIONS AND OUTCOMES OF TEMPORAL ARTERY BIOPSY FOR TEMPORAL ARTERITIS

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Kansas City, Missouri

Background: Temporal arteritis is an inflammatory disease of unknown etiology involving blood vessels of the head. This disease creates a wide range of symptoms including headache, intermittent vision loss, and jaw claudication and can lead to permanent vision loss, ocular muscle weakness, aneurysms, and strokes. There are a few nonspecific tests such as an erythrocyte sedimentation rate and C-reactive protein, along with a physical exam that can point to temporal arteritis, but the gold standard is a temporal artery biopsy. Temporal artery biopsies have a high false negative rate in the range of 5-9%1 and a few complications including scalp necrosis2, facial nerve injury3, and stroke. It has been our impression that this false negative rate may be even higher. This may be due to biopsies being performed that are not backed by enough clinical data. The purpose of this study is to use the American College of Rheumatology (ACR) criteria for giant cell arteritis and then compare the criteria to the biopsy result and identify if any change of treatment occurred because of the biopsy.

Methods: A retrospective review of patients who underwent a temporal artery biopsy at our institution between July 2004 and July 2012. We identified patients using a current procedural terminology (CPT) code search and reviewed the medical records for patient demographics, signs and symptoms, length of time between presentation and biopsy, treatment, if any before the biopsy, and biopsy result. Patients who underwent a biopsy were then divided into two groups based upon a positive or negative biopsy result.

Results: This research project covers eight years of patients who underwent a temporal artery biopsy at our institution. It contains more cases than any previous article known to the authors over a related topic.

Conclusion: The ACR criteria should eliminate the need of temporal artery biopsies in the majority of our patients. With the ACR criteria suggesting temporal arteritis and the biopsy result being negative the treatment regimen will not be changed. By using the ACR criteria and restricting temporal artery biopsies to those that treatment will change with a positive result; the number of biopsies having to be performed will be greatly reduced without hurting patient care.
Background: 82% of North Americans own a grill and utilize it on average 45 times per year. In June 2012, the CDC dedicated an M&M Weekly Report to the ingestion of grill brush bristles, mentioning 2 cases of intra-abdominal intestinal perforation. We identified 6 patients with an intra-abdominal, intestinal perforation secondary to the ingestion of a grill brush bristle. No previous report has assessed grilling habits of patients or circumstances prior to presentation. We sought to describe the clinical presentation of patients with grill brush bristle perforation. We also assessed grilling habits of patients in an attempt to identify risk factors that lead to the ingestion of wire bristles from grill brushes.

Methods: We identified 6 patients, over 2 years, who presented with intra-abdominal intestinal perforation following accidental ingestion of a brush bristle. Chart review was performed to identify patient’s clinical course and treatment. Subjects were contacted and administered a survey to identify potential common factors. The survey consisted of questions that examined symptoms at presentation, grilling habits, grill cleaning techniques, grill brush preference and post-ingestion lifestyle modifications. We contacted all patients in follow-up and arranged for in-home visits to inspect the grill and grill brush.

Results: 50% were male, 83.4% were Caucasian, with an age range of 18 to 65 (mean 42.5). 4 patients presented to the ED; 2 presented to their PCP; all complained of abdominal pain. All of the ingested bristles were identified by CT scan, 5/6 had perforated the small intestine. The 6th patient’s bristle was in the pelvis outside the lumen of the GI tract and was presumed to have been extruded through the rectum. 3 patients required laparoscopy for enterorrhaphy. 2 underwent laparotomy – 1 for enterorrhaphy and 1 for abscess drainage. The remaining patient has been followed clinically without intervention. 4 subjects completed the survey. All respondents stated that they grill at least 3 times per week and the accidental ingestion occurred after eating food cooked on a home grill. All indicated that their grill brushes had not been replaced for at least 2 years prior to the ingestion of the bristle. Time from presumed ingestion to presentation ranged from 3-14 days, 1 patient was unsure of the presumed time of ingestion. 3 required inpatient admission with length of stay of 1, 2, and 7 days. 2 underwent outpatient surgery. 3 patients indicated chicken breast was the presumed food grilled prior to presentation. All respondents have since modified their grilling techniques and the methods used to clean or inspect their grill.

Conclusion: Intra-abdominal intestinal perforation secondary to ingestion of grill brush bristles appears to be increasing. It is critical to raise surgeon awareness of this injury in order to diagnose and provide surgical intervention. Alternative methods should be used to clean the grill or at a minimum brushes over 2 years old should be replaced.
27. OSTEOMYELITIS IN THE FINGER: FUNCTIONAL DIGITAL SALVAGE WITH A COMBINATION OF EXTENSIVE DEBRIDEMENT AND JOINT STABILIZATION
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Background: The time honored treatment of osteomyelitis in the finger is amputation. This treatment removes the sequestrum of infection reducing the need for long term antibiotics. Digital salvage in osteomyelitis of the hand is difficult, since the extensive debridement necessary to remove the infected bone may render any involved joint unstable or result in a digit with little preserved function.

Methods: We present 4 patients with extensive osteomyelitis of the digit involving the metacarpal phalangeal joint, one patient, or the distal interphalangeal joint, three patients. The patients were 3 females and 1 male, ranging in age from 61-76 years old and a mean age of 69.5 years old.
All patients required extensive bony debridement of the involved joint rendering it unstable. Stabilization was provided in the operating room by an intramedullary methyl methacrylate antibiotic spacer.
Intra-operative cultures were obtained and were positive for mycobacterium avium (MAI), (one patient), staphylococcus aureus and streptococcus anginosus, (one patient), staphylococcus epidermidis and alcaligenes as well as streptococcus mitis, (one patient), and one patient, despite being off oral antibiotics for two weeks did not culture any organisms. Antibiotic therapy was tailored to culture and sensitivity results. Antibiotic therapy ranged from 4 weeks on oral antiobiotics of levoquin and flagyl for cultures that grew no organisms to 6 months of ethambutol and rifampin for MAI.

Results: All digits were successfully salvaged with follow-up consisting of an average of 7.5 months. No patient required removal of the spacer due to recurrent infection or an unstable joint by clinical assessment. All patients who received DIP joint spacer placement retained function comparable to or better than an arthrodesis. The patient who received a MCP joint spacer obtained approximately 60 degrees of flexion and reached his functional goal of holding a tennis racquet with his involved hand.

Conclusion: While amputation remains a time honored treatment of osteomyelitis of the finger, joint stabilization with a methyl methacrylate spacer and culture specific antibiotics should be considered if digital salvage is a priority.
28. USE OF STAPLING DEVICES FOR CYSTIC DUCT CLOSURE IN
CHOLECYSTECTOMY
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Background: Bile leakage from the cystic duct is a known complication of laparoscopic
cholecystectomy, thought to be related to technical factors at the time of operation or to
failure of the occlusive mechanism in the early postoperative period. Methods of securing
the cystic duct include clip ligation and suture ligation. The risk of leakage is increased
in direct relation increasing duct diameter. The purpose of our study is to report several
case studies where the cystic duct has been successfully closed and ligated using a linear
stapling device in patients undergoing laparoscopic cholecystectomy who were noted to
have dilated cystic ducts not amenable to closure with clips.

Methods: A prospective database containing data of 6 patients undergoing laparoscopic
cholecystectomy with closure of the cystic duct using a linear stapling device at Winthrop
University Hospital is available for review

Results: To date no adverse outcomes noted post-surgery in this population group

Conclusion: Use of stapling devices for cystic duct closure is a viable option during
laparoscopic cholecystectomy when the diameter precludes the use of surgical clips
29. USE OF VIDEO-ASSISTED THORACOSCOPY FOR INTERNAL MAMMARY NODE DISSECTION OF METASTATIC BREAST CANCER
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Phoenix, Arizona

Background: A 65 year-old woman with a history of triple-negative invasive ductal breast carcinoma presented with local recurrence two years after lumpectomy and sentinel axillary lymph node biopsy. A breast MRI revealed enlargement of 2 ipsilateral internal mammary lymph nodes (IMN). PET-CT confirmed hypermetabolic activity in these nodes. To achieve local control a completion mastectomy with repeat sentinel lymph node biopsy and internal mammary lymph node dissection was scheduled. In order to minimize the risk of internal mammary dissection a thoracoscopic approach was utilized.

Methods: The patient underwent preoperative lymphoscintigraphy to aid in the identification of the internal mammary lymph nodes and axillary lymph nodes. The areas of high radioactivity were marked preoperatively by the radiologist and confirmed intra-operatively with a gamma probe. The patient was positioned supine, double-lumen intubated and draped so that the sternum, clavicles and axilla were exposed. A standard mastectomy and repeat axillary sentinel lymph node biopsy was performed. After completion, the lung was rendered atelectatic, a 3-mm port and 30-degree video-scope were introduced into the ipsilateral thorax from the anterior axilla at approximately the 4th intercostal space. The internal mammary artery and adjacent IMNs were easily visualized. A second 5-mm port was placed in the 3rd intercostal space and dissection of all IMNs was performed. The pneumothorax was evacuated with a small catheter and all ports removed and closed with a single suture. The mastectomy was then closed in the usual standard manner.

Results: IMNs were easily identified and dissected with the use of video-assisted thoracoscopy. A tiny postoperative apical pneumothorax was noted but did not require chest tube drainage. No other complications were observed. Pathology revealed a 0.9 cm poorly differentiated invasive ductal carcinoma with 0 of 3 axillary sentinel lymph nodes involved and metastatic disease in 2 of 6 IMNs. The patient subsequently underwent adjuvant chemotherapy and radiation. She has been followed for 1.5 years and has no evidence of locoregional or systemic recurrence.

Conclusion: The standard dissection process for IMN biopsy includes intercostal incisions with spreading of the pectoralis and intercostal muscles. Damage to the internal mammary artery and/or intercostal nerve and artery are common risks. In an effort to mitigate these risks we developed an alternative method for simple dissection of the IMN chain. We employed a minimally invasive strategy with video-assisted thoracoscopy to assess involvement of suspicious IMNs. This approach can avoid damage to the internal mammary artery and intercostal spaces while providing useful information for the guidance of further therapy and achieve local control if clinically indicated.
30. NON-OPERATIVE MANAGEMENT OF BILATERAL HIGH-GRADE BLUNT RENAL INJURY WITH COMPLETE RESOLUTION.
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Background: Renal injuries are classified as low-grade, grade I-III, and high-grade, grade IV and V. Traditionally, low-grade injuries were managed conservatively and high-grade injuries had a higher tendency of requiring operative intervention. Typically patients with high-grade renal injuries present with concomitant abdominal injuries, rendering them hemodynamically unstable, requiring resuscitation and possible operative intervention. Recently literature has suggested non-operative management of isolated grade IV injuries with close monitoring in an ICU setting. However, this is the first such case report where bilateral high-grade renal injuries with acute renal failure was managed non-operative, with complete resolution of bilateral renal injury and renal failure.

Methods: A PubMed literature search revealed an emphasis for non-operative management of grade IV renal injuries. The ability to manage high-grade renal injuries non-operatively is largely influenced by the individual patient’s hemodynamic status and the extent of concomitant abdominal injuries. The most injured patients, almost universally, are taken to the operating room for exploratory laparotomy before imaging studies are completed, and devascularizing renal injuries are found during exploratory laparotomy resulting in subsequent nephrectomy and damage control laparotomy.

Results: We present the case of a 16 year old that suffered a motocross accident and was found to have severe blunt thoracoabdominal trauma. He sustained a right grade IV kidney laceration with active arterial extravasation contained within the retroperitoneum, a left grade V kidney laceration with complete devascularization, a grade III liver laceration with no underlying hemoperitoneum, multiple rib fractures and a hemothorax. He responded to volume resuscitation and was monitored in the ICU. He remained hemodynamically stable and received 4 units of PRBC over his ICU stay secondary to acute blood loss anemia to hemoglobin levels less than 7.0. He developed acute renal failure during his hospital course. His creatinine was closely followed, with a nadir on the seventh post injury day (Cr of 8.6mg/dL), nephrology evaluated the patient and he was managed without the need for dialysis. Two weeks following his injury, his renal vasculature was assessed with ultrasound and he was found to have complete resolution of his injuries with normal flow to both kidneys. On follow up, this patient is not hypertensive and has a creatinine within normal limits.

Conclusion: High grade renal injuries in a hemodynamically stable patient can be managed with close monitoring in an ICU setting, serial abdominal exams, and serial hemoglobin monitoring. Further investigation is warranted as to determine which patients undergo revascularization after high grade renal injury.
31. SPLENIC ARTERY ANEURYSM REPAIR USING ENDOVASCULAR GRAFT: TECHNICAL CONSIDERATIONS AND LITERATURE REVIEW

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Background: Visceral artery aneurysms are considered rare pathologies. However, the splenic artery remains the third most common location of an intraabdominal aneurysm following those involving the aorta and iliac arteries. Diagnosis usually occurs incidentally upon radiography or at autopsy. Rupture is the most dreaded complication incurring significant mortality. As medical technology has evolved to treat abdominal aortic aneurysms endovascularly, the treatment of visceral aneurysms has concurrently changed. The authors present a case of endovascular exclusion of a large splenic artery aneurysm with splenic preservation.

Methods: Technical considerations and selection criteria are discussed. A literature review accompanies this report. This splenic preservation strategy is contrasted with the customary coil ablation strategies to treat this most common form of visceral artery aneurysm.

Results: Successful deployment of the covered stent graft is documented. A detailed analysis of deployment considerations is presented. This technique is offered as an alternative to open repair, splenectomy or percutaneous aneurysm ablation with coils or other thrombogenic agents. The patient did well from the procedure and remained hospitalized overnight with discharge occurring the following day.

Conclusion: Endovascular stent grafting is now appropriate for selective visceral artery aneurysms with favorable anatomy. Patient selection criteria and technical considerations are highlighted. Splenic preservation and avoidance of post-splenectomy complications are feasible with aneurysm exclusion using these newer endoluminal stent grafting strategies.
32. HYBRID REPAIR OF AXILLARY ARTERY PSEUODANEURYSM; MERGING OF OLD AND NEW TECHNOLOGIES  
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Saint Louis, Missouri  

Background: Technologic advances have allowed for the increased utilization of multiple techniques in the treatment of a number of disorders. Nowhere is this more apparent than in vascular surgery, with newer endovascular therapies allowing for shorter hospital stays, improved patient satisfaction and outcomes. The case below demonstrates the importance of using hybrid techniques to safely treat a problem which previously would have required a much larger operation.

Methods: This is a 54 year-old male who noticed an enlarging 12 cm chest wall mass that was draining serosanguinous fluid. He was sent to a general surgeon for I&D of a presumed abscess. History was notable for severe peripheral arterial disease, and he had previously undergone an ax-bifemoral bypass for aorto-iliac occlusive disease. On examination the general surgeon noted this mass to be pulsatile; and vascular surgery consultation was sought for further evaluation. Arterial duplex and CT angiogram confirmed a 12.5 cm pseudoaneurysm arising from the axillary artery, as well as severe stenosis of the left external iliac artery. His temperature profile was normal as was his WBC count. He was taken to a hybrid endovascular operating room where he underwent an open femoral exposure. Angiogram confirmed severe iliac occlusive disease on the left which was stented. He then underwent selective catheterization of the right axillary artery, followed by balloon occlusion across the neck of the pseudoaneurysm. This was followed by open, infraclavicular exposure of the axillary artery and hematoma evacuation without evidence of gross contamination. Primary repair of the axillary artery was attempted; however due to the friable nature of the tissue, open repair would require median sternotomy for proximal control. A covered stent graft was therefore deployed across the defect in the axillary artery and position was confirmed both visually and angiographically. The previously placed ax-fem graft was then removed, and the cavity was irrigated and closed over drains.

Results: Post operatively, the patient had adequate perfusion to his upper and lower extremities. His blood cultures remained negative throughout his hospital stay, and he was able to be discharged on POD #2. Follow up 6 months later showed complete resolution of the pseudoaneurysm without evidence of infection.

Conclusion: This is a difficult case involving a relatively young man with multi-level vascular disease. Utilizing both open and endovascular skills, we were able to treat a very complex and challenging problem with minimal clinical sequelae and a short hospital stay. On the fly thinking and advancing technologies will continue to advance all of our surgical specialties and will hopefully continue to benefit patients going forward.
33. UMBILICAL PARACENTESIS: A TECHNIQUE FOR ACUTE REDUCTION OF INCARCERATED UMBILICAL HERNIAS IN CIRRHOTIC PATIENTS
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Background: Non-hepatic surgery in patients with cirrhosis results in higher post-operative morbidity and mortality compared to similar surgery in non-cirrhotic patients. The model for end-stage liver disease (MELD) and Child-Turcotte-Pugh (CTP) scores appear to be predictive of this risk. Umbilical and inguinal hernia repair and cholecystectomy are of lower risk, while portal hypertension and emergent surgery increase risk. If possible, emergent surgery should be avoided in this patient population.

Methods: A retrospective case study and literature review was performed with IRB exemption confirmed.

Results: A 63-year-old gentleman with a history of end-stage liver disease due to nonalcoholic hepatosteatosis (NASH) presented with an acutely incarcerated umbilical hernia. He had undergone a transjugular intrahepatic portosystemic shunt (TIPS) procedure for refractory ascites five months previously. Despite this procedure he had recurrent ascites and also new episodes of encephalopathy. At hospital admission he had a MELD score of 27. Under conscious sedation, multiple attempts at reduction were performed without success. From CT imaging, it was apparent that there was ascitic fluid and small bowel within the umbilical hernia sac. Under ultrasound guidance, an umbilical paracentesis was performed and 40 mL of fluid was drained from the hernia sac using sterile technique. Following this procedure the hernia was easily reduced. Approximately one month following this reduction the patient re-incarcerated his hernia. This procedure was again successfully performed under ultrasound guidance with complete reduction of his hernia. This patient died of progression of liver disease six months later, never requiring surgical repair of his umbilical hernia.

Conclusion: In patients with ascites, ultrasound-guided umbilical paracentesis is a safe technique that can be used to aid reduction of incarcerated umbilical hernias. This technique may help avoid emergent operations in this delicate patient population.
34. THE OVER-TIF: A NEW APPROACH TO TRANSORAL INCISIONLESS FUNDOPPLICATION
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Background: The role of Transoral Incisionless Fundoplication (TIF) for the treatment of gastrosophageal reflux disease (GERD) has been performed in over 10,000 patients since the development of the Esophyx in 2007. The success of this therapy appears to be in the range of 70-74% falling between the use of proton pump inhibitors and the gold standard Nissen fundoplication [1,2]. Patient selection for this procedure is an important predictor of outcome, with the current recommendations including only patients with a hiatal diaphragmatic width of 2cm or less. We proposed an innovative technique utilizing the standard TIF procedure in combination with the Apollo Overstitch, an endoscopic suturing device, for the treatment of GERD in patients with a hiatal width greater than 2cm.

Methods: We selected two patients with symptomatic GERD refractory to medical therapy with hiatal hernias of 3 and 3.5cm measured on endoscopy. The diagnosis was confirmed with an esophageal swallow study, pH probe and manometry. We used the Apollo Overstitch to endoscopically suture approximate the hiatal defect anteriorly and posteriorly to a width of less than 1cm, followed by the standard TIF procedure. The patients were followed for evaluation of symptoms.

Results: Both procedures were successfully performed without complication and the patients were discharged home on postoperative day one with a standard post-fundoplication diet. Both patients are asymptomatic and have been able to discontinue their proton pump inhibitors.

Conclusion: This Over-TIF procedure, involving endoscopic suture closure of the hiatus in combination with a standard TIF may be a good option for the treatment of GERD patients with hiatal hernias larger than 2cm.
35. TRANSANAL ENDOSCOPIC MICROSURGICAL EXCISION OF RECTOVAGINAL FISTULA WITH A FULL THICKNESS ENDORECTAL ADVANCEMENT FLAP
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Background: Repair of rectovaginal fistulas are challenging. We describe the technique of repair using transanal endoscopic microsurgery of a benign high rectovaginal fistula. We present the case of a 17 year old female with a high complex rectovaginal fistula. She had undergone a neovagina creation for vaginal agenesis. She had developed a high rectovaginal fistula after the reconstruction. The defect was repaired using standard transanal microsurgical equipment. The fistula was excised and a full thickness advancement flap was created.

Methods: The defect was repaired using standard transanal microsurgical equipment. A 40mm dilator is used to gently dilate the anus. We then introduced the working endoanal port and use carbon dioxide insufflation to maintain a working space in the rectum. We utilized a harmonic scalpel to excise the fistula and elevate the flaps. Firstly, the fistula edges were excised and rectovaginal septum was exposed, a 1.5 cm defect was noted and located at 8cm from the anal verge. We then elevated the proximal rectal wall using the harmonic scalpel, a 4 cm full thickness rectal wall flap was elevated and advanced covering the fistula completely. The rectal wall was then sutured with endostitch 2-0 Vycril (polyglactine; Covidien, Boulders, USA). sutures and secured with TK knot fasteners.

Results: The patient was discharged home within 24 hours and remains asymptomatic after 12 months of follow up.

Conclusion: With the use of TEM equipment, high RVF can be approached and repaired and conversion to a transabdominal approach can be performed, if needed. We believe that this technique should be investigated and its indications expanded to allow the treatment of high rectal fistulas. This technique is simple and easily reproducible and should be further more investigated.
36. LOCALLY ADVANCED RECTAL CANCER MASQUERADING AS A GIANT HORSESHOE ABSCESS: MULTIDISCIPLINARY APPROACH TO A CHALLENGING PROBLEM
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Background: Anorectal sepsis originating from the deep postanal space has an incidence of 15% in the general population. Of these, horseshoe abscess is the most unusual and severe form. Due to the comprehensive spread of infection and sphincter involvement, treatment remains a major challenge. Among patients requiring surgical treatment, less than 2% have an underlying colorectal neoplasm as the source. We present an unusual case of locally advanced rectal cancer masquerading as a giant horseshoe abscess, highlighting the diagnostic workup, management, and patient's outcome.

Methods: A 58 year old man with hypertension, hyperlipidemia, and benign prostatic hypertrophy presented with acute worsening of a 4-month history of perirectal pain and intermittent drainage. On exam and imaging, the patient had a giant horseshoe abscess that was initially surgically drained. As he failed to have symptomatic resolution, he was taken to the operating room where biopsies of the abscess cavity and anorectal canal demonstrated invasive adenocarcinoma. Given his locally advanced disease, systemic treatment was initiated with FOLFOX therapy (leucovorin, 5-fluorouracil, oxaliplatin). After an excellent initial response, he underwent radiation therapy with capecitabine. He required pre-radiotherapy diversion via loop ileostomy for fecal incontinence related to cancer extension to the anal sphincter.

Results: Restaging following neoadjuvant therapy showed good response with tumor shrinkage and no other evidence of disease. Clinically, the abscess cavity had healed to a minimally draining scar extending 15 centimeters into the left buttock from the anal verge. The patient underwent definitive surgical therapy via abdominoperineal resection with ileostomy takedown. His perineal resection was extended to incorporate the entire left buttock scar. Final pathology was consistent with minimal residual adenocarcinoma and negative proximal, distal, and radial margins as well as negative pelvic lymph nodes. Eleven months follow-up found no evidence of loco-regional recurrence or stage 4 disease.

Conclusion: Perforated colorectal cancer is a rare cause for retroperitoneal and extraperitoneal abscesses. There are rare reports of spontaneous perforation leading to Fournier's gangrene or ischiorectal abscesses, but the incidence and outcomes are poorly described. A retrospective institutional study found a spontaneous perforation rate of only 1% among their rectal cancer patients. Inadvertent intraoperative perforation of the rectum during resection has been shown to increase local recurrence rates and reduce 5-year survival. Based on the extent of disease at presentation, our patient would have required an extensive, disfiguring resection with a high risk of positive margins. Upfront chemoradiation helped achieve a margin negative resection in a patient with initially unresectable cancer. Our case report is encouraging and supports an aggressive multidisciplinary approach to locally advanced perforated rectal cancer.
37. FOLLICULAR DENDRITIC CELL SARCOMA ARISING FROM THE DUODENUM
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Background: Follicular dendritic cell sarcomas (FDCS) are grouped with the histiocytic and dendritic cell neoplasms. It is known to occur in lymph nodes and rarely has been reported in extranodal tissues. The oral cavity, spleen, liver, small bowel, pancreas, and peritoneum are the most commonly reported extranodal sites. The tumor is considered to be a low to intermediate grade neoplasm with a tendency to recur. However, more aggressive behavior has been noted when the tumor is found in the intra-abdominal location. The treatment options and natural history of this disease is relatively unknown. We describe a case of FDCS arising from the duodenum.

Methods: A 30 year old male presented with epigastric pain, nausea, vomiting and gastric outlet obstruction. A non contrast CT scan of the abdomen initially suggested duodenal hematoma. He subsequently underwent a CT scan of the abdomen and pelvis with contrast and was found to have a mass arising from the lateral part of the duodenum. Further workup included an upper Endoscopic Ultrasound (EUS) guided fine needle aspiration of this mass. This showed that the mass consisted of spindle cells but the mass could not be further characterized until final resection. The patient underwent resection of the mass which measured 6.7 x 5.1 x 4.2 cms. It was found to arise laterally from the second and third portion of the duodenum. The patient tolerated the procedure well and had an uneventful postoperative recovery.

Results: The pathology revealed the mass to be a follicular dendritic cell sarcoma with low to intermediate grade malignancy. The neoplastic cells were positive for CD68 and CD 163 suggestive of histiocytic origin. CD1A, D-240 and S-100 were also positive. Although CD35, CD21 and CD23 were negative, the presence of desmosomes and interdigitating processes by electron microscopy favored a diagnosis of FDCS. The mitotic rate was 5-6/10 high power field and there was no lymphatic or vascular invasion.

Conclusion: In conclusion, follicular dendritic cell sarcoma is an exceedingly rare neoplasm. The pathologic diagnosis of FDCS is often challenging and requires morphologic, immunophenotypic, cytochemical, and, occasionally, electron microscopic analysis. The neoplastic cells of FDCS display the characteristic spindle shape and multinucleation of normal follicular dendritic cells. On electron microscopy, the long cytoplasmic projections and desmosomal junctions are noted. The behavior of this neoplasm is typically indolent and patients are treated with surgical excision, with and without adjuvant chemo-radiation therapy. Local recurrences may occur in about 40-50% of cases and metastases can occur in 25%. An association with Epstein Barr virus and Castleman’s disease has been reported. Cases with intra-abdominal presentation have greater cytologic atypia or increased mitotic activity and follow a more aggressive clinical course.
38. PRIMARY NEUROENDOCRINE CARCINOMA OF THE COMMON BILE DUCT: A RARE CAUSE OF BILE DUCT OBSTRUCTION
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Background: Large cell neuroendocrine carcinomas (LCNEC) of the extrahepatic biliary ducts are quite rare with only 47 cases being reported over a 33-year period in the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program.

Results: A 60-year-old male was referred for the recent onset of jaundice and dark urine. Examination was unremarkable except for jaundice. Serum chemistries revealed a total bilirubin of 8.1, alkaline phosphatase 356, ALT 63, AST 169, and a normal CBC and coagulation studies. CT scan demonstrated intra and extrahepatic bile duct dilatation along with a mass in the distal common bile duct. An ERCP was performed where a stent was placed along with biopsy of the mass. Pathology returned showing small cell neuroendocrine carcinoma. A PET scan revealed increased activity around the bile duct.

He was taken to the OR for surgical resection of the carcinoma. Intraoperatively it was noted that the mass was palpable in the mid common bile duct at the junction of the cystic duct. The gallbladder, common hepatic and common bile ducts were removed to the level of the pancreatic head. Frozen sections of the proximal and distal bile duct margins were negative. The mass was 4.9 x 2.8 x 2.4 cm in size. Pancreaticoduodenectomy was not necessary. A roux-en-y hepaticojejunostomy reconstruction was done. The final pathology revealed high grade, large cell, neuroendocrine carcinoma with 9 out of 9 nodes negative. Post-operative recovery was unremarkable. He was discharged home on POD #11. He was subsequently treated with 4 cycles of carboplatin and etoposide and prophylactic whole brain radiation.

Conclusion: Neuroendocrine carcinomas arise from neural crest cells that are usually found in the epithelia of the bronchopulmonary or gastrointestinal tract. Only 0.2% to 2% of gastrointestinal LCNEC are found in the extrahepatic biliary ducts. These consist mainly of case reports that have all pertained to LCNC of the ampulla of Vater or the gallbladder. High-grade neuroendocrine carcinomas are aggressive with both 5 and 10 year survival being 15.7%. Since LCNEC of the extrahepatic biliary ducts is rare, our treatment plan was extrapolated from treatment of LCNEC of the lung and GI track. There studies have demonstrated that primary resection followed by least 2 cycles of chemotherapy does have some survival benefit. Prophylactic whole brain radiation is felt to be indicated due to the evidence of brain metastasis with LCNEC. To our knowledge this is the first case of a primary LCNEC of the common bile duct.
39. PROTHROMBIN 20210 G/A DEFECT: A CASE OF MESENTERIC VENOUS THROMBOSIS RESULTING IN NEAR TOTAL SMALL BOWEL NECROSIS
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Background: The prothrombin 20210 G/A defect has recently been described as a thrombophilic risk factor. We present a case of mesenteric venous thrombosis from a prothrombin 20210 G/A defect resulting in near total small bowel necrosis.

Methods: N/A

Results: A 39-year-old Hispanic male with no significant past medical history presented to the emergency department with new onset abdominal pain, nausea, vomiting, and hematochezia. Physical exam revealed diffuse abdominal tenderness with rebound and guarding. Computed tomography showed a large thrombus extending from the main portal vein into the right portal and superior mesenteric vein as well as diffuse circumferential small intestinal thickening. At emergent exploratory laparotomy, the small bowel was necrotic from 25 cm past the ligament of Treitz to the distal 15 cm of terminal ileum. The infarcted bowel was resected and the abdomen was left open with the bowel in discontinuity. Anticoagulation with heparin was started during the procedure. Two days later, the patient returned to the operating room and the remaining proximal jejunum was found to be necrotic and was resected. Four days after the primary operation, the patient was taken back to the operating room for mobilization of his right colon, appendectomy, cholecystectomy, and side-to-side enteric anastomosis of the proximal jejunum at the ligament of Treitz to the terminal ileum 10 cm from the ileocecal valve. Workup revealed a heterozygote 20210 G/A mutation of the prothrombin gene. The subsequent clinical course was uneventful and the patient was discharged home in good condition 18 days after initial presentation. He is currently on a low carbohydrate and high protein diet in addition to TPN at night and on therapeutic enoxaparin.

Conclusion: Mesenteric venous thrombosis is a rare event that can cause intestinal infarction. Prothrombin 20210 G/A mutation has to be considered as the causative thrombophilic condition. The extent of bowel necrosis in addition to co-morbidities determines patient recovery. In our case, the patient will be TPN dependent long-term and close clinical follow up will be necessary to determine future adaptation of the remaining small bowel.
40. PERINEURAL INVASION AND RECURRENCE AFTER 1 YEAR IN PATIENTS WHO UNDERWENT A WHIPPLE FOR PANCREATIC ADENOCARCINOMA: A CASE SERIES
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Background: Perineural invasion occurs in over 90% of patients diagnosed with Pancreatic Adenocarcinoma. The role that it plays in recurrence and prognostication is currently unknown.

Methods: We retrospectively looked at 14 patients in our database who underwent a Whipple procedure at our institution with locally and regionally advanced Pancreatic Adenocarcinoma. All patients had T2 or above tumors with perineural invasion and nodal involvement. All patients had an R0 resection and received adjuvant chemotherapy. Disease recurrence was examined using CT/MRI and lab studies.

Results: 5/14 of our patients showed evidence of disease recurrence within a year and 9/14 did not show evidence of recurrence. 64% of our patients who had T2 or above disease with perineural involvement did not recur.

Conclusion: Perineural Invasion does no appear to predict recurrence at 1 year in patients who undergo a Whipple with T2 or above Pancreatic Adenocarcinoma disease with nodal involvement.
41. IVC AND RENAL VEIN PERFORATION FROM AN IVC FILTER: TREATMENT WITH OPEN CAVOTOMY AND BOVINE PERICARDIAL PATCH
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Background: IVC filter placement is an appealing option for protection against thromboembolic disease when anti-coagulation is contraindicated. With the increased use of retrievable IVC filters, there has been an increase in the incidence of associated complications. Complications range from strut fracture, to filter migration, and adjacent organ perforation. The mechanism of IVC wall perforation is unclear. It has been postulated that the filter tines penetrate into the caval wall, causing filter sagging, tilt and potential perforation.

Filters are designed with a collapsible mechanism such that they can be removed at a later date. Despite this, filter removal via an endovascular approach is not always feasible. Filter perforation of the IVC or of hollow viscous organs necessitates open retrieval and infrequently, IVC reconstruction. Given the rare nature of this problem, open cavotomy for IVC filter retrieval has not been extensively described in the literature. We discuss an interesting case of IVC perforation, cavotomy and reconstruction here.

Methods: A 61-year-old man with Factor V Leiden deficiency presented with a right cerebellar hemorrhage and bilateral pulmonary emboli after prior IVC filter placement. Subsequent imaging demonstrated a mal-positioned, horizontally displaced IVC filter with significant thrombus burden. Multiple attempts at endovascular thrombectomy and filter retrieval were unsuccessful and resulted in right renal vein thrombosis. As such, open cavotomy and bovine pericardial patch angioplasty was performed for IVC filter retrieval.

Intra-operatively full exposure of the IVC and retroperitoneum was achieved with Kocherization and incision of the peritoneum. The IVC filter was identified, perforating through the proximal portion of the right renal vein and IVC. The right renal vein was isolated and dissected circumferentially. Proximal and distal control of the IVC was obtained. The vena cava was opened in a diagonal fashion along the same axis as the IVC filter. Thrombus was encountered distally in the IVC, and within the renal vein. All visible thrombus was evacuated. The IVC was flushed distally. A bovine pericardial patch was cut to size and used for repair of the cavotomy. A JP drain was left anterior to the pancreas. The abdomen was closed in a standard fashion.

Results: Post-operatively the patient's renal function returned to baseline. His JP drain was removed, and systemic oral anticoagulation with warfarin was recommenced. The patient was discharged one week post-operatively. He had an uneventful recovery with no recurrent embolic events.

Conclusion: With the increased use of retrievable IVC Filters, there has been an increase in the incidence of reported complications. Though endovascular filter placement and retrieval has become streamlined, there are instances in which filter retrieval is not feasible. IVC cavotomy and reconstruction, as described here, can be performed with low morbidity and mortality when indicated.
42. FLUOROSCOPIC RADIATION INJURY
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Background: Radiation burns from fluoroscopic exposure are often misdiagnosed leading to prolonged morbidity and delay in treatment. While burns from therapeutic radiation are a well-known complication, burns from fluoroscopy are difficult to recognize. With the increase in fluoroscopically dependent interventional procedures it is important that practitioners are aware of this potential complication.

Methods: A retrospective case study and literature review was performed with IRB exemption confirmed.

Results: A 55-year-old gentleman presented to our burn clinic with a one-year history of debilitating pain, hyperesthesia of the skin and an ulcerated, non-healing wound on his right flank. His pain began two hours after placement of a fluoroscopically guided superior mesenteric artery (SMA) stent for treatment of SMA stenosis. The procedure took 153 minutes but the total fluoroscopy time and machine settings are not available. Initially, there was erythema of the skin that blistered over the first week post-procedure and evolved into a gangrenous ulcer with surrounding edema and erythema. Prior to being seen in our clinic, he had seen 14 physicians and had been treated for shingles and a bacterial infection without improvement.

Examination revealed a 15 by 15 cm area of woody erythema with central ulceration over the right costal margin. An MRI of the abdomen showed tissue involvement from the skin extending deep into the intercostal muscles. CT scan showed no rib abnormality. We felt that this lesion represented a radiation-induced injury that was unlikely to heal, and that surgery was required to remove it. At surgery, fibrous tissue was encountered extending to the ribs. All abnormal tissue was completely excised to a healthy wound base, and a superiorly fed right rectus abdominis myocutaneous flap was rotated and tunneled laterally to fill the defect. Pathologic examination showed extensive ulceration, coagulative necrosis and dystrophic calcifications without evidence of neoplastic change.

Postoperatively his right flank pain resolved immediately. He was discharged from the hospital on postoperative day five. At follow-up appointment his flap was healthy and his pain well controlled.

Conclusion: Iatrogenic radiation injury caused by fluoroscopically guided interventional procedures is a rare complication that needs more awareness to avoid delays in diagnosis and treatment. Prevention relies on identification of risk factors including diabetes mellitus, connective tissue diseases, previous radiation, certain medications and on optimizing fluoroscopy times, settings and technique. Radiation burns can be treated with full excision and vascularized coverage.
43. DUODENAL DIEULAFOY’S LESION: A NOVEL SURGICAL APPROACH TO A REFRACTORY BLEED
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Background: Dieulafoy’s lesions are caused by pulsations of large, tortuous submucosal arteries causing superficial mucosal erosion. They usually occur in the stomach, but occur in the duodenum 14% of the time. Herein, we present a novel approach for repair of a duodenal Dieulafoy’s lesion.

Methods: A case report of a 19-year-old man involved in an ATV crash who represented to the hospital 4 days post-discharge with gastrointestinal hemorrhage is presented.

Results: EGD showed a hemostatic duodenal bulb ulcer; four quadrant epinephrine was injected around the ulcer. The patient underwent two additional EGD’s without evidence of active hemorrhage, but continued to rebleed. He underwent multiple unsuccessful procedures including antrectomy with resection of the 1st and part of the 2nd portion of the duodenum with gastrojejunostomy. Gastroscopy through an enterotomy at the gastrojejunal anastomosis identified a bleeding vessel on the anteromedial wall of the 3rd portion of the duodenum. Epinephrine was ineffective, so using transillumination and ballotment the area of the bleeding vessel was identified on the serosal surface. The vessel was ligated by taking full thickness bites on the outside surface of the duodenum in a four quadrant pattern. This stopped all bleeding from the vessel, which was identified as a Dieulafoy’s lesion. The patient had no further bleeding episodes.

Conclusion: Duodenal Dieulafoy’s lesions are uncommon. Historically, treatment for refractory hemorrhage would be complete resection of the area of intestine containing the lesion. Our case offers a novel surgical approach for treatment of refractory bleeding from a Dieulafoy’s lesion in the small intestine. This approach may significantly decrease the morbidity associated with a small bowel resection, especially a bowel resection in a difficult to resect area such as the second thru fourth portions of the duodenum.
44. VAGINAL EVISCERATION - A GENERAL SURGEON’S PERSPECTIVE
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Background: Evisceration of abdominal contents through the vagina has been reported since 1864. Since then several case reports have been published to highlight the etiology and the treatment options. Vaginal cuff dehiscence after abdominal or vaginal hysterectomy is necessary for this to occur. The risk factors for cuff dehiscence are several and differ with regards to whether the patient is pre or post-menopausal. The physical exam findings can be quite impressive as in this case or can be subtle without intestine exiting the introitus. As expected the majority of the literature thus far on this topic has been presented by gynecologic or emergency medicine specialists. This surgical emergency needs to be understood by general surgeons as they too may be called upon to care for these patients.

Methods: An interesting case report to educate general surgeons on an obstetrical emergency that they may be called upon to repair emergently. Details of a literature review of previously reported case reports and small case series.

Results: Biologic implants may be used for reinforcement of the vaginal cuff repair once the herniated contents have been returned to the abdominal cavity and the vaginal cuff defect has been repaired.

Conclusion: Vaginal evisceration is rare complication of pelvic operations, more specifically hysterectomies. Multiple patient related risk factors and operative risk factors have been identified. When vaginal evisceration occurs the gynecologist and/or the general surgeon may be called upon for emergent management. There should not be a delay in the diagnosis as this will increase the likelihood for intestinal resection and increased morbidity from bowel ischemia. No defined method exists for reduction of involved viscera or closure of the vaginal cuff. This case and others have proven that prosthetic reinforcement of the vaginal cuff and obliteration of the cul-de-sac are valid options for repair. The general surgeon should be aware of this indication for emergent surgical intervention and the possible methods for repair, namely the use of biologic implants.
Background: Primary squamous cell carcinoma (SCC) of the gallbladder is a rare malignancy, accounting for less than 1-3% of gallbladder pathology. Initial presentation is often similar to adenocarcinoma of the gallbladder, however, SCC tends to be more locally aggressive, and to possess a worse prognosis than adenocarcinoma. Due to its low incidence, only a paucity of literature exists. We report a case of locally advanced SCC of the gallbladder and natural history.

Methods: We report the case of a middle-aged female who presented with a large primary SCC of the gallbladder with a brief review of the literature.

Results: A 67-year-old Asian female presented to her primary care physician in March 2012 with persistent fever and chills with associated weakness and weight loss. She had no abdominal symptoms. She was treated for bronchitis but her fever and chills persisted despite multiple rounds of oral antibiotic therapy. Further work up revealed a leukocytosis of 30,000 wbc /μL. She underwent hematology/oncology evaluation for a possible myeloproliferative process which was negative. She presented to a local emergency room in mid-June 2012 with failure to thrive. She was admitted with gram negative rod bacteremia. A computed tomography (CT) scan was obtained which revealed a 8.6 cm mass in the right liver with an associated abscess. Percutaneous drainage of the abscess was performed which was significant for E. coli and enterococcus. She was discharged on antibiotic therapy, but re-admitted ten days later with fever, chills and failure to thrive. Repeat CT scan imaging revealed increased size of the mass (10.2 cm) but no evidence of distant metastasis. Evidence of fistulization of the lesion to the gastric antrum, duodenum and hepatic flexure of the colon were also noted. Biopsy of the lesion revealed SCC of the gallbladder. She was referred to our institution in August 2012 for consideration of additional therapy. Magnetic resonance imaging and positron emission tomography imaging revealed her tumor to be potentially resectable, however, her functional status and limited reserve suggested she would not tolerate radical en bloc resection or palliative chemotherapy. Comfort palliative care measures were recommended.

Conclusion: Primary SCC of the gallbladder is a rare, locally aggressive malignancy with a poor prognosis. Most patients, such as the one described, present at a later stage and are unresectable at initial diagnosis. Early diagnosis and complete resection offer the best possible outcome. Surgical resection is the mainstay of treatment for SCC of the gallbladder, with a 63% 5-year median survival reported for those able to undergo R0 resection. Incomplete resection, palliative chemotherapy or other adjuvant treatment options offer limited benefit. With a median survival of 8 months from diagnosis, most patients have progressive disease, similar to this patient, which limits potential for surgical cure.
46. RECURRENT SMALL BOWEL PERFORATION AND GASTRIC NECROSIS IN AN AUTOIMMUNE DEFICIENCY SYNDROME (AIDS) PATIENT: GASTROINTESTINAL MUCORMYCOSIS

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Background: Mucormycosis is a rare fungal infection which predominately affects immunocompromised patients. Gastrointestinal mucormycosis infection may occur and is associated with a high mortality. We report the case of an autoimmune deficiency syndrome (AIDS) patient who presented with recurrent small bowel perforations, progressive small bowel ischemia, and gastric necrosis secondary to gastrointestinal mucormycosis.

Methods: A case report and review of the literature was performed using PubMed and Ovid. The Grey literature was also searched. The main search terms used for the literature review were: ‘gastrointestinal’; ‘perforation’; ‘infection’; ‘mucormycosis’; ‘HIV’; ‘AIDS’; ‘immunocompromised’.

Results: A 37 year old male with a history of human immunodeficiency virus (HIV) presented to hospital with a 5 day history of progressive right upper quadrant and epigastric abdominal pain associated with nausea and subjective fevers. On exam, the patient was afebrile and hemodynamically stable. The abdominal examination revealed diffuse tenderness. His admission labs revealed a CD4 count = 66/mm3 with a viral load = 3,970 copies/mL. A CT scan of the abdomen and pelvis demonstrated pneumoperitoneum and free fluid.

The patient was initiated on broad spectrum intravenous (IV) antibiotics and brought emergently to the operating room where he was found to have multiple perforations of the proximal jejunum which were debrided, biopsied, and oversewn. Pathologic examination revealed Epstein-Barr virus (EBV). The patient was maintained on broad-spectrum IV antibiotics and caspofungin.

On postoperative day 10, the patient manifested progressive multi-organ dysfunction and a repeat CT scan of the abdomen demonstrated a large amount of free fluid in the abdomen. The patient was brought back to the operating room where he was noted to have new small bowel perforations and non-contiguous ischemia of his mid-jejunum and ileum, along with breakdown of his previous repairs. Small bowel resection and an end ileostomy were performed. Pathologic analysis of the small bowel specimen revealed no underlying malignancy or infectious etiology. Subsequent exploration revealed frank gastric necrosis and progressive small bowel ischemia necessitating a subtotal gastrectomy and further small bowel resection.

Pathologic examination of the gastric specimen revealed non-septate hyphae with right-angle branching consistent with mucor. The patient was initiated on liposomal amphotericin B, however, he eventually succumbed to overwhelming sepsis and died.

Conclusion: Gastrointestinal mucormycosis is an exceedingly rare infection in the immunocompromised patient. Although there are several cases of gastrointestinal mucormycosis in the immunocompromised patient, this is the first reported case of recurrent small bowel perforation, progressive small bowel ischemia, and gastric necrosis in a patient with AIDS.
47. PRIMARY STERNAL OSTEOMYELITIS: DIFFERENT APPROACHES TO A RARE ENTITY
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Background: While secondary sternal osteomyelitis (SSO) is well described in the cardiac literature, primary sternal osteomyelitis (PSO) is a rare and potentially life threatening infection with few described cases and undefined management. In described cases, there may not be an antecedent history of surgery or recent trauma and therefore the diagnosis requires a high index of suspicion.

Methods: Two patients presented to a tertiary care academic center with primary sternal osteomyelitis in the last 6 months:

Case #1: A 27 year old male with a history of intravenous drug abuse presented with one week of worsening anterior chest pain, swelling, fevers and shortness of breath. The patient denied any history of surgery, trauma or direct injections. On exam, the patient was hemodynamically stable and had a large area of fluctuance and erythema over his sternum. The patient’s white blood cell count was 17,100 but laboratory values were otherwise normal. Computed Tomography demonstrated a large rim enhancing fluid collection in anterior mediastinum with erosion into the mid sternum.

Case #2: A 23 year old female with a history of intravenous drug abuse presented with three days of right shoulder and sternal pain. She denied any history of surgery or trauma. On exam, the patient was non-toxic appearing with a 6cm area of induration at the superior edge of the right manubrium. Her laboratory values were normal with the exception of a CRP of 120. Magnetic Resonance Imaging of the chest demonstrated two small fluid collections less than 2cm in size with associated inflammation of the manubrium.

Results: Case #1: The patient was taken to the operating room for thoracoscopic drainage of his mediastinal abscess. Approximately 300ccs of purulent fluid was evacuated and a drain placed in the abscess cavity. The patient required two addition debridements of the chest wall and sternum but ultimately retained the majority of his sternum. Tissue culture grew methicillin-sensitive Staphylococcus aureus. Repeated blood cultures and echocardiography were normal. Upon completion of 4 weeks of intravenous antibiotics the patient was discharged home on prolonged oral antibiotics and is doing well 6 weeks after admission.

Case#2: The patient was given intravenous antibiotics and underwent image-guided percutaneous drainage of the fluid collections. Fluid cultures, blood cultures and echocardiogram remained negative and the patient was discharged home on prolonged oral antibiotics. She has not returned for follow-up.

Conclusion: PSO may present with a more indolent course than SSO, necessitating a high index of suspicion to initiate intervention. While rapid operative debridement is necessary in SSO, PSO is often treated with minimally invasive techniques. PSO is often associated with intravenous drug abuse making prolonged antibiotic treatment difficult due to poor patient compliance and follow-up.
48. A CASE OF PEDIATRIC PULMONARY EMBOLISM AFTER TRAUMA ASSOCIATED WITH HETEROZYGOUS MUTATION IN MTHFR GENE
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Background: Venous Thromboembolic disease (VTE) is rare in children, with a reported incidence of .06%. A recent study reported 0 cases of VTE in children younger than 13 and concluded that VTE prophylaxis is unnecessary.1 We report a case of a pulmonary embolism in a 10 year old child after trauma.

Methods: A 10 yo male after handlebar bicycle injury complained of abdominal pain. A CT scan demonstrated free intraperitoneal fluid without solid organ injury. He was taken to OR for exploratory laparotomy. Right femoral CVP placed. Findings were colonic mesenteric tear, active bleeding, and hemoperitoneum. After suture ligation and temporary abdominal closure, patient returned to OR next day. Postop, the patient had no complaints until POD # 5 when he developed acute left lower quadrant abdominal pain, nausea and vomiting. An CT demonstrated gall bladder sludge, left hydroureter, free fluid in right upper quadrant and a hematoma within the bladder nearly obstructing entire left ureter. Upon review of the pulmonary cuts of the CT scan, the radiologist noted a pulmonary thrombus in the right basilar pulmonary artery. Therapeutic enoxaparin was started. Chest CT confirmed PE.

The mother had been worked up for thrombophilies during pregnancy. She and other family members had Von Willebrands disease and Factor V Leiden deficiency. Further workup in the patient demonstrated a positive heterozygous mutation for the A1298C mutation and negative C677T mutation in the methylenetetrahydrofolate gene (MTHFR).

Discussion: Pediatric VTE is rare after trauma. Risk factors include craniotomy, ORIF of lower extremity fractures, and central line placement. In adults, genetic predisposition is a risk factor. The MTHFR gene encodes for one of the regulatory enzymes for homocysteine (tHcy) metabolism. Elevated tHcy is known to cause cardiovascular disease. A recent study of pediatric stroke found that A1298C mutations without elevation in tHcy occurred in 35%. 2 Another study demonstrated A1298C mutation in MTHFR with elevated tHcy showed increase in VTE in adults, non-trauma.3

Conclusion: Conclusion: A pediatric trauma patient presents with pulmonary embolism 5 days after trauma. Heterozygosity for the A1298C mutation of the MTHFR gene appears to be a risk factor in children not previously reported.

49. MANAGEMENT OF COMPLICATED JEJUNAL DIVERTICULA: AN UNUSUAL CAUSE OF ACUTE ABDOMEN IN ELDERLY MEN.
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Background: Jejunal diverticula (JD) are extremely rare and most are asymptomatic, though, complications of JD may be very clinically significant.

Methods: This report details two recent cases from our institution of complicated JD. The evaluation and management is outlined and a review of the current literature is presented.

Results: The clinical presentations of two elderly males with an acute abdomen are examined. Computed tomography (CT) findings included pneumoperitoneum in one and partial small bowel obstruction in the other. Laparoscopy was used initially in both cases, followed by formal laparotomy. Segmental resection with primary anastomosis was performed in both men leading to the resolution of their presenting symptoms.

Conclusion: CT scanning can be essential in making the correct diagnosis in patients with JD. Laparoscopy is useful in confirming the diagnosis and subsequent treatment planning. JD should be considered in elderly males presenting with abdominal pain not classic for the more common etiologies of abdominal pain in this age group.
50. RADIOLUCENT FOREIGN BODY CAUSING ESOPHAGEAL PERFORATION WITH TRACHEOESOPHAGEAL FISTULA
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Background: Esophageal foreign body is a phenomenon that occurs in more than 100,000 patients per year. Diagnosis is usually based on classic symptoms; however atypical presentation with less acute symptoms may lead to delay in diagnosis.

Methods: N/A

Results: We present an 18 month old male previously diagnosed with asthma who presented with a 4-6 month history of inspiratory stridor. Chest x-ray and chest computed tomography revealed right-ward tracheal deviation and a middle mediastinal mass of unknown etiology. A pull-back esophogram revealed a tracheoesophageal fistula. Laboratory studies were equivocal for infectious or neoplastic processes including a normal white blood cell count, C reactive protein, alpha fetoprotein and a slightly elevated lactate dehydrogenase. Esophagoscopy and bronchoscopy revealed no intraluminal abnormalities.

Surgical intervention with a right thoracotomy revealed an esophageal diverticulum containing a leaf with mediastinal inflammation and resulting tracheoesophageal fistula. Resection of the diverticulum was performed noting a small 4 mm esophageal perforation which was repaired primarily. Primary repair of the trachea was also performed. The patient overall recovered well; however, he developed an esophageal stricture which responded to serial dilations.

Conclusion: Tracheoesophageal fistula as a result of inflammation from a foreign body is rare, with most case reports identifying disc battery as the inciting agent. This case was unique in that the foreign body was radiolucent causing difficulty and delay in diagnosis. As previously reported, atypical presentation of foreign body ingestion can lead to significant morbidity and mortality. We suggest heightened suspicion for a foreign body in infants and children presenting with respiratory symptoms.
51. DESCENDING THORACIC AORTIC PSEUDOANEURYSM 30 YEARS AFTER SURGICAL REPAIR OF AORTIC COARCTATION: CASE REPORT DEMONSTRATING CURRENT DIFFICULTIES WITH MANAGEMENT OF PROXIMAL THORACIC AORTIC LESIONS
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Background: Thoracic endovascular aortic repair (TEVAR) is quickly becoming the preferred method for repair of descending thoracic aortic aneurysms (TAA) when anatomically feasible. Coverage of the left subclavian artery (LSA) orifice is commonly required in order to obtain an adequate proximal seal when lesions are in the proximal descending thoracic aorta - as in coarctation. This unique case illustrates several of the key points that need to be considered when treating proximal aortic lesions with TEVAR.

Methods: At the age of 12, an otherwise healthy boy underwent repair of a short segment, post-ductal aortic coarctation by prosthetic patch aortoplasty. At the age of 45, he was urgently transferred to our institution with a 10 cm descending TAA which was compressing the left main stem bronchus causing shortness of breath, wheezing, and pain. A left common carotid to subclavian artery bypass using an 8 mm PTFE graft was performed prior to planned TEVAR given the close proximity of the lesion to the LSA. The LSA was ligated proximal to the vertebral artery takeoff using 0-silk suture but not divided. The following day TEVAR was performed using two 28 mm commercially available stent grafts with intentional coverage of the LSA orifice. CT angiogram on post operative day 2 showed exclusion of the aneurysm without endoleak. Interestingly, at one month, CT angiogram revealed a type II endoleak from the previously ligated LSA into the aneurysm sac. The patient also had developed a hoarse voice. To treat the type II endoleak, the left brachial artery was accessed and embolization of the LSA origin was successfully performed in a retrograde fashion. He was referred to Otolaryngology for evaluation, where a mild left recurrent nerve palsy was diagnosed after laryngoscopy and expected to resolve with conservative management.

Results: Intentional coverage of the LSA orifice during TEVAR risks arm ischemia, vertebrobasilar ischemia, and spinal cord ischemia but lengthens the proximal seal zone. Some centers intentionally cover the LSA and perform revascularization only if symptoms develop, while others routinely revascularize either prior to TEVAR or during the same anesthetic.

Conclusion: Descending TAA following open surgical repair of aortic coarctation is rare but often best treated by TEVAR with or without left subclavian to common carotid artery transposition. Transposition is preferable to bypass when technically feasible because it reduces type II endoleak from failed LSA ligation without added morbidity. Perhaps in the near future, single side branch stent grafts will decrease the need for open LSA revascularization; but in the meantime, open LSA revascularization is durable and can be performed with little added morbidity in patients at risk for complications of LSA coverage.
Background: Adrenocortical tumors (ACT) are a rare entity in children with an estimated incidence of 0.3 per 1 million people. Even though the first case of pediatric ACT was reported in 1865, its etiology, management, and prognosis still remain elusive due to the paucity of case reports in the literature. The clinical manifestations, management, and outcome of two pediatric ACTs are described.

Methods: Retrospective chart review

Results: Patients: 32-month old female and a 21-month old male. Clinical symptoms at the time of presentation included rounding of face, acne, increased appetite, 3.2 kg weight gain and a 2 week history of virilization in the female and rapid weight gain (5-6 lbs/week) associated with excessive hair growth in the face, genital region, back, and extremities, chronic problems with acne, easy bruising, and a Cushinoid appearance in the male. Physical exam findings: Cushinoid build with round moon facies, truncal obesity, elevated blood pressure and signs of virilization, A 2-3 cm palpable mass inferior to the umbilicus and left of the midline, and a 2cm palpable mass along the right flank was present in the male and no palpable masses were appreciated in the female. Laboratory tests: 5-dehydroepiandrosterone: 4546 ng/dL (normal, 19-42); testosterone: 84 ng/dL; Cortisol: 35.1 μg/dL at 8:00 AM and 32.3 μg/dL at midnight and ACTH: < 5.0 pg/mL. Abdominal computed tomography: Right adrenal mass (4.5 X 4.0 X 4.0 cm) smoothly marginated and fairly vascular with heterogeneous enhancement was identified in the female. However in the male bilateral intrarenal masses, right greater than left (5.9 X 3.2 X 4.4 cm) heterogeneous with calcifications which later proved to be bilateral Wilms tumors were identified. Management: Surgical removal of the masses intact without violation of the capsule through a right subcostal incision. In the male, the ACT was identified during surgical exploration. Histopathology: Tumor resected from the female patient weighed 48 g. Negative surgical margins. Multiple atypical and multipolar mitotic figures. Strong cytoplasmic staining for vimentin, inhibin, synaptophysin, and melan A and moderate cytoplasmic staining for p53 protein. The tumor resected from the male patient weighed 40 gram and was well circumscribed and encapsulated. Microscopically, the tumor consisted of coalescing groups of mildly pleomorphic cells separated by thin fibrovascular septa. Focal calcification was present within viable tumor. Mitoses were rare. Areas of necrosis and surrounding fibrosis and calcification were also present. Outcome: Cushinoid features of both patients resolved and laboratory markers normalized. No evidence of recurrence at three years of follow-up for the female and at one year of follow-up for the male patient.

Conclusion: ACTs in children presents with symptoms of excess glucocorticoids, mineralocorticoids, and androgens. Cushinoid features are very common in these patients. Surgical resection is associated with excellent prognosis.
Background: Pancreatic pseudocyst is a condition with proven surgical and endoscopic therapies. Pancreatic pseudocyst with necrosis or walled-off pancreatic necrosis is a disease that has a less effective minimally invasive technique. In our current minimally invasive era, new surgical solutions are sought to minimize patient discomfort, morbidity, and length of stay. This case illustrates a technique of hybrid surgery using combined laparoscopic and endoscopic techniques to achieve adequate and durable pseudocyst drainage with necrosectomy.

Methods: Our patient is a 65 yo man with history of gallstone pancreatitis leading to 20 cm x 15 cm pancreatic pseudocyst with a large area of necrotic debris in its base. He had significant compressive symptoms with P.O. intolerance and >30 lbs of weight loss. Hybrid laparo-endoscopic cyst-gastrostomy was performed for relief of symptoms, debridement of necrotic pancreas, and establishment of effective pancreatic drainage.

Results: Under laparoscopic and endoscopic visualization, two laparoscopic trocars were placed trans-gastrically into the lumen of the stomach. After entering the pseudocyst, the cyst-gastrostomy was formed with two firings of EndoGIA 80 mm stapler creating a large aperture for drainage and debridement of necrosis. Laparoscopic cholecystectomy with cholangiogram was also performed. This patient’s early post-operative course was uneventful. He was discharged on POD #3 tolerating diet. The patient returned to clinic 10 days later with malaise, fever, and chills. Repeat CT scan of the abdomen revealed the cyst-gastrostomy was occluded by pancreatic debris. He returned to the OR for endoscopic debridement of the pancreas, and the remainder of his course was uneventful.

Conclusion: The laparo-endoscopic technique provided an effective therapy for this patient. It allows for better drainage and debridement than the endoscopic approach alone, avoids the large gastrotomy previously required for laparoscopic approach, and minimizes the incision, pain, and complications associated with a midline incision via the open approach.
54. CASE REPORT: LAPAROSCOPIC METASTECTOMY OF RECURRENT HEMANGIOPERICYTOMA
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Background: Hemangiopericytomas, soft tissue tumors derived from pericytes, account for approximately 5% of all sarcomatous tumors, and classically arise from an intracranial location. These tumors are biologically aggressive, with local recurrence rates after surgical resection as high as 92% at 15 years and extraneural metastasis as high as 26%. Common sites of extraneural metastasis include liver, lung and bone. Here we report a case of hemangiopericytoma metastatic to the abdominal cavity 23 years after resection of the primary tumor.

Methods: Retrospective chart review of a single case.

Results: We report the laparoscopic resection of metastatic hemangiopericytoma found in a 63 year old man. He had been diagnosed with a primary intracranial hemangiopericytoma removed at age 40, and developed his first metastasis at age 59 with a femur lesion. He presented with dull abdominal pain, early satiety and a palpable epigastric mass. Computed tomography was consistent with metastatic hemangiopericytoma, 10 cm in maximum diameter, and he was taken to the operating room for laparoscopic resection. The tumor was identified in the preperitoneal space attached to the falciform ligament. This was successfully removed with ultrasonic dissection. The patient completely recovered and was discharged 2 days after the operation. At his 12 month follow up, two additional asymptomatic lesions were noted on computed tomography; one posterior to the right kidney in the right retroperitoneum, measuring 10 cm in maximum diameter, and one in the retroperitoneal attachments of the hepatic flexure of the right colon, measuring 1 cm. He again underwent laparoscopic resection of his tumor recurrences. The smaller mass was easily removed from the retroperitoneal attachments of the hepatic flexure. The right colon was then mobilized, allowing visualization and subsequent dissection of the right retro-renal mass using ultrasonic dissection. He tolerated the procedure well, and was discharged 3 days after the operation. 12 month follow up demonstrated new metastases to the liver, small bowel mesentery and several peritoneal nodules. The patient will undergo a trial of chemotherapy prior to considering additional resection.

Conclusion: We conclude that laparoscopic resection of symptomatic hemangiopericytoma metastases is effective in relieving symptoms, and that repeat resections can be performed laparoscopically.
55. ISOLATED SAPHENOFEMORAL JUNCTION AVULSION FOLLOWING BLUNT TRAUMA: FIRST REPORTED CASE
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Background: Blunt extremity trauma is a common injury presentation the emergency clinician is faced with. Extremity injuries in the civilian population most often are a result of falls and motor vehicle collisions, and nonfatal trauma to the extremities is the most frequent reason for hospitalization in the trauma patient population. Vascular injury is often concomitantly associated with an underlying osseous fracture. However, blunt trauma is a relatively rare cause of significant isolated peripheral vascular injury, as traumatic mechanisms capable of producing vascular damage generally are associated with other injuries. We describe the first reported case of isolated saphenofemoral junction disruption following blunt trauma.

Methods: We report a case of a 16 year old male who was transferred to our trauma center after having fallen off of and being rolled over by a horse. He described only proximal left thigh pain and swelling. He had undergone comprehensive CT scanning at an outside facility, which showed a possible injury to the proximal arterial vasculature of the thigh but was incompletely characterized. There was no associated osseous injury. On physical exam, he had a small abrasion overlying a large, tense, nonpulsatile hematoma of the anteromedial left thigh. His leg distal to the injury site was warm to palpation, had appropriate capillary refill, and was neurologically intact. His ankle-ankle index was approximately equal to 1. However, given the CT scan images and unilateral “soft signs” of vascular injury, he was taken emergently to the operating room.

Results: Upon operative exploration, the patient was found to have a large anteromedial hematoma with no evidence of arterial injury in the thigh. Further exploration revealed a one centimeter longitudinal linear tear of the femoral vein and the presence of the adjacent free end of the great saphenous vein. In effect, the saphenous vein had been avulsed from its confluence with the femoral vein. The saphenous vein was ligated and the femoral vein repaired. After confirming no additional injuries, the patient’s wound was closed over a drain. He has subsequently been discharged home and is recovering well at his two week followup with no evidence for deep venous thrombosis.

Conclusion: Blunt trauma to the extremities is a substantial source of morbidity and mortality in trauma patients. When evaluating vascular injuries, clinicians often use a constellation of information to predict severity of injury and need for emergent operation. Despite our patient’s unlikely mechanism and the lack of traditional “hard signs” and admittedly borderline “soft signs”, a substantial vascular injury was found and repaired. A high index of suspicion for a significant underlying venous injury is needed in cases of blunt trauma, and major vascular injury should not be discounted despite the lack of additional injuries and traditional physical exam findings.
56. A RARE COMPLICATION OF CALF HEMATOMA FROM ANGIOPLASTY AND STENTING
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Background: Endovascular methods are increasingly being used for the management of peripheral vascular disease. One of the rare complications of these procedures is remote perforation or rupture of an artery. We report a case of left calf hematoma following left superficial femoral artery (SFA) angioplasty and stenting.

Methods: An 81 year old female presented with severe left lower extremity (LLE) claudication. Her LLE Ankle-Brachial Index (ABI) was 0.57 and right lower extremity ABI was 0.83. She underwent aortogram and bilateral lower extremity run off. Access to her above knee popliteal artery was obtained with a hydrophilic 0.35 wire. Left SFA angioplasty and stenting for her left SFA occlusion was performed uneventfully. Completion angiography revealed an excellent result with no evidence of extravasation distally.

Results: Three days post procedure, she presented with left medial thigh and calf pain and burning associated with swelling and inability to climb stairs. She was found to have a 6.5x1.4.2.4 cm left calf hematoma on venous and arterial doppler ultrasound. Her SFA stent was widely patent. There was no evidence of deep venous thrombosis. She was managed non-operatively with pain medication and her symptoms and hematoma resolved.

Conclusion: The rare complication of perforation or rupture of an artery with angioplasty and stenting may be managed non-operatively in hemodynamically stable patients. In this case, the perforation of the artery occurred from the tip of the hydrophilic wire. Assuring adequate placement of this wire with minimal movement helps prevent this complication. Additionally, the hydrophilic wire could be exchanged for a non-hydrophilic wire.
57. A RARE PRESENTATION OF ACTINOMYCOSIS: DIVERTICULITIS AND ABDOMINAL WALL MASS
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Background: Actinomycosis can be found in areas of stasis within the gastrointestinal tract. Translocation of Actinomyces beyond this area is the result of injury to the bowel mucosa as seen in appendicitis and diverticulitis. Adjacent tissue infection and the development of abscess with this organism may follow. Actinomyces can not be contracted environmentally or person to person.

Methods: A patient presented with abdominal pain and abdominal wall mass. Pneumaturia and fecaluria was noted. Workup revealed a sigmoid process in continuity with the abdominal wall mass and a colovesicle fistula. This process necessitated en bloc resection of the sigmoid colon, terminal ileum, right ovary and salpinx, bladder wall, and a portion of abdominal wall. End colostomy was formed and the abdominal wall defect was reconstructed with acellular hydrated dermis mesh.

Results: Sigmoid diverticulitis and Actinomycosis infection was confirmed on histiopathology. The patient was successfully treated with pencillin-based antibiotic for the Actinomyces species in addition to the surgical resection.

Conclusion: Actinomyces species can colonize areas of stasis, like the cecum and the sigmoid colon. In this case, the diverticulitis was likely the initial insult to the mucous membrane that allowed translocation of colonized Actinomyces species into the abdominal cavity and abdominal wall.
Background: Mycobacterium tuberculosis is a rodshaped, acid fast, non-spore forming, thin aerobic bacterium. After exposure, approximately 70% of people will remain uninfected, however 30% will manifest with primary lung infections. The majority of these primary infections will become latent tuberculosis, but 10% of these will present with primary pulmonary diseases and will lead to progressive primary miliary tuberculosis with multiple seeding sites such as brain, bone, liver, spleen and kidney. Tubercular infections are quite rare in the US, but have been increasing among the immigrant populations. Tubercular abscesses are more common in immunocompromised patients, but have been found with rising frequency among immigrants. Tuberculomas most commonly present with seizures, meningitis and focal neurologic deficits. Adrenal involvement occurs in 6% of cases, and the majority will affect bilateral glands, leading to development of Addison's disease in some cases.

Methods: A 30 y/o female originally from the Philippines, moved to the US in April 2012. While in the Philippines she developed pneumonia in October of 2011, requiring mechanical ventilation. No organisms were isolated at that time. During June of 2012 she had noticed increasing headaches, blurry vision, weight loss, decreased appetite, and fevers. The patient was admitted with a CT scan of the head demonstrating numerous ring enhancing lesions in the brain. During her work up, a CT of the abdomen and pelvis demonstrated a 5 cm left adrenal mass. Urine and plasma metanephrines were negative. Aldosterone, renin, and cortisol were within normal limits, and brucella, histoplasma, coccidioidomycosis, syphilis, cryptococcus, HIV and spinal fluid were negative. The patient underwent a craniotomy with open biopsy of a right frontal region, and a laparoscopic converted to open left adrenalectomy. Intraoperatively she was found to have a large adrenal phlegmon, with adherence to the stomach, pancreas and kidney.

Results: Neuropathology was consistent with granulomatous encephalitis with rare acid fast bacillus, mycobacterial encephalitis. Adrenal pathology demonstrated necrotizing granulomatous inflammation with rare acid fast bacilli. Both were consistent with extrapulmonary tuberculosis, and she was started on appropriate anti-tuberculosis regimen.

Conclusion: This is an extremely rare case presentation of a patient presenting with fevers of unknown origin, determined to have simultaneous neurologic and adrenal tubercular abscesses. While the overall incidence of tuberculosis in the US has been declining, there have been rare case reports involving CNS and adrenal tuberculosis in patients with known risk factors. Morbidity and mortality rates with neurologic presentations continue to remain high, despite treatment with proper anti-tuberculosis regimens.
59. MASSIVE SPLENOMEGALY AS THE INITIAL PRESENTATION OF SYSTEMIC SARCOIDOSIS IN A PEDIATRIC PATIENT: A CASE REPORT AND REVIEW OF THE LITERATURE
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Background: Sarcoidosis is a systemic illness of unknown etiology characterized by the formation of multiple non-caseating granulomas. Two distinct syndromes exist in children, the triad of rash, uveitis and arthritis in those younger than five, and multisystem disease with hilar lymphadenopathy and pulmonary infiltrates in older children. Massive splenomegaly resulting in sequestration as a presenting complaint has not been previously described in this population.

Methods: 7-year-old Caucasian female initially presented with a several month history of recurring fevers. Physical examination showed marked left-sided organomegaly and tenderness, and pertinent laboratory work-up revealed profound pancytopenia. After hospital admission, further imaging showed a spleen measuring 23 cm without evidence of thrombosis, and thoracoabdominal lymphadenopathy with diffuse hypermetabolic activity on PET-CT. Bone marrow biopsy revealed normocellular marrow with normal trilineage maturation and did not show malignancy, infection or granulomatous change.

Results: The patient underwent a therapeutic and diagnostic splenectomy and final pathology revealed splenic and lymphoid diffuse non-caseating granulomatous reaction. Elevated angiotensin-converting enzyme levels supported the ultimate diagnosis of sarcoidosis. Extensive work-up did not reveal any cardiac, pulmonary or ocular compromise. Splenectomy resulted in complete resolution of constitutional symptoms as well as pancytopenia, with rebound post-splenectomy leukocytosis and thrombocytosis. The patient currently remains asymptomatic without need for corticosteroid therapy.

Conclusion: Sarcoidosis remains a diagnostic and therapeutic challenge in the pediatric population. Splenic involvement has been reported in up to 40% of children with sarcoidosis, but an initial presentation of massive splenomegaly resulting in hypersplenism and splenic sequestration with resultant pancytopenia has not been reported to our knowledge. In this particular case, splenectomy was not only diagnostic but an immediate and successful therapeutic option for the management of not only this patient’s hematologic derangements, but, interestingly, her constitutional symptoms as well.
60. AN EASILY PREVENTABLE BUT CATASTROPHIC COMPLICATION OF A LONG TERM FEEDING TUBE
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Background: Gastrostomy tubes are frequently used to provide nutrition in a variety of patient populations. Long term complications are usually minor and include ulceration of the surrounding skin, clogging of the feeding tube, dislodgment of the feeding tube and superficial abscess. While these complications can cause significant burden to the patient and increased health care costs, severe or life-threatening long term complications are rare.

Methods: Here we present and discuss a life-threatening, retrograde jejunoduodenogastric intussusception resulting from a long term indwelling gastrostomy tube. This complication required urgent upper endoscopy and subsequent emergent surgical exploration with jejunal resection.

Results: Small intestinal intussusception in adults remains both a short and long term complication of feeding tubes utilizing balloons or flanges for abdominal fixation. The importance of proper education regarding routine care and maintenance of gastrostomy tubes for nurses, therapists, and all medical professionals should emphasize prevention and identification of intussusceptions in this patient population.

Conclusion: Although feeding tubes are now routine and associated with low morbidity, physicians should remain aware of this potentially lethal though rare complication, in order to minimize the increased morbidity and mortality from intussusception and subsequent bowel ischemia.
61. SMALL BOWEL INTUSSUSCEPTION AFTER A LOW ANTERIOR RESECTION FOR RECURRENT RECTAL CANCER
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Background: The incidence of intussusception in adults is rare. It typically presents with nonspecific symptoms such as abdominal pain, nausea, vomiting, and a change in bowel habits. Even rarer is the incidence of small bowel obstruction secondary to intussusception. Typically they are found with a lead point lesion, but sometimes may be idiopathic in nature. We present a case of a patient who underwent distal colon surgery and developed a small bowel intussusception which required resection.

Methods: A 75 year old male underwent a single-incision laparoscopic low anterior resection for recurrent rectal cancer. Postoperatively he was noted to have a prolonged ileus requiring TPN for nutrition. A CT scan was remarkable for a significantly dilated colon with no sign of obstruction. Incidentally, he was noted to have a short segment of nonobstructing ilio-ileal intussusception not present on previous imaging. This area was immediately adjacent to significantly dilated colon. His exam nevertheless slowly improved and his bowel function returned and he was sent home on a regular diet. He returned to the Emergency Department days later with obstipation, and a CT scan redemonstrated the ilio-ileal intussusception causing a high-grade small bowel obstruction.

Results: The patient was taken to the operating room and found to have a small bowel intussusception with fibrous bands holding the telescoped bowel in place. He underwent a small bowel resection and reanastomosis. Pathology revealed benign mucosa and a very small benign cyst. Postoperatively, again, he was noted to have a prolonged ileus again requiring TPN. Nevertheless, with prokinetic agents his bowel function returned and follow-up imaging showed no obstruction or other pathology.

Conclusion: Small bowel intussusception causing obstruction after colon surgery has not previously been described. While most postoperative delayed bowel function is attributed to ileus, abscess formation, or anastamotic issues in the cases of bowel resection, one must always consider other etiologies. Computed tomography remains the diagnostic study of choice. While a very small cyst may have accounted for the telescoping of bowel, we believe his slow transit time as evidenced by his recurrent prolonged ileus may have contributed to his pathology.
62. ISOLATED ISCHEMIC NECROSIS OF THE STOMACH.
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Background: Gastric necrosis is a rarity due to the stomach's rich vascular supply and, when due to ischemia, is usually accompanied by catastrophic necrosis of other organs. Gastric necrosis may be caused by atrial fibrillation, heart failure, acute gastric dilatation related to excessive food intake, intrathoracic herniation, volvulus, acute necrotizing gastritis, ingestion of caustic substances, therapeutic embolizations, and postoperative complications. However, due to its rarity, diagnosis is often delayed. Here, the authors present the case of a 66yo gentleman with vascular disease and a history of heavy tobacco and alcohol use, who after a prolonged symptomatic period and negative work-up, sustained acute thromboembolic occlusion of the celiac trunk. Imaging showed profound isolated gastric pneumatosis. He recovered fully following total gastrectomy and superior mesenteric artery stenting.

Methods: This is a retrospective report from John L McClellan Veterans Medical Center in Little Rock, Arkansas of a single case that is rarely reported.

Results: A 66yo Caucasian gentleman with a history of bladder cancer with ileal conduit presented to our institution with complaints of a 3 month history of worsening dull abdominal pain. He presented with increasing symptoms but no signs of an acute abdomen. Evaluation with CT showed gastric pneumatosis and celiac axis and superior mesenteric artery (SMA) stenosis. Of note, a CT scan had been obtained one month prior to admission and this stenosis was not read. Gastroscopy revealed full thickness gastric necrosis from the GE junction to the antrum. He underwent emergent gastrectomy with Roux-en-Y esophagojejunostomy. An ischemic spleen was also resected. His liver appeared viable as did the remainder of his GI tract. On postoperative day one his hepatic enzymes rose markedly, and a CT angiogram was obtained that showed occlusion of the celiac axis with critical stenosis of the SMA. He underwent endovascular stenting of the SMA. He was discharged in good condition 4 weeks after admission.

Conclusion: Ischemic gastric necrosis is rare, usually requiring compromise of both the celiac axis and SMA. Because of this, gastric necrosis is usually accompanied by necrosis of multiple organs including the liver, small bowel, and right colon. Isolated gastric necrosis due to arterial insufficiency is extremely uncommon but is survivable. The endovascular approach to his SMA disease was crucial to his successful outcome.
63. ACUTE CHOLECYSTITIS AS THE PRESENTING SYMPTOM OF METASTATIC RENAL CELL CARCINOMA
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Background: Renal cell carcinoma (RCC) is the most common renal malignancy accounting for 90-95% of renal neoplasms. RCC is known to have a high metastatic potential which initially may be asymptomatic. The gallbladder is a rare site for renal cell carcinoma metastasis. Obstruction of the gallbladder neck from any cause can result in acute cholecystitis. We present a case of acute cholecystitis as the first presenting symptom of renal carcinoma.

Methods: A 65 year old male with a history of coronary artery disease and recent cardiac stenting presented with a 2 month history of intermittent right upper quadrant pain which radiated to his back and epigastrium. The pain was colicky in nature and generally occurred after eating. Two days prior to admission the pain had increased in intensity and duration. There was associated nausea, but no vomiting, fevers, chills, jaundice, acholic stools or diarrhea. The patient was admitted by the cardiology service due to concern for recurrent cardiac ischemia.

Cardiac workup was negative. Ultrasonography of the right upper quadrant demonstrated gallstones and sludge in the gallbladder. There was no ductal dilation. Minimal gallbladder wall thickening and a small amount of pericholecystic fluid was present. Liver function studies were normal. CT scan demonstrated cholelithiasis and a complex central left renal mass.

Results: The general surgery service was consulted on hospital day two and a diagnosis of acute cholecystitis was made. Laparoscopic cholecystectomy was recommended and carried out the same day. At operation, the gallbladder was grossly abnormal with inflammation and punctate hemorrhages. Laparoscopic cholecystectomy was performed. Gross analysis revealed an obstructing dark red polypoid lesion in the gallbladder neck that measured 1.4 x 1.3 x 1.3 cm. Histologic analysis was consistent with metastatic renal cell carcinoma. The patient recovered without incident and was discharged home on post op day two. He was referred to urology for consideration of nephrectomy and further workup for metastatic disease was planned by the oncology service.

Conclusion: Metastases from RCC are common and can affect almost any site. Metastatic disease is found in 25 – 33% of patients at presentation, with the most common sites in lung, soft tissue, bone, liver, skin, and the CNS. Rare metastatic sites include skeletal muscle, bowel, gallbladder, pancreas, and orbits. Previously reported cases of metastatic RCC to the gallbladder have been reported after the initial diagnosis of RCC. Reports of RCC metastasis causing acute cholecystitis are rare with the majority of these cases presenting after chemotherapy had been initiated. This case represents a rare instance of a metastatic RCC presenting with acute cholecystitis as the initial symptom. Resection of isolated RCC metastases to many different organs has been reported with long term survivals of 25-60%.
64. GIANT ADRENAL CYST: CASE REPORT
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Background: Cystic lesions of the adrenal gland are rare. Although the real incidence is not known exactly, it is reported as about 0.06–0.18%. Large-sized adrenal cysts (more than 10 cm in diameter) are associated with signs and symptoms either due to mass effect or intracystic pathology. To date only 15 giant adrenal cysts have been reported in the literature. We present a 16th case of a giant adrenal cyst in a 40 year old African female complaining of early satiety and 60 pound weight loss in 3 months.

Methods: We conducted a systematic review of all published English literature on adrenal cysts on MEDLINE (accessed via the PubMed interface) EMBASE, Web of Science, and Ovid databases, using the key words “giant adrenal cyst”.

Results: We present a 40-year-old female who has within the last 10 years emigrated from the Ivory Coast with a several-month history of abdominal distention, progressive anorexia and weight loss. She was originally admitted to the hospital with psychiatric disturbance and was admitted on a psych hold for in-patient treatment. It was during that hospitalization that it was discovered she had a cystic abdominal mass. CT scan and MRI were performed demonstrating a simple cystic mass in the left hemi abdomen measuring 19.4 cm x 26.3 cm, which was displacing the intra-abdominal, and retroperitoneal structures medially. Based on available imaging diagnostic uncertainty remained regarding the organ or origin. 24-hour urine studies were obtained and functional cystic adenoma was ruled out. She subsequently underwent diagnostic laparoscopy surgery with cyst fenestration and cyst wall frozen section. The cyst was found to be benign at frozen section and confirmed adrenal in origin intraoperatively. A laparoscopic left adrenalectomy was performed. Pathology and special markers confirmed a benign endothelial cyst. Her post-operative course was uneventful. She had complete resolution of her symptoms, including her acute psychosis.

Conclusion: Our patient underwent laparoscopic surgery with resection of the abdominal cyst and resolution of her acute psychosis. The cyst was found to be adrenal in origin and pathology confirmed a benign endothelial cyst. A thorough workup, including radiographic localization of the cyst and confirmation of the diagnosis by an inclusive endocrine evaluation, is useful if there is any suspicion about the nature of the cyst. The treatment of choice for large, symptomatic cystic lesions of the adrenal gland is surgical excision with preservation of the adrenal if possible. Laparoscopic adrenal surgery has a long history of use and is clearly identified as a significant surgical advance. It should be considered preferable for patients who require adrenal surgery if no contraindications preclude its use.
65. JEJUNOILEAL DIVERTICULOSIS WITH INTRA-ABDOMINAL ASCITES: A RARE PRESENTATION
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Background: Jejunoileal diverticulosis is a rarely encountered clinical entity. Studies have shown that jejunoileal diverticuli are found in less than 5% of all post-mortem examinations performed per year. Patients with jejunoileal diverticuli can present with a wide variety of signs and symptoms, and it is important for the surgeon to keep this unique phenomenon in the differential diagnosis of patients presenting with an acute abdomen or chronic abdominal pain of unclear etiology.

Methods: We present a case report of an 83 year old male who presented with a longstanding history of non-specific abdominal pain, distention, and ascites. Intraoperatively he was found to have jejunoileal diverticulosis.

Results: The patient had a diagnostic laparoscopy with aspiration of intra-abdominal ascites. He had multiple diverticuli of varying sizes extending throughout his jejunum and ileum. He did not require any bowel resection. He was discharged home on POD 3.

Conclusion: Jejunoileal diverticulosis is a rare clinical problem. It can manifest with a wide array of symptoms, although classically patients have the triad of obscure abdominal pain, anemia, and dilated loops of small bowel on plain films. In addition, a history of colonic diverticuli and acute appendicitis tends to correlate with jejunoileal diverticulosis. A discussion of the patient’s clinical course as well as a review of the literature on jejunoileal diverticulosis is planned for presentation.
66. NEUROFIBROMATOSIS TYPE 1 INVOLVING THE APPENDIX: A CASE REPORT AND REVIEW OF THE LITERATURE
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Background: Ganglioneuromas in patients with neurofibromatosis type 1 (NF 1) are occasionally identified in the gastrointestinal tract, however involvement of the appendix is rare. We report a new case of an appendiceal neurofibroma in a patient with NF 1, discuss the findings and clinical management of the patient, and review the literature.

Methods: A 67 year old male with a history of chronic obstructive pulmonary disease and NF 1 was incidentally found to have an enlarged appendix (1.8 cm) on CT scan without associated inflammatory changes. Although asymptomatic, the patient underwent laparoscopic appendectomy to rule out malignancy. Upon gross pathologic examination, the appendix measured 8.6 cm in length, with the distal mass measuring 3.6 x 1.9 cm. The enlarged area of the appendix was found to harbor benign neurofibromas. Immunohistochemical staining with synaptophysin, neuron specific enolase, and vimentin were negative for CD117. Postoperatively, the patient developed respiratory insufficiency and had a prolonged hospital stay, but was eventually discharged home after making a full recovery.

Results: Gastrointestinal involvement in neurofibromatosis is uncommon, but can occur in up to 25% of patients with NF 1. The most common site of involvement is the small intestine, followed by the stomach. Presenting symptoms may include abdominal pain, melena, small bowel obstruction or intussusception. However, as in the case of our patient, the initial finding may be a mass incidentally discovered on CT. Typical CT findings of appendicular neurofibromatosis include a uniformly enlarged appendix without inflammatory changes.

Conclusion: This case highlights the need to consider appendicular neurofibromatosis for patients with NF 1 who are found to have an enlarged appendix without inflammatory changes on CT scan.
67. Corynebacterium and “Idiopathic” Granulomatous Mastitis
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Background: Idiopathic granulomatous mastitis (IGM) has been reported to be a rare inflammatory condition of the breast; however, an increasing number of cases are appearing in the literature. The etiology of IGM remains elusive. Both bacterial and autoimmune etiologies have been postulated. Often the diagnosis is delayed after a number of unsuccessful diagnostic and therapeutic maneuvers. Once the diagnosis has been confirmed, a number of treatment strategies are available, none proving to be very effective. Antibiotics, steroids, methotrexate, and aggressive surgical intervention have not led to improved outcomes. This has resulted in expectant management in many cases leading to patient and clinician dissatisfaction. More recently, investigators have suggested a relationship with a variety of coryneform bacteria and successful therapy with tetracyclines.

Methods: A single case report is provided to describe the typical presentation and the usual clinical course seen in this disease.

Results: After reviewing this case report, the differential diagnosis of inflammatory diseases of the breast is presented as well as a review of the current literature on IGM. Recommendations for the diagnosis and treatment are discussed, including the role of surgical intervention and anti-inflammatory drugs. The dramatic response in this patient to doxycycline will be used to illustrate the potential benefits of therapy with this class of drug.

Conclusion: Idiopathic granulomatous mastitis is a rare, often misdiagnosed entity that seems to be increasing in its presentation. Doxycycline can be successful in resolving the symptoms and inflammation and is associated with minimal side effects and cost. The anti-inflammatory properties of tetracyclines may be as important as the bacteriostatic effects when used to treat IGM. An initial trial of doxycycline should be implemented once the diagnosis of IGM has been established.
Background: Vibrio vulnificus septicemia is a rare but often lethal condition that can present in patients with chronic liver disease, or other immunosuppressive conditions, with a recent history of raw or undercooked oyster ingestion. This organism is a gram-negative bacilli, lactose positive, halophile that grows in warm waters in the Gulf of Mexico or other coastal regions. V. vulnificus usually presents one to two days, or as late as seven days, after exposure and can manifest itself into three distinct clinical scenarios: a) gastroenteritis, b) wound infection, c) primary septicemia. We present a case of V. vulnificus septicemia that initially presented to the general surgery service as a trauma consult.

Methods: 51 year-old Hispanic male with history of alcoholic and Hepatitis C chronic liver disease presented to the emergency department complaining of right lower extremity pain. His history was significant for a fall from standing on to his right leg the day before and consumption of raw oysters three days before presentation. Examination of the right leg was unremarkable except for edema. Plain films and doppler US looking for DVT were negative. He was admitted to the ICU for septic shock, started on broad spectrum antibiotics, and required vasopressors, despite adequate fluid resuscitation. Over the next twenty four hours his right leg edema significantly worsened along with increased pain. The patient was taken to the operating room for fasciotomies, which revealed viable muscle, and no signs of fasciitis. The patient developed worsening bilateral lower extremity edema, which progressed to erythema, purple discoloration, bullae formation with epidermal sloughing and eventual full thickness necrosis over the next several days. The patient at that time underwent bedside debridement revealing full thickness necrosis without extension into the underlying facia. Blood and wound cultures showed gram negative bacilli, at which time the patient was started on doxycycline and ceftazidime. Final cultures showed Vibrio Vulnificus with his recent oyster consumption as the likely source. With appropriate antibiotic therapy and local wound control the patient’s bacteremia resolved, however the patient eventually succumb to his liver failure.

Conclusion: Although seemingly uncommon, Vibrio vulnificus septicemia is the most common cause of seafood-related fatalities. Septicemia is associated with a high mortality rate. Early recognition and treatment, including debridement of necrotic tissue is important. Surgeons play a crucial component in treatment of these patients and therefore should be familiar with the typical presentation and medical/surgical interventions required.
Background: This report describes a rare but potentially lethal sequelae of pulmonary artery pseudoaneurysm [PAP] in a pediatric patient after penetrating chest trauma. The patient is an 11-year-old boy who arrived to our facility in PEA after sustaining multiple stab wounds to the left chest and extremities. He was successfully resuscitated using ATLS. A left chest tube was placed which revealed a 700ml hemopneumothorax. He was subsequently taken to the operating room where a pericardial window and intraoperative transesophageal echo failed to reveal additional injuries. The chest tube was removed on post-injury day 7 and after improvement of his mental status, was extubated on post-injury day 9. On post-injury day 12, the patient experienced cardiopulmonary arrest after an episode of massive hemoptysis. He was successfully intubated and after a massive transfusion, was successfully resuscitated. Esophagogastroduodenoscopy revealed a large amount of gastric blood clot and some mucosal hyperemia but no gastrointestinal source was discovered to account for the massive blood loss. CT scans of the chest, abdomen and pelvis were obtain which revealed a poorly delineated, radiolucent area in the lingual of the left lung. After a CT pulmonary arteriogram and formal arteriogram failed to further clarify this lesion, a cardiac gated computed tomography revealed the 5.5mm pseudoaneurysm arising from the lingular branch of the left pulmonary artery. This was successfully embolized on post-injury day 14. The patient was subsequently discharged to a pediatric inpatient rehabilitation facility on post-injury day 31. At six months post-injury, the patient had returned to school and was doing well. Pseudoaneurysm represents a rare, but potentially lethal sequela of penetrating chest injuries. Clinical factors which warrant further diagnostic evaluation include: hemoptysis and persistent or new opacities on chest roentgenogram or computed tomography scan. To our knowledge, this is the first reported case of a pediatric PAP managed with endovascular coil embolization after penetrating chest trauma.

Methods: Review of literature and hospital chart

Results: Successful coil embolization of pulmonary artery pseudoaneurysm.

Conclusion: Pulmonary artery pseudoaneurysm is a rarely reported entity. Pseudoaneurysm is a sequela of arterial wall disruption from penetrating or blunt trauma. Diagnosis is based on a high index of suspicion. Endovascular techniques can be used in the management of pulmonary artery pseudoaneurysms.
Background: Colonic diverticula are outpouchings of mucosa and submucosa through the wall of the colon. Between 10 and 25% of patients with diverticulosis will suffer from diverticulitis. The sensitivity and specificity of computed tomography (CT) scan in identifying acute diverticulitis is close to 100%. Patients treated with immunosuppressive medications have a more complicated course and worse outcomes when they are afflicted by acute diverticulitis. We present a case of an immunocompromised patient who presented with abdominal pain and had a CT scan that was negative for acute diverticulitis who perforated several days after admission while on intravenous antibiotic therapy.

Methods: This is a case report and review of the literature.

Results: A 72 year old man, 16 months status post bilateral lung transplant and 1 week status post high dose corticosteroid treatment (1 gram methyprednisolone daily) for acute rejection, presents to the emergency department with 2 days of acute abdominal pain. On exam the patient exhibited bilateral upper quadrant pain without any signs of peritonitis. Laboratory studies revealed a mild leukocytosis (WBC 13.8 x 10⁹) and lactic acidosis (3.9 mmol/L). An abdominal CT scan revealed diverticulosis without evidence of diverticulitis and no other acute pathology. Due to a high suspicion for an intra-abdominal process the patient was admitted for evaluation. Management included NPO, intravenous fluid, broad spectrum intravenous antibiotics, and serial abdominal examinations. He began tolerating an oral diet and had return of bowel function however; a worsening leukocytosis and persistent abdominal pain prompted a repeat CT scan. This revealed a frank perforation in the sigmoid colon with associated pneumoperitoneum, free fluid in the pelvis and pericolic fat stranding. The patient underwent an emergency laparotomy with segmental sigmoid colectomy and end colostomy. He convalesced without sequelae and was discharged to home on post-operative day nine.

Conclusion: Immunocompromised patients with abdominal pain remain a diagnostic and management challenge. Classic findings of fever, peritonitis and leukocytosis may be absent, leading to delays in diagnosis. CT scan, though still recommended for diagnosis of acute diverticulitis, may not be as sensitive in this patient population. Immunocompromised patients suspected of uncomplicated diverticulitis should be managed with in-patient admission and close observation. Treatment with intravenous antibiotics and fluid therapy is warranted. Based on a review of the literature, a low threshold for early operative intervention may be reasonable, as these patients have an increased need for an emergent operation with a greatly increased rate of mortality compared to the general population.
71. FOURNIER GANGRENE WITH RECONSTRUCTION
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Background: Fournier’s gangrene is a necrotizing soft tissue infection of the perineum defined by its severity, rapid progression, significant morbidity and mortality. Early diagnosis and treatment is critical as mortality ranges from 30-40% for all cases. Therapy includes aggressive, wide, surgical debridement to normal tissue, along with early broad-spectrum antibiotics. The majority result from polymicrobial infections. Successful treatment often leaves patients with disfiguring and disabling defects. Following stabilization, adequate debridement, and wound healing, reconstructive options can be considered. This is a case of Fournier’s gangrene resulting in a large perineal wound. The patient had unusual involvement of the testicles and penile shaft that was treated with debridement and then perineal wound closure using a V to Y fasciocutaneous advancement flap.

Methods: na

Results: The patient is a 52 year old male with a history of uncontrolled diabetes, cirrhosis, and malnutrition. Four days prior to presentation the patient developed a boil on his buttocks that was treated with antibiotics. He developed worsening pain, fever and foul smelling drainage from the wound over the next several days which prompted his ER visit. On evaluation in the ER the patient was noted to be tachycardic, with altered mental status. He had significant erythema, and swelling of his perineum, along with ecchymosis of his scrotum. A small ulceration of the scrotum with foul drainage was also noted. Admission labs included WBC 31,000, and carbon dioxide of 15. Fluid resuscitation and broad spectrum antibiotics were started. The patient was taken urgently to the OR for wide local debridement of his perineum and complete scrotal resection. Further investigation showed complete involvement of the foreskin requiring excision. There was thrombosis of bilateral testicular vessels necessitating right and left orchiectomy. Operative therapy concluded with an end colostomy and open wet to dry packing of the wound. Two weeks later he underwent final closure of his perineal wound using a V to Y fasciocutaneous advancement flap from the medial thighs with its vascular pedicle off branches of the pudendal artery. A meshed, 1.5 to 1 split thickness graft was used for penile shaft coverage to dartos fascia. Flap coverage allowed timely and aesthetic wound closure to this devastating perineal wound.

Conclusion: Fournier gangrene is rarely seen but, morbid and potentially lethal. This case was characterized by massive perineal tissue destruction. This disfiguring and disabling defect can be addressed by a variety of means, one of which is a V to Y fasciocutaneous advancement flap.
72. PRE-HOSPITAL PREDICTORS OF COAGULOPATHY IN PEDIATRIC TRAUMA PATIENTS
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Background: Coagulopathy is a common consequence of severe trauma, and can contribute to further bleeding, shock, multiple organ failure, or death. We sought to determine pre-hospital predictors of coagulopathy in pediatric trauma patients and identify those likely to require intervention.

Methods: Following IRB approval (#201104244), all 441 children presenting to a level I pediatric trauma center (1/1/06-12/31/08) with “trauma stat” emergency unit activation were retrospectively reviewed. Children with burn injury, no coagulation panel, or no pre-hospital care were excluded. Coagulopathy was defined as INR>1.2. Multiple logistic regression was used to identify pre-hospital variables predictive of coagulopathy, and a predictive model was created and validated (p<0.05 significant).

Results: Over the 3-year period, 441 patients (12.1% of trauma registry) had “trauma stat” activation, 324 (73.5%) met inclusion criteria (mean age 11.8±0.3 years, Injury Severity Score [ISS] 14.7±0.7), and 102 (31.5%) were coagulopathic. Multiple logistic regression identified scene blood pressure, heart rate, intubation, auto vs. pedestrian and head/torso gunshot wound mechanisms as independent predictors. Either mechanism with intubation, hypotension, and tachycardia yielded a 97% probability of developing coagulopathy. Validation testing of the model yielded a 61% positive predictive value and a 79% negative predictive value. Additional predictors not in the model include Glasgow Coma Score ≤8, hyperglycemia (>175mg/dl), and cardiopulmonary resuscitation with odds ratios of 7.2 (95%CI 4.0-13.2), 8.1 (95%CI 4.5-14.6), and 38.1 (95%CI 5.2-785.3), respectively. Compared to their non-coagulopathic counterparts, coagulopathic patients more often required transfusions of fresh frozen plasma (25.5% vs. 0%), transfusions <40ml/kg (38.2% vs. 4.1%), massive transfusions (>40ml/kg first 24 hours, 14.7% vs. 0%) and had a higher mortality rate (24.5% vs. 0%) (p<0.05, respectively). When controlled for ISS, the need for transfusion remained significantly greater in coagulopathic patients (p<0.05).

Conclusion: Coagulation abnormalities on presentation are frequent in injured children and are associated with greater injury severity and poor outcome. Pre-hospital scene variables can predict children likely to present coagulopathic. This information can help avoid delays from testing on arrival and allow for earlier blood bank readiness and intervention.
73. USE OF ALVIMOPAN IN POSTOPERATIVE PATIENTS WITH NASOGASTRIC TUBES: RESULTS FROM A UNIVERSITY MEDICAL CENTER
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Background: Alvimopan is indicated for acceleration of upper and lower gastrointestinal (GI) recovery after partial bowel resection (BR) and has been associated with decreased length of stay (LOS). However, its use has not been studied in patients with nasogastric tubes (NGTs) left in place after surgery. This study was conducted to determine if alvimopan use with an NGT is feasible and if the use of alvimopan is of value in the reduction of POI or decrease in LOS.

Methods: A retrospective review was conducted of patients who underwent an open BR before and after alvimopan use began at a single institution. All patients had a NGT placed intra-operatively. The surgeries were performed between January 2007 and December 2009 by two colorectal surgeons and all patients were managed with a standardized care pathway. One dose of alvimopan 12mg was given pre-op, then twice daily post-op for up to 14 post-op in-hospital doses. Alvimopan was swallowed around the NGT, and the tube remained clamped for 30 minutes after each dose. The primary outcome was post-op LOS. Secondary outcomes included post-op ileus (POI; defined as reversion to nothing by mouth [NPO] status or post-op NGT reinsertion), GI recovery endpoints (first flatus, bowel movement [BM], first oral intake), readmission, and complications.

Results: One hundred patients in each cohort were identified and seven cases were excluded in the alvimopan cohort because standard dosing was not followed. Mean patient age was 59 years and ~half were male. The mean number of alvimopan doses was 10.5. Mean postoperative LOS was one day shorter in the alvimopan cohort compared with the control cohort (p=ns), and the alvimopan cohort began PO intake 0.8 days sooner (p= 0.035). The duration of initial NGT use was 0.28 days shorter in the alvimopan cohort compared with the control cohort (p=ns). The incidence of POI was less in the alvimopan cohort (5% vs.10%), but was not statistically significant. Readmission (4% vs. 4%) and complication (47% vs. 51%) rates were comparable between alvimopan and control cohorts, respectively.

Conclusion: The use of alvimopan in patients with a NGT was feasible and is associated with a decreased incidence of NGT reinsertion or POI. Additionally, use of alvimopan may also decrease postoperative LOS in BR patients.
74. THE IMPACT OF THYROIDECTOMY ON PATIENT’S QUALITY OF LIFE
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Background: It is well known that after successful parathyroidectomy, the majority of patients have improvements on several quality of life (QOL) measures. We sought to compare the QOL changes in patients undergoing thyroidectomy with patients undergoing parathyroidectomy to better understand which symptoms show improvement in the two groups, as well as to determine whether there are differences in improvement based on age and gender.

Methods: In a prospective design, 94 patients with primary hyperparathyroidism and 97 patients with thyroid disease were recruited. Each patient received the Parathyroidectomy Assessment of Symptoms (PAS) survey pre-operatively and 7-10 days post-operatively. Symptoms were summarized and recorded as a PAS summary score and differences based on age and gender were analyzed.

Results: Although the PAS is designed to measure symptoms for patients with parathyroid problems, we found that surgical intervention improves QOL for both parathyroid and thyroid disease patients. The improvement in QOL for parathyroidectomy patients was greater than for thyroidectomy patients (parathyroidectomy, 238 pre-op vs. 135 post-op; thyroidectomy, 190 pre-op vs. 130 post-op; p=0.035). Interestingly, we also found differences based on gender and age. Women reported significantly worse pre-operative QOL than men (315 female vs 159.5 male in parathyroid patients, p=0.008; 197.5 female vs 140 male in thyroid patients, p<0.024). Moreover, surgery improved QOL for women in both groups, while surgery did not improve QOL for men in either group (for women, ΔPAS= 170, p<0.001 in parathyroid patients vs. ΔPAS=65, p=0.003 in thyroid patients; for men, ΔPAS= 1, p=0.703 in parathyroid patients vs. ΔPAS =−40, p=0.950 in thyroid patients). Finally, age correlated inversely with QOL for parathyroid patients, but not thyroid patients (rho=−0.220, p=0.033).

Conclusion: We report here the novel finding that thyroidectomy improves patients’ QOL within the first 7-10 days after surgery. Additionally, gender and age are factors in change of QOL pre- and post-op. Our findings of an improved QOL in thyroidectomy patients differ from previous studies. This may be due to some significant strengths in our study design. First, to our knowledge this is the largest study cohort to compare parathyroid and thyroid patients. Second, our study includes patients with symptomatic and malignant thyroid disease, which to our knowledge also has not been done previously. The combination of increased statistical power and inclusion of symptomatic and cancer patients may account for the differences we found in improved QOL for thyroid patients. As female thyroid patients are significantly more likely than males to report pre-operative symptoms, more data is needed to determine whether there is a biological or hormonal basis for the difference in symptoms based on gender. Endocrine surgeons and patients should consider these findings when discussing surgery as a treatment option for these non-specific symptoms.
75. SHOULD “FOUND DOWN” PROMPT A TRAUMA ACTIVATION?
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Background: Trauma triage criteria have been well established for major injury
mechanisms, but do not apply when the mechanism is unknown. Patients “found down”
do not fit in our local trauma triage scheme, but many arrive as major traumas to exclude
major head or other injuries. Triage of these patients is difficult because most have
abnormal mental status due to alcohol or other intoxication. It was our hypothesis that
these patients rarely have life-threatening injuries, a potential misuse of trauma resources.
We undertook this review to determine if specific field criteria could be used to exclude
major injury in patients “found down” or identify those who will benefit from a trauma
team.

Methods: Two years of trauma registry data were queried for patients with a pre-
hospital complaint of “found down.” Excluded were patients with obvious major injury
mechanisms (e.g. “found down a 100’ embankment”). Patient records were analyzed for
pre-hospital data, status on arrival to trauma bay, injuries, treatments, and outcomes

Results: There were 222 patients who met criteria; 105 were discharged from ED and
117 were admitted, 55 to ICU. Nine patients (4%) had emergency craniotomies, the
only emergency operations required. Multiple facial (11) and other (20) fractures were
identified, none life or limb threatening. Nine patients died, all after withdrawal of
support: 7 patients with severe head injuries, one with basilar artery aneurysm bleed, and
one post cardiac arrest at the scene. Pre-hospital data indicating increased risk for major
head injury included: GCS deterioration at scene, external evidence of injury or blood
loss, and focal neurologic findings. However, 4 patients requiring emergency craniotomy
had none of these findings on initial evaluation.

Conclusion: 1. Most patients presenting with a history limited to “found down” do not
have major or immediately life-threatening injuries. 2. However, patients “found down”
who arrive in the ED with altered mental status may have intracranial hemorrhage and
should have rapid resuscitation, evaluation, and immediate head CT. 3. Information
available at scene can help identify patients “found down” who are at high risk for injury,
but cannot reliably exclude all patients requiring emergency craniotomy.
Background: To evaluate the pattern of recurrence after pancreatoduodenectomy for resectable pancreatic cancer and its association with R0 and R1 resection status.

Methods: We performed a retrospective analysis of consecutive resections for pancreatic adenocarcinoma performed at our institution between 1999 and 2009. Post-operative pancreatic-protocol CT scans were utilized to evaluate for loco-regional versus systemic recurrence. Patients were separated into groups on the basis of the recurrence pattern and resection status, association was compared using the Fisher exact test.

Results: During the study period, 427 operations were performed. Overall, 67 (15.7%) were diagnosed with recurrent disease on CT scan. Of these 67 patients, 49 patients underwent R0 resections and 18 had R1 resections. For patients with R0 resections, 12 (24%) had loco-regional recurrence and 37 (76%) with systemic recurrence. For patients undergoing R1 resections, 4 (22%) had loco-regional recurrence and 14 (78%) had systemic recurrence. There was no association between R status and pattern of recurrence (p = 0.69).

Conclusion: After pancreatoduodenectomy for pancreatic adenocarcinoma a R0 resection has no difference in systemic versus loco-regional recurrence when compared to a R1 resection.
79. IMPACT OF ATRIAL FIBRILLATION ON LENGTH OF STAY AFTER LUNG RESECTIONS FOR NON-SMALL CELL LUNG CANCER IN PATIENTS OVER 75
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Background: Atrial fibrillation is a well-documented complication of lung resections for non-small cell lung cancer (NSCLC). Previous studies have shown atrial fibrillation may increase length of stay (LOS) and mortality after lung resections. The purpose of this study is to compare the rates of atrial fibrillation between minimally invasive and open lobectomies for NSCLC in patients over 75 and document the impact of atrial fibrillation on LOS.

Methods: This is a retrospective chart review on all patients over 75 who underwent a minimally invasive or open lobectomy for NSCLC between 2002 and 2012 at a single institution. The rate of atrial fibrillation and LOS was calculated for each group. Data was analyzed to determine the impact atrial fibrillation has on LOS after a minimally invasive or open lung resection.

Results: VATS lung resections were performed in 26 patients. The rate of atrial fibrillation post-operatively was 30.8%. LOS after a VATS lobectomy for patients with atrial fibrillation was 8.0±3.3 days compared with 6.9±4.2 days in patients without atrial fibrillation (p=0.52). Open lung resections were performed through a muscle sparing, mid-axillary incision in 48 patients. The rate of atrial fibrillation in the thoracotomy group was 45.8%. LOS after a thoracotomy for patients with atrial fibrillation was 14.7±13.1 days compared with 9.6±5.0 days in patients without atrial fibrillation (p=0.07).

Conclusion: Atrial fibrillation occurred less often in the VATS group, but was still a common complication. LOS after a VATS lobectomy did not significantly change for patients with atrial fibrillation. The increased LOS in the thoracotomy group is likely not attributable to atrial fibrillation alone, but likely due to increased pulmonary complications. This includes pneumonia, atelectasis, and prolonged air leaks.
QUICK SHOT
ABSTRACTS
Background: The laparoscopic preperitoneal approach has been reported to result in lower complications risks, less pain and quicker return to activity compared to other repairs. Many surgeons currently favor the use of self adhesive mesh for inguinal hernia repair, however there is little published data on the use via the laparoscope, done totally extraperitoneal. We present our experience with laparoscopic preperitoneal inguinal hernia repair using self-adhesive “Velcro type” mesh.

Methods: A retrospective review of patient charts was conducted from 2010 to 2012. Data assessed were age, sex, body mass index (BMI), indications for hernia repair, hernia type, pain, paresthesia, recurrence, complications and patient satisfaction. Descriptive and regression analysis was performed.

Results: One hundred and ninety-five (N=195) patients underwent same-day laparoscopic pre-peritoneal surgery using self-adhesive mesh for hernia repairs. Patients were 55 years old (range 19-86), male (92%) and had mean BMI of 26.4 kg/m². Primary hernia was more frequent than recurrent hernia (87% vs. 14%), p<.001. Unilateral and bilateral hernias were identical (49% vs. 51%), p=.806. The majority of patients reported no more than minimal pain (83% vs.17%) p<.001. Two percent reported paresthesia and reoccurrence rate was 1%. There were six conversions due to severe adhesions, irreducible hernia sac, and densely attached rectus sheath. There were no problems with anesthesia and no bladder injuries. Ninety six percent of patients were satisfied with their surgical results at two weeks follow-up. Neither post operative acute pain nor conversion rate was explained by age (p=.777), sex (p=.341), BMI (p=.640) unilateral or bilateral hernia (p=.359) or pre-operative pain (p=.716).

Conclusion: The use of the self-adhesive “Velcro type” mesh we believe contributes to reduced pain, lower recurrence rates, and quicker return to activity with no identifiable increased risks of complications. Prospective, long-term follow-up studies will be required to fully document the benefits and risks of this procedure.
3. CHANGES IN LIPID PROFILE AFTER LAPAROSCOPIC GASTRIC BYPASS VS. GASTRIC BANDING: A MATCHED COHORT STUDY

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Background: Obesity and hyperlipidemia are risk factors for the development of coronary artery disease. We examine the changes in serum lipid profile in morbidly obese patients who underwent laparoscopic gastric bypass vs. gastric banding.

Methods: We reviewed the charts of patients who underwent bypass or banding with available fasting lipid profile measured preoperatively and at 1 year. The two groups were matched for age, gender, and body mass index (BMI). Hyperlipidemia was defined as having elevated levels of triglyceride (TGL) >150 mg/dL or cholesterol (TC) >200 mg/dL or patients receiving lipid-lowering agents. Other lipid parameters such as HDL, LDL, and VLDL levels were also examined.

Results: The two groups were comparable with regard to age, BMI, gender, and baseline TGL and TC levels. The mean excess weight loss at 12 months was 68.4% for bypass vs. 31.5% for banding. The proportion of patients with hyperlipidemia at baseline was 87.5% for bypass vs. 78.1% for banding (p>0.05). At 12 months follow-up, TGL, TC, HDL, LDL & VLDL levels significantly improved after bypass while only TGL and HDL levels improved after banding. Resolution or improvement of hyperlipidemia at 12 months occurred in 78.6% of patients after bypass vs. 44.0% of patients after banding (p<0.01) while new onset hyperlipidemia occurred in 0% of patients after bypass vs. 14.3% of patients after banding.

Conclusion: Gastric bypass is associated with better weight loss and better correction of hyperlipidemia.
Background: The purpose of this study is to examine if hospital admission on a major holiday impacts outcomes of a common surgical pathology and operation.

Methods: The North Carolina Patient Data System was queried for all adult patients admitted with small bowel obstruction (SBO) using ICD-9-CM codes from 2006-2010. Holidays (Christmas, Christmas Eve, Thanksgiving, July 4th, Easter, and New Year’s, Memorial, and Labor day), the day after holidays, and unrelated weekday outcomes were evaluated. Outcomes included length of stay (LOS), ICU stay, operative intervention during admission, time to operative intervention, and mortality. Infection, wound, gastrointestinal (GI), urinary (GU), pulmonary, cardiac, systemic and procedural complications were also evaluated.

Results: A total of 35,536 patients met inclusion criteria. 33,832 were admitted on weekdays (W), 757 on holidays (H), and 947 on the day after a holiday (AH). There was no difference in mean age (years) for W (61.0), H (61.4) or AH (61.2); p>0.05. Gender (percent male) was also similar for W (43%), H (46%) and AH (44%); p>0.05. Charlson Comorbidity Index (CCI) was higher for W (1.32) than H (1.10) and AH (1.23); p<0.05. More patients were admitted through the emergency room on H (72%) than W (56%) or AH (59%); p<0.01. No difference was found between W vs H for wound, GI, GU, pulmonary, or cardiac complications. However, infection complications were slightly higher in W vs H (2% vs 1%; p=0.04), as were procedural (3% vs 1%; p=0.01) and overall complications (16% vs 12%; p<0.01). No difference in complications was found when comparing W vs AH, except for higher systemic complications in W vs AH (0.3% vs 0.6%; p=0.04). More patients admitted on W (38%) underwent an operation vs H (31%) and AH (33%); p<0.01. Days from admission to operation were similar for W, H, and AH (2.6, 2.4, and 2.2; p>0.05). However, H (30%) were less likely to undergo an operation the day of admission than W (40%); p<0.01. When comparing the patients who underwent an operation, LOS was similar for W (12.9), H (12.3), and AH (12.2); p>0.05. Likewise, CCI was similar among surgical patients for W (1.22), H (1.12), and AH (1.23); p>0.05. However, mortality was higher for H (8%) than W (5%) and AH (4%) if patients had an operation for SBO; p<0.05.

Conclusion: Patients presenting with small bowel obstruction on holidays have similar LOS and mortality compared to those presenting during the week or the day after holidays, but they were less likely to have surgery immediately. However, those patients requiring an operation on holidays had a higher mortality, despite similar comorbidity scores.
5. OUTCOMES COMPARISON OF HIGH AND LOW VOLUME LAPAROSCOPIC VENTRAL HERNIA REPAIR CENTERS

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Background: With the development of LVHR, wide-spread utilization of mesh reinforcement during repair and the evolution of specialized hernia referral centers, the focus of adequate surgical outcome in LVHR has shifted from recurrence rates toward improvement in quality of life measures. The purpose of this study is to compare ventral hernia repair (VHR) performed at high volume laparoscopic centers to low volume laparoscopic centers in terms of surgical complications and quality of life (QOL) outcomes from an international hernia database.

Methods: Prospective patients undergoing VHR were entered into the International Hernia Mesh Registry, a prospective, multi-center database. Centers with >50 VHR were further classified as high (HV) or low volume laparoscopic centers (LV) based on a 60% of VHR performed as LVHR. Surgical complications and QOL outcomes, measured by the Carolinas Comfort Scale, at 1, 12 and 24 months were then compared for open (OVHR) and LVHR techniques between HV and LV. Standard statistical analysis was performed.

Results: A total of 6 centers were identified (2 HV, 4 LV) at which 573 VHR (293 OVHR, 280 LVHR) were performed. Patient demographics were as follows: age-56.7±13.7 years, 53% male, defect size-83.2±129.6cm². Length of follow-up was 613.8±330.9 days. HV performed 176 total VHR (75.0% LVHR, avg. 66 LVHR/center) while LV performed 397 VHR (37.3% LVHR, avg. 37 LVHR/center). In comparing HV vs. LV, there were no differences noted in post-operative seroma, hematoma, hernia recurrence or wound complications in OVHR or LVHR. For OVHR, no significant differences between HV and LV were seen in post-operative pain, movement limitation or mesh sensation at any follow-up time point. At 1-month follow-up, patients who underwent LVHR at HV experienced less pain (31.5% v 68.5%, p=0.03), movement limitation (28.6% v 71.4%, p=0.01) and mesh sensation (22.5% v 77.5%, p=0.02) than LVHR at LV. Using multivariate regression (MVR) and controlling for known confounders (recurrent hernia, gender, age, pre-operative pain), odds ratio (OR) of having movement limitation and mesh sensation at 1-month for LVHR at LV were: 2.0 (p=0.03) and 2.5 (p=0.03); OR for pain at 1-month was not significant (p>0.05). At 12-month follow-up, LVHR patients at HV experienced less pain compared to LVHR at LV (30.9% v 69.1%, p=0.01); no significant difference was noted in movement limitation or mesh sensation. Using MVR, OR of pain at 12 months for LVHR at LV was 2.7 (p=0.01). At 24 months, there was no difference in QOL for LVHR between HV and LV.

Conclusion: This study demonstrates LVHR can be safely performed at high and low volume laparoscopic hernia centers with no difference in surgical complications. However, patients are more likely to have decreased post-operative quality of life in the short term (increased movement limitation and mesh sensation) and increased pain in the long term (up to 1 year) if repaired at a low volume laparoscopic hernia center.
6. THE NATURAL HISTORY OF ANEMIC PATIENTS AFTER COLORECTAL CANCER SURGERY
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Background: Despite a multitude of previous research that has reported the effects of anemia on the patient undergoing colorectal surgical procedures, there is a relative lack of knowledge as to what happens to these patients after the typical 30-day postoperative observation window closes. The natural history of perioperative anemia and particularly its long-term implications are less well-understood. The objective of this study was to evaluate the resolution of perioperative anemia, onset of adjuvant therapy, and survival.

Methods: After IRB approval, the medical records of patients who underwent surgical resection for colorectal cancer (CRC) from 1/2006-6/2012 were reviewed. Hemoglobin (Hgb) levels were reviewed at discharge, 30 days, and 6, 12, and 24 months postoperative. Anemia was defined according to World Health Organization criteria (men Hgb<13g/dL; women Hgb<12g/dL) in the immediate postoperative period (within 14 days postoperative). Statistical analysis included χ² and Wilcoxon rank sum.

Results: There were 390 patients who met inclusion criteria. Mean age was 68.4 years, and 51% were men. Overall, 58% of patients were anemic preoperatively. In the immediate postoperative period, 93.6% of patients were anemic. Of these patients, 153/184 (83.2%), 164/257 (63.8%), 95/203 (46.8%) and 94/125 (75.2%) remained anemic at 30 days, 6, 12, and 24 months postoperative, respectively. Thirty-nine (10.0%) patients with anemia received a blood transfusion. Thirty-day complications were not associated with preoperative anemia. These complications included 9 (3.0%) patients with an anastomotic leak (1.7% vs. 4.8% in the anemic and non-anemic groups, respectively; P=.170); 34 (11.3%) patients with surgical site infections (13.6% vs. 8.0% in the anemic and non-anemic groups, respectively; P=.128); 6 (2.0%) patients with intra-abdominal abscess (all in the anemic group; P=.043), 10 (3.3%) patients with a urinary tract infection (4.0% vs. 2.4% in the anemic and non-anemic groups, respectively; P=.531); and 4 (1.3%) patients with a DVT/PE (all in the anemic group; P=.090). 30-day, all-cause readmission rates were 51/358 (14.0%) and 3/25 (12.0%) for patients with anemia and without anemia (P=.783). 30-day mortality rates were 2.2% for anemic and 4.0% for non-anemic patients (P=.573). One hundred twenty-six (32%) patients underwent adjuvant therapy (32% in both the anemic and non-anemic groups, P=.990). Median time to starting adjuvant therapy was 45 and 45.5 days for patients with and without anemia, respectively (P=.999). Survival at 6 months, 1 and 2 years postoperative was 95.3%, 91.2%, and 82.9% for anemic patients.

Conclusion: Over long-term follow-up, anemia after CRC surgery appeared to persist in nearly half of our study population up to 2 years postoperatively. Patients with anemia in the perioperative period did not experience a significant increase in postoperative morbidity, mortality, or a delay in time to starting adjuvant treatment.
7. TRACH & PEG: THE ODD COUPLE
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Background: The synchronous placement of a surgical feeding gastrostomy (GTUBE) at the time of tracheostomy (TRACH) is a common practice. It is regarded that TRACH is an essential part of intensive care; however the indications for a GTUBE are less well defined. In addition, the placement of a GTUBE has concrete risks such as leak or dislodgement. Our hypothesis is that a concomitant GTUBE and TRACH does not improve patient outcome.

Methods: A retrospective review of the 2008 National Trauma Data Bank was performed to identify all patients who underwent a TRACH (n=11256). Those patients who also had placement of a GTUBE (at any time, n=5778) were subdivided into synchronous (SYNCH, n=3413) versus metachronous (META, n=2365) procedures. Univariate and multivariable analyses were used to evaluate patient demographics, length of stay (LOS), intensive care unit days (ICU), discharge destination (DD), injury severity (ISS), and pre-existing conditions (PEC) on their influence for placement of a GTUBE.

Results: Univariate analysis for placement of a GTUBE vs. TRACH only groups found that patients had no difference in ISS or age. GTUBE patients had more ventilator days, and higher prevalence of congestive heart failure (CHF), dementia, and stroke (CVA). Additionally, fewer obese patients received a GTUBE. Multivariable logistic regression was performed for GTUBE placement vs. TRACH only. The following PEC remained significant: CVA (OR 1.84 p<0.001), CHF (OR=1.34 p=0.034), and obesity (OR 0.63 p<0.001). Level 2 trauma centers, as compared to Level 1 trauma centers, were less likely to place a simultaneous GTUBE(OR 0.79 p<0.001). Patient LOS, ICU, and DD were not impacted by GTUBE placement. Similar findings were obtained upon subset analysis comparing TRACH vs. SYNCH and TRACH vs. META.

Conclusion: The synchronous placement of a GTUBE and TRACH appears to be a matter of convenience or at the discretion of the operating physician, and does not influence DD, LOS, or ICU. Concomitant procedures avoid the hazards of multiple exposures to anesthesia; however delayed placement may allow some patients to recover function thus rendering a GTUBE unnecessary. As placement of a GTUBE is not without risk, further study is needed to determine the optimal surgical timing.
8. PERCUTANEOUS ENDOSCOPIC GASTROSTOMY IN THE CRITICALLY ILL: SAFE TO PLACE IN THE INFECTED PATIENT
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Background: Prior studies of percutaneous endoscopic gastrostomies (PEGs) have reported minor infectious complication rates between 6% and 8%. Recent meta-analyses have demonstrated that the use of pre-procedural antibiotics decreases the risk of infection by 15 to 19%. There is extensive literature examining PEG infection risk and antibiotic use, however the critically ill surgical population is poorly represented. Moreover, many of our patients who are undergoing PEG placement are already receiving antibiotics for known infection and the addition of peri-procedural antibiotics is viewed as unnecessary. We hypothesized that the omission of peri-procedural antibiotics for PEG placement in patients already on antibiotics would not confer a greater infection risk.

Methods: We retrospectively reviewed PEGs placed in 130 surgical ICU patients at a major teaching hospital over 24 months ending in June 2012 and examined timing of antibiotic dose and type of antibiotic given. Patients were separated into 2 groups: (1) Those who received antibiotics within 24 hours of PEG placement, and (2) Those who did not receive any antibiotics within 24 hours of PEG placement. Charts were reviewed and any documented infection at or near the PEG site in any note, nursing or physician, was recorded as an infectious complication. Fisher’s Exact test was used to compare the two groups.

Results: Of the 130 surgical ICU patients examined, Group 1 consisted of 109 patients (83.8%). Group 2 consisted of 21 patients (16.2%). There were no infections in Group 1 and Group 2 had two documented infections (9.5%). There was a statistically significant difference in infection rate between Groups 1 and 2 (p=.03). Of the patients in Group 1, 96 (88%) were receiving daily antibiotic treatment for an active infection at the time of PEG placement. 13 (12%) patients received only peri-procedural antibiotics specifically for PEG placement. The overall infection rate for PEG placement in our population was 1.5%, with 9.5% risk of infection in patients who do not receive antibiotics.

Conclusion: Infection risk for PEG placement in critically ill surgical patients is similar to what has been previously described in other patient populations. If a patient is already being treated with daily antibiotics, it is unnecessary to add any extra peri-procedural antibiotics. The presence of known or suspected infection in critically ill patients does not preclude PEG placement in those patients already receiving antibiotic therapy.
10. CENTRAL VENOUS CATHETER CHANGE OVER GUIDEWIRE: RATE OF CATHETER-RELATED BLOOD STREAM INFECTIONS COMPARED WITH PRIMARY CENTRAL VENOUS CATHETER INSERTION

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Background: Central line associated blood stream infections (CLABSI) are considered preventable hospital acquired illnesses that have become a nationwide quality measure. Little data exists on the rate of CLABSI following central venous catheter (CVC) change over wire (COW). The purpose of this study was to evaluate our hospital’s rate of CLABSI following COW.

Methods: Our 874 bed urban teaching hospitals trauma and surgical critical care registry was queried from 2008 to 2011 for CVC insertion and COW using CPT coding. This was cross-referenced with our infectious disease database for documented CLABSI during the same period. All patients with documented CLABSI following COW were evaluated. COW were performed by our critical care surgeons or under their direct supervision in our surgical trauma intensive care unit.

Results: In total, 14,227 patients were identified that underwent CVC insertion. Mean days till CLABSI in all CVC patients was 7.5 ± 5.6 days. Mean days until CLABSI in patients following COW was 7.8 ± 7.8 days. When evaluating all patients undergoing COW, mean duration of their initial line was 4.5 ± 4.0 days and 6.2 ± 4.8 days for their second line following COW. Rate of CLABSI was higher in COW compared with primary CVC (N=62 (0.44%) vs N=4 (1.3%) p=0.028). The initial line prior to COW was a 9 Fr introducer sheath (IS) in 179 (57.2%), triple lumen catheter (TL) in 111 (35.5%), quadruple lumen catheter (QL) in 12 (3.8%), Swan-Ganz catheter (SG) in 7 (2.2%), and temporary hemodialysis catheter (HD) in 4 (1.3%). The second line placed utilizing COW was a TL in 205 (65.5%), QL in 89 (28.4%), HD in 13 (4.2%), IS in 5 (1.6%), SG in 1 (0.3%). For the patients undergoing COW that did not develop CLABSI, the average duration of their initial CVC was 4.5 ± 4.0 days and 6.1 ± 4.7 days for their second CVC following COW. For the patients undergoing COW that developed CLABSI, the mean duration of their initial CVC was 5.3 ± 2.6 days and 9.0 ± 7.6 days for their second CVC following COW. When evaluating the patients developing CLABSI following COW, CVC location and type included: two patients with left subclavian TL, one with right internal jugular (IJ) QL, and one with left IJ QL. Of the four developing CLABSI following COW, microbiology cultures were unique for each patient including: multidrug resistant Enterobacter cloacae, multidrug resistant Klebsiella pneumoniae, Enterococcus faecalis, and Candida parapsilosis.

Conclusion: CLABSI rate following COW is low but significantly higher than a primary CVC insertion. Consideration to perform COW over primary CVC insertion should be weighed against the individual patients’ risk for a new central venipuncture and available access.
11. PREDICTING POSTTRAUMATIC STRESS DISORDER AMONG PATIENTS WHO HAVE EXPERIENCED A TRAUMATIC INJURY
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Background: Psychological consequences of surviving traumatic injury are emerging as an increasingly important area of study. Posttraumatic stress disorder (PTSD) is becoming progressively recognized as a psychological morbidity in significant numbers of injured patients. The primary objective in the current study was to identify variables at time of hospital admission following a traumatic injury that predict PTSD at three month follow-up.

Methods: This prospective cohort study included patients 18 years and older admitted to a Level 1 Trauma Center for ≥ 24 hours. Assessments of health-related quality of life, substance use, pain, and return to work were completed during inpatient stay as well as three months after discharge. Additionally, information was gathered from the trauma registry including complications, length of stay, mechanism of injury, vital signs, and blood alcohol content. The primary outcome measure used was the Primary Care PTSD Screen (PC-PTSD) to assess symptoms at both baseline and three months. Univariate logistic regression was performed to calculate p-values for each variable.

Results: To date, 214 patients have been enrolled at baseline and 97 have reached the 3 month follow-up. Pre-injury PTSD was reported by 7.01% (n=15) of participants. At baseline, 31.8% (n=68) screened positive on the PC-PTSD. Through three months of follow-up data collection of the 97 participants, 36.1% (n=35) screened positive; of these, 19.6% (n=19) were new positive screens, while 16.5% (n=16) had also been positive at baseline. Of 23 demographic, injury-related and psychological variables, statistically significant (p <.05) predictors of screening positive on the PC-PTSD at baseline included pain, length of stay, resilience, depression, social support, and premorbid psychopathology. Analysis of follow-up data among the 23 variables revealed predictors (p < .05) of screening positive on the PC-PTSD at three months that include age, racial background, marital status, income, pulse rate, blunt trauma, depression, and premorbid psychopathology.

Conclusion: Results indicate that following a traumatic injury, both biological and psychological predictors may be used to identify which patients will screen positive for PTSD. Differences emerged between statistically significant demographic and injury-related predictor variables at baseline and at three months, however, psychological predictors remained significant at both time points. Based on these results, the use of biological and psychological variables as predictors of outcome after traumatic injury may assist in the measurement of quality of survival, likely yielding opportunities for improvement in patient care and outcomes beyond survival itself.
12. EVALUATION OF NONINVASIVE HEMOGLOBIN MEASUREMENTS IN TRAUMA PATIENTS
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Background: Reliable, accurate, noninvasive and continuous determination of hemoglobin (Hgb) would be an important advance in the care of trauma patients. The Radical 7™ (Masimo, Inc.) is approved to measure noninvasive Hgb, with a reported difference of ± 1g/dl from standard laboratory values. We evaluated the Radical 7 for 24 hours after admission in severely injured trauma patients to 1) compare Masimo Hgb (MHgb) to the laboratory Hgb (LHgb) and 2) identify if the device would be useful in predicting the need for transfusion.

Methods: Highest level activation patients were enrolled from 8/22/11 to 4/30/12 and were monitored with the Radical 7 upon admission to the ED. LHgb were sent on admission and as clinically indicated. Data was continuously recorded by the Radical 7 for 24 hours. Laboratory data, transfusion requirements and outcomes were recorded. MHgb and LHgb were analyzed via correlation testing and Bland-Altman (B-A) analysis.

Results: Data from 514 patients was collected for a total of 793 matched Hgb data points. Within the population, the mean age was 39.1 (SD=17.2), 77.6% male, 69.1% blunt injury, and 38% were transfused. The median time to the first MHgb was 1.8 min (IQR 1.2-4.8), 33.5% were zero values while 3.4% of all patients never had a MHgb reading. The device correlation testing revealed a poor relationship (R2 = 0.37) regardless of whether the patient was transfused or not. Bland-Altman Plot (B-A) analysis reveals that the device equally reads MHgb values either too high or too low. MHgb values varied by ± 3.2-4.1 g/dL from LHgb. This variance was not different between patients that were transfused and those that were not transfused.

Conclusion: The Masimo Radical 7 system holds promise, but it is not ready to be used as an initial noninvasive evaluation tool in the acute treatment of severely injured trauma patients. There was a poor correlation between the MHgb and LHgb and large numbers of missing data. Based upon the poor correlation, the MHgb cannot currently be used to guide transfusion therapy.
13. PRE INJURY CLOPIDOGREL WARRANTS REPEAT HEAD COMPUTED TOMOGRAPHIC SCANS IN TRAUMATIC BRAIN INJURY: A PROSPECTIVE STUDY

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Background: Patients receiving anti platelet medications are at an increased risk for traumatic intracranial hemorrhage after blunt head trauma. Most studies have however, categorized all anti platelet drugs into one category. The aim of our study was to evaluate the utility of repeat head Computed Tomography (RHCT) and outcomes in patients on pre-injury Clopidogrel (CP).

Methods: Patients on pre-injury Clopidogrel with traumatic brain injury were prospectively collected. Patients with traumatic intracranial hemorrhage (ICH) on initial CT were included in the study. A comparison between pre-injury CP and No-CP patients was performed after propensity score matching on a 1:1 ratio for age, Glasgow Coma Scale (GCS), head Abbreviated Injury Scale (h-AIS), Injury Severity Score (ISS), neurological exam, skull fracture, and ICH. Neurosurgical Intervention was defined as craniotomy or craniectomy.

Outcome measures were: >2 RHCT, progression on RHCT, and subsequent neurosurgical interventions.

Results: A total of 142 patients with intracranial hemorrhage on initial head CT [CP: 71; No-CP: 71] were enrolled. The mean age was 69.8±14.7, 61% were male, and median h-AIS (ISS) was 3 [2-4].

Patients on pre injury CP were more likely to have >2 RHCT (65% vs. 30%, p-0.001). Patients on pre-injury CP were more likely to have progression on RHCT (65% vs.18%; p-0.01). RHCT as a result of clinical deterioration was seen more in patients on CP (6% vs.0%, p-0.04). Subsequent neurosurgical interventions as result of progression on RHCT were more likely in patients on pre-injury CP therapy (4.2% vs. 0%, p-0.05). There was no difference in mortality between the two groups (21 % vs. 11%, p-0.11). Univarite regression analysis revealed pre-injury CP therapy as a predictor of progression on RHCT (p-0.01; OR: 2.9; CI: 1.9-3.9).

Conclusion: Patients on pre-injury Clopidogrel therapy are at high risk for progression of intra-cranial hemorrhage on repeat head CT and subsequent neurosurgical interventions. Pre-injury Clopidogrel therapy as an independent variable should warrant the need for repeat head CT in traumatic brain injury. Further studies are needed to compare different classes of antiplatelet therapy.
14. NON-ACCIDENTAL TRAUMA AND DIFFUSE AXONAL INJURY: IS THE INFANT BRAIN MORE SUSCEPTIBLE?
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Background: Diffuse axonal injury (DAI) is seen in 30% of fatal traumatic brain injuries (TBI). Non accidental trauma (NAT) is a common cause of severe traumatic brain injury (TBI) in infants and toddlers, however, its association with DAI is under recognized and related outcomes have never been published. The purpose of our study is to examine DAI in the NAT population.

Methods: A retrospective review of 13,194 children (age < 18 years) who presented to a level 1 pediatric trauma center over a 15 year period (1997-2011) was carried out. Accidental trauma (AT) was the cause of injury for 12,338 children; the remaining 856 sustained NAT. Of these, 103 children with a radiological diagnosis of DAI were included in the study. Patient demographics, mechanism of injury, clinical presentation and mortality rates were recorded. KOSCHI functional outcome scores were calculated at the time of discharge and final follow up (4 to 119 months). Data is presented as mean + SEM; p<0.05 is considered statistically significant.

Results: Children diagnosed with DAI were divided into 2 groups: NAT-DAI (n=20, mean age 0.7 + 0.2 years) and AT-DAI (n=83, mean age 8.3 + 0.5 years). The incidence of DAI was higher in patients with NAT when compared with accidental causes of trauma (2.3 % vs 0.7%, p<0.05). Although injury severity scores (ISS) were lower in patients with NAT versus AT (29 vs 33.9, p=0.01), head abbreviated injury scores (Head-AIS) were similar in the 2 groups (5 vs 4.8, p=0.58). At the time of presentation, NAT-DAI patients were more likely to have pupillary dilation (50% vs 9.6%, p<0.001), seizure activity (35% vs 7.2%, p<0.001), hyponatremia (136.8 vs 139.6, p= 0.01), hyperglycemia (215.9 vs 161, p=0.01) and a higher base deficit (-7.2 vs -4.9, p=0.09). Moreover, children with NAT-DAI were found to have significantly higher mortality rates (50% vs 10.8%, p<0.001) and significantly worse outcomes at the time of discharge (KOSCHI score 2.9 vs 4.8, p<0.001), as well as at final follow up (KOSCHI score 3.0 vs 5.1, p<0.001) than in patients with accidental DAI.

Conclusion: Despite lower ISS and equivalent head-AIS scores at initial presentation, NAT associated DAI results in more severe neuropsychological sequelae and has significantly higher mortality than accidental causes of DAI. This may be due to greater susceptibility of the infant brain to blunt traumatic injury and/or to the repetitive acceleration and deceleration inertial forces associated with NAT.
Background: Hypothermia after trauma is associated with increased coagulopathy, organ failure and death, but therapeutic hypothermia may be neuroprotective after traumatic brain injury (TBI). Randomized controlled trials are underway to evaluate the impact of cooling on neurological outcome in adult TBI patients with elevated intracranial pressure. The exact temperature that predicts reduced mortality after TBI and the impact of advanced age on deviations from normothermia are unknown. We hypothesize that elderly patients with moderate to severe TBI who present with normothermia are especially intolerant to hypothermia or hyperthermia.

Methods: A retrospective review of National Trauma Data Bank (NTDB, version 7) was performed for adult patients suffering blunt trauma with moderate to severe head injury (Head Abbreviated Injury Score [AIS] ≥3). Mortality was compared for the elderly (≥70 years) and nonelderly (20-69 years) at various admission temperatures (C). Multivariable logistic regression was performed to identify independent predictors of mortality.

Results: A total of 150,256 patients were analyzed. Overall mortality was 6.3%, with higher mortality among the elderly (9.9%) compared to the nonelderly (4.7%). The temperature distribution in the elderly was as follows: <34°C (1.1%), 34-35°C (1.3%), 35-36°C (12.0%), 36-37°C (66.5%), 37-38°C (17.9%), ≥38°C (1.3%). A similar distribution was noted in the nonelderly: <34°C (1.6%), 34-35°C (2.0%), 35-36°C (12.6%), 36-37°C (61.3%), 37-38°C (20.7%), ≥38°C (1.6%). Increased mortality was seen when admission temperature was less than 36°C for both the elderly (35-36°C adjusted odds ratio [AOR] 1.52, p<0.0001; 34-35°C AOR 2.04, p<0.0001) and nonelderly (35-36°C AOR 1.39, p<0.0001; 34-35°C AOR 1.98, p<0.0001). Worsening hypothermia was associated with increasing mortality for both groups, with the highest mortality risk at temperatures less than 34°C (elderly AOR 2.05, p<0.0001; nonelderly AOR 2.28, p<0.0001). Admission temperatures of 38°C and above also predicted increased mortality (elderly AOR 1.39, p=0.01; nonelderly AOR 1.68, p<0.0001). Other predictors of mortality in the elderly and nonelderly included age, Injury Severity Score (ISS) ≥16, Glasgow Coma Scale (GCS) ≤8, and systolic blood pressure (SBP) <90mmHg. Male gender also predicted increased mortality (elderly AOR 1.61, p<0.0001, nonelderly AOR 1.09, p=0.03).

Conclusion: Both hypothermia and hyperthermia in adult trauma patients with moderate to severe brain injury are associated with increased mortality. Survival was highest between admission temperatures of 36°C and 38°C in both the elderly and nonelderly. Further research is necessary to determine the impact of treating temperature abnormalities at admission in patients with traumatic brain injury.
16. OCTOGENARIAN MOTOR VEHICLE COLLISIONS: DO COMORBIDITIES, POLYPHARMACY AND INJURY PATTERN REALLY MATTER?
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Background: Octogenarians injured as a result of motor vehicle collisions (MVCs) is steadily increasing. Dogma believes that comorbidities and polypharmacy explain the increased morbidity and mortality in this group. This study attempts to quantify the impact of these factors and injury patterns on morbidity and mortality from MVCs in octogenarians.

Methods: A 10-year retrospective review was conducted of all octogenarian patients involved in a MVC and treated at our ACS-verified level I trauma center. Results represent demographic data, collision details, comorbidities, medications upon admission, injuries, hospitalization details, information on comfort care, advanced directives, power of attorney, and living wills, discharge disposition and mortality. Data were summarized and comparisons made between patients who survived and those who died of their injuries.

Results: Of the 239 patients studied the majority were male (53.6%), drivers (70.7%), and designated as level-II traumas (73.6%). Average age and median ISS were 84.5 ± 3.4 years and 9, respectively. About one half of all MVC’s (50.8%) occurred in a rural location. Mortality rates were not significantly different when evaluating collision details, comorbidities or medication classification. Mortality rate was higher in patients injured in rural MVC’s (24.0 vs. 13.7%, p=0.043), in those who arrived intubated (64.7 vs. 15.3%, p<0.001) and in those with a positive FAST examination (53.8 vs. 15.2%, p<0.001). The presence of injury was highly predictive of death, with increased mortality in patients with concussion (29.6 vs. 11.9%, p=0.002), brief loss of consciousness (26.9 vs. 12.6%, p=0.014), and skull fracture (75.0 vs. 15.7%, p=0.016). Thoracic injury was highly predictive of death (41.8 vs. 10.5%, p<0.001) with higher mortality associated with cardiac injury (60.0 vs. 15.6%, p=0.002), pulmonary injury (46.9 vs. 13.2%, p<0.001), bilateral rib fractures (85.7 vs. 15.7%, p<0.001), sternal fracture (55.6 vs. 14.7%, p<0.001) and pneumothorax (51.9 vs. 13.4%, p<0.001). Mortality was higher in those with abdominal injuries (50.0 vs. 15.8%, p=0.001). Other fractures highly predictive of increased mortality included femur fractures (50.0 vs. 14.7%, p<0.001) and pelvic fractures (46.2 vs. 16.5%, p=0.007). Mortality was also increased in patients requiring intubation (69.6 vs. 13.4%, p<0.001) or transfusion (40.8 vs. 13.2%, p<0.001). Home (34.7%) and skilled nursing unit (19.2%) were the most common discharge locations. Only 23.4% of the patients presented with advance directives. Overall mortality was 18.8%.

Conclusion: There is an increased mortality among octogenarian trauma patients involved in MVCs, which is not explained by comorbidities or polypharmacy. There are multiple injuries associated with an increase in mortality. These octogenarian patients are being discharged to a higher level of care and the majority did not present with advanced directives.
17. DEFINING THE TEMPORAL DEVELOPMENT OF PERFORATION IN ACUTE APPENDICITIS ON THE BASIS OF COMPUTED TOMOGRAPHY
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Background: Appendicitis encompasses a broad spectrum of clinical manifestations from acute uncomplicated to complex perforated disease. Acute uncomplicated appendicitis can often be treated rapidly with short course hospitalization, however, perforation carries a higher risk of postoperative complications and prolonged hospitalization. Pathophysiology and presentation have been well defined with grading scales developed to assist in the diagnosis of appendicitis. The treatment of acute appendicitis remains a robust topic of debate with recent attention paid to urgent versus delayed operative management.

There is a paucity of literature regarding the grading of appendicitis and predictive risk factors for perforation. The aim of our study is to evaluate factors that predict perforation specifically clinical presentation, Computed Tomography (CT) findings, and temporal progression to perforation.

Methods: A retrospective cohort study of patients with CT evidence of unperforated appendicitis at Scott & White Memorial Hospital, Temple, Texas, from 2008 to 2011. Patients were stratified according to the presence or absence of perforation at surgery. Demographic, presenting symptoms including modified Alvarado Score, CT findings, procedural data and time from presentation to surgery were included. Data was compared with a t-test for categorical variables and analysis of variates for continuous variables. A multivariate regression adjusting for baseline variables and time from presentation to operation was used to assess the influence of the clinical presentation and CT findings on perforation.

Results: A total of 135 patients, age of 45±18 years (48% males) were included in the study. Ninety patients (67%) were found to be unperforated on CT scan and remained unperforated at surgery. Patients with symptoms greater than 24 hours were more likely to be perforated at surgery (p<0.001). Based on the modified Alvarado score there was no significant difference in presentation between patients who perforated and those who did not (p=0.084).

Multivariate analysis adjusted for baseline demographic variables showed patients with fecolith 51.1% (p<0.0019; 3.08, OR 95% CI 1.27-7.47), pericolic fluid 54% (p=0.0017; 2.89, CI 85% 1.16-7.2), symptoms 24-72 hours (OR 3.03, 95% 1.14-8.05) and greater than 72 hours (6.35, 2.20-18.20) were more likely to have perforation at operation. Time delay to surgery was less in patients who were not perforated at surgery vs. perforated at surgery, 10.2 (6.2) and 10.5 (7.8) hours, respectively, however this was not found to be significant (p=0.83).

Conclusion: CT findings predictive of perforation at surgery include the presence of pericolic fluid and fecolith. Patients with prolonged symptoms were more likely to perforate within 8 hours prior to surgery. Based on our findings we recommend patients with prolonged symptoms (>24 hrs) and the presence of pericolic fluid or fecolith should be expedited to the operating room in attempt to preempt perforation.
18. SURGERY FOR RECURRENT PECTUS EXCAVATUM: PRESENTATION, OPERATIVE TECHNIQUES AND OUTCOMES
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Background: Pectus excavatum (PE) is the most common chest wall deformity and primary repair can be done by both open and minimally invasive methods. Although recurrence or incomplete repair is rare, revision surgery may sometimes be necessary. The repair methods required for revision surgery on recurrent and incomplete PE at our institution were reviewed.

Methods: A retrospective review of all patients undergoing repair for PE at a single institution from June 2001-August 2012 was performed.

Results: 157 patients underwent PE repair during this time with 44 (28%) having recurrent or incomplete prior PE repair. Previous repairs in this patient group included Ravitch (n=24, 53%), Nuss (n=13, 29%), and Leonard (n=4, 9%). Three patients had more than one prior procedure including both Ravitch and Nuss. Mean patient age was 31.4 years (range 16-51 years), with mean severity index of recurrence 4.66 (range 3.25-9). The majority of patients (n=25, 56%) required a combined procedure for complete repair with resection of lower cartilage/fused rib attachments in addition to Nuss with stainless steel support bars. Eleven patients were adequately repaired with Nuss alone and nine patients required extensive reconstruction by open repair which included support bars (n=9) and titanium plating (n=11). The majority of patients (n=36, 81%) had 2 support bars placed and 8 had 3 bars (19%). The average operative time was 227 minutes (range 60-513 minutes). Mean blood loss was 400 ml (range 25-1250 ml). Seven patients required transfusion during the post-operative period. One patient underwent reoperation for takedown of adhesions and additional chest tube placement due to persistent hydro-pneumothorax. The mean postoperative length of stay was 7.6 days (range 3-31 days). Long-term post-operative complications included three bar displacements that underwent reoperation (7%) and one hardware infection (2%). Two patients have subsequently undergone repeat procedures for cosmetic concerns including revision of unilateral lower rib deformity and placement of a third support bar for persistent lower chest deformity.

Conclusion: Recurrence of PE occasionally occurs after primary repair. No single technique was found to be adequate for all patients with recurrent pectus and more than half of patients required a combination of open resection and minimally invasive support bar placement. With appropriate techniques, recurrent PE can be repaired with excellent results and minimal complications in the majority of patients.
19. VIDEO-ASSISTED THORACOSCOPIC SURGICAL APPROACHES FOR IMPLANTATION OF EPICARDIAL LEADS AND DEFIBRILLATOR SYSTEMS IN PATIENTS WITH LIMITED VASCULAR ACCESS
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Background: A video-assisted thoracoscopic surgical (VATS) approach can be used for placement of epicardial leads and defibrillator coils in patients with limited venous access. Innovative surgical techniques can minimize patient insult and facilitate recovery.

Methods: Retrospective review of patients who underwent VATS placement of epicardial pacing leads and implantable cardioverter-defibrillators (ICD) was performed from November 2006 to October 2011.

Results: Nineteen patients had 29 leads/coils placed. Mean age was 61 years (range 22-86) with 58% women. Ventricular dysynchrony and/or block were present in all patients. Twenty-three epicardial leads (5 right ventricular, 2 right atrial, 16 left ventricular) and 6 ICD coils were placed. All patients were referred to surgery due to aberrant anatomy with failure to gain access to coronary sinus (13 pts) or venous occlusion (6 pts). Previous median sternotomy for cardiac procedures was present 8 patients. Left VATS was used for 16 left ventricular epicardial leads and 1 ICD coil placement. A mini-subxiphoid incision was utilized for 5 right ventricular epicardial leads and 3 ICD coils. Subcutaneous tunneled ICD coils were additionally performed in 2 patients. Right VATS was utilized for 1 right atrial pacing lead. One case required conversion to mini left anterior-lateral thoracotomy due to bleeding and one left ventricular lead required reoperation and revision post-operative day 1 due to dislodgment. There were no mortalities.

Conclusion: Transvenous access for pacing leads or ICD implantation may not be feasible in some patients. Use of minimally invasive surgical techniques allows safe placement of pacing and ICD systems in this patient population.
20. VIDEO-ASSISTED THORACOSCOPIC SURGERY (VATS) FOR PULMONARY COCCIDIOIDOMYCOSIS
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Background: Coccidioidomycosis is an endemic fungal infection in the southwestern United States. The infection may result in pulmonary sequelae such as masses, nodules, or cavitary lesions, the latter of which may rupture and result in hydropneumothorax and empyema. Video-assisted thoracoscopic surgery (VATS) can be used in the majority of cases, allowing adequate treatment and early patient recovery. The aim of this study was to review our experience with VATs in the surgical management of pulmonary coccidioidomycosis.

Methods: A retrospective chart review was conducted of 2,166 patients with coccidioidomycosis treated at our institution from January 2008 to August 2012 to identify patients with pulmonary lesions resulting in surgery.

Results: Of the 2,166 patients, 58 (2.7%) patients, median age 52 years (range 18-84 years) underwent thoracic surgery. 68% were male. Radiographic evaluation revealed 34 nodules, 17 cavities and 7 hydropneumothorax/empyema. Of the 58 patients, 27 (46.5%) underwent surgery for diagnostic concerns, 25 (43%) for persistent or progressive symptoms despite adequate antifungal therapy, and 6 for complications related to disease (rupture/infection). 11 patients had a positive PET scan, and underwent excision of a mass or nodule for suspected carcinoma. 31 (53.5%) patients had serology performed, which was positive by EIA in only 5 (17%). Ninety-five percent of the procedures were successfully performed by VATS. These procedures included wedge resection 39 (67%); segmentectomy 13 (22%); and lobectomy 6 (11%). Five patients additionally required decortication after rupture of their cavitary lesions and contamination of the thorax. Three (7%) patients experienced major morbidity, which included (1) post-operative embolic stroke in a 79 year-old female who subsequently expired (2) re-placement of chest tube for recurrent pneumothorax, and (3) hospital readmission and reoperation for segmental lung necrosis. Median hospital stay was 1 day (range 1-8 days). Postoperative antifungal therapy was administered to 28 patients (48%) for a median of 2 months. There were no cases of recurrent coccidioidal infection at follow-up (mean, 16 months).

Conclusion: Although infrequent, surgery may be necessary for selected patients with pulmonary coccidioidomycosis for either diagnostic or therapeutic purposes, VATs facilitates such surgical interventions with few complications and good recovery.
21. VATS APPROACH IN DIAGNOSIS AND TREATMENT OF PERICARDIAL EFFUSION: A CASE SERIES AND A SYSTEMIC REVIEW OF THE LITERATURE.
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Background: The use of VATS for cardiac disease, such as pericardial effusion is evolving. Pericardial effusion in stable patients is traditionally treated by creating a pericardial window (pericardiotomy) via surgical subxiphoid or transthoracic approach. VATS is thought to be equally effective, but data is limited.

Methods: We performed a retrospective analysis of patients who had a VATS procedure for the treatment of pericardial effusion at our institution (Group 1) and compared it to the current literature in a systemic review (Group 2). The retrospective study included all patients who underwent VATS from October 2006 to January 2012. Significant pericardial effusion requiring treatment was decided by the presence of tamponade physiology based on clinical presentation and echocardiography with Doppler parameters. For the systematic review of literature, all published studies were identified though Medline, Embase and PubMed, using the search terms: thoracic surgery, video-assisted, video assisted thoracoscopic surgery, pericardial window techniques, pericardial window and pericardial effusion. Filters were applied to include only adults and publication date from 1st January 2000-31st September 2012. All retrieved studies were examined by two of the authors. Studies involving pericardial effusion due to trauma, or associated with ventricular assistive devices were excluded. 17 papers with a total of 337 cases were identified of which 264 cases were VATS for pericardial effusion treatment.

Results: Mean age as reported was 48.3 +/- 14.3 years in Group 1, 53 +/- 17.57 years in Group 2. In Group 1 cases requiring VATS pericardiotomies included: 169 (64%) malignancies, 12 (5%) renal, 46 (17%) idiopathic, 5 (2%) collagenous-vascular disease, 7 (3%) post recent surgery, 8 (3%) chylopericardium and 16 (6%) infections etiologies. In Group 2 the etiologies were 12 (67%), malignancies, 2 (11%) post recent surgery and, 2 (11%) idiopathic. General anesthesia was utilized in 100% of cases in Group 1 and 263 (99.6%) cases in Group 2. There was one case in Group 2 with the use of local anesthesia. Concurrent procedures were performed in 16 (84%) of cases in Group 1 and 41 (15%) in Group 2. In both groups there was one conversion from VATS to open thoracic surgery and one case of hospital mortality. In Group 2 conversion was due to increased peri-operative bleed, while in Group 1 it was for a loculated pericardial effusion that was not relieved with VATS. The mortality in Group 2 was due to cardiac arrhythmia and tamponade during peri-op period, while in Group 1 it was due to underlying disease process. Procedural morbidity was zero in Group 1 and 8 (3%) Group 2.

Conclusion: VATS for malignant or recurrent pericardial effusion is an emerging technique that is safe and effective. When compared to the traditional thoracotomy or subxiphoid approach morbidity and mortality is lower, the latter being a relatively blind procedure. Also, VATS provide means for more concomitant procedures, that could aid both diagnosis and treatment.
22. EMERGENCY DEPARTMENT PERICARDIAL DRAINAGE FOR PENETRATING CARDIAC WOUNDS IS A VIABLE OPTION FOR STABILIZATION

Background: Penetrating cardiac injuries causing pericardial tamponade pose a dilemma for the trauma surgeon. Pericardial tamponade can cause subendocardial ischemia, malignant arrhythmias, and cardiac arrest during patient transport. Pericardial drainage results in improved patient outcomes. Whether pericardial drainage should be done in the emergency department (ED) with a percutaneous catheter versus direct patient transport to the operating room (OR) is debated. It is postulated that ED placement of a drain could delay transport to the operating room for definitive therapy. We hypothesize that pericardial drainage in the ED does not delay transport to the OR and improves outcomes for patients who sustain penetrating cardiac trauma.

Methods: Patients sustaining penetrating cardiac wounds who survived to the operating room (OR) at a level I trauma center from 1995 to 2011 were reviewed.

Results: Seventy-eight patients with penetrating cardiac wounds survived to the OR. The majority (91%) was men with a mean age of 33 ± 14 years. The predominant mechanism was stab wounds (74%) and the mean organ injury severity (OIS) was 4.2 ± 1.2. Of the 78 patients, 39 underwent resuscitative thoracotomy in the ED and were excluded from further analysis.

Of the 39 patients undergoing pericardial drainage, 17 (44%) patients had drainage in the ED and the remainder were transported directly to the OR. Comparing the ED pericardial drainage group to OR drainage group, they had a similar OIS (4.4 ± 0.5 vs 3.4 ± 1.6), ED systolic pressure (99 ± 25 vs 99 ± 34), and ED base deficit (12 ± 6 vs 11 ± 7). Pericardial ultrasound was positive in all patients undergoing ED pericardial drainage but was only positive in 65% of those undergoing operative drainage (13/20 patients, 2 patients did not have an ultrasound performed). Time to the OR in the ED drainage group was 22 ± 8 minutes and in the OR drainage group was 51 ± 79 minutes. ED pericardial drainage was performed with a percutaneous catheter in all cases. Mortality rate was 12% in the ED drainage group and 23% in the OR drainage group.

Conclusion: In this highly selective population, ED pericardial drainage had an acceptably low mortality rate compared to other management options. Pericardial drainage is a viable option for stabilization prior to definitive surgery when surgical intervention is not immediately available in the hemodynamically marginal patient. ED pericardial drainage does not appear to significantly delay operative intervention.
25. INFLUENCE OF WARFARIN AND CLOPIDOGREL USE ON THE OUTCOME OF PATIENTS WITH GROUND-LEVEL FALL RELATED TRAUMATIC HEAD INJURIES
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Background: The aim of this study was to determine what effect warfarin and clopidogrel use has on the incidence of intracranial hemorrhage in patients who have sustained a traumatic head injury secondary to a ground-level fall.

Methods: A retrospective review was conducted in patients who presented during 2009 and 2010 to OSF St. Francis Medical Center with a traumatic head injury secondary to a ground-level fall. Data was extracted from the Level I trauma center registry and categories analyzed included: age, gender, hospital Length of Stay (LOS), Intensive Care Unit (ICU) LOS, admission Glasgow Coma Scale (GCS), presence of alcohol or drugs, pre-injury warfarin, clopidogrel or aspirin use, admission International Normalized Ratio (INR), brain CT results, neurosurgical intervention, and discharge disposition. Data was evaluated in one of three patient sub-groups:

(A) no pre-injury warfarin or clopidogrel use, (B) pre-injury warfarin use, and (C) pre-injury clopidogrel use. Clinical significance was calculated utilizing Fisher’s exact test.

Results: A total of 1,409 ground level fall patients were analyzed of which 405 had a related head injury. Group A had 296 patients, group B had 54 and group C had 54 patients. Intracranial hemorrhage (ICH) in group A occurred in 59 (20%), group B in 24 (44%) and in group C 21 (39%). The group with use of warfarin (B) and clopidogrel (C) had significantly increased incidence of intracranial bleeding compared to group A with a p-value of 0.00023 and 0.0043 respectfully. This resulted in increased hospital and ICU LOS, increased frequency of neurosurgical intervention, and worse discharge disposition including death.

Conclusion: 1. Ground-level fall with related head trauma has substantial complications and unfavorable outcomes in patients taking warfarin and clopidogrel.
2. To lessen risk of intracranial hemorrhage, physicians should critically assess a patient’s potential for ground level fall before prescribing warfarin or clopidogrel.
27. COMPLICATIONS OF BARIATRIC SURGERY: THE ACUTE CARE SURGEONS’ EXPERIENCE
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Charlotte, North Carolina

Background: Approximately 200,000 bariatric weight loss procedures are performed annually. Complications of these procedures are common, can occur at any point during the patient’s lifetime, and can be life threatening. They can also present rapidly and need acute surgical management. The current surgical literature is void regarding the management of bariatric complications by acute care surgeons. Our aim was to describe a series of bariatric surgical complications that presented to our Acute Care Surgery service.

Methods: We reviewed our Acute Care Surgical Service at a quaternary referral center from Jan. 2007 to Dec. 2011 for patients presenting with a complication after bariatric surgery. Data collected included demographics, index bariatric procedure, diagnosis, surgical intervention type, urgency of surgery, mortality, hospital length of stay (LOS), and disposition. Descriptive statistics are reported as mean with standard deviation (continuous variable) and percentages (categorical variable).

Results: This review identified 32 patients. The mean age was 42.3±10.6; 30 (94%) were female and mean body mass index on presentation to the Acute Care Surgery Service was 31.7±9.0. Laparoscopic roux-en-y gastric bypass (RyGB) was the most common index operation (N=20; 62%), followed by open RyGB (N=5; 16%), laparoscopic gastric band (N=4; 12%), and vertical banded gastroplasty (N=3; 9%). Complication diagnoses included internal hernia (N=9; 28%), lap band restriction (N=4; 12%), adhesive small bowel obstruction (N=3; 9%), gastric outlet obstruction (N=3; 9%), biliary disease (N=3; 9%), upper GI bleeding or ulcer (N=3; 9%), ischemic bowel (N=1; 3%), anastomotic leak (N=1; 3%), and perforated ulcer (N=1; 3%). Surgical intervention was required in 29 (91%) patients. Two (6%) were managed with endoscopy and one (3%) with band deflation. Of the operative treatment, 15 (52%) were laparoscopic and 14 (48%) were managed by open operations. An emergent operation (<4 hours) was required in 12 (39%) patients, while an additional five (16%) required an urgent operation (4-24 hours). All patients survived and were discharged to home with a mean LOS of 6.8±7.9 days.

Conclusion: The acute care surgeon is at risk to encounter complications of bariatric surgery. The most common presentations are internal hernias or obstructive etiologies that often require emergent or urgent surgery. Acute care surgeons should be familiar with the anatomy of bariatric surgeries and the nuances of their complications. A minimally invasive (laparoscopic) approach to surgical correction is frequently successful and should be a fundamental part of the skill set of the acute care surgeon.
28. IMPACT OF PRE-EXISTING LUNG CONDITIONS ON COMPLICATIONS IN MECHANICALLY VENTILATED TRAUMA PATIENTS
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Background: Mechanical ventilators are frequently used in the care for intensive care unit (ICU) patients. Prolonged dependence on mechanical ventilation, however, increases risk for complications, such as ventilator associated pneumonia (VAP). Though sometimes patients with pre-existing lung conditions such as asthma and chronic obstructive pulmonary disease (COPD) require intubation due to trauma that compromises the airway, little is known regarding the possible increase in complications associated with patients with these conditions. We expect that intubated patients with a history of smoking or pre-existing lung conditions will have more complications with respiratory failure and sepsis/SIRS when compared to patients without this history.

Methods: All patients over the age of 18 admitted into the ICU and were intubated for 3 or more days from January 2008 to January 2012 were retrospectively reviewed. Pre-existing conditions evaluated in the investigation included asthma, COPD, and smoking history. Complications addressed in the study included VAP, systemic inflammatory response syndrome (SIRS), sepsis, acute respiratory distress syndrome (ARDS), and acute lung injury. Student’s T-test was used to determine statistical significance.

Results: Retrospective analysis identified 550 patients for the study. Patients who developed SIRS were more likely to be smokers [83% (87/105) vs 67% (299/445), p < 0.01]. Out of the patients who developed ARDS, a higher percent were smokers [8.6% (9/105) vs 3.6% (16/445), p = 0.03]. Additionally, 70% (73/105) of smokers were diagnosed with sepsis compared to 60% (267/445) of non-smokers (p=0.07). All patients with pre-existing asthma were found to develop SIRS during the length of their stay in the ICU compared to those who did not have asthma [100% (9/9) vs 70% (377/541), p < 0.05].

Conclusion: While the pre-existing conditions screened in this study did not significantly correlate to VAP, the overall incidence of SIRS and ARDS were closely associated with a history of smoking. Patients with a history of tobacco usage also exhibit a trend toward sepsis. Patients with asthma, potentially due to their chronic inflammatory responsiveness, are particularly prone to develop SIRS. Emphasis on current smoking cessation education is supported by the data. Knowledge of pre-existing conditions such as asthma may assist in decreasing respiratory complications. Prospective studies regarding preventative measures in patients with pre-existing conditions are warranted.
Background: The use of radiocontrast for both diagnostic and interventional procedures has increased in recent years and with it, the potential for contrast-induced nephropathy (CIN) and iatrogenic renal failure. CIN has resulted in prolonged hospital stay, increased dialysis requirements, additional hospital costs, aggravation of preexisting co-morbidities, and in some cases mortality. Although a variety of preventive options have been proposed for counteracting CIN, including hydration, N-acetylcysteine, and bicarbonate, none have been utilized with consistent results, and the true incidence of CIN in trauma patients is unknown. The aim of this study was to identify the incidence of CIN and evaluate the associated variables to modify our existing protocols to decrease risk of CIN in the future. We hypothesized that increasing dosages of contrast media will correlate with increased rates of contrast-induced nephropathy as well as increased length of ICU stay.

Methods: A retrospective review of 1033 trauma patients who underwent abdominal-pelvic iodinated IV contrast CT scans, between August of 2011 and March of 2012, was conducted to identify the incidence of CIN and the contrast doses at which it could be observed. CIN was defined as grade 0 if serum creatinine increased <25% above initial creatinine, grade 1 if serum creatinine increased by more than 25%, and grade 2 was an increase more than 0.5 mg/dL. Calculations were made at 24, 48, and 72 hours post-trauma. Other variables evaluated were age, gender, comorbidities, contrast dosages, number of CTs received, serum Cr, BUN, estimated glomerular filtration rate (eGFR), nephrotoxic medications, need for dialysis, hypovolemia, use of pressors, blood transfusions, IV fluid bolus administration, and the presence of renal injury. Statistical analysis was performed using both multivariate analysis to rule out confounding variables, as well as Pearson's product correlation coefficient to calculate linear dependence.

Results: The incidence of CIN in our trauma population was 2.6%. A positive correlation coefficient of 0.52 was seen between volume of contrast administered and ICU length of stay. Furthermore, data from this sample supports the value of a clinical prediction rule to estimate the probability of CIN based upon risk factors such as age, eGFR, contrast media volume, initial hematocrit and blood pressure, as well as presence of preexisting disease such as congestive heart failure and diabetes. Taking these variables into account increased the correlation coefficient seen between CIN grade and volume of contrast administered.

Conclusion: The risk of CIN in trauma victims is substantial. It correlates with the volume of contrast administered and is associated with an increased length of ICU stay. Efforts should be made to decrease the amount of contrast administered in protocol driven diagnostic imaging in injured patients. Further evaluation of preventative methods should be undertaken to minimize the incidence of CIN.
30. HOW LONG DOES IT TAKE TO DIAGNOSE BLUNT ABDOMINAL INJURY?
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Denver, Colorado

Background: The diagnosis of blunt abdominal trauma can be challenging and resource intensive. Physical exam plays a major role in the evaluation of these patients. However, the time required for an intra-abdominal injury to manifest signs or symptoms is unknown. The purpose of this study was to determine the time to sign or symptom development in patients with blunt abdominal injury.

Methods: All patients diagnosed with a blunt abdominal injury between June 2010 and June 2012 at a level 1 academic trauma center were reviewed. Patient demographics, injuries, signs/symptoms leading to diagnosis and time to development of these signs/symptoms were recorded and analyzed.

Results: 3574 blunt trauma patients were admitted to the hospital during the study period and 297 (8%) had intra-abdominal injuries. The majority of abdominal injuries 270/297 (91%) were diagnosed within the first hour (Group 1). Within the first hour, 182 (61%) developed signs or symptoms of their injury prompting imaging or operation (hypotension in 47, normotensive but positive Focused Abdominal Sonography for Trauma in 37, abnormal exam in 98), while 88 had other indications for immediate imaging which demonstrated an abdominal injury. The remaining 27 (9%) patients were evaluated with serial clinical assessments (Group 2). These patients experienced a change in physical exam, vitals or laboratory values within 9 hours of presentation that prompted diagnosis via imaging or operation. Within Group 2 there were 25 solid organ injuries, 2 hollow viscous injuries and 2 miscellaneous vascular injuries. Within Group 1, 30% of patients required surgical intervention for their abdominal injury and 92% survived. Within Group 2, 7% required surgical intervention for their abdominal injury and 100% survived. Of the 3574 patients admitted for blunt trauma, 81 (2.3%) ultimately required surgical intervention for their abdominal injuries.

Conclusion: Evaluation of blunt trauma patients is a frequent occurrence yet intra-abdominal injury occurred in only 8% of those admitted to our facility. All of the patients diagnosed with intra-abdominal injury in our institution developed a sign or symptom of injury within 9 hours of presentation. We believe these data support at least 9 hours of evaluation as a reasonable time to exclude intra-abdominal injury in an examinable patient. This time variable should be considered in the evaluation of a patient with blunt abdominal trauma.
31. ARRIVAL GLASGOW COMA SCORE AND AGE AS PROGNOSTIC INDICATORS AFTER SEVERE INJURY
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Temple, Texas

Background: Glasgow Coma Score (GCS) is a useful tool by which to rate a patient’s neuromotor status and level of consciousness after severe trauma. However, the score may have different prognosis depending on other patient factors such as age. We sought to determine whether mortality differed for levels of GCS under 8 across different age groups to determine its utility as a prognostic indicator.

Methods: We queried the National Trauma Data Bank (NTDB) for all trauma patients age 18 or older between the years of 2007 and 2010 who arrived to the emergency department (ED) with signs of life and GCS. We excluded patients dead on arrival and trauma transfers. We grouped subjects into age categories of 18-30, 31-50, 51-65, and 66 and older. Within each age group we compared three groups of GCS scores under the score of 8 (3, 4-5, 6-7).

Results: A total of 79,568 patients were screened. For all age groups, if a patient had an ED GCS<8, it was usually 3 (69.3-76.2%) compared to 4-5 (7.3-9.8%) and 6-7 (16.5-20.8%). A higher percentage of patients 66 or older came in with a GCS of 6-7 than was the case in younger patients (20.8 vs. 16.5%). Overall mortality rates for patients with ED GCS<8 is as follows: ages 18-30, 8.1-29.7%; ages 31-50, 9.4-29.3%; ages 51-65, 18.8-39.1%; ages 66 and older, 47.1-58.5%. Mortality with GCS 6-7 in patients 66 or older is 47.14%, compared to a mortality of <20% for patients ages 51-65 with the same GCS score. Also, patients age 66 or older with a GCS under 8 all had mortality rates between 47-59%, a large increase from that of younger age groups (9-39%).

Conclusion: Trauma in patients age 66 or greater with GCS < 8 is shown to portend high mortality rates regardless of specific score. These statistics can be used by surgeons as prognostic indicators for other care providers and for family use in medical decision-making. Future analysis of patients age 50 or older may allow us to pinpoint which additional factors upon ED arrival can predict mortality and improve prognostic ability.
32. LONG TERM CLINICAL AND SOCIOECONOMIC BENEFITS OF SURGICAL STABILIZATION OF RIB FRACTURES
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Murray, Utah

Background: Rib fractures are a common injury, and contribute significantly to the health care and socioeconomic burden in the U.S. In recent years, there has been increased interest in surgical stabilization of rib fractures (SSRF). It is difficult to define long-term clinical and socioeconomic benefits of the procedure, however, which has precluded its wide adoption. We hypothesized that patients who undergo SSRF have few long-term complications, are satisfied with the procedure, and return to work and other meaningful activity quickly.

Methods: All patients who underwent SSRF between June 2009 and September 2012 at a Level I trauma center were identified. Patient demographics, injury, hospital, and surgical data were collected from the medical record and trauma registry. A telephone survey was administered to patients who were at least six months out from hospital discharge. The survey asked patients about pain, narcotic use, overall satisfaction with SSRF, and return to work. Data are reported as mean±SEM where appropriate.

Results: 124 patients had SSRF during the study period. 84 patients met criteria to take the phone survey. 44 (54%) of those were successfully contacted and completed the survey. Of those who completed the survey, 31 (70%) were male, mean age was 57±2.3 years (range 20-86), and mean ISS was 22±2. Mean number of ribs fractured was 6.2±0.3. SSRF was performed 3.5±0.6 days from injury, and 4.3±0.2 ribs were plated. The most common indications for surgery were flail, intractable pain, and rib displacement. 30(68%) patients were never on a ventilator. Complications included pneumonia (9%), DVT (7%), plate removal for infection (2%), and plate removal for breakage (2%). Time from hospital discharge to survey administration was 16±1.1 months. Time from discharge to narcotic discontinuation was 4.7±1.1 weeks. 37 (84%) patients reported being pain free at the time of survey. 37(84%) also reported that they have no chest wall deformity. Overall satisfaction with SSRF on a scale of 1-10 was 9.1±0.3, and 41 (93%) would recommend the procedure to others with rib fractures. 31 (70%) patients worked full or part-time prior to their injury. 28 (90%) returned to the same or similar work at a mean of 8.5±1.2 weeks. Only 1 (3.6%) patient required a changed in work duties or hours as a result of his rib fractures. 40 (91%) reported having no limitations in activity as a result of rib fractures.

Conclusion: SSRF is safe and well tolerated. Patients who undergo SSRF rarely experience chronic pain, disability, or other long-term morbidity from their rib fractures, and they are satisfied with the procedure and its results. SSRF patients return to work and normal activity with few limitations. Further research is needed to quantify the socioeconomic benefit of SSRF versus non-surgical rib fracture treatment.
33. PENETRATING INJURY IN THE PEDIATRIC POPULATION
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Little Rock, Arkansas

Background: Trauma remains the greatest threat to life and is the greatest cause of mortality for children ages 1 to 14 years. While penetrating trauma is less common than blunt trauma and rates of penetrating trauma are decreasing for children, it continues to cause significant morbidity and mortality. The purpose of this study was to examine the mechanism, intent and outcomes for penetrating injury in the pediatric population. Specifically, we intended to examine the differences incidence between age groups in order to more specifically target injury prevention opportunities.

Methods: We retrospectively reviewed all pediatric patients (age <18 years) with penetrating injuries from the National Trauma Data Bank from 2007-2010. Mechanism of injury, intent, ISS, LOS and mortality were extracted for analysis, stratified by age and compared between populations.

Results: We identified 37,151 patients who suffered a penetrating injury. In the younger age group, age 0-11 years; cutting/piercing mechanism was the predominant injury pattern accounting for 76% of injuries. This percentage decreased to 38% in the 12-18 year old age group and firearms caused the remaining 62% of injuries. The intentionality also changed drastically between age groups. Assault accounted for 75% of injuries in the 12-18 year old age group, an increase from 18% in the under 11 year old age group. Similarly, self-inflicted injury increased from 2% to 7% between the 6-11 and 12-15 year old age groups. (Table 1)

<table>
<thead>
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<th>Age Group (years)</th>
<th>Unintentional</th>
<th>Assault</th>
<th>Self-Inflicted</th>
<th>Cut/Pierce</th>
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<td>1887</td>
<td>1622</td>
</tr>
</tbody>
</table>

Table 1: Mechanism and Intent of Pediatric Penetrating Injury

Hospital length of stay and ICU length of stay did not vary between age groups. Mortality ranged from 5-8% and did not change with age. Injury severity score increased with age from 5.9 in the youngest age group up to 9.3 in the oldest age group. Need for urgent operative intervention, defined as operation within 120 minutes of arrival, was 20% and remained stable over all age groups.

Conclusion: Penetrating injury remains a significant problem in the pediatric populations. The incidence in overall penetrating injury increases drastically around 11-13 years of age. Intent changes from unintentional to intentional (including suicide) and mechanism changes from cut/pierce to firearms in this same age range (11-13yrs). With this knowledge, injury prevention and education need to be directed at a younger age group than previously expected. Finally, 1 in 5 (20%) of these patients will require urgent operative intervention. Facilities that care for or have the potential to care for pediatric patients must be prepared for this eventuality.
34. PREOSPITAL ELEVATED SYSTOLIC BLOOD PRESSURE INCREASES MORTALITY OF SEVERE TRAUMATIC BRAIN INJURY IN A STEPWISE FASHION
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Background: The aim of this study was to examine the effect of elevated pre-hospital SBP on mortality of patients sustaining a severe blunt TBI.

Methods: The 2007-2008 National Trauma Databank (NTDB) was reviewed for patients with blunt severe TBI and available pre-hospital vitals. A severe TBI was defined as a traumatic head injury with AIS > 3. The pre-hospital SBP was divided into 4 groups: < 110 mmHg, 110-139 mmHg, 140-169 mmHg and ≥ 170 mmHg. Primary outcome was in-hospital mortality. Logistic regression was utilized to adjust for confounding factors between groups. The group with the lowest mortality was used as the reference group to determine the relative risk for death.

Results: Overall, 46,880 patients met inclusion criteria. The mean±SD age was 50±23 (y), 70% were male, with a mean±SD ISS of 23±10. The overall mortality was 15%, with the highest observed in patients with a SBP < 110 mmHg (26%) and the lowest in patients with a SBP 110-139 mmHg (10%). The crude mortality increased with increasing SBP; 13% for SBP 140-169 mmHg and reaching 22% for patients with a SBP ≥ 170 mmHg. After adjusting for age, gender and ISS, the risk for in-hospital death increased in a stepwise fashion with increasing increments of pre-hospital SBP. When compared to the group with the lowest mortality, i.e. the 110-139 mmHg group, the adjusted risk for death (95% CI) for patients with a SBP 140-169 mmHg was 1.15 (1.07, 1.24), p<0.001 and 1.60 (1.48, 1.73), p<0.001 for patients with a SBP > 170 mmHg. The highest risk however, was observed in those with a SBP < 110 mmHg (2.49 [2.70, 2.30], p<0.001).

Conclusion: For patients sustaining a blunt severe traumatic brain injury, normotension in the pre-hospital setting appears to be associated with improved survival. Further studies to define the role of pre-hospital pharmacologic interventions to achieve normotension in these patients are warranted.
35. ORGAN DONATION IN MORTAL GUNSHOT WOUNDS TO THE BRAIN: THE ROLE OF HYPEROSMOLAR THERAPY
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Background: Patients sustaining devastating gunshot wounds to the brain (GSW) comprise one of the largest segments of the potential organ donor pool. In this population, aggressive organ donor management with thyroid hormone replacement and vasopressor support has shown to improve organ donation rates. The purpose of this study is to evaluate the impact of hyperosmolar therapy (HOT) on organ donation rates after mortal GSW to the brain.

Methods: A 4-year retrospective review of all patients admitted to a level 1 trauma center with mortal GSW to the brain was performed. Patients were grouped as HOT and No-HOT. HOT was defined as resuscitation with Mannitol and/or Hypertonic Saline (HTS). Patients who received HOT were compared to No-HOT using Univariate analysis.

Results: Eighty Eight patients with mortal GSW to the brain were identified from the trauma registry of which 33 patients received HOT. Use of HOT made 81% patients (n=27) medically eligible for organ donation while 19 % (n=6) remained ineligible for organ donation due to cardiac arrest (n=5), and disseminated Intravascular Coagulopathy (n=1).

Of the eligible candidates (n=27), 19 patients donated a total of 38 organs while 8 patients did not donate due to family decline (n=6), old age (n=1), and no next of kin (n=1). Candidates who received HOT were more likely to donate [19 vs. 8; p=0.027; OR: 2.1; CI-1.3-2.3]. There was no difference in use of blood products (21% vs. 23, p-0.9) or vasopressor (21%vs. 14%, p-0.5) between the two groups. Subanalysis of the donor group, revealed a significantly higher number of solid organs procured in the HOT group (2.6±1.6 vs. 1.9±0.4, p <0.001).

Conclusion: Hyperosmolar therapy facilitates organ donation and procurement in patients with mortal GSW to the brain. Further studies with a larger number of patients are required to assess the role of Hypertonic Saline in organ donation.
36. THE EFFECT OF AGE ON RATE OF OPERATIVE FAILURE IN PATIENTS WITH PRIMARY HYPERPARATHYROIDISM UNDERGOING FOCUSED PARATHYROIDECTOMY
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Louisville, Kentucky

Background: The incidence of primary hyperparathyroidism (PHPT) increases with age, with women much more commonly affected than men. Approximately 85-90% of patients with PHPT have single-gland disease and are candidates for focused parathyroidectomy (FP) if preoperative imaging can localize the diseased gland. PHPT in Multiple Endocrine Neoplasia type 1 (MEN1) usually presents with relentless disease of all parathyroid glands; FP is not appropriate for management of PHPT in MEN1. Patients with MEN1 often present with PHPT at a young age; the risk of previously undiagnosed MEN1 in a young patient with PHPT is much higher than in an older patient. Therefore, the ideal first operation for a young patient with PHPT is debatable. We hypothesized that FP leads to a higher failure rate in younger vs. older patients due to the risk of previously undiagnosed MEN1.

Methods: A retrospective review was performed of a single-institution database of patients who underwent parathyroidectomy for PHPT. All patients had a positive preoperative imaging study and underwent FP. Demographic variables, family history, operative notes, and pre- and post-operative lab values were evaluated. Persistent disease was defined as elevated calcium within the first 6 months postoperatively; recurrent disease was defined as initial normalization of calcium postoperatively with development of hypercalcemia more than 6 months after surgery. Multi-gland disease was defined as multiple adenomas or four-gland hyperplasia. Statistical analyses were performed, including Fisher’s exact test.

Results: A total of 736 patients underwent parathyroidectomy for PHPT from May 1998 to April 2011 and had outcome data available. The median age was 59 (range 8 to 89). A total of 69 (9.4%) patients were ≤ age 40 and 667 (90.6%) patients were > age 40. Of the younger patients, 13 (18.8%) had operative failures: 8 (11.6%) had persistent disease and 5 (7.2%) developed recurrent disease. Of the older patients, 37 (5.5%) had operative failures: 19 (2.8%) had persistent disease and 18 (2.7%) had recurrent disease (P=0.0003). In the younger group, 2 patients with operative failure were subsequently confirmed to have MEN1 by genetic testing; none of the older patients were subsequently diagnosed with MEN1. Among younger patients, 63 (91.3%) patients had no documentation that questions were asked regarding a family history suggestive of MEN1.

Conclusion: Our data reveal a statistically significantly higher rate of operative failure in patients ≤ age 40 compared with patients > age 40 undergoing FP. This is partly explained by undiagnosed MEN1 in the younger patient group. These data suggest that FP may not be the appropriate initial operation for PHPT in younger patients. As a group, we must do a better job of preoperatively identifying MEN1 in this population, including taking and documenting an appropriate family history.
37. FEWER ADVERSE EVENTS AFTER REOPERATIVE PARATHYROIDECTOMY ASSOCIATED WITH INITIAL MINIMALLY INVASIVE PARATHYROIDECTOMY
LF Morris MD, SS Abadin MD, S Lee MD, CL Warneke MD, EG Grubbs MD, ND Perrier MD
Houston, Texas

Background: Reoperative parathyroidectomy is technically challenging due to scarring, distorted anatomy and loss of normal tissue planes from initial dissection. Controversy exists as to whether more is better— with reference to the extent of dissection and exploration at initial parathyroidectomy. The aim of this study was to compare complication rates for patients requiring reoperation after initial, focused minimally invasive parathyroidectomy (i-MIP) and reoperation after initial 4-gland standard cervical exploration (i-SCE).

Methods: Records from patients who underwent reoperative parathyroidectomy at a single institution over a 14-year period were retrospectively reviewed. Patients who underwent >1 prior parathyroidectomy or a previous or simultaneous, unrelated thyroid operation were excluded. Clinically significant postoperative sequelae (within 30 days of parathyroidectomy) included: symptomatic hypocalcemia; surgical site infection or collection; other infection; deep vein thrombosis; chest pain requiring cardiology consultation; new arrhythmia; and any issue that required emergency department evaluation or hospital admission. Permanent hypoparathyroidism was defined as PTH <10 pg/mL and continued need for daily calcium and/or calcitriol supplementation at >6 months after parathyroidectomy.

Results: 77 patients were included in the study, 20 (26%) in the i-MIP group and 57 (74%) in the i-SCE group. There was no difference in age, body mass index, or preoperative calcium, creatinine, or 25-hydroxy Vitamin D levels. Most patients presented with persistent disease (hypercalcemia within 6 months postoperatively, 77%) and most (74%) underwent focused, unilateral reoperation. 55 patients had a prior parathyroidectomy at a different institution. There was no difference in operating room time, dissection time, blood loss, or length of stay between groups. There was one intraoperative complication (a pneumothorax), which occurred in the i-SCE group. A significantly higher rate of clinically significant postoperative sequelae was observed in the i-SCE group (42% versus 15%, p=0.03) that could not be explained by differences in rates of clinically-significant hypocalcemia (25% i-SCE vs. 15% i-MIP, p=0.5). In multivariate analysis, the only significant predictor of having a clinically significant postoperative event was i-SCE (OR 4.1, 95% CI 1.1-15.7, p=0.04). In long term follow-up of cured patients, hypoparathyroidism was more likely in the i-SCE group (11.4% versus 0%, p=0.3).

Conclusion: Reoperative parathyroid surgery is complicated. In fact, only 70% of patients have an uneventful postoperative course. The probability of such morbidity was higher if i-SCE was the initial operation versus focused i-MIP. In addition, after curative reoperation, i-SCE patients were more likely to have of a higher rate of permanent hypoparathyroidism. In patients for whom a targeted approach MIP is possible, these data should be considered prior to performing routine SCE.
38. ROBOT ASSISTED SINGLE INCISION GASLESS TRANS-AXILLARY THYROIDECTOMY IS A SAFE AND EFFECTIVE ALTERNATIVE AFTER FNA SHOWING FOLLICULAR/HURTHELE OR SUSPICIOUS CARCINOMA CYTOLOGY
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Background: Open trans-cervical thyroidectomy for a disease process in which over 80% of the pathology is benign has been questioned. Fine needle aspiration (FNA) biopsy results are often non-diagnostic and cannot reliably differentiate between benign and malignant pathology. We hypothesize that the robot single incision gasless trans-axillary approach is an ideal approach to thyroid surgery particularly after fine needle aspiration (FNA) showing follicular/hurthle cytology or suspicious cytology.

Methods: A retrospective review of patient charts from a single surgical practice was conducted from 2009 to 2012. Patient referrals with significant FNA and ultrasound findings underwent robotic thyroid surgery. Data assessed included: age, body mass index (BMI), sex, ultrasound, FNA, conversions, complications, patient's subjective satisfaction and surgeon's evaluation of outcomes.

Results: Ninety-one patients underwent 108 robotic thyroidectomy surgeries. The average age was 49 years (range 23-81), BMI was 28.7 and 82% were females. Preoperative FNA revealed follicular neoplasm (40%), benign (34%), malignant papillary carcinoma (11.1%), Hurthle cell neoplasm (8.9%), nondiagnostic (4.4%), suspicious for malignant papillary carcinoma (1.1%). In contrast post operative histopathology showed that 84% of nodules were benign, 13% had malignant papillary carcinoma and 4% was Hurthle. There were six conversions to open surgery due to large nodule mass (5 patients), and obesity (1 patient). Conversions rates were higher in males compared to females (25% vs. 2.8%), p<.001. Complications included minor post operative pain (6%), temporary hoarseness (3%), temporary hypocalcaemia (3%), hematoma (1%), and minor infection (1%). There were no deaths, permanent voice changes, or take backs for bleeding. Surgeon's evaluation of cosmesis as good and patients' satisfaction with cosmesis were both 100%.

Conclusion: Compared to traditional trans-cervical approach the robot single incision gasless trans-axillary approach is an effective and safe alternative with improved cosmesis. We believe in the setting of unilateral and benign disease this is an ideal surgical approach.
39. DOES FAMILY HISTORY OF BREAST CANCER IMPACT SURGICAL DECISION-MAKING OF BREAST CANCER PATIENTS?
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Background: Nearly 75% of women diagnosed with breast cancer have stage I or II disease. Early-stage breast cancer and DCIS, in the absence of contraindications, requires a surgical decision. Prior research has focused on identifying factors associated with or influencing decision-making of breast cancer patients such as patient characteristics, clinicopathologic features, surgeon preferences, and geographic variation. The role of family history on women's decision-making remains poorly understood. The purpose of this study was to evaluate the effect of family history on women's surgical choice.

Methods: A retrospective review was conducted of all women with stage I or stage II breast cancer between December 2006 and September 2012 from a single breast surgeon's practice. The medical records of 519 patients were reviewed for patient demographics, family history of breast cancer, diagnostic method, tumor characteristics, treatment received, and surgery performed. Patients were included if the medical record contained a family history and the patient had proceeded with a surgical option. Comparisons were made between patients with and without a family history of breast cancer, those who did and did not receive preoperative breast MRI and those that did or did not undergo genetic testing to determine if these factors affected choice of surgical procedure.

Results: Of the 266 patients included in the study, 125 (47%) had a negative family history for breast cancer and 141 (53%) had a positive family history. The majority (74.4%) received breast conserving surgery (BCS), while 25.6% received a mastectomy. Patient demographics, diagnostic method, and tumor characteristics were similar for subjects in both groups. Similarly, the proportion of subjects with or without a family history of breast cancer who underwent BCS (72.3 vs. 76.8%) or mastectomy (27.7 vs. 23.2%) was not different (P=0.405). However, more subjects with a positive family history underwent bilateral breast surgery than those with a negative family history (21.3 vs. 12.0%, P=0.044). More women who received preoperative MRI underwent mastectomy (36.7 vs. 19.0%, P=0.001) and had bilateral surgery (29.6 vs. 9.5%, P<0.001) than those without a MRI. Patients who underwent genetic testing were also more likely to have undergone preoperative MRI (53.2 vs. 31.9%, P=0.002) and had bilateral surgery more frequently (29.0 vs. 13.2%, P=0.004) than those without genetic testing.

Conclusion: Family history did not significantly impact patient's decision to undergo BCS or mastectomy. As seen in prior studies, breast MRI was shown to increase mastectomy rate. Therefore, surgeons must use caution when ordering and interpreting breast MRI for cancer patient's since it influences patient's decision on BCS. While family history should be considered when counseling patients with breast cancer, a positive family history does not significantly influence a woman's choice of surgical procedure.
40. LASER ASSISTED IDOCYANINE GREEN FLUORESCENCE: A GUIDE TO PERFUSION ASSESSMENT OF BOWEL ANASTOMOSIS IN TRAUMA AND ACUTE CARE SURGERY

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Background: Perfusion is a critical indicator for the health of a bowel anastomosis. Despite of excellent surgical technique, there is a high occurrence of perfusion related post-operative complications after bowel resection. Real time visualization of intra-operative perfusion using laser assisted Idocyanine Green fluorescence (Life cell SPY) can substantiate and complement the clinical judgment of the operating surgeon and hence help to reduce post-operative complications. The authors report two cases in which they utilized the SPY intra-operatively, to assess the perfusion to the bowel anastomosis based on perfusion scores.

CASE 1: An 89 year old female, presented to the Emergency department with chief complaint of vague, dull lower abdominal pain for six weeks. On physical examination, the abdomen was mild tender in the right lower quadrant overlying a hard, ovoid, non-mobile palpable mass of 3x3cm in dimension. The Abdominal Computerized Tomography (CT) demonstrated chronic intussusceptions with sausage shaped mass with 3.5cm of soft tissue mass serving as the lead point. An exploratory laparotomy with likely right hemi-colectomy and a side to side ileocolic anastomosis was performed. A laser assisted fluorescence scan was performed using Idocyanine dye to identify the perfusion of the bowel. The perfusion of each area was calculated relatively to the area of maximum fluorescence. The line of anastomosis, the area of concern primary concern, reported perfusion in the range of 27-66% of the maximum.

CASE 2: A 77 year old female presented to the trauma bay with diffuse abdominal pain after MVC. The pain was sudden onset, constant, crampy, 10/10 on intensity, radiating to the back, and exaggerated on movement. On examination, her abdomen was diffusely tender to palpation especially the upper quadrants bilaterally with mild guarding. We performed an exploratory laparotomy for trauma and found mesenteric tear that required small bowel resection with end-to-end hand sewn anastomosis. On perfusion assessment, relative good perfusion of the bowel anastomotic line was visible with perfusion scores ranging from 26% to 41% of the maximal flow.

Conclusion: The use of Laser assisted Perfusion assessment is helpful in assessment of perfusion in patients undergoing bowel resections to prevent complications due to inadequate perfusion. A perfusion score is needed to be developed as a cut off point for denoting adequate perfusion.
41. ROBOTIC ASSISTED LAPAROSCOPIC CYSTGASTOSTOMY FOR PANCREATIC PSEUDOCYST
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Background: Pancreatic Pseudocysts are one of the most common complications of patients with chronic pancreatitis. Treatment presents a number of challenges both to the surgeon and patient. Here we present a video and case of a 39 yo female with a pancreatic pseudocyst that was causing severe pain and a gastric outlet obstruction. Classically these cases have been operated on open, laparoscopically, or endoscopically.

Methods: Outpatient was placed in reverse Trendelenburg. 3 working ports and an umbilical for insufflation were used. Harmonic was used for anterior and posterior access with intra op US for cyst localization. Endo GIA was used for the cystgastostomy anastomosis with 3.0 prolene purse string for hemostasis. Cyst debridement occurred with a grasper. The anterior stomach was closed in a running single layer closure.

Results: Our patient tolerated the procedure and hospitalization without complication. Her pain and gastric outlet obstruction fully resolved.

Conclusion: Robotic assisted cystgastrostomy is a minimally invasive procedure that is safe, and allows increased exposure, and debridement compared to other more commonly used methods. At hospitals with a DaVinci machine this procedure should be considered as an safe and efficient alternative to laparoscopic or endoscopic drainage.
42. GASTROINTESTINAL STROMAL TUMORS OF THE SMALL BOWEL: THE MAYO CLINIC EXPERIENCE
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Background: Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors arising in the gastrointestinal tract. Up to thirty percent of these tumors arise in the small bowel. We reviewed our experience of treating a series of small bowel GISTs.

Methods: All patients undergoing surgical resection of small bowel GISTs between January 1997 and October 2012 were included in this series. Patient, tumor and surgical characteristics as well as outcomes were evaluated and reported.

Results: Thirty patients (18 male and 12 female) underwent surgical resection of small bowel GISTs. Of these, six tumors (20%) were duodenal in origin, 14 jejunal (46%), nine ileal (30%) and one (4%) multifocal (duodenum and jejunum). Fourteen patients (46%) presented with gastrointestinal bleeding, 12 tumors (40%) were incidentally identified and the remaining five patients (16%) presented with abdominal pain or obstructive symptoms. Primary small bowel resection was performed for all jejunal and ileal GISTs. Duodenal GISTs were treated with local resection in five patients and pancreaticoduodenectomy in one patient. The median tumor size was 4.7 cm (range=0.2 cm to 16.5 cm). Tumor mitotic rate reported in the later years of the analysis demonstrated five tumors with >5 mitoses per 50 high power fields and nine tumors with <5 mitoses per 50 high power fields. Two of the three patients presenting with distant metastases underwent complete surgical resection of the primary and metastatic tumors. The third patient had positive margins due to extensive tumor burden even after neoadjuvant chemotherapy. Seven patients received adjuvant imatinib chemotherapy with only one instance of intolerance resulting in adjustment to sumatinib therapy. Median follow-up was 18 months (range=0.1 months to 120 months). Five patients were found to have distant recurrence on follow-up with one patient diagnosed with both local and distant recurrence. At most recent follow-up, fourteen patients (46%) were alive without evidence of disease, two (7%) were alive with disease, two patients (7%) died of their disease, six patients (20%) died of other diseases or unknown causes and six (20%) were lost to follow-up.

Conclusion: Small bowel GISTs are rare tumors that may present with significant symptoms. Resection of these tumors with adjuvant chemotherapy in the setting of larger size and higher mitotic rate is indicated given their potential for distant metastatic disease progression.
43. IS THE FINANCIAL BURDEN OF CANCER AFFECTING SURVIVORS’ QUALITY OF LIFE?
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Background: Little is known about the relationship between the financial burden of cancer and the physical and emotional health of cancer survivors. We examined the association between financial problems caused by cancer and reported quality of life in a population-based sample of cancer patients.

Methods: Data from the 2010 National Health Interview Survey (NHIS), including its Cancer Supplement, were analyzed. The NHIS is a face-to-face survey administered by the Centers for Disease Control, which reports health information and is designed to be representative of the civilian non-institutionalized US population. A multivariate regression model was used to examine the relationship between the degree to which cancer caused financial problems and the patients’ reported quality of life.

Results: Of 2108 cancer patients who answered the survey question, “To what degree has cancer caused financial problems for you and your family?”, 8.6% of respondents reported “a lot”, while 69.6% reported “not at all”. Patients reporting “a lot” of financial problems due to cancer were more likely to rate their physical health (18.6% vs. 4.3%, p<0.001), mental health (8.3% vs. 1.8%, p<0.001), and satisfaction with social activities and relationships (11.8% vs. 3.6%, p<0.001) to be poor compared to those with no financial hardship. Those with “a lot” of financial hardship were also more likely to worry “all the time” about their cancer returning compared to those who reported no financial difficulties (20.5% vs. 1.7%, p<0.001). On bivariate analysis, female gender (p=0.016), non-Caucasian race (p<0.001), younger age (p<0.001), lower education (p=0.002), lack of insurance (p<0.001), lower family income (p<0.001), and cancer type (p<0.001) were all significantly associated with the degree to which cancer caused financial problems. Region of residence was not significantly correlated with financial distress due to cancer (p=0.390). On multivariate analysis controlling for all of the significant covariates above, the degree to which cancer caused financial problems was the strongest independent predictor of quality of life. Patients who reported that cancer caused “a lot” of financial problems were four times less likely to rate their quality of life as “excellent”, “very good”, or “good” (OR=0.24; 95% CI: 0.14-0.40, p<0.001). While age (p=0.019), education (p=0.004), insurance (p=0.005), and income (p=0.002) remained other independently significant predictors of quality of life, gender (p=0.070), race (p=0.017), and cancer type (p=0.429) were no longer significant in the model.

Conclusion: Increased financial burden due to cancer is the strongest independent predictor of poor quality of life among cancer survivors. While the majority of survivors claim to have had no financial difficulties due to their diagnosis, these data support the need for initiatives to help those for whom cancer has caused a significant financial impact.
44. ARE SHAVE BIOPSIES ACCURATE TO APPROPRIATELY TREAT MALIGNANT MELANOMA?
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Background: To determine if shave biopsy diagnosis of malignant melanoma should alter treatment for malignant melanoma when compared to excisional biopsy

Methods: Charts of all patients diagnosed with malignant melanoma at our institution from 2001 to 2010 were reviewed. Data collected included: initial biopsy method; initial pathology, final pathology from wide excision and need for additional surgical treatment due to pathology report of incorrect depth. Statistical analysis was performed by Chi-square test.

Results: Charts of 665 patients were analyzed. Initial biopsy performed was: 493 excisional biopsies, 134 shave biopsies and 38 punch biopsies. Breslow depth at diagnosis was compared to final Breslow depth after wide surgical excision. Excisional biopsy was accurate in 480 (97.3%) cases and inaccurate in 13 (2.6%) Two (1.5%) patients with inaccurate depth on excisional biopsy required additional operative treatment. Shave biopsy depth was accurate in 119 (88.8%) and inaccurate in 15 (11.2%). Additional operative treatment was needed in 5 (3.7%). The frequency of inaccurate Breslow depth assessment with shave biopsy was greater when compared to excisional biopsy (p<0.0001)

Conclusion: Shave biopsy provides accurate information for treatment decisions in malignant melanoma. Final treatment was appropriate 99.5% of time after excisional biopsy and 96.3% following shave biopsy. Incorrect depth assessment was seen significantly more often after shave biopsy but only when the shave biopsy had a positive deep margin. We recommend that if the shave biopsy has positive deep margins the lesion should be treated as an intermediate depth melanoma or re-biopsy should be performed to ensure adequate surgical treatment.
45. A CARE-PATH FOR PANCREATICODUODENECTOMIES DECREASES HOSPITAL STAY
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Background: Outcomes following major surgery are increasingly studied on an institutional and national level. It has been reported at other institutions that a care pathway in patients undergoing pancreaticoduodenectomy (Whipple) has improved outcomes. Specifically this includes length of stay, complications, prolonged nasogastric tube (NGT), and hospital readmission rates. A care pathway used at our institution includes daily goals, activity, medications, nursing activities, nutrition plans, intravenous fluid management and laboratory exams. The effectiveness of this care-pathway on patient outcome measures was evaluated.

Methods: A care pathway was modeled after the design used at Johns Hopkins Hospital and was instituted in 2008. Specific measures in the care path included early ambulation, early resumption of liquid diet, aggressive diuresis to baseline weight, and systematic removal of drains. There was an elimination of the routine use of gastrostomy and jejunostomy tubes in the care-path era. This study is a retrospective review of a consecutive patient series by a single surgeon at a single institution. Patients were evaluated immediately before (Pre-Pathway, PP) and after the institution of the care path (CP). Fifty three consecutive patients underwent a Whipple procedure: 26 with the care pathway and 27 without. Outcomes were analyzed to identify possible factors influenced by the institution of a postoperative care pathway.

Results: There was no significant difference in age, sex, diagnosis, or operative time between the two groups. Pathology of surgical specimens revealed adenocarcinoma (n=17 PP, n=19 CP), neuroendocrine carcinoma (n=1 PP, n=1 CP), and chronic pancreatitis (n=2 PP, n=1 CP). Days with a NGT were similar between the groups as were overall complications (50%) versus (33%), care path and pre-pathway respectively. Two reoperations occurred, both in the CP group, one for pancreatic anastomotic leak and one for bleeding. Mean hospital length of stay was 8.8 days in the CP group (range 5-24) and 10.75 days in the PP group (range 4-34). There were four 30-day hospital readmissions in each group. All 30-day readmissions were observed in patients who experienced some complication after surgery. There were no hospital mortalities or mortalities within 30 days of the procedure. The mean hospital cost was lower in the care pathway group.

Conclusion: Our data shows a difference in hospital length of stay from the time of surgery in our patients with an instituted care path. This is without an increase in morbidity, mortality, or hospital readmission rates. Although not statistically significant, the clinical significance has implications for a positive impact on patient care as well as hospital cost.
46. PROGNOSTIC FACTORS IN YOUNG WOMEN WITH CUTANEOUS MELANOMA
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Background: Gender is an established prognostic factor in cutaneous melanoma; women as a group have a better overall prognosis than men. However, we hypothesized that melanoma in young women may have distinct clinicopathologic features and biological behavior compared to melanoma in older women, possibly related to tanning bed use and excessive acute episodes of sun exposure.

Methods: A retrospective analysis was performed of a large multicenter study that accrued patients between 1996 and 2003, and included patients ages 18 to 70 with cutaneous melanoma ≥ 1 mm Breslow thickness (BT) and no evidence of regional or distant metastatic disease. All women with follow-up data were included. Univariate and multivariate analyses as well as Kaplan-Meier (KM) analysis were performed to test for differences in clinicopathologic variables, disease-free survival (DFS) and overall survival (OS) between female patients ≤40 and >40 years old.

Results: A total of 1056 female patients were divided into two groups: >40 yrs old (N=757; 71.7%) and ≤40 yrs (N=299; 28.3%). Overall, there were no differences in BT, ulceration, or sentinel lymph node (SLN) status between groups. When compared with older women, younger women were more likely to have truncal melanomas (39.5% vs. 29.5%; p=0.0017) and less likely to have regression of the primary tumor (6.4% vs. 11.5%; p=0.0208). The mean number of SLNs removed was 2.82 for younger women and 2.29 for older women (p<0.0001). Multivariate analysis revealed that BT, ulceration, and tumor-positive SLN were associated with worse DFS in both the younger and older groups; truncal location was associated with worse DFS in the younger group only. The same factors were predictive of OS in both groups, except that ulceration was not significant in the younger patient group. In the younger patient group, the 5-year KM DFS rates were 78.1% for truncal melanomas vs. 92.5% for non-truncal melanoma locations (p=0.0009); the corresponding 5-year KM OS rates were 76.6% vs. 93.9% (p=0.0003). In the older patient group, the 5-year KM DFS rates were 84.1% for truncal vs. 82.8% for non-truncal melanomas (p=NS), and the corresponding 5-year KM OS rates were 81.6% vs. 87.5% (p=0.0049).

Conclusion: Although women with cutaneous melanoma tend to have better prognosis than men, women ≤40 years of age with a primary melanoma of the trunk may represent a subgroup at higher risk for disease recurrence and metastasis.
47. FACTORS AFFECTING DETECTION OF METASTASIS IN THE “HOTTEST” SENTINEL LYMPH NODE IN BREAST CANCER
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Background: Sentinel lymph node (SLN) biopsy remains the cornerstone of axillary staging and therefore treatment for early breast cancer. As standard practice has moved increasingly toward eliminating completion lymph node dissection for patients undergoing breast conservation, the importance of accurate sentinel lymph node biopsy is becoming more critical. The purpose of this study was to identify factors associated with detection of metastasis in the most radioactive or “hottest” SLN (HN).

Methods: A post-hoc analysis of a prospective multi-institutional study of SLN biopsy for breast cancer was performed. All patients in this analysis had tumor-positive SLN and underwent lymphatic mapping with injection of radiolabeled colloid; the vast majority also underwent injection of isosulfan blue dye. The protocol specified that all SLN were to be removed to a final background count less than 10% of the ex vivo count of the HN, and all blue or palpably suspicious LN were considered SLN. The HN was defined as the most radioactive node by ex vivo gamma probe counts per second. Multivariate analysis was performed for age, character of tumor deposit, number of SLN, tumor location, palpability of nodes, tumor stage, and method of injection. Statistical analysis was completed using logistic regression, Chi-square, and t-test methods.

Results: One thousand one hundred and eleven patients with a positive SLN (n=1111) were identified. In 934/1111 patients (84.1%), the HN was tumor-positive (Group 1). In 177/1111 patients (15.9%), the HN was tumor-negative, but metastasis was identified in a less radioactive lymph node (Group 2). On univariate analysis, Group 1 as compared to Group 2 had greater mean size of the largest metastasis within the SLN (2.37 mm vs. 2.07 mm; p=0.0108) and a greater number of additional positive SLN (mean 1.55 vs. 1.28; p=0.0001). Furthermore, tumor positive HN correlates with stage (p=0.0031). There was no significant difference with regard to age, tumor location, or palpable nodes. Two injection techniques of radioactive tracer were significantly associated with the likelihood of metastasis in the HN: Dermal/subdermal injection decreased the likelihood of tumor positive HN to 81.8% compared to 87.3% for non-dermal injection (p = 0.0136), and peritumoral injection increased the likelihood of tumor positive HN to 87.3% compared to 82.2% for non-peritumoral injection (p = 0.0253). On multivariate analysis, the following factors were independently associated with tumor present in the HN: size (p = 0.0362), number of positive SLN (p = 0.0001) and non-dermal injection (p = 0.0191).

Conclusion: Accurate sentinel lymph node biopsy is crucial to reduce the number of false-negative SLN biopsies. These results may help guide the diligence with which surgeons seek to identify additional less radioactive SLN. Specifically, patients with smaller tumors and those with dermal injection should undergo thorough gamma probe interrogation of the axilla to identify secondary SLN.
48. FUNCTIONAL OUTCOMES OF SUPRACLAVICULAR ARTERY ISLAND FLAPS (SCAIFs) VERSUS MICROSURGICAL FREE FLAPS IN HEAD AND NECK RECONSTRUCTION
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Background: Head and neck cancer and trauma reconstruction has relied on microvascular free flaps that require microsurgical expertise, long operative times, and intensive postoperative monitoring. The supraclavicular artery island flap (SCAIF) is a simpler flap to harvest, requiring a shorter operative time along with decreased ICU and overall hospital lengths of stay. At our institution, most SCAIFs have retained sensory innervation and do not preclude the creation of future free flaps. In this study we compare functional outcomes of SCAIF and free flap reconstruction for head and neck soft tissue defects.

Methods: A retrospective review was performed on consecutive cases performed by a single surgeon (JWG) for complex defects of the Head and Neck between 2006 and 2012. Patients were grouped into a non-osseous fasciocutaneous free flap group (FFF) and a SCAIF group. Functional outcomes were objectively assessed by a single speech pathologist: level of speech intelligibility, ability to swallow, and dependence on G-tube feeds. Intraoperative and postoperative complications were recorded for each patient. The two groups were compared using the two sided Student’s t-test or the chi square test. A p-value of ≤ 0.05 was considered statistically significant.

Results: A total of 29 patients underwent either microsurgical free flaps (16 patients) or SCAIFs (17 patients) for Head and Neck tumors between January 2005 to January 2012. The free flaps used included radial forearm free flaps (12), anterolateral thigh (ALT) flaps (3) and DIEP flap (1). FFFs had one major complication (flap loss) with none in the SCAIF group. Minor complications (not requiring return to the operating room) occurred in 53.3% cases in the SCAIF group vs 42.9% cases in the FFF, which was not statistically significant. Differences in functional assessment between the two groups (level of speech intelligibility, ability to swallow, and dependence on G-tube feeds) was not statistically significant.

Conclusion: SCAIFs and microsurgical free flaps offer similar coverage benefits for head and neck reconstruction. Our studies have demonstrated no significant differences between the two techniques with respect to major and minor complications, or postoperative speech and swallow ability.
49. CYTOREDUCTIVE SURGERY AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY FOR PATIENTS WITH PERITONEAL CARCINOMATOSIS: EARLY RESULTS FROM MAYO CLINIC IN ARIZONA
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Background: Peritoneal carcinomatosis (PC) has been considered a fatal disease with median survival between 6 and 12 months. Cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) is being increasingly employed for both palliative and curative intent. We report on our initial experience with the technique.

Methods: A retrospective review was conducted of 16 patients undergoing CRS and HIPEC at our institution from December 2010 to Sept 2012.

Results: The median age was 59 years, with majority being male (56%) and white (69%). Prior to presentation, 15 patients (94%) underwent some form of colorectal surgery with a prior surgery score of 1 or 2 in 12 (75%). The most common primary tumor was mucinous adenocarcinoma of the appendix (56%) followed by colorectal adenocarcinoma (38%). The majority of tumors were either low grade (56%) or intermediate grade (19%). T4 disease was present in 10 patients (63%) with N1 or N2 disease in seven patients (44%). Visceral metastases were present in 13 patients (82%). The mean peritoneal carcinomatosis index score (PCI) was 14. Twelve patients (75%) underwent at least one anastomosis and an equal number underwent at least one peritonectomy. Completeness of cytoreduction score of CC0/CC1 was obtained in 75% of patients. The mean dose of mitomycin administered intraoperatively was 53 ± 11 mg for 90 minutes, heated at 42-44 degrees centigrade using a closed technique. Sixty-day mortality was 0%. In total, 13 patients (81%) had post-operative complications; grade I (n=1, 6%), grade II (n=10, 63%), grade III (n=2, 13%), grade IV (n=1, 6%). Post-operative chemotherapy related toxicities occurred in 7 patients (44%), neutropenia being the most common.

Conclusion: With appropriate patient selection and a dedicated treatment team, a new CRS and HIPEC program can be initiated with very low mortality, albeit with significant peri-operative morbidity. As the program matures and more experience is gained, including laparoscopic techniques, we hope to improve on these short term outcomes.
50. SINGLE INCISION LAPAROSCOPIC (SILS) INGUINAL HERNIA REPAIR

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Background: Several options exist for the surgical management of inguinal hernias. Laparoscopic inguinal hernia repair has been demonstrated to produce less postoperative pain compared to open inguinal hernia repair. Single incision laparoscopic surgery (SILS) inguinal hernia repair offers a less invasive method for inguinal hernia repair.

Methods: An IRB approved retrospective review of SILS inguinal hernia repair at our two sister institutions was performed. SILS hernia repair was performed through a 1.5 cm infra-umbilical incision and a planned preperitoneal approach. Operating time, need for admission, perioperative morbidity, and recurrence at time of follow-up were determined. Patient satisfaction was assessed at 30 days postoperative on the most recent patients using the Core Outcomes Measure Index (COMI-hernia) and the EuroQol visual analog scale.

Results: Ninety men and 6 women, ages 17-85 years (mean age 56 years) underwent SILS inguinal hernia repair between Oct 2009 and August 2011. Body mass index (BMI) ranged from 17.6-36.9 kg/m2 (mean 25.5 kg/m2). Twenty-six patients underwent bilateral hernia repairs. Ten patients presented with recurrent hernias following prior open repairs. Mesh fixation was performed with 3 or fewer hernia tacks in 96% of patients. Operating time averaged 70 minutes (range 31 to 129 minutes). Ninety-four procedures were performed as outpatients and 2 procedures were admitted for 2-3 days. Postoperative morbidity was 9%, and included urinary retention (4 patients), seroma/hematoma (4 patients), and bladder injury (1 patient). Recurrence rate is 3.1% with a mean follow-up of 13 months. In the most recent patients in the series, patient satisfaction surveys revealed pain at 30 days was rated 0-1 (VAS 0-10), quality of life was rated very good or good, and overall satisfaction with medical care was rated very satisfied in 100% of patients.

Conclusion: SILS inguinal hernia repair is another viable option for inguinal hernia repair. Although early recurrence was slightly higher than anticipated during the learning curve, patient satisfaction scores are high with this technique. Further comparison studies with other hernia repair techniques are warranted.
Background: Little is known about the effects of surgical residents’ extended work shifts and overtime on patient safety. Prior attempts to answer this question have suffered from methodological limitations, including the absence of objective measures and consistent definitions of fatigue, and the use of non-standardized measures of surgical performance. Recent research has shown that fatigue can affect the characteristics of saccadic (fast ballistic) eye movements in non-surgical scenarios. Here we wondered whether residents’ fatigue induced by time-on-duty (approximately 24 hours) might similarly affect the dynamic parameters of their saccadic eye movements. Because saccadic velocity is not under voluntary control, a fatigue index based on saccadic velocity may provide an accurate and unbiased representation of the resident's fatigue state. Here we monitored fatigue during the call day of surgical residents, combining for the first time an objective index of fatigue based on saccadic velocity with a multidimensional screening methodology that included subjective and performance indices.

Methods: We measured the eye movements of members of the general surgery resident team at St. Joseph’s Hospital & Medical Center (Phoenix, AZ) (for the academic year 2011-2012; 6 males, 6 females), using a head-mounted video eye tracker (similar configuration to a surgical head-light). Residents performed three tasks: two simulated laparoscopic surgery tasks (i.e. the peg transfer and precision cutting tasks) and a guided saccade task, before and after their call day. To control for potential diurnal fluctuations of fatigue, we asked residents to rate their perceived fatigue every three hours, using a standardized scaling procedure.

Results: Time-on-duty decreased saccadic velocity and increased subjective fatigue, but did not affect laparoscopic performance. These results support the hypothesis that saccadic indices reflect graded changes in fatigue. Our findings also suggest that fatigued residents are not the principal source of medical error, confirming the complicated relationship among continuity of care, patient safety, and fatigued providers.

Conclusion: Changes in saccadic eye movement dynamics indicate subjective mental fatigue during prolonged time-on-duty. These findings have potential impacts for the development of neuroergonomic tools to detect fatigue among healthcare professionals.
52. TRAINING MODEL FOR LEARNING TO PERFORM PER ORAL ENDOSCOPIC MYOTOMY (POEM)
K Helling, Leroux E, Rivas H
Stanford, California

Background: A standardized training model for performance of POEM currently does not exist. We present our method of training to perform this procedure safely and effectively in our patient population.

Methods: Prior to undertaking the process of learning to perform POEM, mastery of esophageal anatomy, pathophysiology, and surgical technique on the esophagus is required. Safe performance of POEM also demands comfort with endoscopic equipment and the ability to skillfully perform complex endoscopic tasks such as cutting, clipping, and blunt dissection. The process of learning to perform POEM was initiated by studying the published technique described by Professor Haruhiro Inoue. Unedited video footage of POEM procedures was examined. This was followed by a period of live case observation.

POEM procedures were then performed on fresh human cadavers. Four simulation sessions, each with two cadavers, were undertaken. For each cadaver specimen, multiple myotomies were performed. In total, ten POEM procedures were completed on the cadavers. Using a checklist from the cadaver sessions, we replicated the procedure on our first living patient. Also a simulation with live pig models was done in one session.

Results: To date, we have performed five POEM procedures. Our average operative time is about two hours (80-190min). There have been no serious complications in any of our patients. Each patient to date reports initial relief from achalasia symptoms and has been discharged from the hospital after only brief hospitalization.

Conclusion: Currently, no standardized model exists for learning to perform POEM for treatment of achalasia. We utilized multiple educational formats to prepare for performing our initial POEM procedures in living patients. This included literature review, observation both of unedited videos and of live patient procedures, animal simulation, and by performing multiple POEM procedures on cadavers. Building upon the framework of skill with advanced endoscopic techniques, the learning curve for performing the POEM procedure is minimal and leads to excellent patient outcomes.
53. TELE-PHOTOGRAPHY ON THE ACUTE CARE SURGERY SERVICE: A TWO YEAR EXPERIENCE
JL Wynne MD, V Pandit MD, P Rhee MD, A Tang MD, G Hadeed MPH, N Kulvatunyou MD, T O’Keeffe MD, A Webster, RS Friese MD, B Joseph MD
Tucson, Arizona

Background: Smart phones can be used to both take and transmit high quality clinical photos. The aim of this study was to describe our experience with the use of smart phone tele-photography in the management of Acute Care Surgery patients. We hypothesized that smart phone tele-photography can be easily and safely implemented on a busy Acute Care Surgery service.

Methods: We performed a two year retrospective review of all tele-photographs taken at our Level I Trauma Center/quaternary care center. All members of the Acute Care Surgery Service were provided with smart phones; these were utilized to take relevant clinical photos during the course of the call day. The photos were labeled with two patient identifiers, and were immediately emailed to a secure email account. The photographs were utilized for daily turnover rounds. Additionally, an administrative assistant transferred a copy of each photograph to the patients’ electronic medical record, with strict adherence to the security guidelines and regulations of the Health Insurance Portability and Accountability Act (HIPAA). The number of photographs collected and uploaded was analyzed, as well as the success, failure, and complication rates.

Results: During the study period, 7,200 photographs were collected in the secure email account. 85% (6120/7200) of the photos were reviewed for filing, and the remainder discarded due to poor image quality. 54% (3320/6120) of the reviewed photos were successfully uploaded into the patient’s electronic records, while the remainder lacked adequate labeling and could not be uploaded. Among the photographs that were not uploaded, 62% lacked two identifiers while 29% were incorrectly labeled. Average interval to uploading was three months. Ten photographs were uploaded into the wrong patient’s electronic medical record, for an error rate of 0.003% (10/3320). Three patient complaints were registered during the study interval.

Conclusion: Tele-photography can be safely and inexpensively implemented on an Acute Care Surgery Service. Fears of HIPAA violations are unwarranted, as the incidence of patient complaints is minimal when tele-photography is implemented in compliance with HIPAA regulations. Labeling of the photographs with two patient identifiers is advised to maximize success rates. The principle cost of this strategy is related to the need for dedicated personnel to perform uploading into the electronic medical record.
54. THE ROLE OF A STANDARDIZED NOMENCLATURE AND TAXONOMY IN SURGICAL MORBIDITY AND MORTALITY CONFERENCE
ZJ Osborn MD, MM Olson MD, JA Aucar MD
Champaign, Illinois

Background: The surgical morbidity and mortality conference (M & M) has been both a pillar of the educational process and a source of controversy since the “End Result Idea” was first proposed by Earnest Codman. While a weekly M & M conference is required for surgical residency accreditation, neither the regulatory bodies nor surgical societies provide specific guidance on conference logistics. The purpose of this article is to examine the role of using standardized naming and classification techniques to document M & M case reviews.

Methods: We review the contemporary literature focused on surgical M & M conference processes to identify documented naming and classification techniques. In addition, we report a 2 year experience with structured electronic documentation of M & M cases using controlled terminologies and a 3 axis coding system with fields for: Body system affected (7 terms); Event category (14 terms), and; Contributing factors (8 terms). Each event was also classified by severity and the need to enter a “further action” sub process. All M & M case forms submitted between July 2010 and June 2012 were reviewed for adequacy of documented history and hospital course, the presence of moderator notes, and completeness of the classification process.

Results: There are several examples of classification systems for surgical complications in the literature, but there is no standardized process for reporting or classifying M & M events. The challenges to developing a systematic approach for monitoring surgical morbidity and mortality in near time can be divided into 1) the logistical processes for information gathering and analysis, and 2) cultural behaviors related to reporting, discussing, and arriving at consensus. In this 2 year period, M & M conference was held on 43 weeks and 44 weeks of each 52 week period, with a case submission volume of 104 and 108 (average 2.4 and 2.5 cases per week). A new surgical residency was introduced at the midpoint, with no significant impact on the number of cases reported. Consistency in both reporting and classifying events improved over the study period, but did not reach statistical significance.

Conclusion: Standardization of the M & M reporting and review process using a predefined nomenclature and taxonomy would facilitate comparison of outcomes both within and across surgical programs. Using controlled terminologies and multi-axial coding techniques is the first step towards accurate representation of the complexities of near term surgical case review. Since the M & M conference serves both an educational and peer review purpose, it is critical that these processes be defined by and remains controlled by surgeons.
55. ATTITUDES OF SURGEONS REGARDING A SECURE, ANONYMOUS REGISTRY OF SURGICAL INNOVATION
KE Hodges BS, P Angelos MD PHD
Chicago, Illinois

Background: Innovation serves as the basis for advancement in surgical practice. The benefits of successful innovation are obvious, but there can be dire consequences when innovation goes awry. Unlike successful innovations, which are frequently published in the surgical literature or presented at meetings, negative results often go unreported, allowing multiple surgeons to unwittingly attempt the same ill-advised innovation. Proposals have been made in the surgical literature to keep a registry of surgical innovation. However, for numerous reasons, such a registry does not currently exist in the United States.

Methods: Surgical faculty, residents, and fellows at a single university hospital were surveyed anonymously regarding the value of an innovation registry if one were created with the following characteristics: online, anonymous, secure, organized by specialty and diagnosis, keyword searchable, inclusion of an interactive forum for posting comments on individual innovations. The following surgical specialties were included in the survey: Cardiac and Thoracic Surgery, General Surgery, Neurological Surgery, Ophthalmology, Otolaryngology-Head and Neck Surgery, Orthopedic Surgery, Plastic Surgery, Urology, and Vascular Surgery.

Results: While there was strong opposition to mandatory participation, 87.9% of respondents believe that surgeons should voluntarily submit to an innovation registry. Additionally, respondents indicated their willingness to access a registry before attempting innovative techniques, with 70.7% of respondents stating that they would be somewhat likely or very likely to do so. Further, a majority of respondents said they would be likely to submit to a registry describing positive (75.9%) and negative (65.5%) results of surgical innovation. In contrast, respondents were pessimistic about the willingness of their colleagues to submit negative results of innovative surgical techniques, with only 45.6% saying that surgeons, in general, would be likely to do so.

Conclusion: These data indicate a strong sentiment in the professional community that surgeons should voluntarily submit to a secure, anonymous registry of surgical innovation, if one were to exist. Likewise, it is apparent that surgeons are willing to access such a registry before attempting innovative techniques and to submit positive and negative results of surgical innovation. Nevertheless, a prevailing pessimism about the willingness of the surgical community to voluntarily post negative results represents a major hurdle to the successful implementation of such a registry. Should an innovation registry be developed, its implementation could be accompanied by educational programs highlighting the importance of responsible innovation and data emphasizing the willingness of surgeons to contribute to the registry. A registry of surgical innovation might represent a powerful tool for promoting responsible innovation at a time of increasing financial constraints.
56. INTERNATIONAL FAMILY MEDICINE FELLOWSHIP: A TOOL FOR TRAUMA IN THE DEVELOPING WORLD
T Stephens MD, JM Haan MD
Wichita, Kansas

Background: The lack of trauma care is most pronounced in the developing world. Family medicine missionaries find themselves providing services, often with no surgical or trauma exposure. Our practitioners returned requesting training in trauma, burn, general and subspecialty surgery. In response, we created a fellowship that provides subspecialty training to family physicians planning to practice overseas. This study reviews our current experience in the International Family Medicine Fellowship (IFMF).

Methods: We created a fellowship to address the deficit in surgical training and tropical diseases. This included a 2-month course in tropical medicine and public health, 5 months incorporating burn/wound care, orthopedic trauma and fracture management, obstetrics, neurosurgery, surgical trauma and general surgery, anesthesia, ultrasonography/echocardiography, and basic dentistry, and 5 months overseas in supervised care.

Results: Fellowship completions total 13 with 4 currently in fellowship. Case types and ranges include: OB/GYN (vaginal delivery, c-section, malignancy; 100-105 cases), general surgery (50-60 cases), neurosurgery (VP shunts; 35-40 cases), orthopedics (external fixators, internal rodding, traction pin; 30-32 cases), anesthesia (sedation, spinal and regional block; 25 cases), urology (suprapubic tube, prostatectomy; 20-22 cases), ophthalmology (cataracts, enucleation; 9-10 cases), and endoscopy (EGD; 3-5 cases). On average, each practitioner supervised 20 major trauma resuscitations. The second fellowship class then created a 6-person group practice. Five members of the practice serve an underserved rural area, which provides salary support while one member practices overseas as a missionary on rotation. In a 2012 African truck collision, 32 casualties were cared for by 2 fellows and 2 family practice faculty while the local surgeon was unavailable. This example demonstrates the real life utility of the U.S. trauma training of this program.

Conclusion: This new fellowship has improved our family medicine practitioner knowledge base and skill set. Expansion of this fellowship could decrease surgical practitioner shortages both here and abroad.
57. FACTORS INFLUENCING THE DECISION OF WOMEN IN ARMY MEDICINE TO PURSUE GENERAL SURGERY TRAINING
S Bruce MD, L Hofmann DO, L Coviello DO, K Davis MD
El Paso, Texas

Background: The purpose of this study is to identify factors that influence the decision of women to pursue General Surgery residency training in the Army.

Methods: Female Army residents were solicited to complete an anonymous, web-based survey. The survey sought to assess the impact of gender diversity and staff and resident interactions during surgical clerkships on residency choice. Additional factors that impacted the decision to not pursue surgical training were also identified.

Results: Sixty female residents responded to the survey. Women who did not choose surgery were more likely to have negative interactions with male and female staff and residents. In addition, their decision was more frequently impacted by the lack of exposure to both female staff and female residents. Factors discouraging surgery as a career included difficult lifestyle, scope of practice, training length, family planning, and poor clerkship experience.

Conclusion: Improving gender diversity and creating a positive clerkship experience for potential applicants may encourage more women to pursue surgical training in the Army.
58. TRENDS IN ORGAN DONOR MANAGEMENT OVER THE LAST DECADE
D Plurad MD, D Kim MD, S Bricker MD, A Neville MD, F Bongard MD, B Putnam MD
Torrance, California

Background: Refinements in the management of the potential organ donor have resulted in increased numbers and quality of grafts successfully procured after diagnosis of neurologic death. Hormone Replacement Therapy (HRT) is often recognized as an important strategy. It has been theorized that HRT may be associated with an overall increase in organs available for transplant.

Methods: Utilizing the Organ Procurement and Transplant Network (OPTN) deceased donor database, all brain dead donors successfully procured from Jul 1st, 2001 to Jun 30, 2011 were studied. HRT was defined as an infusion of thyroid hormone during donor resuscitation. Expanded Criteria Donors (ECD) are defined as donors age ≥ 60 or age 50 to 59 years with co-morbidities. The raw number of donors and organs successfully recovered per year were calculated. The incidence of HRT use, high yield (≥ 4 organs) procurement and organs recovered per donor were examined.

Results: There were 74,180 brain dead donors having at least one organ successfully recovered. Of these, 43,439 (58.6%) were male. The most common cause of death was cerebrovascular disease in 31,804 (42.9%) followed by traumatic brain injury (TBI) in 28,142 (37.9%). There has been an increase in both the raw number of donors and organs successfully recovered by year from 20,558 in 2001 to 24,308 in 2011. The use of HRT has significantly increased over this time from 25.6% to 72.3%. However, this has been accompanied by a decrease in the rate of high yield procurements (46.4% to 43.1%). There has only been a small increase in the mean organs/ donor in the TBI subgroup (4.02 to 4.12). There has been a significant increase in the use of ECD donors (22.1 % to 26%) accompanied by a significant decrease in TBI donors (42.1% to 33.9%).

Conclusion: The marked increase in the use of HRT in the management of brain dead donors has not been accompanied by an analogous increase in the number of organs recovered per donor overall. This is potentially due to a significant shift to more marginal donors.
59. DOES PRESENTATION AFFECT OUTCOMES IN GALLBLADDER DISEASE?
AR Martinez MD; GE Hambright MD; JS Murry MD; MS Truitt MD; EL Dunn, MD Dallas, Texas

Background: Cholecystectomy is one of the most common surgical procedures performed in the United States, with more than 500,000 cases performed annually. This procedure is unique in that it is performed both electively and on an emergent basis. With upcoming changes in healthcare, including Accountable Care Organization formation, we anticipate that patients undergoing cholecystectomy will need to be characterized by their manner of presentation in order for the treating physician to be fairly compensated for the provision of care. Therefore, we sought to evaluate the various factors upon patient presentation prior to surgery that may contribute to overall outcomes.

Methods: The hospital's billing database was queried for patients that had undergone cholecystectomy during the year 2011. Patients undergoing a cholecystectomy at the time of another procedure were excluded. The patients were divided into two categories, based on whether they were admitted electively for their procedure (EL) or if they presented to the emergency department (ER). The medical records for each patient were reviewed for specific data points, which were analyzed for statistical significance.

Results: A total of 329 patients were identified. Cholecystectomies were performed by 19 surgeons across a variety of surgical subspecialties, including bariatrics, general surgery, and transplant surgery. Six acute care surgeons performed 58% (192) of all cases. Elective cholecystectomies accounted for 61% of cholecystectomies. Laparoscopic converted to open occurred 15% of the time in the ER group and only 3% of the time in the EL group. For the acute care surgeons, 77% of the patients presented to the ER; in contrast, for the non-acute care surgeons, only 9% of patients presented to the ER. ER patients were significantly younger than patients in the EL group (39 vs 47, p<0.05). The average hospital length of stay (HLOS) for ER patients was 5.1 days, while EL patients were discharged within an average of 0.81 days (p<0.05). Cholecystectomies performed by acute care surgeons resulted in a mean HLOS of 3.1 days, while cholecystectomies performed by non-acute care surgeons resulted in a mean HLOS of 1.4 days (p<0.05). Length of the operative procedure were significantly longer in the ER group (1.67 hours vs 1.24 hours, p<0.05). ER patients presenting with non-acute disease had longer length of stay as compared to the EL patients (3.6 vs. 0.93 days, p<0.05).

Conclusion: Patients who present to the emergency department with gallbladder disease requiring cholecystectomy have longer lengths of stay than patients who present for elective cholecystectomy. Acute care surgeons care for a population of patients that is different from that of elective surgeons. This data will be important as acute care surgeons and elective surgeons define their roles and reimbursement within Accountable Care Organizations.
60. OUTCOME ANALYSIS OF EMERGENCY DEPARTMENT THORACOTOMIES PERFORMED AT A LEVEL II TRAUMA CENTER
LB Berbiglia DO, PP Lopez MD, A Ammon MPH, G Navas RN BSN, M Keller PA-C, LN Diebel MD
Detroit, Michigan

Background: Emergency Room (ER) thoracotomy is a well-described resuscitative technique that can be life saving for the critically injured patient. Several guidelines for selection of patients who will benefit from ER thoracotomy have been published, but real time decisions continue to be difficult. We sought to review outcomes at our ACS designated level II center with the goal of identifying predictors of survival and mortality. This will allow us to develop and implement an improved protocol for patient selection for performance of an ER thoracotomy.

Methods: A retrospective chart review from the trauma database was performed on all patients who underwent ER thoracotomy from January 1, 2005 to December 31, 2009.

Results: Forty-seven patients underwent ER thoracotomy. One patient was excluded due to incomplete records. Overall survival was 8.69% (4/46). Forty-four patients were male and two patients were female. Average age of survivors was 33.5 years, and of non-survivors was 26.7 years. All patients sustained penetrating trauma with 44 gunshot wounds and 2 stab wounds. The majority of patients, 20, sustained isolated thoracic injuries (survivors 1/20, 5.0%), while 12 sustained thoracic and additional injuries (survivors 2/12, 16.7%), and 14 sustained injuries not involving the thorax (survivors 1/14, 7.1%). Mortality was associated with reported EMS scene and transport times of greater than 17 minutes (16/25, 64.0%), performance of pre-hospital CPR (19/42, 45.2%), pre-hospital intubation (5/42, 11.9%), and no signs of life on arrival to the emergency department (18/42, 42.9%) as described by ACS Committee on Trauma.

Conclusion: Patients who present with penetrating trauma with EMS scene and transport times of 17 minutes or greater, pre-hospital CPR, pre-hospital intubation and no signs of life upon arrival to the trauma center should not undergo resuscitative ER thoracotomy.
61. EMPHASIZING ALCOHOL SCREENING AND INTERVENTION FOR OLDER TRAUMA PATIENTS
EC Kim, JK Pham BS, BT Imayanagita, AP Kong MD, ME Lekawa MD, MO Dolich MD, NP Bernal MD, C Barrios MD
Orange, CA

Background: In an effort to lower the rates of substance related trauma, hospitals have implemented screening and brief intervention (SBI) systems to educate patients in both the Emergency Department and inpatient setting. Most efforts are often focused on younger adults, who represent the bulk of trauma patients. Due to smaller representation and social and cultural biases, the prevalence and significance of intoxication in this older trauma patients is often overlooked. We hypothesize that alcohol abuse is an underappreciated factor in older patients experiencing trauma that can be modified with preventative measures targeting this population.

Methods: A retrospective review of data collected from the screening and brief intervention tool at a level 1 trauma center was queried. Blood alcohol concentration (BAC), age, injury severity scores (ISS) as well as hospital and intensive care unit (ICU) length of stay were analyzed. Student’s T-test was applied to determine significance of differences between groups.

Results: A total of 2,158 Emergency Department patients positive for alcohol were identified. The patients were divided into three separate age groups: of 0-18 (n=183), 19-49 (n= 1547), and 50+ (n=428). The mean BAC levels of the younger and older adult groups showed no statistically significant difference in level of intoxication (183.04 mg/dL vs 193.07 mg/dL, p=0.13). However, the older age group had a higher Injury Severity Score (10.25 vs. 7.74 P<0.01) and those that were admitted to the ICU had longer length of stays there (2.17 vs. 1.01, P<0.01). A comparison of ISS in intoxicated versus alcohol-free patients in this same older category (ages 50+) showed that intoxicated patients suffered more severe injuries (10.25 vs. 8.70 P= 0.02). Alcohol positive older patients had decreased survival rates compared to those in the younger adult category (98.64%vs 96.96%, p<0.01).

Conclusion: Our data supports the fact that older trauma patients are just as affected by alcohol abuse as younger adults, suffering greater injury, increased resource utilization, and decreased survival rates. Screening and brief intervention practices as well as education targeting the older adult population should be utilized to prevent future injury.
62. PEDIATRIC ALL-TERRAIN VEHICLE INJURIES: DOES BEING THE DRIVER VERSUS THE PASSENGER MAKE A DIFFERENCE IN SEVERITY OF INJURIES?
AC McCoy MD, E Gasevic MD, R Szlabick MD, AE Sahmoun PhD, M Aaland MD
Grand Forks, North Dakota

Background: Since 1970, all-terrain vehicles (ATVs) have grown in popularity, power, and speed. ATVs are generally designed for only one person however people often ride along with a driver.

We sought to investigate whether there was a difference in the ATV injuries between riders and passengers in the pediatric population.

Methods: We conducted a retrospective review of the trauma registry of two regional trauma centers in North Dakota from 2000 to 2010. All pediatric patients that were injured by an ATV were reviewed. Chi-squared tests were used to analyze the differences between groups of categorical variables and Wilcoxon signed-rank tests or t-tests for continuous variables. All p-values are two-sided with p-value < 0.05 considered significant. Analyses used SAS software V 9.3 (SAS Institute, Cary, NC, USA).

Results: A total of 86 injured individuals were included in the analysis of which 41% were the passengers and 59% were the drivers of the ATV. Univariate analysis revealed that passengers were significantly younger than drivers (mean ± SD: 8.5 ± 3.3 vs. 11.2 ± 2.97; p = .0001 respectively). The injury severity score was significantly higher for passengers than for drivers [median (range): 9 (1-50) vs. 6 (1-72); p = .01 respectively]. Drivers had higher abbreviated injury scale to the face than passengers [2 (1-2) vs. 1 (1-4); p=.02 respectively]. Injured passengers were more likely to be hospitalized than drivers (94% vs. 74%; p=.02). However, the hospital length of stay did not differ between passengers and drivers [3 (1-50) vs. 2 (1-20); p = .17]. Admission to the intensive care unit stay was not different between passengers and riders (31% vs. 24%; p = .46). Passengers were less likely to wear a helmet than drivers (11% vs. 35%; p = .005).

Conclusion: To our knowledge, this is the first study that focused on passengers and riders injury characteristics in ATV-related accidents in the pediatric population. We found that the overall injury severity is higher for passengers and that they were more likely to be hospitalized than drivers. Passengers were also less likely to wear a helmet than drivers. Public education is needed to increase awareness that not only are pediatric passengers injured in ATV crashes, but they are usually injured worse than if they were driving the ATV.
63. PULMONARY CONTUSIONS AFTER BLUNT TRAUMA INFREQUENTLY OCCUR IN ISOLATION AND ARE NOT BENIGN: THE 15 YEAR EXPERIENCE AT AN URBAN JOINT TRAUMA CENTER SYSTEM

R Jawa MD, D Young, J Stothert MD, M Wagner MD, S Cemaj MD, D Yetter RN, R Dumond RN, V Shostrom MS, D Mercer MD

Omaha, Nebraska

Background: Pulmonary contusions (PC) are commonly described following blunt trauma. However, they are usually noted in association with other injuries outside of the pleural space. There is limited literature on pulmonary contusions in the absence of extra-thoracic injuries (PC-I). We sought to examine the incidence and outcomes of PC-I as compared to pulmonary contusions in association with extra-thoracic injuries (PC-E).

Methods: We reviewed the trauma registries for admitted patients diagnosed with pulmonary contusion with or without rib fractures and with or without pneumothorax (ptx)/ hemothorax (htx) at our urban joint (2 hospital) state designated level I trauma center system for 1994-2008. Statistical analyses were performed using nonparametric tests.

Results:

<table>
<thead>
<tr>
<th></th>
<th>PC-I</th>
<th>PC-E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients (n)</td>
<td>64</td>
<td>1223</td>
</tr>
<tr>
<td>Mortality (%)</td>
<td>3.1%*</td>
<td>15.9%</td>
</tr>
<tr>
<td>Age (years)</td>
<td>43.9 +/- 18.8*</td>
<td>34 +/ -19.7</td>
</tr>
<tr>
<td>GCS</td>
<td>15(15,15)*</td>
<td>14(3,15)</td>
</tr>
<tr>
<td>ISS</td>
<td>9(9,9)*</td>
<td>27(18,41)</td>
</tr>
<tr>
<td>Chest AIS</td>
<td>3(3,3)*</td>
<td>3(3,4)</td>
</tr>
<tr>
<td>Ventilator(%)</td>
<td>14.3%*</td>
<td>51.5%</td>
</tr>
<tr>
<td>ICU LOS(days)</td>
<td>0(0,1)*</td>
<td>3(1,7)</td>
</tr>
<tr>
<td>Hosp.LOS(days)</td>
<td>3(1,7)*</td>
<td>8(3,15)</td>
</tr>
<tr>
<td>D/c to home(%)</td>
<td>79.7%*</td>
<td>54%2</td>
</tr>
<tr>
<td>Most Common Mechanism</td>
<td>MVC/MCC</td>
<td>46.9%**^</td>
</tr>
<tr>
<td>Injury pattern*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC only</td>
<td>25%</td>
<td>30.5%</td>
</tr>
<tr>
<td>PC+rib frax</td>
<td>35.9%</td>
<td>20.1%</td>
</tr>
<tr>
<td>PC+PTX/HTX</td>
<td>7.8%</td>
<td>14.9%</td>
</tr>
<tr>
<td>PC+PTX/HTX+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rib frax</td>
<td>31.3</td>
<td>34.5%</td>
</tr>
<tr>
<td>Chest tube</td>
<td>26.6%</td>
<td>36.9%</td>
</tr>
<tr>
<td>Bronchoscopy</td>
<td>6.3%</td>
<td>7.7%</td>
</tr>
</tbody>
</table>
-GCS: Glasgow Coma Score, ISS: Injury Severity Score; AIS: Abbreviated Injury Score
n=62-64 for PC-I parameters, except n=49 for ventilator support; n=1221-1223 for
PC-E parameters, except n=1174-ISS,1160-AIS, 982-ventilator support, 1167-ICU
LOS, and 1207-hospital LOS; median and interquartile ranges are presented for the
scoring data; *p<0.05 between the 2 groups.
Two of 64 patients with PC-I, both with ISS 16, expired in the ICU from pulmonary
complications, after 40 and 20 days, respectively. In the PC-I group, the second most
common mechanism was fall, occurring in 21.9% of patients.

Conclusion: Our findings demonstrate that pulmonary contusions are rarely present
(<5%) in the absence of extrathoracic trauma. Pulmonary contusions may occur in
the absence of rib fractures or pneumothorax/ hemothorax. While the age range in
the PC-I group was 1-89 years, their mean age was significantly higher than the PC-E
group. Patient with PC-I were significantly older. Despite the lower ISS, patients with
PC-I may still need ventilator support, ICU stay, and hospitalization for several days.
Pulmonary contusions in the absence of extrathoracic injuries can also result in mortality.
64. MANAGEMENT OF PANCREATIC TRAUMA IN THE COMMON ERA.
GL Peck, DO, A Wrysakowski MD, C Dente MD, D Feliciano MD.
Atlanta, Georgia

Background: Multiple stump closure techniques after distal pancreatectomy for trauma have been described, and all are associated with a significant fistula rate. With increasing emphasis on abbreviated laparotomy, stapled pancreatectomy has become more common. This study describes the outcomes of 50 consecutive patients (pts) with injuries to the neck, body or tail of the pancreas who had stapling of the pancreatic stump after resection for trauma.

Methods: Retrospective review of 50 consecutive pts who underwent distal or subtotal trauma pancreatectomy followed by stapling of the proximal stump from 1997-2011 was performed. Demographic, operative and outcome data were collected. A pancreatic fistula was defined as drainage from an indwelling drain with an amylase concentration greater than that of serum.

Results: 50 pts (94% male, 35 yrs old, 74% penetrating trauma) were identified. In the 12 pts who died within 72 hrs of injury, all had at least 5 total injuries or an associated abdominal vascular injury. When 3 late deaths were included, overall mortality was 28%. In the 38 pts who survived >72 hours (92% male, average 35.6 yrs old, 2.4 associated injuries), 14 (37%) underwent additional suturing of the stump, 12 (32%) had coverage of the stump with omentum (#5) or fibrin sealant (#7), and 7 pts (19%) had both techniques employed. Overall fistula rate was 29% (11/38) and was not different in the stapled alone (5/19, 26%) vs. stapled with additional closure (6/19, 32%), p = NS. No fistula required repeat laparotomy, 10/11 (91%) closed prior to hospital discharge and the average duration of drainage was 19 days (Range: 5-60). There were an additional 15 abdominal complications for a local complication rate of 63%.

Conclusion: 1. Distal pancreatectomy remains a morbid operation after trauma related both to a high number of associated injuries and a high local complication rate. 2. Stapled pancreatectomy has a high rate of fistula formation, although the majority resolve quickly and without need for repeat laparotomy. 3. Additional methods of stump coverage do not decrease the rate of fistula formation.
65. THE CONTRIBUTION OF OPIATE ANALGESICS TO THE DEVELOPMENT OF INFECTIOUS COMPLICATIONS IN A TRAUMA ICU POPULATION
TL Holloway MD, CJ Covington BS, RF Oppeltz MD, RM Stewart MD, MG Schwacha PhD
San Antonio, Texas

Background: Pain control with opiate analgesics is an important mainstay in the treatment and recovery from trauma related injuries; however, complications can arise from their misuse or overuse. Previous findings show an association between opiate use and both hospital and ICU length of stay (LOS) in a trauma population. An increased infection rate may account for some of the increased LOS as this group has shown an association between opiate intake and infection rate in burn patients. Therefore, it would be beneficial to establish if such an association between infection rate and opiate intake exists in a trauma ICU population. Such information will be valuable in developing a prospective study to examine the impact of analgesic regimes on complications in the trauma ICU.

Methods: Using a cohort of 179 randomly selected trauma ICU admissions from 2006 until 2009, a retrospective chart review was performed examining opiate administration, infection rate and type, LOS, injury patterns, and demographics. Subjects were divided into 3 equally sized groups based on injury severity score (ISS≤10, ISS>10 <24, ISS≥24). Total opiate equivalents administered over the first 72 hours were calculated. Subjects within each ISS group were divided into “high” versus “low” opiate groups based on median group opiate use. Infection rate, LOS, and ventilation status were examined. Given that infection rate varied the most with opiate administration in the middle ISS group (ISS > 10 <24), an additional 116 subjects were added to this group and more in depth analyses were performed.

Results: An increase in opiate administration during the first 72 hours after admission was associated with an increased incidence of infection (p<0.05, OR 3.78). Increased opiate administration during this period was also associated with an increased hospital and ICU LOS (p<0.05). When adjusting for ventilation status; however, increased opiate intake was not associated with a statistically significant increase in the incidence of infection (p=0.287).

Conclusion: In a trauma population with a moderate ISS, increased opiate analgesic administration within the first 72 hours of admission may contribute to an increased rate of infection and in turn an increased LOS. This suggests that those with a moderate ISS may be more susceptible to the immune modulating effects of opiate analgesics than those with a low or high ISS. A population of non-intubated subjects provides the best opportunity to utilize the array of available opiate-sparing pain management regimens and adjuncts. By examining this group specifically, we found that an association may exist between increased opiate administration and an increased rate of infection. Therefore, a larger scope study based solely on this patient population is warranted.
CONSTITUTION

ARTICLE I: NAME
The name of the organization shall be The Southwestern Surgical Congress. It shall be incorporated as a non-profit organization under the laws of the state of Oklahoma unless otherwise directed by action of the members of the Congress. It shall have no capital stock or shareholders.

ARTICLE II: MISSION STATEMENT
The Southwestern Surgical Congress is an organization that promotes the advancement of General Surgery by representing the interests of academic, community and rural surgeons, surgical residents and medical students through education, advocacy, research and innovation. The goal of the Congress is to promote excellence in patient care and professional development.

ARTICLE III: MEMBERS
The members shall be known as Fellows of The Southwestern Surgical Congress. They shall be reputable surgeons and allied specialists residing in the states comprising this Congress, and other areas as approved by the Council of the Congress. Physicians shall be elected to membership according to the Constitution and these Bylaws. When the membership of any Fellow in the Congress terminates by resignation, death, or any other manner, all of his or her rights and privileges in the Congress terminate. None of the assets or privileges may be used to benefit such person or the representatives of his or her estate.

ARTICLE IV: COUNCIL
There shall be an Executive Committee of the Council composed of the President, the President-Elect, the Secretary-Treasurer, the Vice-President, the Recorder and the two most recent Past Presidents of the Congress.

There shall be a Council of the Congress consisting of the President, President-Elect, Vice-President, Secretary-Treasurer, Recorder, the two most recent Past Presidents, Chairman of the Program Committee, Associate Fellow Representative and all councilors from each of the states comprising the Congress area. State Councilors and the Associate Fellow Representative shall be appointed by the President-Elect with the approval of the Council of the Congress at the Annual Executive Session. The term of office of each Councilor shall be three years. A Councilor shall not serve more than two consecutive terms.
ARTICLE V: OFFICERS

The officers of the Congress shall consist of a President, a President-Elect, a Vice-President, a Secretary-Treasurer and a Recorder who are active Fellows of The Southwestern Surgical Congress.

The President-Elect shall be elected at the Annual Congress Business Meeting to serve for one year. At the expiration of that year, he or she shall become President and shall serve for one year or until his/her successor is elected and installed. If the President-Elect dies, resigns or becomes otherwise unable to complete the term and succeed to President, the Vice President shall assume the position and responsibilities of the President-Elect. The Congress shall elect both a Vice-President and President-Elect at the next Annual Congress Business Meeting.

All other officers shall be elected at the Annual Congress Business Meeting to serve for one year, except for the Recorder and the Secretary Treasurer who shall each be elected to serve for a term of 3 years, with a limit of no more than two terms.

ARTICLE VI: MEETINGS

Meetings of The Southwestern Surgical Congress shall be held and designated as follows:

1. A Fall Council meeting at a site and date designated by the President.
2. The Annual Council Meeting which is held immediately prior to the Annual Scientific Meeting.
3. The Annual Scientific Meeting for presentation of the education program.
4. The Annual Congress Business meeting during the Annual Scientific Meeting.
5. The Council Executive Committee Meeting, held at the Annual Scientific Meeting and additionally as needed.

ARTICLE VII: RULES OF CONDUCT

The parliamentary conduct of the Congress and its component committees shall be governed by Robert’s Rules of Order (most recent edition).

ARTICLE VIII: FUNDS AND EXPENSES

Funds may be raised by annual dues and voluntary contributions or in any manner approved by the Council of the Congress. Funds may be appropriated by the Council to defray the expenses of the Congress, to carry on its work and for any other purpose approved by the Council in accordance with 501c3 requirements.
CONSTITUTION (cont.)

ARTICLE IX: AMENDMENTS
The Congress, at any Annual Congress Business Meeting of the Fellows, may amend any Article of this Constitution by a 60% vote of the members present, provided that a copy of the proposed Amendment has been furnished for each Active and Senior Fellow at least thirty days in advance of the Annual Congress Business Meeting.

ARTICLE X: DISSOLUTION CLAUSE
In the event of the dissolution of this organization for any cause, the Council of the Congress shall, after satisfying claims, direct the distribution of all funds and assets of The Southwestern Surgical Congress to such scientific, educational, or charitable organizations or purposes as two-thirds of the Council approves. No part of the assets or funds shall be given to any member or other individual.
CHAPTER 1: MEMBERSHIP

Section 1. The Council shall judge the qualifications of its applicants for Fellowship. Every reputable and legally-qualified surgeon or allied specialist who has attained certification by his/her appropriate Specialty Board may be eligible for Fellowship. Membership shall not be denied because of race, creed, color or sex. The Membership shall consist of Fellows recommended by the Council from the following states: Arizona, Arkansas, California, Colorado, Hawaii, Idaho, Kansas, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, Wisconsin and Wyoming.

Qualified and reputable surgeons residing in areas other than those included in The Southwestern Surgical Congress area who express a desire to become a member may request an application form from one of the State Councilors who will present the application to the Council for special consideration for membership. Fellows who have paid their dues and now reside in states outside of the area comprising the Congress may continue as Fellows with all duties and privileges.

Domestic: Every reputable and legally-qualified surgeon or allied specialist who has attained certification by his or her appropriate American Surgical Specialty Board (which is a member of the American Board of Medical Specialties) and who has graduated from a Medical School acceptable to The Southwestern Surgical Congress may be eligible for membership.

Foreign: Surgeons requesting membership in The Southwestern Surgical Congress who are foreign medical graduates are eligible if they possess the following qualifications:
   a) they are able to speak and write English. Application and supporting materials must be completed in English.
   b) Graduation from a Medical School acceptable to The Southwestern Surgical Congress. 
   c) Certification appropriate to the applicant’s specialty practice by an American Specialty Board acceptable to The Southwestern Surgical Congress or appropriate specialty board certification by the Royal College of Physicians and Surgeons of Canada or documented proof of the completion of a minimum of five years of formal post-doctoral surgical education.
   d) A full and unrestricted license to practice medicine in the country and in the state or province where they are in practice.

Section 2. New states will be admitted to membership in The Southwestern Surgical Congress in the following manner: A surgeon who meets all of the qualifications for membership in The Southwestern Surgical Congress shall submit an application for the state he/she wishes to have included in The Southwestern Surgical Congress. He/she shall include with his/her application the name of surgeons who meet the qualifications and wish to become active members of the Congress. This application shall be submitted to the Council, and if approved, shall be presented to the Fellows of the Congress at the Annual Congress Business Meeting where a majority vote shall be required for inclusion as a new state.
BYLAWS (cont.)

Section 3. A candidate for Fellowship shall make application in writing on a form provided by the Congress. The application form shall contain all specific information deemed important and pertinent by the Council. The requirement for an accompanying initiation fee is limited to application for active fellowship. The application must be approved and signed by the applicants State Councilor before consideration by the Council of the Congress.

Section 4. The Council shall have the right to accept or reject any application for Fellowship in the Congress. If approved by the Council, each application shall be signed by the Chairman of the Membership Committee of the Congress. If disapproved, the initiation fees will be returned.

Section 5. The membership of this Congress shall be designated as Active, Associate, Honorary, Senior and Inactive Fellows.

(A) Active Fellows
Active Fellowship may be conferred upon physicians who have been actively engaged in the practice of surgery for at least one year following the completion of an approved surgical training program, who are of good moral character and professional standing, duly licensed and who are certified by the American Board of Surgery or other appropriate Specialty Board. Extraordinary exceptions to these membership requirements may be recommended by the State Councilor and considered for approval by the Council of the Congress, after careful and complete review and approval by the Membership Committee.

(B) Associate Fellows
Associate Fellowship may be conferred upon physicians who are at any level of an ACGME approved surgical training program, who are of good moral character and professional standing and are duly licensed. Associate Fellowship will be limited to five years. Upon completion of Board Certification, the Associate Fellow is eligible for Active Fellowship, after 1 year of practice. Associate Fellows will be entitled to the same privileges as Active Fellows except the privileges of voting and holding office. Associate Fellows will pay no initiation fee but will pay a reduced membership fee as set by the Council and regular membership meeting registration fees. Associate Fellows who apply for Active Fellowship will have the initiation fee waived and pay the standard membership dues at that time.

(C) Honorary Fellows
Honorary Fellowship may be conferred by the Council upon surgeons who have distinguished themselves by outstanding achievement. Honorary Fellowship may be conferred upon surgeons living in states outside those included in The Southwestern Surgical Congress or upon surgeons living in countries other than the United States. Honorary Fellows shall pay no dues or initiation fees and may not vote or hold elective office. They may receive the official Journal upon payment of the members’ subscription fee.
(D) Senior Fellows
Upon the recommendation of the State Councilor, the Membership Committee
and subsequent approval of the Council, an Active Fellow in good standing who
has attained the age of 65 years and remains in active practice may continue as an
Active Fellow with all the rights and responsibilities or may request change to senior
status by applying to the Council. An Active Fellow in good standing who has
retired from practice regardless of reason or age and is not using his/her professional
credentials for employment shall be granted Senior Fellowship. Senior Fellows may
receive the official Journal upon payment of the member’s subscription fee.

(E) Senior Fellows for Life:
Senior Fellow for Life status may be conferred by the Council upon surgeons who
have retired from active practice and have held Senior Fellow membership status for
at least one year. This status is intended for surgeons who wish to retire completely
from the association but remain listed in the membership directory. Senior Fellows
for Life may neither vote nor hold elective office.

(F) Inactive Fellowship
Inactive Fellowship may be granted by the Council upon request from Active
Fellows while they are serving military duty, while engaged in full time post-
graduate training, while actively engaged in missionary service or for other valid
reasons as accepted by the Council. Upon conclusion of this period the member
may resume his/her previous status of Active Fellow. Inactive Fellows are not
required to pay membership dues but they may receive the official Journal upon
payment of the members’ subscription fee. They may not vote or hold elective
office. Inactive Fellows must inform the Central Office annually concerning their
current status. Active members while serving active duty will continue to receive the
Journal without a fee and interruption.

Section 6. Fellows shall be certified by the Congress and their certificates shall be signed
by the President and the Secretary-Treasurer of the Congress.

Section 7. The privilege of holding any elective office and voting in the Congress shall
be restricted to Active Fellows and Senior Fellows in good standing. Honorary, Inactive,
Associate Fellows and Senior Fellows for Life shall not vote or hold office.

Section 8. Any member who is suspended from his/her local or state Medical Society,
the American College of Surgeons, or who otherwise may be disqualified from fellowship
in this Congress for any good or sufficient cause may have his/her membership in the
Congress terminated, following review and agreement by the Council.
CHAPTER 2: MEETINGS

Section 1. The Congress shall hold an Annual Scientific Meeting. The time, place, and length of the meeting shall be determined by the Council. Appropriate registration fees for the Annual Scientific Meeting will be determined by the Council.

Section 2. Each individual attending the Annual Scientific Meeting shall register and secure a badge from the Secretary-Treasurer or designated representative. This badge is required for admittance to the educational program and all other events at the meeting.

Section 3. During the Annual Scientific Meeting, there shall be an Annual Congress Business Meeting of the Congress in order to elect officers and to transact other business. The time and place of this Business Meeting shall be announced in the Program.

Section 4. Distinguished individuals who are not Fellows of The Southwestern Surgical Congress may be invited by the Program Committee with approval of the Executive Committee to any Annual Scientific Meeting for the purpose of participating in the educational programs.

Section 5. Papers read before the Congress must not have been published or presented at a major regional or national scientific meeting prior to presentation at the Congress, except by arrangement with the Program Committee. The abstract form of such papers shall be completed and submitted to the Program Committee prior to their deadline in order to be considered for the Program. Such papers shall become the property of the Congress and, subject to the approval of both the Publication and Research Committee of the Congress and the Editorial Staff of the contracted Journal. The papers may be published in the Journal serving as the official organ of the Congress.
CHAPTER 3: ELECTION OF OFFICERS

Section 1. At the Annual Congress Business Meeting of the Fellows, the President-Elect and the Vice-President for the forthcoming year shall be elected.

Section 2. The Secretary-Treasurer shall be elected every third year, but if he/she is unable to complete his/her term of office, the Executive Committee may appoint a Secretary-Treasurer to serve on an interim basis until the next Annual Meeting, at which time his/her successor shall be elected for a three-year term.

The successor to the Secretary-Treasurer shall be elected at the Annual Meeting one year in advance of his/her assumption of duties to serve as an understudy to the outgoing Secretary-Treasurer. He/She shall attend all meetings of the Council and the Council Executive Committee without a vote.

Section 3. The Recorder shall be elected every third year, but if he/she is unable to complete his/her term of office, the Executive Committee may appoint a Recorder to serve on an interim basis until the next Annual Meeting, at which time his/her successor shall be elected for a three-year term.

The successor to the Recorder shall be elected at the Annual Meeting one year in advance of his/her assumption of duties to serve as an understudy to the outgoing Recorder. He/She shall attend all meetings of the Council and the Council Executive Committee without a vote.

Section 4. The report of the Nominating Committee shall be presented at the Annual Congress Business Meeting of the Congress. Additional nominations may be made from the floor.

Section 5. Elections shall be held by ballot, voice vote, or standing vote, as decided by the presiding officer. A majority vote of members present shall be necessary for election. In the event no one candidate receives a majority of the votes cast, the one receiving the smallest number of votes shall be dropped, the vote retaken, and the balloting shall proceed in this manner until a candidate receives such majority of the votes cast.
CHAPTER 4: DUTIES OF OFFICERS

Section 1. President

(A) The President shall preside at the Council Meetings, and at the Annual Congress Business Meeting, and shall perform such duties as custom and parliamentary usage may require. During the Annual Scientific Meeting, he/she shall deliver an address on such matters as he/she shall deem of importance to the Fellows of the Congress. He/she shall be Chairman of the Executive Committee of the Council, an ex-officio member of all other Committees, and may preside over Scientific Sessions.

(B) He/she shall appoint special committees, as the need for such committees arises.

(C) At the Annual Congress Business Meeting during the Annual Scientific Meeting, the President assumes his/her duties as President; he/she shall announce the following appointments:

   (1) Chairman of the Standing Committees as needed.
   (2) New members to the Standing Committees as needed. The senior member of each Standing Committee retires from the Committee each year, but may be re-appointed.
   (3) Regular or acting Councilors and Vice-Councilors as heretofore provided.

(D) The President may, at his/her discretion, call a meeting of the Council or any Committee for consideration of such business as may properly be brought before it. If a member of the Council is unable to complete his/her term of office, the President shall appoint a successor. The President may, by and with the advice and consent of the Council, relieve any member of any Committee of his/her duties. When a member appointed to serve on any Committee is unable to complete his/her term of duty, the President shall appoint a successor to complete the term. In the event any member of the Council is unable to attend any Council meeting, the President may appoint an alternate to serve for that meeting.

(E) On the President’s death, disability, resignation, or removal, the President-Elect shall succeed to the Presidency

Section 2. President-Elect

(A) The President-Elect shall serve as a member of the Council of the Congress, and of its Executive Committee and shall assist the President in the performance of his/her duties, and shall preside in his/her absence or at his/her request.

Section 3. Vice-President

The Vice-President shall serve as a member of the Council of the Congress and its Executive Committee.

If the Vice-President is unable to complete his/her term, the President shall appoint his/her successor to serve until the next election.
Section 4. Secretary-Treasurer
(A) The Secretary-Treasurer shall be a member of the Council and a member of the Executive Committee of the Council. He/she is an ex-officio member of all committees except when designated as a regular member of a specific committee. The Secretary-Treasurer shall be elected for a three-year term and may be re-elected to this office. If he/she is unable to complete his/her term of office, the President, with the approval of the Executive Committee or the Council, shall appoint a successor to serve until the next election.

(B) Duties of the Secretary-Treasurer are as follows:
1. Under direction of the Council, he/she shall supervise the activities of the Congress and facilitate the workings of the various standing committees. He/she shall ensure that minutes are recorded of Council meetings, Executive Committee meetings, and the annual or special meetings of the members. He/she shall supervise the maintenance of files and records of the Congress. He/she shall perform other duties as are incident to such office or as may be assigned to him/her from time to time by the Council. With the approval of the Council, he/she may delegate to the Business Manager such duties as he/she deems appropriate.
2. Under the direction of the Council, he/she shall supervise the financial affairs of the Congress. He/she shall advise the Business Manager concerning billings and collections and management of all funds received by the Congress. Financial records and bank accounts shall be under the direction of the Business Manager, who shall render an annual report. The Business Manager will provide the Secretary-Treasurer with an annual report for presentation to the membership at the annual business meeting.

Section 5. Recorder
The Recorder shall be a member of Council, the Executive Committee, Chairman of Publication and Research Committee, an ex-officio member of the Program Committee and function as the liaison officer between the SWSC and the official journal of the Congress.

His/her duties will consist of determining with the Chairman of the Program Committee, the maximum number of scientific papers to be submitted for publication, collecting and editing the manuscripts and discussions at the Annual Scientific Meeting and editing them for publication in the official journal of the Congress. In addition, he/she will give a report at both the Council and annual Congress Business meetings regarding the activities of his/her office and of the Publication and Research Committee.
CHAPTER V. GOVERNANCE

Section 1: The Council

(A) The Council is the governing body of The Southwestern Surgical Congress. It shall authorize the purchase of property, stocks, bonds, and securities, make loans, and authorize and supervise the expenditures of the funds of the Congress.

(B) The Council shall meet as prescribed in Article VII of the Constitution, and as often thereafter as may be necessary. It shall be subject to called meetings as prescribed in Chapter 4, Section 1C of these Bylaws or on petition of five members of the Council.

(C) The President of the Congress shall preside at all meetings of the Council. In his/her absence, the President Elect shall preside. In the absence of the President and President Elect, the Vice-President shall preside. In the event of the absence of the President and President-Elect and Vice President, the Council shall elect a presiding officer. Seven members of the Council shall constitute a quorum.

Section 2. Council Executive Committee

The Executive Committee shall study the long-range goals of the Congress and formulate specific recommendations for future operations. This Committee shall represent the Council whenever a full meeting of the Council would not be possible, to consider and act upon such matters as would come before the Council, and report its findings and conclusions to the Council.

The Chairman for the Council Executive Committee shall be the President or the President-Elect in the President’s absence, or any member elected by a majority vote of the members present.

The Council Executive Committee may be called to meet by request of the President or upon written request of three of its members.

Section 3. State Committee

Each State Committee shall be composed of the State Councilor and Vice-Councilors. Each may serve up to two three-year terms. The Councilor for each state will recommend the Vice-Councilors. These appointments will be made by the President-Elect at the Annual Meeting of the Council.

The State Councilor must receive and consider all applications for Fellowship from his/her state, and must sign and approve the applications before they are submitted to the Membership Committee for action and referral to the Council for final approval.

The Vice Councilors are responsible for promoting membership within their region and assisting the State Councilor with his/her duties.
Section 4: Business Manager
The Council shall contract with a Business Manager hereinafter. The Business Manager shall be responsible for the operational management of the affairs of the Congress under the direction of the Executive Committee. The Business Manager may be a member of an association management firm. As primary custodian of the Congress’ funds the Business Manager shall be bonded in an amount sufficient to safeguard the financial assets of the Congress.

CHAPTER 5: STANDING COMMITTEES
The Standing Committees shall each consist of at least three members who may or may not be members of the Council. One member of each Standing Committee, or more as indicated, shall be appointed or reappointed by the President-Elect at the beginning of his/her term of office at the Annual Congress Business Meeting, to serve a three-year term, except for the Program Committee. The Chairman of each Committee shall be designated by the President-Elect for the following year. At least one former member shall remain on each Committee each year to provide continuity of purpose. Membership on a Standing Committee shall be limited to two consecutive terms.

An annual report shall be submitted by each Standing Committee to the Council, in writing and shall become a part of the minutes of that Council Meeting. A summary of the Committee reports shall be presented by the Chairman at the Annual Congress Business Meeting.

Section 1. Program Committee
The duty of the Program Committee is to select and arrange the Educational Program for the Annual Scientific Meeting. The Program Committee shall consist of the President, Recorder and six appointed members. The newly elected Vice President will annually appoint two individuals to serve a three-year term. One of these appointments will be designated to serve as Chairman of the Program Committee when the Vice President serves as President. The other members of the Committee will consist of two members serving their second year, two members serving their third year (one having been selected as Chairman). The Program Committee shall designate a CME Coordinator and obtain CME credit for the annual Congress meeting.
Section 2. Budget and Finance Committee
This Committee will review the financial transactions of the Central Office and suggest any indicated changes to the Council. It will advise the Secretary-Treasurer about financial transactions and investments. It will recommend the amount of the annual membership dues and initiation fees, commensurate with the requirements of the Congress for the ensuing year.

Section 3. Constitution and Bylaws Committee
It shall be the duty of this Committee to annually review the Constitution and Bylaws and to recommend any amendments or revisions as indicated.

Section 4. Publication and Research Committee
This Committee shall review all manuscripts presented at the Annual Scientific Meeting and select those of highest quality or greatest interest to be forwarded to the official journal for publication. Final selection of papers to be published will be determined by the Journal. The Recorder shall be the Chairman of this Committee. Any scientific surveys or research projects of the Congress membership shall be initiated or approved by this Committee.

Section 5. Nominating Committee
The Nominating Committee shall consist of the two living immediate Past Presidents with the most senior acting as Chairman and two members of the Council appointed by the President. They shall nominate candidates for President-Elect, and Vice-President and such other officers as required, and this committee shall report to the Council at the Annual Council Meeting immediately prior to the Annual Congress Business Meeting. Additional nominations may be made from the floor by Active or Senior Fellows during the Annual Congress Business Meeting. The Nominating Committee shall also appoint members to serve in the various Southwestern Surgical Congress representative positions in national organizations.

Section 6. Local Arrangements Committee
The chairman of the Local Arrangements Committee will be appointed by the President.

Section 7. Graduate Medical Education Committee
It shall be the duty of the Graduate Medical Education Committee to encourage the participation of surgical residents in the various programs of the Southwestern Surgical Congress programs. It shall also be the duty of the committee to encourage the participation and involvement of directors of surgical residencies in member states in the Congress and its various programs.
Section 8. Membership Committee
It shall be the duty of the Membership Committee to solicit from qualified general and specialty surgeons in member states of The Southwestern Surgical Congress applications for Fellowship in the Congress. It shall be the responsibility of the committee to evaluate each application for Fellowship to ensure that the surgeon fulfills the requirements for Fellowship as defined in Section 5 of Chapter 1 of these Bylaws. The committee will make its recommendation regarding Fellowship for each applicant to the Council of the Congress. The Graduate Medical Education Chairman shall serve as a member of this committee.

Section 9. State Councilor Committee
The State Councilor Committee shall consist of a State Councilor from each of the states, with both California and Texas having both a North and South representative. It will meet annually at The Southwestern Surgical Congress’ annual meeting. The committee will be responsible for electing the State Councilors-at-Large to serve on the Executive Committee for a two-year term (with a maximum of two consecutive terms allowed to be served). These positions will be staggered to enable one new Councilor-at-Large appointment each year. The Senior Councilor-at-Large shall serve as Chair of the State Committee. The Junior Councilor-at-Large will serve as an assistant. The Congress Vice-President should continue to be available to serve as a resource for this group and attend the State Councilor’s meeting.

CHAPTER 6: ANNUAL MEMBERSHIP DUES

Section 1. Annual membership dues shall be determined by the Council.

Section 2. Any Fellow whose dues remain unpaid for a period of one year shall have his/her membership discontinued. He/she shall be notified at least two months prior to this action. He/she may be reinstated upon payment of both the current and delinquent dues.

Section 3. Membership dues for each year shall be payable in advance, shall become due on December 31 of the preceding year, and shall become delinquent on January 1 of the year in which they apply.

Section 4. Newly elected Fellows of the Congress shall pay an initiation fee approved by the membership, based upon the recommendations of the Budget and Finance Committee and approved by the Council.
CHAPTER 7: AMENDMENTS

Bylaws may be amended at the Annual Congress Business Meeting by a 60% approval vote of the members present. A copy shall be provided for the voting members at least thirty (30) calendar days in advance.

(Adopted 1949, as amended through March 2012)