

THE SOCIETY OF
BLACK ACADEMIC SURGEONS



IN JOINT SPONSORSHIP WITH

THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER

PRESENTS THE

TWENTY-SIXTH ANNUAL MEETING

APRIL 28 - 30, 2016

HYATT REGENCY
COLUMBUS, OHIO



THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER



THE OHIO STATE UNIVERSITY

WEXNER MEDICAL CENTER

*We are proud to host the
26th Annual Scientific Session
for the
Society of Black Academic Surgeons
April 28 – 30, 2016*

Please join us for a
special Buckeye event featuring...

—◆—
The only *two-time* Heisman Trophy winner

OSU Legend Archie Griffin

and

Ohio State Athletic Director

Gene Smith

—◆—
Friday, April 29, 2016

7:00 – 10:00 pm

Ohio Union at The Ohio State University

PROGRAM OBJECTIVES

The goal of the program is to disseminate knowledge about the recent advances in basic science and clinical research in surgery. The key program objectives are as follows:


1. To understand current concepts of cardiothoracic surgery, vascular surgery, trauma management, acute care surgery, oncologic surgery, pediatric surgery, bariatric surgery, health disparities, and surgical outcomes research.
2. To understand the role of the surgeon and the burden of surgical disease in resource poor countries.
3. To learn a systematic approach to starting and maintaining a mentor to mentee relationship.
4. To discuss and explore strategies for grant writing.
5. To discuss the unequal outcomes in morbid obesity surgery for minority patients.
6. To learn the important factors related to career development and becoming an effective leader within an academic health care system.
7. Provide mentorship to colleagues and a continued culture of academic excellence.

CONTINUING MEDICAL EDUCATION CREDIT INFORMATION


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

AMA PRA Category 1 Credits™
The American College of Surgeons designates this live activity for a maximum of **11.00 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Of the **AMA PRA Category 1 Credits™** listed above, a maximum of **8.75** credits meet the requirements for Self-Assessment.



AMERICAN COLLEGE OF SURGEONS
Inspiring Quality:
Highest Standards. Better Outcomes
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AMERICAN COLLEGE OF SURGEONS
DIVISION OF EDUCATION
Accredited with Commendation by the
Accreditation Council for Continuing Medical Education

Disclosure Information

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

TABLE OF CONTENTS

Goal, Objectives, Accreditation & Disclosure Statements	2
Officers	4
SBAS Program Committee	5
Committee for Local Arrangements	5
Emergency Contacts	5
SBAS History	6
SBAS Past Presidents	7
Program Agenda	8
Local Program	12
Social Program	14
Scientific Sessions	15
Program at a Glance	17
Dr. Claude H. Organ, Jr. Resident Award	26
Dr. Claude H. Organ, Jr. Resident Award Winners	26
Scientific Session Moderators	29
Asa Yancey Lecture	30
State of the Art Lecture	30
Guest Speakers	30
Abstracts	31
SBAS Constitution	127
SBAS Institutional Membership	137
SBAS Membership	142
Honorary Members	157
Special Appreciation	158
Previous & Future SBAS Meetings	159

OFFICERS

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PROGRAM COMMITTEE

Andrea A. Hayes-Jordan, MD – Chair

Obinna Adibe, MD

Linda Barry, MD

Andre Campbell, MD

Madison Cuffy, MD

Terrence Fullum, MD

Sean McLean, MD

Kmarie Reid, MD

Vincent Reid, MD

Ayodele Sangosanya, MD

Hassan Tetteh, MD

COMMITTEE FOR LOCAL ARRANGEMENTS

**Dr. Steven Steinberg – Chair, Department of Surgery,
The Ohio State University Wexner Medical Center
Local Program Committee Chair**

Dr. Sylvester Black – Local Program Committee Co-Chair

Dr. Amy Rushing – Local Program Committee Co-Chair

Steve Cotter

Ann Forchione

Lisa Green

Kim Knight

EMERGENCY CONTACTS

**Dr. Steven Steinberg:
Cellular Phone – 614-296-2122; Office – 614-293-8701**

Ann Forchione: Cellular Phone – 614-332-2593

Kim Knight: Cellular Phone – 614-571-0985

HISTORY OF THE SOCIETY OF BLACK ACADEMIC SURGEONS

The Society of Black Academic Surgeons (SBAS) was founded in 1989. Its goal is to stimulate academic excellence among its members by providing a forum of scholarship in collaboration with the leading Departments of Surgery in the U.S. It encourages and supports professional development of black surgical residents and attempts to recruit the best and brightest medical students into a career in surgery.

The annual meetings of SBAS, attended by members as well as numerous residents and students, provide outstanding programs in both the science and practice of surgery. The first Annual Meeting was hosted by the late Dr. David Sabiston at Duke University. Annual meetings since then have been hosted by Departments of Surgery throughout the U.S., including Harvard University (1991, 2001), University of California at Davis (1993), University of Texas Medical Branch at Galveston (1994), University of North Carolina at Chapel Hill (1995, 2015), University of Colorado at Denver (1996), SUNY Buffalo (1997), Howard University (1998, 2004, 2012), University of Louisville (1999), Charles R. Drew University of Medicine and Science (2000), Morehouse School of Medicine (2002), University of Alabama (2003), University of Pittsburgh (2005), University of Cincinnati (2006), Rush University Medical Center (2007), Cleveland Clinic (2008), Washington University in Seattle (2009), Duke University (2010), Massachusetts General Hospital (2011), Johns Hopkins School of Medicine (2012), University of Mississippi (2013), and Temple University School of Medicine and The University of Pennsylvania (2014).

SBAS is governed by an Executive Committee and has more than 200 members throughout the United States. Membership is not restricted by race; the criteria for membership require that the prospective member be a “reputable surgeon or surgical investigator who occupies a faculty position in a university department of surgery or free-standing surgical residency program.” In addition to its Annual Meeting, a website (www.SBAS.net) has been established to improve communication with its constituency and persons interested in the organization. The *American Journal of Surgery* is the official publication of SBAS.

PAST PRESIDENTS OF THE SOCIETY OF BLACK ACADEMIC SURGEONS

- 1989-1991: Arthur W. Fleming, MD
- 1991-1993: Onye E. Akwari, MD
- 1993-1995: Eddie L. Hoover, MD
- 1995-1997: Claude H. Organ, Jr., MD
- 1997-1998: LaSalle D. Leffall, Jr., MD
- 1998-1999: Haile T. Debas, MD
- 1999-2001: L. D. Britt, MD, MPH
- 2001-2003: Clive O. Callender, MD
- 2003-2004: Edward E. Cornwell, III, MD
- 2004-2005: Robert L. McCauley, MD
- 2005-2006: Selwyn M. Vickers, MD
- 2006-2007: Michael T. Watkins, MD
- 2007-2008: Steven C. Stain, MD
- 2008-2009: Robert S. D. Higgins, MD, MSHA
- 2009-2010: William Lynn Weaver, MD
- 2010-2011: Henri R. Ford, MD, MHA
- 2011-2012: Danny O. Jacobs, MD, MPH
- 2012-2013: Kenneth Davis, Jr., MD
- 2013-2014: Edward M. Barksdale, Jr. MD
- 2014-2015: Lynt B. Johnson, MD

PROGRAM AGENDA

THURSDAY

APRIL 28, 2016

- 12:00-6:30 PM Welcome/Registration at the Hyatt Regency Downtown Columbus (**The Landing**)
- 12:00-1:00 PM Combined Luncheon for SBAS Leadership Fellows and Executive Council (**Union A & B**)
- 1:00-5:00 PM SBAS Executive Council Meeting (**Fairfield**)
- 1:00-5:00 PM SBAS Leadership and Faculty Development Institute (**Morrow**)
- 1:00-5:00 PM Grant Writing Workshop *Pre-Registration required* (**Madison**)
- 5:00-6:30 PM Women in Surgery Reception (**Union D & E**)
- 6:30-8:30 PM Welcome Reception (**Union A, B, & C**)

FRIDAY

APRIL 29, 2016

- 6:30-5:00 PM Registration at the Hyatt Regency Downtown Columbus (**The Landing**)
- 6:45-7:15 AM Bus transportation from Hyatt to Ohio State Wexner Medical Center - Ross Auditorium
- 6:45-7:45 AM Continental Breakfast (**Ohio State Wexner Medical Center - Ross Auditorium**)
- 7:45-8:00 AM Opening Remarks and Speaker Introduction
Drs. Orlando Kirton, Andrea Hayes-Jordan, E. Christopher Ellison and Steven Steinberg
- 8:00-10:00 AM LOCAL PROGRAM SPEAKERS: Ohio State Wexner Medical Center - Ross Auditorium
- 10:00-10:15 AM Break and Group Photo
- 10:15-11:10 AM **1st PANEL DISCUSSION** – “From the Clinic to the Corner Office”
Moderator: *E. Christopher Ellison, MD, FACS*
Panelists: *Drs. Steven Gabbe, Michael Caligiuri, Robert Higgins, and L.D. Britt*

FRIDAY (CONT.)

APRIL 29, 2016

- 11:15-11:45 AM Electra Paskett, PhD, MPH, Marion N. Rowley
Professor of Cancer Research and Director,
Division of Cancer Prevention and Control,
Department of Internal Medicine
*“Reducing Disparities in Cancer Care:
Colorectal Cancer as a Case Study”*
- 11:45-12:00 PM Bus transportation back to hotel (*where afternoon sessions will occur*)
- 12:00-1:00 PM Lunch (**Delaware C & D**)
- 12:20-12:50 PM Scott D. Somers, PhD, Director of the National Institute of General Medical Sciences (NIHGMS)
“How to Begin and Sustain a Research Program”
- 1:00-1:45 PM **State of the Art Lecture (Delaware A & B):**
“Mentorship Matters”
Introduction by Steven Steinberg, MD, FACS
E. Christopher Ellison, MD
Interim Dean, OSU College of Medicine
Professor, Department of Surgery
- 1:45-2:00 PM Break (**Delaware Foyer**)
- 2:00-3:30 PM **SCIENTIFIC SESSION #1 (Delaware A & B)**
Podium Presentations: Oncology & Transplant
- 3:30-3:40 PM **AAS/SBAS Awardee Presentation**
- 3:45-4:45 PM **SCIENTIFIC SESSION #2 (Union A, B, & C)**
**Poster Sessions: Orthopedic, Critical Care/
Trauma, Vascular, Pediatric Surgery, Basic
Science, Education Outcomes, Oncology and
Transplant**
- 4:45-6:15 PM Free Time
- 6:30-6:45 PM Buses leave for the Ohio Union Performance Hall at The Ohio State University
- 7:00-10:00 PM Buckeye Event at the Ohio Union
Introductions: *Dr. Steven Steinberg*
Featured Speakers: *Mr. Gene Smith &
Mr. Archie Griffin*



SOCIETY OF BLACK ACADEMIC SURGEONS

TWENTY-SIXTH ANNUAL MEETING

PROGRAM AGENDA

SATURDAY

APRIL 30, 2016

- 6:30-1:00 PM Registration at the Hyatt Regency Downtown Columbus (**The Landing**)
- 6:30-7:30 AM SBAS Committee Meetings – Finance, Advocacy, Membership, Research & Education, and Informatics Committees (**Fayette**); Program Committee (**Champaign**)
- 6:15-7:45 AM Buffet Breakfast (**Delaware C & D**)
- 8:00-9:20 AM **SCIENTIFIC SESSION #3 (Delaware A & B)**
Podium Presentations: Education Outcomes and Surgical Healthcare Disparity
- 9:30-9:45 AM Break (**Delaware Foyer**)
- 9:45-11:15 AM **SCIENTIFIC SESSION #4 (Delaware A & B)**
Podium Presentations: Critical Care/Trauma and Orthopedics
- 11:15-12:15 PM SBAS Members Business Meeting (**Delaware A & B**)
- 12:15-1:15 PM Mentorship Lunch (**Delaware C & D**) [*tables by specialty with suggested topics for discussion*]
- 1:15-1:25 PM Speaker Introduction – Orlando Kirton, MD, FACS, President, SBAS
- 1:25-2:15 PM **Asa Yancey Lecture (Delaware A & B)**
“Charting Our Future Together: Setting an Agenda for the NHLBI”
Gary Gibbons, MD
Director, National Heart, Lung and Blood Institute
National Institutes of Health, USA
- 2:15-2:30 PM Break (**Delaware Foyer**)

SATURDAY (CONT.)

APRIL 30, 2016

- 2:30-4:30 PM **SCIENTIFIC SESSION #5 (Delaware A & B)**
Podium Presentations: Basic Science, Pediatric Surgery and Vascular Surgery
- 4:30-4:40 PM Introduction of the President
- 4:45-5:30 PM **Presidential Address**
Orlando C. Kirton, MD, FACS, MCCM, FCCP, MBA
Ludwig J. Pyrtek, M.D. Chair in Surgery
Chief, Department of Surgery
Chief, Division of General Surgery
Interim Director, Trauma Service
Hartford Hospital
Professor of Surgery
Vice Chair, Department of Surgery
University of Connecticut School of Medicine
- 5:30-6:30 PM Free Time
- 6:30-7:30 PM Reception (**Delaware A**)
- 7:30-11:00 PM Black Tie Dinner / Awards Presentation / Dancing and Entertainment (**Delaware B, C, & D**)
Michael V. Drake, MD
President of The Ohio State University

SUNDAY

MAY 1, 2016

- 7:30-9:30 AM **Community Mentorship Program for Undergraduate and Medical Students (Champaign)**

SOCIETY OF BLACK ACADEMIC SURGEONS

LOCAL PROGRAM
THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER

FRIDAY

APRIL 30, 2016

- 6:30-5:00 PM Registration at the Hyatt Regency Downtown Columbus (**The Landing**)
- 6:45-7:15 AM Bus transportation from Hyatt to Ohio State Wexner Medical Center
- 6:45-7:45 AM Continental Breakfast (Ohio State Wexner Medical Center)
- 7:45-8:00 AM Opening Remarks and Speaker Introductions
Dr. Andrea Hayes-Jordan – Chair, Program Committee
Dr. E. Christopher Ellison – Interim Dean, College of Medicine
Dr. Steven Steinberg – Interim Chair, Surgery
Dr. Orlando Kirton – SBAS President
- 8:00-10:00 AM OSU Department of Surgery
“Disparities in Surgical Care”
1. Dr. Quinn Capers, IV, Associate Dean of Admissions, College of Medicine:
“Black-White Disparities in Cardiovascular Care: Time to Talk About Solutions”
 2. Dr. Raphael Pollock, Professor and Director, Division of Surgical Oncology:
“Contemporary Issues in Soft Tissue Sarcoma”

LOCAL PROGRAM (CONT.)

3. Dr. Robert Merritt, Associate Professor and Director, Division of Thoracic Surgery:
“Racial Disparities in the Treatment of Early-Stage Lung Cancer”
 4. Dr. Gloria Fleming, Associate Professor Clinical Ophthalmology:
“The Value of Mentorship but the Power of Sponsorship on Career Development in Academic Medicine”
 5. Dr. Sylvester Black, Assistant Professor of Surgery, Division of Transplantation:
“Access and Disparities in Liver Transplantation”
- 10:00-10:15 AM Break and Group Photo
- 10:15-11:10 AM **PANEL DISCUSSION: “FROM THE CLINIC TO THE CORNER OFFICE”**
Moderator: *E. Christopher Ellison, MD, FACS*
Panelists: *Drs. Steven Gabbe, Michael Caligiuri, Robert Higgins, and L.D. Britt*
- 11:15-11:45 AM **LOCAL PROGRAM KEYNOTE SPEAKER**
Electra Paskett, PhD, MPH
Marion N. Rowley Professor of Cancer Research and Director, Division of Cancer Prevention and Control, Department of Internal Medicine
“Reducing Disparities in Cancer Care: Colorectal Cancer as a Case Study”
- 11:45-12:00 PM Bus transportation back to hotel (*where afternoon sessions will occur*)



SOCIETY OF BLACK ACADEMIC SURGEONS
SOCIAL PROGRAM

THURSDAY **APRIL 28, 2016**

- 5:00-6:30 PM Women in Surgery Reception (**Union D & E**)
6:30-8:30 PM Welcome Reception (**Union A, B, & C**)

FRIDAY **APRIL 29, 2016**

- 6:30-6:45 PM Buses leave for the Ohio Union Performance Hall at The Ohio State University
7:00-10:00 PM Buckeye Event at the Ohio Union
Introductions: *Dr. Steven Steinberg*
Featured Speakers: *Mr. Gene Smith, Athletic Director, The Ohio State University, and Mr. Archie Griffin, OSU Legend*

SATURDAY **APRIL 30, 2016**

- 4:45-5:30 PM Presidential Address – Orlando Kirton, MD Hyatt Regency Columbus (**Delaware A & B**)
6:30-7:30 PM Reception (**Delaware A**)
7:30-11:00 PM Black Tie Dinner / Awards Presentation / Dancing and Entertainment (**Delaware B, C, & D**)
Guest Speaker:
Michael V. Drake, MD
President of The Ohio State University
Music Provided by: Blue Avenue II (reception); Ebb & Flow Jazz Group (dinner)

SCIENTIFIC SESSIONS

PROMOTING ACADEMIC EXCELLENCE IN CAREER DEVELOPMENT THROUGH MENTORSHIP

FRIDAY **APRIL 29, 2016**

- 6:45-7:45 AM Continental Breakfast (**Ohio State Wexner Medical Center**)
7:45-8:00 AM Opening Remarks and Speaker Introduction
Drs. Orlando Kirton, Andrea Hayes-Jordan, E. Christopher Ellison, and Steven Steinberg
8:00-10:00 AM LOCAL PROGRAM SPEAKERS
10:00-10:15 AM Break and Group Photo
10:15-11:10 AM **1st PANEL DISCUSSION**
11:15-11:45 AM Guest Speaker: Electra Paskett, PhD, MPH
12:00-1:00 PM Membership Lunch (**Delaware C & D**)
12:20-12:50 PM Guest Speaker: Scott D. Somers, PhD
1:00-1:45 PM **State of the Art Lecture (Delaware A & B)**
2:00-3:30 PM **SCIENTIFIC SESSION #1 (PODIUM) (Delaware A & B)**
3:30-3:40 PM **AAS/SBAS Awardee Presentation**
3:45-4:45 PM **SCIENTIFIC SESSION #2 (POSTERS) (Union A, B, & C)**

SCIENTIFIC SESSIONS

PROMOTING ACADEMIC EXCELLENCE IN CAREER DEVELOPMENT THROUGH MENTORSHIP

SATURDAY **APRIL 30, 2016**

- 6:15-7:45 AM Buffet Breakfast (Delaware C & D)
- 8:00-9:20 AM **SCIENTIFIC SESSION #3 (PODIUM)**
(Delaware A & B)
- 9:45-11:15 AM **SCIENTIFIC SESSION #4 (PODIUM)**
(Delaware A & B)
- 12:15-1:15 PM Mentorship Lunch (Delaware C & D) *[tables by specialty with suggested topics for discussion]*
- 1:25-2:15 PM **Asa Yancey Lecture (Delaware A & B)**
- 2:30-4:30 PM **SCIENTIFIC SESSION #5 (PODIUM)**
(Delaware A & B)
- 4:45-5:30 PM **Presidential Address**

SCIENTIFIC SESSION 1 (PODIUM PRESENTATIONS)

FRIDAY, APRIL 29, 2016

DELAWARE A & B, HYATT REGENCY DOWNTOWN

2:00-3:30 P.M.

ONCOLOGY & TRANSPLANT

**Moderators: Vincent Reid, MD;
and Sylvester Black, MD**

- 2:00 PM ETHNICITY IMPACTS OVERALL SURVIVAL IN STAGE II AND III MELANOMA
SENIOR AUTHOR: F. Johnston; PRESENTER: N. Berger
- 2:10 PM THE UNDER-UTILIZATION OF PALLIATIVE CARE CONSULTATIONS IN PANCREATIC CANCER
SENIOR AUTHOR: F. Johnston; PRESENTER: W. Duong
- 2:20 PM ACHIEVING CLEAR MARGINS: DIRECTED SHAVING USING MARGINPROBE, AS COMPARED TO A FULL CAVITY SHAVE APPROACH
SENIOR AUTHOR: V. Reid; PRESENTER: V. Reid
- 2:30 PM UTILITY OF 68 GALLIUM DOTATATE PET CT SCANNING IN SYMPTOMATIC PATIENTS WITH NEGATIVE ANATOMIC IMAGING BUT SUSPECTED NEUROENDOCRINE TUMORS
SENIOR AUTHOR: E. Kebebew; PRESENTER: J. Shell
- 2:40 PM T1A VS T1B DIFFERENTIATED THYROID CANCERS: DO WE NEED TO MAKE THE DISTINCTION?
SENIOR AUTHOR: J. Sosa; PRESENTER: K. Anderson
- 2:50 PM IMPACT OF MINIMALLY INVASIVE VS. OPEN DISTAL PANCREATECTOMY ON USE OF ADJUVANT CHEMOTHERAPY AND SURVIVAL FOR PANCREATIC ADENOCARCINOMAS
- 3:00 PM WHERE DOES IT WORK? HOSPITAL CHARACTERISTICS ASSOCIATED WITH INCREASED RATES OF DONATION AFTER CARDIAC DEATH
SENIOR AUTHOR: A. Salim; PRESENTER: A. Rios Diaz

- 3:10 PM RACIAL DISPARITIES DURING THE CONTEMPORARY ERA OF KIDNEY TRANSPLANTATION WITHIN THE UNITED STATES
SENIOR AUTHOR: P. Balig; PRESENTER: D. Taber
- 3:20 PM DISPARITIES IN KIDNEY TRANSPLANTATION ACROSS THE UNITED STATES: DOES RESIDENTIAL SEGREGATION PLAY A ROLE?
SENIOR AUTHOR: A. Salim; PRESENTER: O. Olufajo

AAS/SBAS AWARDEE PRESENTATION

FRIDAY, APRIL 29, 2016

DELAWARE A & B, HYATT REGENCY DOWNTOWN

3:30-3:40 P.M.

- 3:30 PM THE RELATIONSHIP BETWEEN MONOCYTE GENE EXPRESSION AND LOWER EXTREMITY VEIN GRAFT OUTCOME
SENIOR AUTHOR: S. Berceci; PRESENTER: J. Rehfuss

SCIENTIFIC SESSION 2 (PARALLEL POSTER SESSIONS)

FRIDAY, APRIL 29, 2016

UNION A, B, & C, HYATT REGENCY DOWNTOWN

3:45-4:30 P.M.

POSTER GROUP 1 ORTHOPEDICS

**Moderators: Andre Campbell, MD;
and Thau Vy, MD**

THE IMPACT OF VALUE-BASED HEALTHCARE ON ORTHOPEDIC RESIDENCY EDUCATION
SENIOR AUTHOR: M. Hogan; PRESENTER: J. Rocha

POSTER GROUP 1 (CONT.)

PATIENT-REPORTED OUTCOMES: SURGICAL FIXATION OF JONES FRACTURES WITH BIOLOGICAL AUGMENTATION IN THE ELITE ATHLETE

SENIOR AUTHOR: M. Hogan; PRESENTER: J. Hicks

E-LEARNING IN ORTHOPEDIC SURGERY TRAINING: A LOOK AT THE PAST 10 YEARS

SENIOR AUTHOR: M. Levy; PRESENTERS: M. Morris & S. Tarpada

THE DEVELOPMENT AND IMPLEMENTATION OF AN ORTHOPEDIC SERVICE LINE IN AN INTEGRATED FINANCIAL MEDICAL SYSTEM

SENIOR AUTHOR: M. Hogan; PRESENTER: J. Rocha

SCIENTIFIC SESSION 2 (PARALLEL POSTER SESSIONS)

FRIDAY, APRIL 29, 2016

UNION A, B, & C, HYATT REGENCY DOWNTOWN

3:45-4:30 P.M.

POSTER GROUP 2 CRITICAL CARE/TRAUMA, VASCULAR AND PEDIATRIC SURGERY

**Moderators: Obinna Adibe, MD;
and Daniel Vazquez, MD**

WHY WE LOSE THEM: HOSPITAL FACTORS ASSOCIATED WITH LOW PATIENT RETENTION FOLLOWING EMERGENCY GENERAL SURGERY

SENIOR AUTHOR: A. Salim; PRESENTER: J. Havens

BLUNT AORTIC TRAUMA AT A LEVEL II TRAUMA CENTER

SENIOR AUTHOR: E. Thompson; PRESENTER: I. Wanko Mboumi

POSTER GROUP 2 (CONT.)

IN-HOSPITAL AND OPERATIVE MORTALITY RATES DIFFER BY RACE AMONGST PATIENTS UNDERGOING OPEN HEART SURGERY

SENIOR AUTHOR: S. Moffatt Bruce; PRESENTER: M. Nguyen

DIAGNOSTIC EVALUATION OF OVARIAN TORSION: AN ANALYSIS OF PEDIATRIC PATIENTS USING THE NATIONWIDE EMERGENCY DEPARTMENT SAMPLE

SENIOR AUTHOR: O. Adibe; PRESENTER: K. Rialon

PERIOPERATIVE OUTCOMES OF CHILDREN UNDERGOING LADD'S PROCEDURE IN A NATIONAL SURGICAL DATABASE

SENIOR AUTHOR: F. Qureshi; PRESENTER: A. Peace

SCIENTIFIC SESSION 2 (PARALLEL POSTER SESSIONS)

FRIDAY, APRIL 29, 2016

UNION A, B, & C, HYATT REGENCY DOWNTOWN

3:45-4:30 P.M.

POSTER GROUP 3 BASIC SCIENCE, EDUCATION OUTCOMES, ONCOLOGY AND TRANSPLANT

**Moderators: Madison Cuffy, MD;
and KMarie Reid, MD**

IDENTIFICATION OF DISTINCT LACTOBACILLUS STRAINS IN THE EARLY POSTNATAL RAT MICROBIOTA

SENIOR AUTHOR: H. Ford; PRESENTER: M. Isani

JUNIOR LAB RESIDENT'S APPROACH TO COMPLEX URINARY PATHOLOGY

SENIOR AUTHOR: C. Pugh; PRESENTER: J. Nathwani

POSTER GROUP 3 (CONT.)

OUTCOMES IN HIV-POSITIVE MINORITY PATIENTS UNDERGOING BARIATRIC SURGERY

SENIOR AUTHOR: M. Edwards; PRESENTER: C. Adkisson

THE DISPARITY PERSISTS: SOCIOECONOMIC STATUS AND BARIATRIC SURGERY IN BLACK PATIENTS

SENIOR AUTHOR: T. Fullum; PRESENTER: J. Umeh

EVALUATING MEDICATION COMPLIANCE IN ABDOMINAL TRANSPLANT PATIENTS WHO USE A MOBILE PHONE APPLICATION REMINDER

SENIOR AUTHOR: J. Graham; PRESENTER: A. Zanetti Yabur

CYSTOURETHROSCOPY WITH BLADDER WASHOUT FOR THE MANAGEMENT OF RECURRENT URINARY TRACT INFECTION IN KIDNEY TRANSPLANT RECIPIENTS

SENIOR AUTHOR: O. Olaitan; PRESENTER: A. Thomas

AGE AND RACIAL DISPARITIES IN IMMEDIATE BREAST RECONSTRUCTION: AN UPDATED ANALYSIS OF 48,564 PATIENTS FROM THE 2005-2011 ACS-NSQIP DATASETS

SENIOR AUTHOR: J. Serletti; PRESENTER: P. Butler

SCIENTIFIC SESSION 3 (PODIUM PRESENTATIONS)

SATURDAY, APRIL 30, 2016

DELAWARE A & B, HYATT REGENCY DOWNTOWN

8:00-9:20 A.M.

EDUCATION OUTCOMES AND SURGICAL HEALTHCARE DISPARITY

**Moderators: Terrence Fullum, MD;
and Linda Barry, MD**

SCIENTIFIC SESSION 3

- 8:00 AM 30-DAY READMISSION AFTER LIVER TRANSPLANTATION FOR HEPATOCELLULAR CARCINOMA
SENIOR AUTHOR: A. Tsung; PRESENTER: A. Chidi
- 8:10 AM DO ERRORS AND CRITICAL EVENTS RELATE TO LAPAROSCOPIC VENTRAL HERNIA REPAIR OUTCOMES?
SENIOR AUTHOR: C. Pugh; PRESENTER: K. Law
- 8:20 AM UNDERSTANDING READMISSIONS FOLLOWING OPERATIONS OF THE THYROID AND PARATHYROID GLANDS
SENIOR AUTHOR: R. Kelz; PRESENTER: K. Collier
- 8:30 AM ASSESSMENT DURING CLINICAL YEARS CHANGES RESIDENT PERCEPTION OF SKILLS DECAY
SENIOR AUTHOR: C. Pugh; PRESENTER: G. Jones
- 8:40 AM FEASIBILITY AND OUTCOMES OF THIRD OR MORE METACHRONOUS MICROVASCULAR RECONSTRUCTION FOR RECURRENT INTRAORAL CANCER – THE CHANG GUNG EXPERIENCE
SENIOR AUTHOR: H. Kai Kao; PRESENTER: A. Offodile
- 8:50 AM MULTIDISCIPLINARY, HOSPITAL-BASED YOUTH MENTORING AND MEDICAL EXPOSURE PROGRAM POSITIVELY INFLUENCES HEALTH CARE CAREER CHOICE: THE REACH ONE EACH ONE EXPERIENCE
SENIOR AUTHOR: O. Danner; PRESENTER: O. Danner
- 9:00 AM INCREASING WOMEN AND UNDERREPRESENTED MINORITIES IN ORTHOPEDIC SURGERY: A STRATEGIC PIPELINE INITIATIVE
SENIOR AUTHOR: B. Simpson Mason; PRESENTER: B. Simpson Mason
- 9:10 AM RACIAL AND SOCIOECONOMIC DISPARITIES IN THE USE OF LAPAROSCOPIC SURGERY TO TREAT COLONIC DIVERTICULITIS
SENIOR AUTHOR: C. White; PRESENTER: R. Lassiter

SCIENTIFIC SESSION 4 (PODIUM PRESENTATIONS)

SATURDAY, APRIL 30, 2016

DELAWARE A & B, HYATT REGENCY DOWNTOWN

9:45-11:15 A.M.

CRITICAL CARE/TRAUMA AND ORTHOPEDICS

**Moderators: Ayodele Sangosanya, MD;
and Amy Rushing, MD**

- 9:45 AM COMPLIANCE WITH SEQUENTIAL COMPRESSION DEVICES IN AN ORTHOPEDIC UNIT: A QUALITY ASSURANCE STUDY
SENIOR AUTHOR: A. Mesfin; PRESENTER: A. Baldwin
- 9:55 AM PARTIAL P65 BLOCKADE IMPROVES BONE QUALITY WITHOUT INHIBITING FRACTURE HEALING
SENIOR AUTHOR: M. Hogan; PRESENTER: J. Hicks
- 10:05 AM CONSIDERING LONGER-TERM OUTCOMES OF CARE: RACIAL/ETHNIC DISPARITIES AMONG ADULT AND OLDER ADULT EMERGENCY GENERAL SURGERY PATIENTS AT 30, 90, AND 180 DAYS
SENIOR AUTHOR: A. Haider; PRESENTER: C. Zogg
- 10:15 AM PHYSIOLOGICALLY-BASED, PREDICTIVE ANALYTICS USING THE HEART-RATE-TO-SYSTOLIC-RATIO SIGNIFICANTLY IMPROVES THE TIMELINESS AND ACCURACY OF SEPSIS PREDICTION COMPARED TO SIRS
SENIOR AUTHOR: O. Danner; PRESENTER: O. Danner
- 10:25 AM THE ASSOCIATION BETWEEN RACE AND FALL-RELATED MORTALITY
SENIOR AUTHOR: G. Smith; PRESENTER: B. Strong
- 10:35 AM SEXUAL DIMORPHIC RESPONSE TO BLUNT TRAUMATIC HEMORRHAGIC SHOCK: AN ANALYSIS OF THE GLUE GRANT DATABASE
SENIOR AUTHOR: S. Siram; PRESENTER: J. Hwabejire

- 10:45 AM THE MEASURED EFFECT OF CO-MORBIDITIES ON BURN INJURY MORTALITY
SENIOR AUTHOR: A. Charles; PRESENTER: L. Knowlin
- 10:55 AM A PRELIMINARY STUDY EVALUATING RACIAL DISPARITIES WITH RESPECT TO PATIENTS PRESENTING FOR SPORTS MEDICINE SURGERY
SENIOR AUTHOR: L. Farrow; PRESENTER: C. Wentt
- 11:05 AM EXAMINING THE ROLE OF FOLLOW-UP SKELETAL SURVEYS IN NON-ACCIDENTAL TRAUMA
SENIOR AUTHOR: A. Stallion; PRESENTER: A. Stallion

SCIENTIFIC SESSION 5 (PODIUM PRESENTATIONS)

SATURDAY, APRIL 30, 2016

DELAWARE A & B, HYATT REGENCY DOWNTOWN

2:30-4:30 P.M.

BASIC SCIENCE, PEDIATRIC SURGERY AND VASCULAR SURGERY

**Moderators: Sean McLean, MD;
and Michael Go, MD**

- 2:30 PM THIOREDOXIN-1 OVEREXPRESSION IN MICE DECREASES SEPSIS-INDUCED CARDIAC FAILURE
SENIOR AUTHOR: N. Maulik; PRESENTER: R. Wilson
- 2:40 PM A NOVEL TISSUE ENGINEERED APPROACH TO OSTEOARTHRITIS TREATMENT
SENIOR AUTHOR: M. Hogan; PRESENTER: J. Hicks
- 2:50 PM EFFECT OF VORINOSTAT ON NOTCH AND STAT3 PATHWAY IN HEPATOCELLULAR CARCINOMA
SENIOR AUTHOR: M. Kunnimalaiyaan; PRESENTER: M. Kunnimalaiyaan

SCIENTIFIC SESSION 5 (CONT.)

- 3:00 PM ANALGESIC EFFICACY OF LAPAROSCOPIC-GUIDED TRANSVERSE ABDOMINIS PLANE BLOCK USING LIPOSOMAL BUPIVACAINE IN BARIATRIC SURGERY
SENIOR AUTHOR: P. Singh; PRESENTER: A. Bhakta
- 3:10 PM SURGICAL OUTCOMES OF CERVICAL NEUROBLASTOMA IN CHILDREN: A DIFFERENT BEAST ALTOGETHER
SENIOR AUTHOR: E. Kim; PRESENTER: J. Jackson
- 3:20 PM ROUTINE POST-OPERATIVE ESOPHAGRAM IS NOT NECESSARY AFTER REPAIR OF ESOPHAGEAL ATRESIA
SENIOR AUTHOR: C. Gayer; PRESENTER: J. Golden
- 3:30 PM EVALUATION OF RISK FACTORS AND SURVIVAL OUTCOMES IN BLACK FEMALES WITH INVASIVE BREAST CARCINOMA
SENIOR AUTHOR: L. Wilson; PRESENTER: S. Ajmeri
- 3:40 PM ESCHERICHIA COLI 07:K1 CE10 IS A SUBSTANTIAL FIRST COLONIZER IN NEONATAL RATS AND PROTECTS FROM NEC
SENIOR AUTHOR: H. Ford; PRESENTER: J. Bowling
- 3:50 PM POST-OPERATIVE OUTCOMES AMONG OBESE AND NON-OBESE CHILDREN UNDERGOING CHOLECYSTECTOMY
SENIOR AUTHOR: F. Qureshi; PRESENTER: I. Yi
- 4:00 PM GENERAL SURGERY CONSULTATION AFTER BONE MARROW TRANSPLANT
SENIOR AUTHOR: R. Askari; PRESENTER: M. Coleman
- 4:10 PM CIGARETTE SMOKE INDUCES MICRORNA-145 DYSREGULATION DURING ESOPHAGEAL CARCINOGENESIS
SENIOR AUTHOR: D. Schrupp; PRESENTER: S. Oyetunji
- 4:20 PM SURGICAL INTERVENTION FOR NECROTIZING ENTEROCOLITIS (NEC): AN ANALYSIS BY BIRTH WEIGHT IN A NATIONAL DATABASE
SENIOR AUTHOR: G. Ortega; PRESENTER: I. Yi

DR. CLAUDE H. ORGAN, JR. RESIDENT AWARD

Claude H. Organ, Jr., MD, FACS (1926-2005) was a world renowned academic surgeon, a giant in the field of surgery and medicine, and a major force in shaping and supporting the lives and careers of thousands. In 1989, Dr. Organ and several other black academic surgeons founded SBAS and held its first meeting at Duke University. Throughout his career, he oversaw the training of dozens of surgeons, including several African-American women. His lifelong dedication to mentoring young surgeons and encouraging diversity in the field of surgery is represented in the annual Dr. Claude H. Organ, Jr. Resident Award.

Delos "Toby" Cosgrove, MD, President & CEO, Cleveland Clinic, committed the Cleveland Clinic's endowment of this prestigious award. Starting in 2008 and continuing into the subsequent years, Cleveland Clinic's sponsorship of the Dr. Claude H. Organ, Jr. Resident Award helps insure the success of the future generations of surgeons.

DR. CLAUDE H. ORGAN, JR. RESIDENT AWARD WINNERS

- 2003 **Richard E. Redlinger, Jr., BS**
Children's Hospital of Pittsburgh
Donn H. Spight, MD
University of Cincinnati
- 2004 **Zara R. Cooper, MD, MSc**
Brigham and Women's Hospital
- 2005 **Sonya Walker, MD**
University of Pittsburgh
- 2006 **Stephen H. Gray, MD**
University of Alabama at Birmingham
Georgia Holder-Haynes, MD
Texas A&M University

DR. CLAUDE H. ORGAN, JR. RESIDENT AWARD WINNERS (CONT.)

- 2007 **Sylvester Black, MD [1st Place]**
University of Minnesota
Sha-Ron Jackson, MD [2nd Place]
University of Cincinnati
- 2008 **Jeanwan Kang, MD [1st Place]**
Massachusetts General Hospital
Darrell L. Hunt, MD [2nd Place]
University of Florida
- 2009 **Kelley Chuang, MD [1st Place]**
University of California, San Francisco
Sha-Ron Jackson, MD [2nd Place]
Children's Hospital Los Angeles
Paris D. Butler, MD [3rd Place]
University of Virginia / Stanford University
- 2010 **Briana Leung, MD [1st Place]**
University of California, San Francisco
Jennifer Timmons, MD [2nd Place]
University of Maryland Medical Center
Elizabeth M. Pontarelli, MD [3rd Place]
Children's Hospital Los Angeles
- 2011 **Chandler A. Long, MD [1st Place]**
University of Tennessee
Leonard H. Armstrong, MD [2nd Place]
University of Minnesota
Tahira Prendergast, MD [3rd Place]
Howard University Hospital

**DR. CLAUDE H. ORGAN, JR.
RESIDENT AWARD WINNERS (CONT.)**

- 2012 **Marcus D. Darrabie, MD [1st Place]**
Duke University Medical Center
Shannon L. Castle, MD [2nd Place]
Children's Hospital Los Angeles
Elizabeth M. Pontarelli, MD [3rd Place]
Children's Hospital Los Angeles
- 2013 **Christa Grant, MD [1st Place]**
Saban Research Institute at Children's Hospital
Los Angeles
Randi Smith, MD [2nd Place]
University of California-San Francisco
Stephanie Papillon, MD [3rd Place]
Children's Hospital Los Angeles
- 2014 **Stephanie Papillon, MD [1st Place]**
Children's Hospital Los Angeles
Michael Phillips, MD [2nd Place]
University of North Carolina Hospitals
Shakirat Oyetunji [3rd Place]
National Institutes of Health
- 2015 **Russell Langan, MD [1st Place]**
Georgetown University
Anne Roberts, MD [2nd Place]
Children's Hospital Los Angeles
Rachael Williams, MD [3rd Place]
Emory University

SCIENTIFIC SESSION MODERATORS

- Linda K. Barry, MD** – Assistant Professor, University of Connecticut Health Center
- Sylvester M. Black, MD, PhD** – Assistant Professor of Surgery, The Ohio State University Wexner Medical Center
- Andre R. Campbell, MD** – Professor, University of California, San Francisco
- Madison Cuffy, MD, MBA** – Assistant Professor, University of Cincinnati
- Terrance Fullum, MD** – Professor, Howard University College of Medicine
- Michael Go, MD, FACS** – Associate Professor of Clinical Surgery, The Ohio State University Wexner Medical Center
- Thuan V. Ly, MD** – Assistant Professor of Clinical Surgery, The Ohio State University Wexner Medical Center
- Sean McLean, MD** – Assistant Professor, University of North Carolina at Chapel Hill
- Kmarie Reid, MD, FACS** – Hepatobiliary and Pancreas Surgery, Rochester, Minnesota
- Vincent J. Reid, MD** – Clinical Assistant Professor, University of Iowa Hospitals & Clinics
- Amy P. Rushing, MD** – Assistant Professor of Surgery, The Ohio State University Wexner Medical Center
- Ayodele T. Sangosanya, MD** – Assistant Professor, University of Rochester School of Medicine & Dentistry
- Daniel E. Vazquez, MD** – Assistant Professor of Clinical Surgery, The Ohio State University Wexner Medical Center

ASA YANCEY LECTURE

Gary H. Gibbons, MD

Director, National Heart, Lung and Blood Institute (NHLBI)
National Institutes of Health, United States of America

*“Charting Our Future Together:
Setting an Agenda for the NHLBI”*

STATE OF THE ART LECTURE

E. Christopher Ellison, MD

Interim Dean, College of Medicine
Professor, Department of Surgery
The Ohio State University

“Mentorship Matters”

GUEST SPEAKERS

Electra D. Paskett, PhD, MPH

Marion N. Rowley Professor of Cancer Research and
Director, Division of Cancer Prevention and Control,
Department of Internal Medicine, The Ohio State University

*“Reducing Disparities in Cancer Care:
Colorectal Cancer as a Case Study”*

Scott D. Somers, PhD

Director of the National Institute of General Medical Sciences

“How to Begin and Sustain a Research Program”

Michael V. Drake, MD

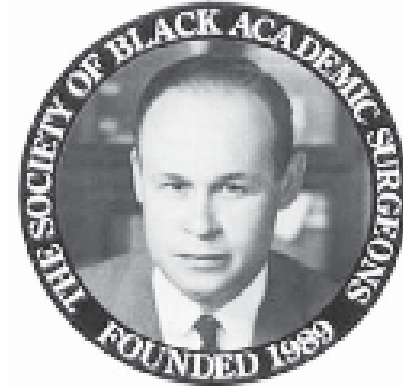
President of The Ohio State University

Mr. Gene Smith

Athletic Director, The Ohio State University

Mr. Archie Griffin

OSU Legend



ABSTRACTS

#1

ETHNICITY IMPACTS OVERALL SURVIVAL IN STAGE II AND III MELANOMA

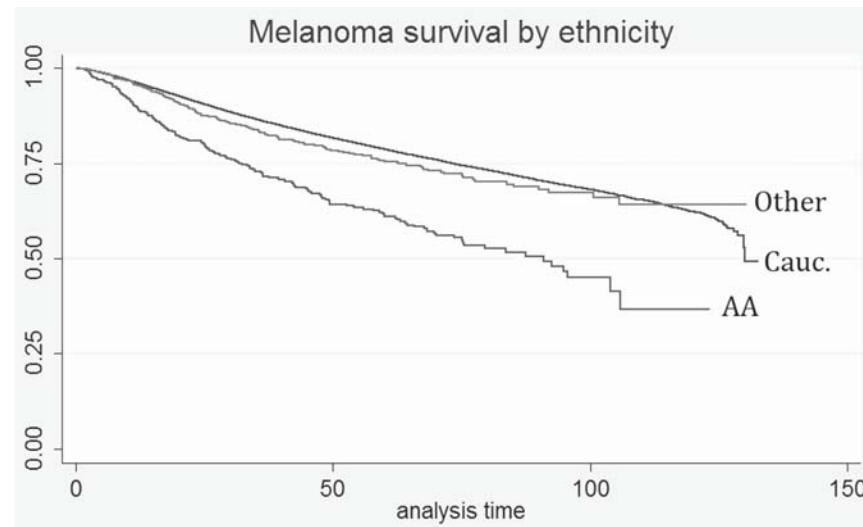
N. Berger, T.C. Gamblin, K. Turaga, F. Johnston.
Medical College of Wisconsin, Milwaukee, WI

Introduction: Melanoma is a common cutaneous malignancy in Caucasians, but data suggests that it carries poorer prognosis among African Americans, perhaps due to later stage at presentation. Increasingly data suggests that disparities in care exist among populations, with race, insurance status, socioeconomic status, and location of care as factors.

Objective: To describe demographic, clinical-pathologic and treatment factors which contribute to disparities in survival among patients with melanoma.

Methods: A total of 181,973 patients with all-site melanoma were identified. Patients were 56.9% male (n=103,536), 98.8% Caucasian, 0.5% African American, and 0.7% Other.

Results: All-stage median overall survival (OS) was lower for African American patients compared to Caucasians (91 vs. 130 months, $p < 0.001$). African American patients were more likely to present with stage II, III, and IV disease compared with Caucasian and Other races ($p < 0.001$), were less likely to have private insurance (42.4% vs. 54.6% $p < 0.001$), had lower incomes ($p < 0.001$), and had lower education ($p < 0.001$). When broken down by stage, lower OS was observed in African Americans who presented with Stage II (63.1 vs. 86.8 months, $p = 0.0225$) and III (36.5 vs. 59.1 months, $p = 0.0231$) disease, and median days to first treatment was higher in African American patients with Stage I (35 vs. 27 days, $p < 0.001$) and Stage II disease (38 vs. 29 days, $p < 0.001$). Logistic regression of Stage II-III patients showed sex, stage, insurance status, income, education, and ethnicity as factors related to survival. Multivariate regression showed African American ethnicity is associated with lower overall survival (HR 1.38 95% CI 1.17-1.63, $p > 0.001$).



Conclusion: African American race is associated with lower overall survival in patients with Stage II and III melanoma, even after adjusting for relevant factors. Delays in care exist in patients with Stage II and III disease. Efforts to improve early detection are needed.

NOTES

#2

THE UNDER-UTILIZATION OF PALLIATIVE CARE CONSULTATIONS IN PANCREATIC CANCER

W. Duong, H. Hassan, T.C. Gamblin,
S. Tsai, D. Evans, F. Johnston.

Medical College of Wisconsin, Milwaukee, WI

Introduction: Pancreatic cancer remains an unsolved health problem and will soon become the second leading cause of adult cancer death. Treatment is often complicated by symptoms of pain, anorexia, failure to thrive and biliary and treatment-related toxicity. Studies have shown that early integration of palliative care (PC) consultations improve both quality of life and median overall survival. However, the utilization of PC consults remains infrequent.

Objective: To examine the use of, and predictors for, PC consults in an academic pancreatic cancer program.

Methods: Patients with a diagnosis of pancreatic adenocarcinoma seen by our pancreas cancer program between January-December 2013 were evaluated for utilization of in- and outpatient PC consultation. T-test and logistical regression modeling were used for multivariate analysis.

Results: Of the 125 patients seen, 67(53.6%) were male. Median age was 66 years and the majority of patients were Caucasians (86%) followed by African-Americans (9%). 57 (45.2%) of the 125 patients received a PC consultation. Median survival was 13 months in those who received a PC consult and has not been reached in the non-consult group. Age, gender and race did not differ significantly between consult and non-consult cohorts. The PC consultation group was more likely to: have small bowel obstruction (SBO) ($p=0.01$); require long-term opioids ($p<0.001$); require long-term anti-emetics ($p<0.001$); undergo G-tube placement ($p=0.043$); and have metastatic disease ($p<0.001$). In a multivariable model, predictors of PC consultation included: metastatic disease (OR 5.6, $p=0.04$); disease relapse (OR 10.6, $p=0.05$); SBO (OR 13.5, $p=0.06$); hospital readmission for bowel obstruction, treatment-related complications, or symptom management (OR 8.2, $p=0.001$); and death within 6 months of final hospital visit (OR 3.6, $p=0.08$).

	Palliative consult (n=57)	Non-consult (n=68)	p-value
Median age at consult(years) (IQR)	66(55-73)	66(59-71)	0.54
Gender			0.24
Male	33 (57.9)	34 (50)	
Female	24(42.1)	34(50)	
Race			0.07
White	48(84.2)	58(87.9)	
Black	8(14)	3(4.6)	
Other	1(1.8)	5(7.6)	
Surgery	16(27.6)	36(53.7)	0.003
Chemotherapy	48(82.8)	64(98.5)	0.002
Radiation	20(34.5)	47(71.2)	<0.001
Progressive disease	41(74.6)	17(25.8)	<0.001
Nursing home admission	5(8.8)	5(7.7)	0.542
Inpatient rehab admission	3(5.2)	2(3)	0.432
No. of hospital admissions for cancer treatment			0.08
Zero	38(66.7)	29(46)	
One	16(28.1)	28(44.4)	
More than one	3(5.3)	6(9.5)	
No. of hospital admissions for surgery			<0.001
Zero	17(29.8)	46(74.2)	
One	26(45.6)	77(11.3)	
More than one	14(24.6)	9(14.5)	
No. of hospital admissions for complications			0.416
Zero	42(72.4)	51(75)	
One	12(20.7)	9(13.2)	
More than one	4(6.9)	8(11.8)	
Bowel obstruction	12(21)	1(1.6)	0.01
Metastases	51(89.5)	32(47.8)	<0.001
Second malignancy	12(20.7)	4(6)	0.014
TPN	2(3.5)	1(1.5)	0.45
Tubefeed	3(5.2)	5(7.5)	0.44
Opioid use	45(77.6)	18(28.1)	<0.001
Chronic anti-nausea medication	34(58.6)	9(14.1)	<0.001
G-tube	6(10.3)	1(1.6)	0.043
Deaths	37(67.3)	10(15.2)	<0.001

Conclusion: Patients with aggressive disease who experienced complications of therapy and high readmission rates were more likely to receive a PC consultation. PC consultation appears to be most often utilized in patients who appear clinically near the end of life. Many potential benefits of PC may be missed due to this symptom driven approach to requesting PC consults. Efforts to increase early integration of PC are needed.

#3

ACHIEVING CLEAR MARGINS: DIRECTED SHAVING USING MARGINPROBE, AS COMPARED TO A FULL CAVITY SHAVE APPROACH

V. Reid, J. Coble.

Hall-Perrine Cancer Center, Cedar Rapids, IA;
and University of Iowa, Iowa City, IA

Purpose: Achieving clear margin is an important aspect of breast conservation therapy. Full cavity shaving has been used as an approach to reduce the rate of positive margins. This comes at an expense of increase in the volume of tissue removed. We present our experience after switching from a full cavity shave approach to a targeted shaving approach, using the MarginProbe, an intraoperative margin assessment device.

Methods: Specimen excision was performed according to standard of care. Additional shavings were taken based on device readings on the lumpectomy specimen. Intraoperative imaging was used, as required.

Results: We analyzed 137 consecutive MarginProbe lumpectomy cases performed in our institution between JAN 2014 and JULY 2015. The re-excision procedure rate was 6.6% (9/137). Prior to using the device, our practice was to perform routine cavity shaves. For a series of cases from a year's time (2013) prior to using the device, the re-excision rate was 15.1% (19/119). With use of the device, the re-excision rate was significantly reduced by 57%, $P=0.026$. The average main specimen volume was reduced from 78 cc before device use, to 61 cc when using the device ($P=0.034$). When changing to directed shavings based on device indication, the average number of shavings was reduced from 3.4 to 1.9 shavings per case ($P<0.0001$). Hand in hand, the total volume of shavings was reduced from 38 cc to 17 cc. The overall volume of tissue was significantly reduced by 32%, from 115 cc to 78 cc; $P=0.0023$.

Conclusion: The availability of MarginProbe enabled a change in the lumpectomy technique from full cavity shavings to directed shavings guided by the device. There was a significant 57% reduction in the rate of re-excision procedures. The change in the technique led to a reduction in the volume of the main specimen, reflecting the increased confidence in the guidance of intraoperative margin assessment. The number of shavings taken per case was reduced, leading to a reduction of the total volume of shavings. Overall, the volume of tissue removed in the procedure was reduced by 32%. The lower amount of shavings also contributed to a reduction in pathology work.

NOTES

#4

UTILITY OF 68-GALLIUM DOTATATE PET CT SCANNING IN SYMPTOMATIC PATIENTS WITH NEGATIVE ANATOMIC IMAGING BUT SUSPECTED NEUROENDOCRINE TUMORS

J. Shell, S. Sadowski, C. Millo, E. Kebebew.
National Institutes of Health, Bethesda, MD

Introduction: Use of 68-Gallium Dotatate PET CT to localize neuroendocrine tumors (NET) is increasing due to its high sensitivity. There is no data evaluating 68-Gallium Dotatate PET CT in patients with carcinoid-like symptoms, and negative anatomical imaging (CT, MRI) and biochemical testing.

Objective: To determine the utility of 68-Gallium Dotatate PET CT in this patient population as well as its effect on treatment plan and patient outcome.

Methods: We identified 23 patients; 12 had biochemical evidence of NET while 11 patients did not. Median follow-up time was 13.5 months.

Results: Of the biochemically negative patients, 68-Gallium Dotatate PET CT identified a NET in 7 of 11 (64%) patients. Locoregional disease was detected in 5 patients (71%) (pancreas, duodenum, mesentery) and metastatic disease in 2 patients (29%, liver). Treatment change in management occurred in 5 patients (71%), 3 patients underwent surgical resection of the NET and 2 patients were treated with somatostatin analogues (SSA). Improvement of symptoms occurred in 4 patients (57%) at last follow-up. Of the biochemically positive patients, 3 of 12 patients (25%) had imaging evidence of NET on 68-Gallium Dotatate PET CT which was not seen on anatomic imaging. Locoregional disease was seen in 1 patient (33%) (duodenum) and metastatic disease in 2 patients (67%) (bone). 2 of the 3 patients (67%) had a change in treatment plan, one was started on SSA and one had plan for surgical intervention. All patients (100%) showed improvement in symptoms at last follow-up. When comparing 68-Gallium Dotatate PET CT to Octreotide scan in all 23 patients, the former was able to detect significantly more lesions in comparison to the latter (30 vs. 2, $p = 0.028$).

Conclusion: 68-Gallium DOTATATE imaging is useful in detecting NET in symptomatic patients with negative anatomical imaging, regardless of biochemical results, and greatly impacts the treatment of patients with seemingly nonspecific symptoms.

NOTES

#5

T1A VERSUS T1B DIFFERENTIATED THYROID CANCERS: DO WE NEED TO MAKE THE DISTINCTION?

K. Anderson, L. Youngwirth, S. Roman, J. Sosa.
Duke University, Durham, NC

Introduction: The AJCC staging system 7th edition trialed a subdivision of T1 tumors into T1a (≤ 1 cm) and T1b (1.1-2cm). The 2009 American Thyroid Association (ATA) guidelines recommended total thyroidectomy for tumors >1 cm, and lobectomy for those ≤ 1 cm. These AJCC and ATA guidelines remain controversial.

Objective: To determine if the T1 staging subdivision is associated with different treatment strategies and patient survival.

Methods: All adult patients with T1 differentiated thyroid cancer (DTC) from the National Cancer Database (1998-2012) and SEER (2004-2012) were divided into two groups based on tumor size, T1a and T1b. Demographic, clinical and pathologic features were evaluated. Multivariate regression analysis was used to determine factors associated with undergoing total thyroidectomy and radioactive iodine (RAI); Cox proportional hazards models were performed to determine factors associated with overall and disease-specific survival.

Results: Among 149,912 DTC patients, 98,111 were T1a and 51,801 T1b in NCDB; in SEER, among 18,381 patients, 11,208 had T1a and 7,173 T1b tumors. Patients with T1b were younger (48 vs. 51 years T1a) and more likely to have private insurance (76.2% vs. 74.1%), no comorbidities (86.0% vs. 83.8%), and treatment at academic medical centers (41.4% vs. 40.3%; all $p < 0.01$). T1b patients received more total thyroidectomies (87.7% vs. 74.3% T1a) and had more lymphovascular invasion (10.2% vs. 3.3%), positive surgical margins (7.9% vs. 3.8%), metastatic lymph nodes (35.8% vs. 23.8%), and distant metastases (0.4% vs. 0.3%; all $p < 0.01$). Decreasing patient age, female gender, higher income, having insurance, and T1b stage were associated with undergoing total thyroidectomy ($p < 0.01$).

Factors associated with RAI use included decreasing patient age, lower income, having insurance, positive surgical margins, and T1b stage ($p < 0.01$). After adjustment, overall ($p = 0.23$) and disease-specific survival ($p = 0.93$) were similar among patients with T1a vs. T1b tumors.

Conclusions: Our results illustrate that patients with pT1a vs. pT1b tumors undergo different treatment algorithms. Based on the 2015 ATA guidelines whereby either lobectomy or total thyroidectomy can be performed for low-risk tumors, we might anticipate that treatment differences will diminish over time; therefore, division of AJCC T1 staging into T1a vs T1b groups may become obsolete.

NOTES

#6

IMPACT OF MINIMALLY INVASIVE VS. OPEN DISTAL PANCREATECTOMY ON USE OF ADJUVANT CHEMOTHERAPY AND SURVIVAL FOR PANCREATIC ADENOCARCINOMA

K. Anderson, M. Adam, S. Roman, J. Sosa.
Duke University, Durham, NC

Introduction: Interest in minimally invasive distal pancreatectomy (MIDP) has increased. Published data examining impact of MIDP on survival are limited to experiences from high-volume institutions.

Objective: Our aims were to compare adjuvant chemotherapy use and overall survival between MIDP and open surgery (ODP).

Methods: Adult patients undergoing distal pancreatectomy for Stage I and II pancreatic adenocarcinoma were identified from the National Cancer Data Base, 2010-2012. Univariate and multivariate regression and survival analysis were employed to examine the association between MIDP (laparoscopic or robotic) vs. ODP and use of adjuvant chemotherapy and oncologic outcomes.

Results: A total of 1,807 patients underwent distal pancreatectomy for adenocarcinoma at 506 institutions: 505 (28%) MIDP, and 1,302 (72%) ODP. Use of MIDP from 2010 to 2012 increased from 131 (26%) to 209 (41%) cases. The majority of MIDP cases were performed at academic institutions (68%) compared to comprehensive community (30%) and community hospitals (2%). After adjustment, compared to patients who underwent ODP, those who underwent MIDP were more likely to have complete tumor resections [OR 1.53 (CI 1.09-2.17), p=0.02] and a shorter hospital length of stay [-11%, (CI -5% to -16%), p=0.0002]. MIDP is associated on average with a 11% shorter LOS, which would be a reduction of about 1 day from the average ODP LOS of 10 days. The rates of 30-day readmission [OR 1.11 (0.72-1.72), p=0.62] and 30-day mortality [OR 0.83 (0.65-1.06), p=0.13] were similar between groups. Patients undergoing MIDP vs. ODP were more likely to receive adjuvant chemotherapy [OR 1.26 (1.00-1.60), p=0.05]; time to initiation of adjuvant chemotherapy was not different between groups [-2%, (CI -8% to 4%) p=0.45].

Median follow-up was 17 months (IQR 10-26 months). In unadjusted analysis, 3-year survival was similar between MIDP and ODP (40% vs. 37%, p=0.42). After adjustment, overall survival for MIDP vs. ODP remained similar (HR 0.85, CI 0.67-1.10, p=0.21).

Conclusion: Over the years, utilization of MIDP has increased, with the majority of procedures performed at academic institutions. It is associated with increased use of adjuvant chemotherapy; further study is needed to understand the etiology and impact of this association.

NOTES

#7

**WHERE DOES IT WORK? HOSPITAL
CHARACTERISTICS ASSOCIATED
WITH INCREASED RATES OF DONATION
AFTER CARDIAC DEATH**

**A.J. Rios-Diaz, O. Olufajo, J. Stinebring, S. Endicott,
D. Metcalfe, B. McKown, C. Zogg, A. Salim.
Brigham & Women's Hospital; and
New England Organ Bank, Boston, MA**

Introduction: With the widening gap between organ demand and supply, donation after cardiac death (DCD) has become an increasing source of potential organs. Although the Donation and Transplantation Community of Practice encourages a hospital DCD rate of at least 10%, there are no specific characteristics that separate high-performing donation hospitals from lower performing ones.

Objective: To determine hospital characteristics associated with high DCD rates.

Methods: Data from the New England Organ Bank (2011-2014), which comprises data for the six New England States, was used to identify all hospitals with at least one potential organ donor per year. These data were linked to the American Hospital Association Annual Survey (2012) data to ascertain hospital characteristics. Hospitals were stratified into high (defined as >10% of donors were DCD) and low DCD rate. Hospital characteristics (trauma center, stroke center and transplant center status, bed size, teaching status, urbanicity and ownership type), as well as DBD and DCD rates were analyzed using descriptive statistics, Chi-squared and Mann-Whitney tests.

Results: Among 86 hospitals included, organs were recovered from 954 donors (71% donation after brain death [DBD], 29% DCD). Hospitals with high DCD rates were typically larger (237 [160-337] vs. 171 beds [86-284], $p=0.01$), designated as higher level (I or II) trauma centers (75% vs. 25%; $p=0.005$), and transplant centers (91.67% vs. 8.33%; $p<0.01$). They also had higher DCD conversion rates (50.6 [50-75] vs. 0 [0-0]; $p<0.001$) but similar DBD conversion rates (65.8 [50-75] vs. 62.5 [33.33-100]; $p=0.84$).

They did not differ in terms of urbanicity ($p=0.54$), type of ownership ($p=0.86$), teaching status ($p=0.09$), or stroke center designation ($p=0.42$).

Conclusion: DCD rates in New England are larger than the national average, accounting for 29% of all donors in the region. Hospitals with high DCD rates are typically large trauma and/or transplant centers. Further work is necessary to understand the barriers that smaller and non-specialized hospitals face in achieving DCD donations and to optimize transplant networks to access this underused population of potential DCD donors.

NOTES

RACIAL DISPARITIES DURING THE CONTEMPORARY ERA OF KIDNEY TRANSPLANTATION WITHIN THE UNITED STATES

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Introduction: Racial disparities in African-American (AA) kidney transplant recipients were first recognized over 35 years ago, when transplantation was still considered experimental. As of the late 1990s, the magnitude of this disparity has remained unchanged.

Objective: To utilize U.S. national registry data from a recent era in transplantation to assess racial disparities in AA kidney transplantation.

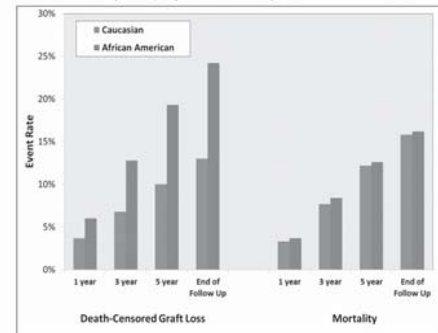
Methods: 60,695 transplant recipients were included, transplanted between 2004-2009; 41,426 Caucasians (68%) and 19,269 AAs (32%).

Results: At the time of transplant, AAs were younger, more likely to be female, have a higher BMI, lower college graduation rate, more likely to be receiving publicly funded primary health insurance and more likely to have hypertension and diabetes. AA recipients were less likely to receive living donors (22.0% vs. 47.3%; $p<0.001$), but more likely to receive organs from expanded criteria donors (14.8% vs. 12.7%; $p<0.001$) and cardiac death donors (9.2% vs. 6.0%; $p<0.001$). AA recipients had greater numbers of HLA mismatches (median: 5 [3-5] vs. 4 [2-5]; $p<0.001$), a higher peak PRA (median: 2% [0-27] vs. 0% [0-13]; $p<0.001$) and longer cold ischemic times (15.4 [8.0-22.4] vs. 10.0 [1.3-19.2]; $p<0.001$). For immunosuppression, AAs were more likely to receive potent cytolytic induction therapy (60.2% vs. 55.1%; $p<0.001$) and be discharged on maintenance regimens consisting of tacrolimus (85.1% vs. 82.0%; $p<0.001$), mycophenolate (89.4% vs. 88.4%; $p<0.001$), and corticosteroids (70.2% vs. 63.0%; $p<0.001$; see Table 1). At one year post-transplant, AAs have 62% higher risk of death-censored graft loss (RR 1.62, 95% CI 1.50-1.75); at five years, AAs have a 93% higher risk of death-censored graft loss (RR 1.93, 95% CI 1.85-2.01). AAs had 48% higher risk of developing delayed graft function (RR 1.48, 95% CI 1.45-1.53) and had 81% higher risk of having acute rejection (RR 1.81, 95% CI 1.71-1.91; see Figure 1).

Table 1 - Baseline sociodemographics, donor characteristics and immunologic risk factors compared between Caucasians and African Americans

Variable	Caucasian (n=41,426)	African American (n=19,269)	p-Value
Mean Age (yr±SD)	51.5±13.8	49.0±12.9	<0.001
Female Gender	37.9%	40.5%	<0.001
Mean BMI (kg/m ² ±SD)	27.6±5.4	28.4±5.6	<0.001
Median Functional Status (IQR)	90% (80-90%)	80% (80-90%)	0.002
Education			
Below High School	2.6%	3.3%	
High School Education	43.0%	50.8%	<0.0001
Some College	25.3%	27.5%	
College Graduate	29.0%	18.4%	
Primary Insurance			
Private	48.9%	27.3%	
Medicare	48.9%	65.7%	<0.0001
Medicaid	4.3%	7.0%	
Primary Diagnosis for ESRD			
Hypertension	16.0%	41.4%	<0.001
Diabetes	21.8%	22.8%	
Other	62.2%	35.8%	
Comorbidities			
Angina	10.3%	7.7%	<0.001
Diabetes	29.1%	33.3%	<0.001
Cerebrovascular Accident	3.0%	2.9%	0.383
Hypertension	88.0%	82.5%	<0.001
Peripheral Vascular Disease	4.7%	3.1%	<0.001
Receiving Dialysis at Time of Transplant	56.8%	81.3%	<0.001
Median Time on Dialysis (IQR)	2.4 (1.3-4.0)	4.0 (2.4-6.0)	<0.001
Median Time on Wait List (IQR)	1.1 (0.4-2.3)	2.1 (0.9-3.8)	<0.001
Mean Donor Age (yr±SD)	40.9±14.5	38.9±15.4	<0.001
Female Gender	49.8%	44.1%	<0.001
Donor Race			
Caucasian	87.0%	54.3%	
African-American	5.2%	34.5%	<0.001
Other	7.7%	11.2%	
Living Donor	47.3%	22.0%	<0.001
Expanded Criteria Donor	12.7%	14.8%	<0.001
Donor after Cardiac Death	6.0%	9.2%	<0.001
Median HLA Mismatches (IQR)	4 (2-5)	5 (3-5)	<0.001
A Mismatches (IQR)	1 (1-2)	2 (1-2)	
B Mismatches (IQR)	1 (1-2)	2 (1-2)	
DR Mismatches (IQR)	1 (0-2)	1 (1-2)	
Median Peak PRA (IQR)	0% (0-13%)	2% (0-27%)	
Median Current PRA (IQR)	0% (0-7%)	0% (0-12%)	
Current PRA >20%	17.7%	21.0%	<0.001
Current PRA >80%	6.1%	7.4%	
Mean Cold Ischemic Time	10.0 (1.3-19.2)	15.4 (8.0-22.4)	<0.001
Previous Kidney Transplant	12.7%	9.4%	<0.001
Induction Therapy			
IL-2 Receptor Antagonist	27.2%	20.6%	<0.001
Cytolytic Therapy	55.1%	60.2%	
Immunosuppression at Discharge			
Tacrolimus	82.0%	85.1%	<0.001
Cyclosporine	10.8%	7.8%	<0.001
Mycophenolate	88.4%	89.4%	<0.001
Azathioprine	0.8%	0.4%	<0.001
mTOR Inhibitor	6.5%	5.3%	<0.001
Corticosteroids	63.0%	70.2%	<0.001

Figure 1 - Clinical outcomes, which include death-censored graft loss and mortality, compared between AA and Caucasian recipients at 1, 3, 5 years and end of follow-up



Conclusion: These results demonstrate that within the contemporary era of transplantation, AAs continue to experience disproportionately high rates of graft loss, which are likely related to a convergence of a wide array of socioeconomic and biologic risk factors.

#9

DISPARITIES IN KIDNEY TRANSPLANTATION ACROSS THE UNITED STATES: DOES RESIDENTIAL SEGREGATION PLAY A ROLE?

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Introduction: Disparities in kidney transplantation are well known and well studied. Residential segregation has been identified as a factor that may influence disparities in cancer care. To date, the relationship between residential segregation and kidney transplantation has not been evaluated. We hypothesized that residential segregation was associated with disparities in kidney transplantation in the United States.

Methods: The Scientific Registry for Transplant Recipients, 2000-2013 provided data on patients who received kidney transplants. County level characteristics were derived from the 2013 Area Health Resource File and the United States Renal Data System. Age- and sex-standardized transplant rates were calculated for each county and stratified by race. We calculated the dissimilarity index, a measure of residential segregation, which ranges from 0 (indicating even racial distribution) to 100 (indicating high predominance of a racial group) for each county. Population-based factors associated with kidney transplantation were determined using multivariate Poisson regression models for blacks and whites separately. Models were adjusted for rural-urban continuum area, region, median household income, number of dialysis centers, number of individuals with end-stage renal disease for each racial group, and dissimilarity index.

Results: We included white recipients from 2571 counties and black recipients from 1511 counties. Median transplant rates across the counties were 38 per 100,000 for whites and 113 per 100,000 for blacks. Median number of end-stage renal disease patients (measured in 2010) were 88 per 100,000 and 391 per 100,000 in whites and blacks, respectively. Among both racial groups, increased household income and availability of more dialysis centers were associated with higher transplant rates ($P < 0.001$).

Compared to counties with low dissimilarity indices (< 40), adjusted Rate Ratios of transplants in counties with moderate (40-59) and high (≥ 60) indices were 0.705 and 0.604 ($P < 0.001$) respectively in blacks, and 1.145 and 0.872 ($P < 0.001$) respectively in whites, suggesting that high county-level segregation has a negative association with kidney transplantation.

Conclusion: High levels of residential segregation are associated with lower kidney transplantation, which is seen more in blacks. Better understanding of this potentially modifiable population-based factor may help in addressing disparities in organ transplantation in the US.

NOTES

#10

THE RELATIONSHIP BETWEEN MONOCYTE GENE EXPRESSION AND LOWER EXTREMITY VEIN GRAFT OUTCOME

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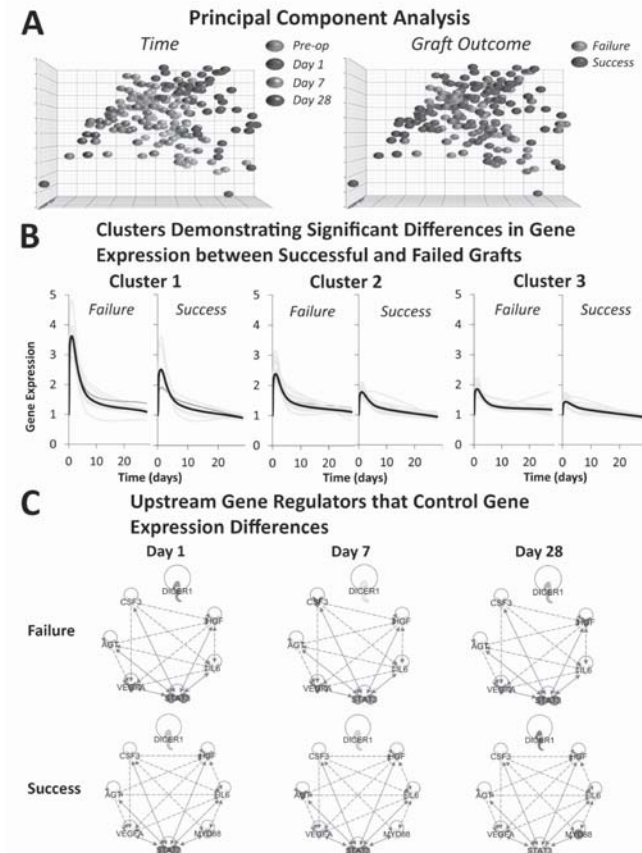
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Introduction: Multiple lines of evidence suggest that systemic inflammation and the response to injury following vein bypass grafting are important regulators of early remodeling and long-term patency. Given the critical role of monocyte/macrophage biology in vascular pathology, we hypothesize that early perturbations in monocyte function are important determinants of vein graft outcomes. The current study was undertaken to uncover the time-dependent changes in monocyte gene expression following vein grafting and identify key regulatory elements implicated in graft failure.

Methods: In 48 patients undergoing lower extremity vein bypass grafting, blood monocytes were isolated pre-operatively and at 1, 7 and 28 days post-op. Gene expression was determined using an Affymetrix human microarray coded for 20,213 genes. Duplex scans were performed at 1 week and 1, 6 and 12 months post-op and, in conjunction with physical exam, were used to determine major adverse limb events (stenosis, occlusion or re-intervention) and define graft success or failure at 1 year.

Results: Mixed effects modeling demonstrated time to be the dominant influence on gene expression, with 1870 genes changing over time and no genes showing a difference between outcome groups ($FDR < .001$, Fig 1A). To investigate the potential that underlying this broad response to surgical trauma is a key set of genes that are critical drivers of the vein graft phenotype, a custom clustering algorithm was used to identify 50 unique, time-dependent signature patterns. Stringent selection criteria ($p < .05$, effect size > 0.5 and fold change > 1.4) identified 3 of these 50 clusters ($n=64$ genes) which showed markedly different levels of gene expression between successful and failed grafts.

Common to these genes was a heightened early (Day1) response in those grafts that went on to failure ($p < .001$) (Fig 1B). Pathway analysis of this gene set identified eight additional genes as the dominant regulatory elements whose expression levels were dynamic and varied substantially between outcome groups (Fig 1C). Ontology analysis revealed this to be a set of highly-interconnected regulatory genes with central roles in inflammation, cell growth, angiogenesis and neutrophil proliferation.



Conclusion: Following vein grafting there is a significant time-dependent perturbation in monocyte gene expression. Embedded within these changes is a key set of 64 genes that are highly associated with success or failure of the vein graft. Controlling the activity of these genes is a set of eight highly-interconnected, upstream transcriptional regulators. Either alone or in combination, these upstream regulators provide promising candidate targets to modify inflammation-associated graft failure.

#11

THE IMPACT OF VALUE-BASED HEALTHCARE ON ORTHOPAEDIC RESIDENCY EDUCATION

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Introduction: Physician training is in jeopardy as healthcare transitions to a value-based system that will focus on outcomes and costs. New regulations regarding work hour restrictions already limit clinical exposure. With the Patient Protection and Affordable Care Act calling for the first formal link between reimbursement and patients' perception of their care, the ability of training programs to integrate trainees across all aspects of operative and non-operative orthopaedics will likely further alter resident physician exposure.

Objective: To evaluate orthopaedic residents' rate of unsatisfactory closed reductions of pediatric fractures in the emergency department (ED) and its implications on outcomes and cost.

Methods: A retrospective review of 841 (558 M and 282 F) displaced fractures that required closed reduction under conscious sedation in the ED were analyzed. A satisfactory reduction rate (SRR) was determined to be less than 10 degrees in any plane for the upper extremity (UE) and lower extremity (LE). SSR for the LE also included less than 2 cm shortening. Unsatisfactory reductions were defined as any cases that required repeated manipulation or open reduction internal fixation. We analyzed fracture patterns and resident characteristics to see if they influenced reduction.

Results: There were 31 residents (21M; 10F) in the study. Overall SRR for all orthopaedic residents was 95.4% (802/841). Orthopaedic residents on their first rotation of pediatric trauma call had an SRR of 93% (279/300) and orthopaedic residents on subsequent rotations had an SRR of 96.8% (509/526). No statistical difference found in SRR based on residents' gender. Type of fractures, specifically both bone forearms fracture, influenced the odds ratio of unsatisfactory reduction.

Conclusion: Our study concludes that SRR improves with increased clinical exposure; 96.8% vs 93%. We infer from this data that orthopaedic residents must continue to be given ample hands-on training as healthcare evolves to center around quality. We are currently analyzing the impact of our failure rate on costs to determine the financial implications of orthopaedic residency education on pediatric fracture care. Further studies are warranted to determine the impact of orthopaedic residency education on outcomes and cost in a value-based system.

NOTES

#12

**PATIENT-REPORTED OUTCOMES:
SURGICAL FIXATION OF JONES FRACTURES
WITH BIOLOGICAL AUGMENTATION
IN THE ELITE ATHLETE**

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Introduction: Treatment of Jones fractures or fractures to the metaphyseal-diaphyseal junction involving the fifth metatarsal can present challenges in the elite athlete significantly prolonging return to play. Non-operative treatments in elite athletes result in a high incidence of nonunion and refracture. Therefore, in athletes, primary screw fixation remains the standard of care; however, delayed union and nonunion are still very common despite surgical fixation due to the fracture occurring in a watershed area of the bone. Bone marrow aspirate concentrate (BMAC) is an autologous source of hematopoietic and mesenchymal stem cells that has been used in the treatment of poor healing fractures.

Methods: We present the results of 10 consecutive athletes treated with intramedullary screw fixation augmented with bone marrow aspirate concentrate (BMAC). Internal fixation for a Jones fracture was performed on 10 consecutive athletes with a mean age of 22.2 years; range, 19.30-26.06 (7 male and 3 female). All patients were assessed preoperatively and postoperatively using visual analog score for pain outcomes score.

Results: The mean visual analog score for pain decreased from 6.2 preoperatively (range 3-8) to 2.75 postoperatively (range 1-6, $P = 0.06$). All patients have returned to competitive play and activity. Student's t-test was used in statistical comparison of the preoperative and postoperative outcome scores. $P < 0.05$ was considered significant.

Conclusion: Intramedullary screw fixation of Jones fractures with bone marrow aspirate concentrate may improve surgical outcomes in the elite athlete. A higher powered and long-term study is needed to confirm our observations. Patient-reported outcomes are essential to address value driven care.

#13

**E-LEARNING IN ORTHOPEDIC SURGERY
TRAINING: A LOOK AT THE PAST 10 YEARS**

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Introduction: E-learning, in its most rudimentary form, is the use of internet-based resources for teaching and learning purposes. In surgical specialties, this definition encompasses the use of virtual patient cases, digital modeling, online tutorials, as well as standardized video and imaging. As new technological frontiers rapidly emerge within orthopedic surgery, e-learning may be an effective alternative to traditional teaching.

Methods: Here we present (1) a systematic review of literature assessing the efficacy of e-learning for orthopedic education and (2) a discussion of the relevance of these programs for both medical students and residents within the field.

Results: A systematic search of PubMed, Embase, Web of Science, and the Cochrane Library was conducted according to the guidelines defined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement (PRISMA). Using predetermined inclusion and exclusion criteria, a total of 19 articles underwent full review. These articles were analyzed in the context of two groups. Studies in Group A (9/19) involved medical student subjects, and measured outcomes based on performance in written assessment of anatomical knowledge. Studies in group B (10/19) involved residents and had clinically relevant end outcomes. Nearly all of the studies reported greater satisfaction and/or significantly improved knowledge gained using the e-learning intervention compared to standard techniques.

Conclusion: E-learning proves to be a powerful alternative to standard teaching techniques within orthopedic education for both residents and medical students. Future work should focus on validating specific e-learning programs and accessing long-term knowledge retention using e-learning platforms.

#14

THE DEVELOPMENT AND IMPLEMENTATION OF AN ORTHOPAEDIC SERVICE LINE IN AN INTEGRATED FINANCIAL MEDICAL SYSTEM

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Introduction: The “service line” healthcare concept was developed in an effort to promote increased emphasis on both hospital-physician alignment and the establishment of integrated care models.

Objective: To describe the development, phased implementation, early results, as well as tips and pearls of an orthopaedic service line (OSL) within an integrated global healthcare enterprise encompassing a large-hybrid academic medical center (AMC) and accountable care organization (ACO).

Methods: The OSL at our institution was conceptualized to optimize the value and performance of orthopaedic care delivery through a system-wide coordination of four strategic targets: resource management; quality enhancement; system and network alignment; outcomes and cost optimization. In this regard, optimizing the execution of the OSL requires successfully minimizing administrative duplication, frictionless cost control, streamlining care delivery and maximizing system-based collaborations. In part, this is facilitated by the development of pathways and bundles for procedures of both high volume and cost, in addition to the development of patient-centered models of care. A focus on outcomes and cost optimization requires the development of system-wide subspecialty specific outcomes registries. Collaboration with insurance providers to develop exclusive, competitive service line care bundles is paramount and the utilization of a cost accounting system provides insight into cost of care.

Results: The OSL has resulted in the creation of shared savings programs with our institution’s health plan for spine and total joints. A foot and ankle surgical platform has also been established across academic and private practice affiliates. We are currently developing a musculoskeletal registry across the orthopaedic surgical and rehabilitation arms of our enterprise.

The OSL has increased the patient experience and resulted in cost management reduction in regards to surgical care delivery and also total costs for an entire episode of care.

Conclusion: The development of an OSL can promote value driven care in the complex environment of an AMC/ACO by focusing on resource allocation. Successful development and implementation of a service line serves as a conduit through which the reputation and footprint of an organization can be expanded, all while positioning itself for the existing transition from fee-for-service to value-based care.

NOTES

#15

**WHY WE LOSE THEM:
HOSPITAL FACTORS ASSOCIATED WITH
LOW PATIENT RETENTION FOLLOWING
EMERGENCY GENERAL SURGERY**

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Introduction: Emergency general surgery (EGS) patients have disproportionately high rates of complication and readmission. Readmission following surgery to a hospital other than where the index procedure occurred (non-index hospital) is associated with worse outcomes in elderly surgical patients. However, hospital characteristics associated with this care discontinuity among EGS patients have not been identified.

Methods: We examined patient data in the 100% Medicare inpatient claims file from 2008-2011 and linked it to hospital data from the American Hospital Association database. Patients age 65 years and older discharged home after undergoing one of 11 representative EGS procedures were identified. Patient characteristics including the distance between patients' homes and the index hospitals were derived. Hospital variables such as bed size, trauma center designation and safety net status were extracted. Multivariate hierarchical regression models were used to determine the odds of readmission to non-index hospitals.

Results: The overall 30-day readmission rate was 9.8%. Among the 52,284 readmissions, 17.5% were readmissions to non-index hospitals. Patient-level risk factors for readmission to non-index hospitals included living more than 8 miles away from the index hospitals (Adjusted Odds Ratio: 1.98; 95% Confidence Interval: 1.87-2.10) while hospital characteristics associated with non-index readmissions were bed size less than 200 (1.38; 1.28-1.48), safety-net status (1.32; 1.23-1.43) non-trauma center status (1.20; 1.12-1.28), and being in rural areas (1.15; 1.07-1.23).

Conclusions: Patients who received care at smaller, rural safety net hospitals and lived far away from the hospitals were more likely to be readmitted to non-index hospitals. Targeted strategies to reduce care discontinuity in these hospitals may lead to better outcomes among EGS patients.

NOTES

#16

BLUNT AORTIC TRAUMA AT A LEVEL II TRAUMA CENTER

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Introduction: Blunt thoracic aortic injuries have almost been exclusively described in the literature from level I trauma centers. The survival rate outside of level I trauma center is unclear.

Methods: Out of over 6000 trauma patients seen during the selected time-frame, 24 patients were identified as having blunt aortic injuries. The median age for this cohort of patients was 39.9 (20-68) years of age. The average injury severity score was 42 (3-75).

Results: There are a total of six deaths in this cohort. There was no statistically significant difference between those who died and those that survived with regards to admission systolic blood pressure, pulse, hemoglobin, pH or base deficit. Four out of the six deaths had significant severe brain injuries. Seven patients were treated with non-operative management. Two out of the seven patients died. One of these patients had a diagnosis of Ehlers-Danlos Syndrome Type VI. He was discharged from the hospital only to return one week later in extremis. He was urgently taken to the OR but was unable to be repaired. His vessels would not hold suture. A second patient presented with a devastating head injury and was a non-operative candidate because his head injury was thought to be non-survivable. Twelve patients were treated with endovascular stents. There were no acute complications secondary to the stent. Six patients presented with systolic pressures less than 100. Two out of these six patients died. Four out of these six patients underwent endovascular stenting. One of these patients died secondary to a severe head injury. The other patient died of severe respiratory failure secondary to a severe pulmonary contusion and possible aspiration. One of these patients underwent open repair and survived without evidence of paralysis.

Conclusion: Despite advancements in endovascular stenting, traumatic blunt aortic injury remains a devastating disease. It is associated with a significant number of associated injuries. Severe traumatic brain injury is a common cause of death in our cohort of patients with blunt aortic injuries.

#17

IN-HOSPITAL AND OPERATIVE MORTALITY RATES DIFFER BY RACE AMONGST PATIENTS UNDERGOING OPEN HEART SURGERY

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Introduction: Previous studies have demonstrated that black race is an independent predictor of increased operative mortality after cardiac surgery, though subsequent studies have been contradictory.

Objective: To compare in-hospital and operative mortality rates for Black and White participants undergoing Coronary Artery Bypass Grafting (CABG), Valve replacement, or CABG+Valve replacement to determine if differences do exist at an academic medical center.

Methods: The Society of Thoracic Surgeons (STS) National Cardiac Database for the Ohio State University Wexner Medical Center (OSUWMC) was used for a retrospective review of 1,673 patients who underwent CABG (1-4 vessel), valve replacement (Aortic, Mitral, Tricuspid or combination thereof), or a combined CABG+Valve procedure between 2013-2015. All patients were followed from operation through the duration of their stay to assess in-hospital and operative mortality. The study population included 85.6% (1,432) Whites, 10.6% (178) Blacks, and 3.7% (62) Others. Race was not captured for one participant.

Results: Adjusting for type II diabetes mellitus, hypertension, obesity, and hypercholesterolemia, blacks had similar in-hospital and operative mortality compared to whites for CABG (1.5% vs. 2.0% RR= 0.74, 95% CI 0.09, 5.85, p=0.77 and 3.0% vs. 2.2% RR = 1.33, 95% CI -0.29, 6.09, p=0.71 respectively). Blacks had a higher in-hospital and operative mortality rate for valve procedures (5.0% vs. 1.3% RR= 3.85, 95% CI 0.40, 37.01, p=0.20 and 10.0% vs. 1.7% RR=5.78, 95% CI 1.05, 31.53, p=0.02 respectively); and a similar in-hospital and operative mortality rate for CABG+Valve procedures (2.2% vs. 2.3% RR= 0.98, 95% CI 0.22, 4.22, p=0.97 and 4.4% vs. 2.5% RR = 1.74, 95% CI 0.59, 5.13, p=0.3 respectively). Of note, "Other" participants had the highest in hospital and operative mortality of 13.3% and 13.3% respectively when undergoing combined CABG+Valve procedures.

Conclusion: Among the STS population at OSUWMC, race does appear to be a significant predictor of operative mortality for black patients undergoing valve replacement. Future studies will evaluate the influence of preoperative risk factors, 30- and 90-day mortality rates, and functional outcomes to improve survival in this complex patient population.

NOTES

#18

ANATOMIC PULMONARY VALVE REPLACEMENT: A PREFERRED SURGICAL TECHNIQUE

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Introduction: Pulmonary valve replacement is commonly performed in adult patients with congenital heart disease. The technique most commonly employed involves prosthesis placement within an existing, or new, trans-annular patch.

Objective: We propose an alternate surgical technique for patients without previous trans-annular patching.

Methods: Six adult patients with congenital heart disease and an intact pulmonary annulus underwent “anatomic” PVR (a-PVR). Surgery entailed supra-annular placement of a bioprosthetic valve through a pulmonary arteriotomy without disruption of the annulus, incision onto the infundibulum or ventricle and without prosthetic patching of any kind.

Results: There was no operative mortality. Technical success was achieved in all patients in whom a-PVR was attempted. The patient demographics, diagnoses, surgical histories and perioperative outcomes are detailed in Table 1.

Conclusions: A-PVR is possible in patients with an intact pulmonary annulus and should be the preferred technique in that clinical setting. The procedure is technically simpler and limits surgical variables related to valve positioning and RVOT patch construction. Similar short and long-term valve related outcomes are expected. However, we expect easier re-operation in the absence of patch related scarring or calcification. We anticipate a comparative improvement in long-term right ventricular geometry, function, and risk of arrhythmia. There is a small cost saving made when prosthetic patch use is eliminated.

Table 1.

Case	1	2	3	4	5	6
Age (years)	21	49	47	47	41	54
Sex	Male	Male	Female	Male	Female	Female
Diagnosis	Congenital pulmonary stenosis (PS)	Tetralogy of Fallot	PS	PS	PS	PS
Previous Intervention(s)	Balloon valvuloplasty	Primary repair	Blalock-Taussig Shunt Pulmonary Valvectomy Atrial Septal Defect (ASD) repair Redo ASD repair (x2) Atrial flutter ablation	Surgical valvotomy	Waterston shunt, Surgical valvotomy and Pulmonary arterioplasty	Surgical Valvotomy
Right ventricular end diastolic volume index (ml/m ²)	165	214	70	177	178	131
Valve used	25mm Trifecta Bioprosthetic	25mm Trifecta Bioprosthetic	25mm Trifecta Bioprosthetic	25mm Trifecta Bioprosthetic	23mm Trifecta Bioprosthetic	27mm Trifecta Bioprosthetic
Post-operative length of stay	4	7	68	7	8	4

NOTES

#19

DIAGNOSTIC EVALUATION OF OVARIAN TORSION: AN ANALYSIS OF PEDIATRIC PATIENTS USING THE NATIONWIDE EMERGENCY DEPARTMENT SAMPLE

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Introduction: Ovarian torsion is a common cause of acute abdominal pain in girls. Ultrasonography is the diagnostic modality of choice for this condition. However, girls may be evaluated at institutions that utilize computed tomography (CT) as part of the diagnostic work-up, unnecessarily exposing them to ionizing radiation.

Objective: To examine the utilization of CT scans during work-up of girls with ovarian torsion, and determine which patients are most likely to undergo this study.

Methods: The Nationwide Emergency Department Sample (NEDS) data set was searched for female patients age <18 years who presented to the emergency department with a diagnosis of ovarian torsion from 2006 to 2012. Hospitals were categorized by the volume of pediatric patients seen (adult, pediatric privileged, and pediatric). We modeled the probability of being diagnosed with an ultrasound alone vs. some combination of CT and US, with type of hospital as the primary predictor.

Results: A total of 292 patients were identified; 164 (56%) were seen at adult hospitals, 33 (11%) at pediatric privileged, and 95 (33%) at pediatric hospitals. The mean age was 14 years. Patients seen in pediatric hospitals were younger on average (13.1 vs. 14.4 and 14.5; p<.05). Patients cared for in a pediatric or pediatric privileged hospital had more ultrasounds alone performed to diagnose ovarian torsion (64% vs. 44%; p<.05). Age, insurance type, and median income were not predictive of type of scan received.

Conclusion: Girls seen at adult hospitals are more likely to undergo CT scans for work-up of ovarian torsion. When ovarian torsion is within the differential diagnoses, providers should consider ultrasound as the initial diagnostic modality to avoid unnecessary radiation exposure.

#20

PERIOPERATIVE OUTCOMES OF CHILDREN UNDERGOING LADD'S PROCEDURE IN A NATIONAL SURGICAL DATABASE

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Introduction: The standard surgical treatment for intestinal malrotation is the Ladd's procedure.

Objective: To evaluate the perioperative outcomes of children undergoing Ladd's procedure by utilizing a clinical national database.

Methods: A total of 608 patients met our inclusion criteria. Of those, the majority were White (79.8%), followed by Black (15.9%), Asian (3.1%) and Native Hawaiian or Pacific Islander (1.2%). Among our sample, 75% of the patients were in the age range of 0-5 years. More than 50% of patients were born at full term gestation and the median weight was 12.5 pounds at the time of birth. The majority of cases were inpatient, with 62.5% of those as elective cases and 37.5% as emergent.

Results: The most common complications were respiratory in origin (4.6%), and infections included surgical site infections (3.12%), deep incision infections (0.16%), wound dehiscence (0.66%), and sepsis (0.99%). Eight patients (1.3%) died within 30 days of the operation, and 37 (6.1%) required unplanned re-operation. The readmission rate was 59 of 608 (9.7%).

Conclusion: LADD's procedure is a relatively sound and effective surgical intervention used to correct intestinal malrotation in young children. Using the NSQIP-Pediatric Participant User File, we were able to statistically compare surgical outcomes of a larger number of young children than readily available in a single medical institution, with higher confidence. Our research shows that there are no significant adverse outcomes involved in the open LADD's procedure within the pediatric population when comparing outcomes based upon race or length of gestational development. The LADD's procedure has the potential of preventing life-threatening complications of intestinal malrotation such as volvulus and intestinal ischemia, without appreciable perioperative concerns.

#21

IDENTIFICATION OF DISTINCT LACTOBACILLUS STRAINS IN THE EARLY POSTNATAL RAT MICROBIOTA

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Introduction: Necrotizing enterocolitis (NEC) affects premature infants and its etiology remains largely unknown. Colonization of the neonatal gastrointestinal (GI) tract with opportunistic pathogens, such as *Cronobacter muytjensii*, is thought to be a prime initiating event. Opportunistic pathogens compromise the gut barrier, leading to bacterial translocation, inflammation, and, ultimately, intestinal necrosis. Lactobacillus biotics have been shown in a number of studies to protect against NEC. However, results of Lactobacillus trials remain inconclusive due to the use of different species/strains and doses in different trials. Moreover, an important question of whether the lactobacilli used as probiotics are colonizing the intestine remains unanswered. We propose that an efficient probiotic strain should not only protect the intestinal epithelium, but should also be capable of colonizing the GI tract.

Objective: To identify naturally occurring colonizing lactobacilli, we sought to isolate and characterize the strains of this genus in the intestines of 4 day old rats.

Methods: Animal experiments were approved by CHLA IACUC. Neonates were obtained from timed pregnant Sprague-Dawley rats purchased from Charles River or Harlan Labs. The neonates were kept in a temperature and humidity controlled incubator, and fed with formula for 4 days. Care was taken not to introduce extraneous bacteria during handling and feeding. To enumerate and isolate the lactobacilli, the content of the large intestine was serially diluted and plated on MRS agar. After 2 day incubation at 37°C, the emerging colonies were classified according to their appearance, and numbers in each class counted. Pure cultures were established for each class and maintained as frozen stocks. Lactobacilli were identified as Gram+ or Gram+/- non-spore-forming rods. Species identity was established by sequencing a variable region of the 16S rRNA gene and by biochemical tests.

Results: Three morphologically unique strains of lactobacilli were isolated from 138 rat pups belonging to 18 litters. Among the identified species, there were *L. reuteri*, *L. murinus*, and *L. acidophilus*.

Conclusion: Various lactobacilli are common first GI tract colonizers in neonatal rats. Availability of pure cultures of the natural colonizing Lactobacillus strains will allow us to experimentally evaluate their ability to colonize the intestine and protect against NEC.

NOTES

#22

JUNIOR LAB RESIDENT'S APPROACH TO COMPLEX URINARY PATHOLOGY

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Introduction: Urinary catheterization responsibilities have shifted predominantly to nursing staff. Residents are typically responsible for complex scenarios. Resident competency in urinary catheterization is expected, but it remains unclear whether residents have the skill and knowledge to address complex scenarios.

Objective: To determine if residents can navigate the work-up and subsequent decision-making in complex clinical scenarios involving the urinary tract. We hypothesize that residents will make inconsistent decisions for clinical scenarios where they suspect pathological conditions.

Methods: Forty-five general surgery residents (PGY 2-4) were presented with two scenarios: A) male trauma with blood at the urethral meatus and non-palpable prostate; and B) geriatric septic male with a complete urethral obstruction. Residents were asked to verbalize difficulties encountered while catheterizing each patient. Resident responses were audio-recorded and later categorized for diagnosis and clinical decision making.

Results: In scenario A, participants vocalized seven different options. Participants either consulted Urology immediately (N=18) or performed a retrograde urethrogram (N=12). For the group that consulted Urology, 16.7% also stated they would place a suprapubic catheter. Those that performed a retrograde urethrogram, also pursued multiple secondary choices, with no apparent theme or strategy. In scenario B, participants vocalized seven different first options, with most participants choosing to insert a 16 French Coude (N=10) or a small 10, 12 French Foley (N=7). A subset of those that placed a 16 Coude either downsized (N=1) or upsized multiple times (N=1). For those that placed a small foley, a subset (42.9%) chose to consult Urology, while others (28.6%) attempted to upsize or switch to a Coude (14.3%).

Conclusion: Inconsistencies in resident's initial work-up and subsequent decision-making in complex urinary catheter scenarios reveal a lack of experience. Our findings suggest residents may not be consistently trained in proper procedure protocols for consultation and decision making. Simulation could be used to train and maintain technical and decision-making skills in urinary catheterization while providing a safe environment to practice.

NOTES

#23

OUTCOMES IN HIV-POSITIVE MINORITY PATIENTS UNDERGOING BARIATRIC SURGERY

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Introduction: The advent of antiretroviral therapy (ART) has dramatically reduced the mortality of HIV-infected patients. As a result of successful viral suppression and better health outcomes, there has been an increase in the prevalence of obesity in this population. There have been limited studies on bariatric surgery outcomes in HIV-positive patients.

Objective: To determine outcomes in a series of HIV-positive minority patients following bariatric surgery.

Methods: We performed a retrospective analysis of HIV-positive patients undergoing bariatric surgery at our institution between January 1, 2005 and June 30, 2015.

Results: All operations were performed laparoscopically and included 6 sleeve gastrectomy, 2 gastric bypass, and 2 adjustable gastric band. 80% were African Americans and 20% Hispanic. Mortality and morbidity were 0% and 30%, respectively. Mean %EWL at the most recent follow-up was 51.7% (range, 24-86). Our cohort had a mean preoperative CD4 count of 523 cells/microliter (range, 299-914) and mean HIV viral load of 69 copies/microliter (range, <20-520). The postoperative mean CD4 count was 543 cells/microliter (range, 329-795).

Conclusion: Bariatric surgery can be safe and effective in the HIV-positive minority population without any significant change in control of HIV disease.

#24

**THE DISPARITY PERSISTS:
SOCIOECONOMIC STATUS AND
BARIATRIC SURGERY IN BLACK PATIENTS**

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Introduction: Bariatric surgery is an important tool in the management of refractory obesity and its associated co-morbidities. However, the impact of socioeconomic factors on bariatric surgery outcomes, particularly in Black patients, has not been thoroughly investigated.

Objective: To assess the effect of socioeconomic status on bariatric surgery outcomes in a predominately Black population.

Methods: 284 patients met our inclusion criteria. Blacks and females made up 90% and 85% of the population, respectively.

Results: Mean preoperative BMI was 48.0 kg/m². The five ascending MHI quintiles comprised 0%, 0%, 21%, 46% and 33% of the overall population, respectively. MHI quintiles three through five had mean preoperative BMI of 49, 48 and 48. The mean BMI at 1 month post-op were 44, 43, 43, at 6 months were 37, 38, 38, and at 12 months were 34, 34, 36 for each MHI quintile three through five, respectively. Mean percent Excess Weight Loss (EWL) at 1 month post-op were 17%, 17%, 20%, at 6 months were 41%, 39%, 40%, and at 12 months were 56%, 57%, 48%, for each MHI quintile three through five, respectively. Resolution of diabetes mellitus was 90%, 80%, 71%, and resolution of HTN was 58%, 51%, 49%, in MHI quintile three through five, respectively.

Conclusion: Our data does not permit us to draw generalized conclusions about the effect of differences in socioeconomic status on bariatric surgery outcomes. However, for an urban institution serving the predominantly underserved, the skewed distribution of the MHIs reported in our sample suggests the presence of economic, social or other barriers interfering with the access of Black patients in less privileged socioeconomic groups to bariatric surgery. Further investigation is warranted to identify and characterize these impediments.

#25

**EVALUATING MEDICATION COMPLIANCE
IN ABDOMINAL TRANSPLANT
PATIENTS WHO USE A MOBILE PHONE
APPLICATION REMINDER**

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Introduction: The efficacy of a mobile phone application in promoting medication adherence was investigated to evaluate its utility in assisting liver and kidney transplant patients in managing immunosuppression.

Methods: Patients completed a Beliefs about Medicine Questionnaire (BMQ) peri-operatively to establish baseline predilections about compliance. Serum tacrolimus levels and rejection episodes were denoted post-operatively as a surrogate for medication adherence.

Results: Overall, patients had a negative view of medications, though there was no difference in BMQ scores between application users (n=19) and non-users (n=40); (52.2 v. 59.1; p = 0.09). Also, there was no difference in mean tacrolimus levels between application users and non-users; (9.62 ug/ml v. 9.65 ug/ml; p=NS). However, in liver transplant patients, application users (n=2) had higher mean tacrolimus levels as compared to non-users (n=4); (9.46 ug/ml v. 7.16 ug/ml; p=0.046). This relationship did not hold true for kidney transplant patients. Interestingly, the application users had one rejection episode, while the non-users had three rejection episodes (p=NS).

Conclusion: Mobile phone application usage to assist in medication compliance requires further investigation, longer study periods, and a larger volume of patients to determine its usefulness in this cohort. Moreover, given the generalized negative feeling about medications as elucidated by the BMQ, this at risk population represents an opportunity for treatment education through the interactive mobile phone application in future studies.

#26

CYSTOURETHROSCOPY WITH BLADDER WASHOUT FOR THE MANAGEMENT OF RECURRENT URINARY TRACT INFECTION IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction: Urinary tract infection (UTI) is the most common infection following renal transplantation and a major cause of morbidity and mortality; it is associated with the development of impaired allograft function, allograft loss and death. At our institution, we use cystourethroscopy with bladder washout (BW) as a treatment option for kidney transplant recipients with recurrent UTI.

Objective: To assess the effect of BW on the incidence of UTI.

Results: A Wilcoxon signed rank test indicated a significant (p=.0004) decrease in the number of UTIs from pre- to post-BW, for all 28 participants. In total, the group had 84 UTIs in the six months pre-BW, and 46 UTIs in the six months post-BW.

Change in the number of UTIs (the larger the number, the larger the decrease)					
	Minimum	Medium	Median	Maximum	Standard Deviation
Decrease in UTIs	-2	1	1.4	5	1.6

Conclusion: Cystourethroscopy with bladder washout is effective at reducing the incidence of UTIs in kidney transplant recipients diagnosed with recurrent UTIs.

#27

AGE AND RACIAL DISPARITIES IN IMMEDIATE BREAST RECONSTRUCTION: AN UPDATED ANALYSIS OF 48,564 PATIENTS FROM THE 2005-2011 ACS-NSQIP DATASETS

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Background: Immediate breast reconstruction (IBR) rates continue to rise, yet recent patterns based on race, age, and patient co-morbidities have not been adequately assessed.

Methods: The study performs a comprehensive analysis of IBR using the American College of Surgeons - National Surgical Quality Improvement (NSQIP) datasets with a specific focus on race and age.

Results: Overall, 48,564 patients who underwent mastectomy were included, of which 16,150 (33%) underwent IBR. Rates of IBR increased significantly over the study period from 26% of patients in 2005 to 40% in 2011 (p<0.001). Non-Caucasian race, older age (≥45 years), obesity, and presence of co-morbid conditions including diabetes mellitus (DM), current smoking, and cardiovascular disease were all negatively associated with receipt of IBR (all p<0.001). However, surgical complication rates following IBR were not predicted by Non-Caucasian race, older age (≥45 years), or presence of DM. Surgical complications rates were higher for patients that were obese, smokers, or had cardiovascular disease (p<0.001).

Conclusion: This current assessment of IBR using the ACS-NSQIP datasets demonstrates that non-Caucasian and older women (≥45 years) continue to receive IBR at lower rates despite the lack of association of added risk of surgical morbidity. Further research is needed to determine the etiologic significance that patient education, physician referral patterns, differences in cultural understanding, and access to care play in explaining this discrepancy.

#28

30-DAY READMISSION AFTER LIVER TRANSPLANTATION FOR HEPATOCELLULAR CARCINOMA

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Introduction: Liver transplantation can confer long-term benefits for patients with hepatocellular carcinoma (HCC); however, this complex procedure can be associated with high postoperative morbidity and subsequent hospital readmission. Although 30-day readmission rates are increasingly used to determine hospital reimbursement, the impact of readmission on perioperative outcomes remains unclear.

Objective: To determine whether readmission is associated with reduced postoperative mortality in patients undergoing transplantation for HCC.

Methods: We conducted a retrospective cohort study using records from the National Cancer Database. We included all adult patients diagnosed with HCC from 2003-2011 who underwent liver transplantation at a Commission on Cancer-accredited hospital in the US or Puerto Rico. Our primary outcomes of interest were 30- and 90-day mortality. Our primary independent variable was 30-day readmission, defined as unplanned readmission to the reporting hospital within 30 days of hospital discharge after liver transplant surgery. We accounted for potential confounding due to demographic, geographic, clinical, and hospital characteristics. We compared baseline patient characteristics using Wilcoxon rank sum and Chi-square tests and calculated odds ratios and 95% confidence intervals using logistic regression. Variables reaching $p < 0.20$ in univariable analyses were included in a multivariable model. Two-tailed p-values below 0.05 were considered statistically significant.

Results: Of the 8,023 patients who underwent liver transplantation for HCC, 769 (9.6%) were readmitted within 30 days of discharge. Patients who were readmitted had higher Charlson-Deyo scores and longer postoperative inpatient stays than patients who were not readmitted. Of the 7,171 patients with available mortality data, 183 (2.6%) died within 30 days of surgery.

Readmission was associated with a significantly lower risk of 30-day mortality (adjusted OR: 0.35, 95% CI: 0.15-0.79). Of the 6,988 patients who were alive at 30 days, 127 (1.8%) died within 90 days of discharge. Readmission was not significantly associated with 90-day mortality (adjusted OR: 1.63, 95% CI: 0.99-2.68).

Conclusion: For patients with HCC, readmission after liver transplantation is associated with a lower risk of mortality within 30 days of surgical discharge. These results suggest that readmission may be beneficial in managing potentially life-threatening post-operative complications in patients undergoing complex procedures such as liver transplantation.

NOTES

#29

DO ERRORS AND CRITICAL EVENTS RELATE TO LAPAROSCOPIC VENTRAL HERNIA REPAIR OUTCOMES?

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Introduction: Surgical skill assessments largely focus on procedure completeness. Understanding performance and surgical error at critical steps in the LVH repair procedure provides insight into resident decision-making and skill for feedback.

Objective: To design and validate an error and critical events checklist for simulated LVH repair procedures in order to develop competency metrics that affect procedural outcomes.

Methods: To develop the critical event checklist, resident repairs (N=7) on a LVH repair simulator were video-recorded and analyzed for errors using a previously developed framework. Errors were identified by level and type and tallied. The most frequent errors and events were used to develop the checklist. In a separate data collection, residents (N=46) performed the last two steps of an LVH procedure using the same simulator. Performance videos were reviewed using the newly developed checklist. Hernia repairs were graded based on the quality of the final repair. Statistical analyses were used to identify differences between groups on the last two steps of the procedure and to determine if there are correlations between common errors and hernia quality scores.

Results: Ten common errors were documented from reviewing videos of the first resident group: (1) instruments inserted without camera visualization; (2) skin not cut prior to inserting suture passer; (3) two sutures brought up with suture passer concurrently; (4) same hole in peritoneum used to bring up second suture; (5) failed to tie down sutures before tacking; (6) mesh not flat prior to taking; (7) lack of counter pressure during tacking; (8) tacker slips on mesh; (9) drops tool; (10) does not complete procedure on time. These errors were used to develop a checklist based on errors and critical events.

When evaluating the second group using the error checklist, we found no significant differences between groups for each common error ($p>0.1$). In addition, when we used this tool to assess competency, we noted performance on the newly developed checklist correlated with the quality of the hernia repair ($p=.05$).

Conclusion: Incorporating error analysis into assessment can provide in-depth analysis of resident performance not traditionally evaluated. Use of this newly developed tool successfully showed a significant correlation between performance errors, critical events, and hernia repair quality.

NOTES

#30

UNDERSTANDING READMISSIONS FOLLOWING OPERATIONS OF THE THYROID AND PARATHYROID GLANDS

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Introduction: The utility of readmissions as a quality measure is highly debated. In endocrine surgery, readmissions are understudied.

Objective: To describe readmissions following thyroid and parathyroid operations to define the scope of the problem and identify predictors of readmission.

Methods: Patients age ≥ 18 years who underwent a thyroid or parathyroid operation in CA or NY (2008-2011) in the inpatient setting were classified by readmission status (none, within 1 calendar month, or occurring in months 2-3). Univariate analysis was performed. Multivariable logistic regression was used to determine predictors of readmission.

Results: Among 59,558 patients, the majority were 35-75 years old, 78.8% were women, 65.0% were white, and 34.0% had surgery for thyroid cancer. Of 6,473 (10.9%) readmissions within 90 days, 1,802 (3.0%) occurred within month 1 and 4,671 (7.8%) occurred in months 2-3. The overall complication rate was 3.5%; higher (5.4%) for those readmitted within months 2-3. 73% of readmitted patients were admitted to a different hospital other than the operative hospital. In the multivariate model, thyroid cancer and black race were significant predictors of readmission. Other predictors of readmission are shown in Table 1.

Conclusion: Readmissions occurred frequently following thyroid and parathyroid operations. The majority of patients were readmitted to a hospital other than the operative institution. If readmissions are going to be reduced, and the measure used to provide meaningful information on hospital quality, then the surgical teams must be routinely notified of all readmissions. This is not currently the standard.

Table 1: Factors Associated with the Likelihood of Readmission Following Operations of the Thyroid or Parathyroid

Factor		Odds Ratio	p-value
Year	2008	-ref-	
	2009	1.01	0.838
	2010	0.9	0.014
	2011	0.86	0.001
Sex	male	-ref-	
	female	0.87	0.000
Race	white	-ref-	
	black	1.2	0.000
	other	1.12	0.004
Insurance	Medicare	-ref-	
	Medicaid	0.96	0.529
	Commercial	0.79	0.000
	Self	1.09	0.485
	Other	0.76	0.015
Number of Comorbid Conditions	0	-ref-	
	1	1.04	0.378
	2+	1.36	0.000
Previous Admission	Yes	1.64	0.000
Operation On Day of Admission	Yes	0.52	0.000
Thyroid Cancer	Yes	3.48	0.000
Multinodular Goiter	Yes	0.83	0.000
Neoplasm	Yes	0.62	0.005
Thyroiditis NOS	Yes	0.71	0.000
Graves Disease	Yes	0.68	0.007
Secondary Hyperparathyroidism	Yes	3.01	0.000

Note.

Additional covariates included in the model: State, age, ethnicity, substernal goiter, primary hyperparathyroidism, other hyperparathyroidism, thyrotoxicosis, operation type (partial thyroidectomy, total thyroidectomy, thyroidectomy with lymph node dissection, substernal goiter resection, parathyroidectomy), hospital bedsize, hospital ownership.

NOTES

#31

ASSESSMENT DURING CLINICAL YEARS CHANGES RESIDENT PERCEPTION OF SKILLS DECAY

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Introduction: As part of surgical training programs, residents have the opportunity to take time off from clinical duties to perform research. While residents may continue limited clinical responsibilities during this time, the potential reduction in surgical skill and knowledge during this period is not well understood. Furthermore, evidence is lacking surrounding clinical residents' perception of skills decay after repeated assessment.

Methods: As part of a longitudinal study, we assessed residents' confidence and perceptions of difficulty and surgical skill reduction during time away from the clinical setting. We hypothesize there will be a significant difference in perceived skill decay between returning and first-time participants.

Results: Residents (PGY 2-4) completed four simulated procedures: urinary catheterization, central line, bowel anastomosis and laparoscopic ventral hernia (LVH), with varying levels in scenario difficulty. Residents rated their confidence, perceived difficulty, and perceived skill reduction for each procedure pre- and post-simulation. Sixteen residents completed the procedures and assessments twice, and 30 residents were first-time participants that completed the procedures and assessments once. Repeated measures ANOVAs were performed to determine differences between first-time and returning participants. Perceptions of skill decay and difficulty were similar for three of the procedure pre- and post-simulation. While first-time residents were more confident in urinary catheterization than returning residents ($F(1,4)=11.44$, $p=.002$), both groups reported decrease in confidence post-simulation ($p=.009$). Urinary catheter insertion was perceived to have the least amount of reduction in skills performance ($M=0.73$, $SD=0.69$); however, it also had the largest differences in skills reduction between the groups ($F(1,42) 7.63$, $p=.008$).

This may indicate that the scenarios we developed required a higher level of decision making. Anticipating low levels of resident experience, the LVH scenario was developed with simple psychomotor tasks in which both groups perceived this scenario as less difficult post-simulation.

Conclusion: When comparing first-time participants and returning residents, we noted that repeated assessments and modification of scenario difficulty affected perceptions of skills decay and difficulty. This work supports scenario modification to achieve specific learning objectives and shows that residents may benefit from multiple assessments during the laboratory years to better understand the risks for skills decay.

NOTES

#32

FEASIBILITY AND OUTCOMES OF THIRD OR MORE METACHRONOUS MICROVASCULAR RECONSTRUCTION FOR RECURRENT INTRAORAL CANCER: THE CHANG GUNG EXPERIENCE

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Introduction: This is a robust examination of the clinical outcomes and technical feasibility of metachronous microvascular reconstruction for recurrent intraoral cancer.

Methods: A retrospective, cross-sectional analysis was performed of adult patients undergoing microvascular reconstruction of head and neck oncologic defects at Chang Gung Memorial Hospital. Patients were divided into three groups: first episode, second episode or third and more episodes of reconstruction. Demographics, operative details and clinical outcomes were compared among study groups.

Results: 3,688 flaps were performed in 3,567 patients with 3,186, 319 and 62 patients undergoing first, second or third and more episodes of reconstruction, respectively. The most common sites were tongue (36.9%) and buccal region (36.8%) with squamous cell carcinoma as the prevalent histology. The anterior lateral thigh flap was the most popular flap utilized (76.1%). Third or more episodes of microvascular reconstruction was associated with an increased incidence of flap failure (8.1%) relative to the first (1.9%, $p = 0.003$) and second episodes (1.6%, $p = 0.01$). Re-exploration for venous occlusion (9.7% vs. 3.2%), neck wound infections (53.2% vs. 35.5%) and hospital stay (28.9 ± 14.6 vs. 25.3 ± 10.1) were also significantly higher in the third or more episode group relative to the first episode group, $p < 0.05$ in all instances.

Conclusion: Metachronous microvascular reconstruction for recurrent intraoral cancer is technically feasible but associated with an increased incidence of postoperative complications. However, in appropriate candidates for repeat tumor ablation, microvascular reconstruction still remains the gold standard for attaining functional and cosmetic outcomes.

#33

MULTIDISCIPLINARY, HOSPITAL-BASED YOUTH MENTORING AND MEDICAL EXPOSURE PROGRAM POSITIVELY INFLUENCES HEALTH CARE CAREER CHOICE: THE REACH ONE EACH ONE EXPERIENCE

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Introduction: According to the National Center for Educational Statistics, under-represented minorities are among the groups most likely to leave STEM fields at higher rates than their counterparts during undergraduate studies. Many institutions of higher learning have implemented pipeline programs aimed to prepare and inspire high school and college students to select careers in health sciences with varying levels of success. Research shows that a health care workforce that mirrors the community they serve is more effective in reducing health disparities and increasing health outcomes. We hypothesize that hospital-based, multidisciplinary youth mentoring and medical exposure enhances healthcare career choice and interest in the health sciences in high school seniors.

Results: We performed a retrospective analysis of the Reach One Each One Program, a 10-week, hospital-based, multidisciplinary youth mentoring and medical exposure program for high school students. We performed a phone survey of the 26 seniors who had completed the program and graduated from high school over a 2 year period to assess the following: College enrollment/attendance, health care majors, and Premed status. There were 23 females and 3 males, and 25 (96%) of the students were African American. Twenty-four (92.3%) of the students were enrolled in college and 2/26 are scheduled to begin in the spring semester. Twenty-three (88.5%) had enrolled in a major health science degree program and 16 (61.5%) confirmed they were majoring in Pre-Med.

Demographic Profile	Number = 26	Percentage
African American	25	96.2%
Female	23	88.5%
Male	3	11.5%
Graduated High School	26	100%
Attending College	24	92.3%
Majoring in Health Science	23	88.5%
Enrolled as Pre-Med	16	61.5%

Conclusions: Multidisciplinary, hospital-based medical mentoring programs can have a positive impact on the lives and health care career decisions of aspiring under-represented high school students. Further study will be necessary to validate the most influential components needed for the success of such programs. Pipeline programs designed to expand the number of under-represented minorities, such as Reach One Each One, will facilitate better health outcomes for the most vulnerable populations in our society.

NOTES

#34

INCREASING WOMEN AND UNDER-REPRESENTED MINORITIES IN ORTHOPEDIC SURGERY: A STRATEGIC PIPELINE INITIATIVE

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Background: With US demographics rapidly changing and with increased access to care for underserved patients secondary to the Patient Protection and Affordable Care Act, the US physician workforce must be prepared to care for the needs of an evolving population. An essential facet of providing equitable care is diversity among physicians. In conjunction with a variety of orthopaedic surgeons nationwide, Nth Dimensions Orthopaedic Summer Internship (OSI) pipeline initiative exposes under-represented students, specifically women and racial/ethnic minorities, to orthopedics through a strategic, longitudinal pipeline program. The goal of this targeted programming is to measure the impact of increasing women and under-represented minorities in orthopaedic residency programs.

Results: From 2005-2012, 119 first-year US medical students participated in the OSI program, consisting of interactive sawbones workshops, an 8-week clinical and research elective with a practicing orthopaedic mentor, and professional development workshops. Fifty of the initial 119 students selected to participate in the OSI pipeline initiative between 2008-2015 applied for an orthopaedic residency in their fourth year of medical school. Application and match rates from the 7 cohorts of OSI students were examined. Of the 50 OSI students who applied for orthopaedic residency positions as fourth-year medical students, a total of 38 students matched into an orthopaedic surgery residency position, a 76% success rate for OSI graduates. Demographically, of those successfully matching into an orthopaedic residency program, 32% were female, 66% African-American, and 11% were Latino.

Conclusion: Strategic, longitudinal pipeline programs, such as Nth Dimensions OSI, which focus on increasing the number of women and under-represented minorities in specialty fields, can positively impact the numbers of students matching in competitive fields such as orthopaedic surgery.

#35

**RACIAL AND SOCIOECONOMIC DISPARITIES
IN THE USE OF LAPAROSCOPIC SURGERY
TO TREAT COLONIC DIVERTICULITIS**

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Introduction: Several studies have demonstrated favorable outcomes for laparoscopic surgery over open surgery in the treatment of a variety of surgical diseases.

Objective: To analyze the relationship between race, socioeconomic status and the use of laparoscopic surgery in diverticulitis.

Methods: A retrospective analysis of 27,710 elective surgical admissions with a primary diagnosis of diverticulitis from 2009 to 2012 was performed using data from Nationwide Inpatient Sample (NIS), Healthcare Cost and Utilization Project (HCUP), Agency for Healthcare Research and Quality. Cases were selected based on International Classification of Diseases (ICD-9-CM) diagnosis codes 562.11 Diverticulitis of colon without mention of hemorrhage and 562.13 Diverticulitis of colon with hemorrhage. All patients underwent a surgery as defined by non-endoscopic ICD-9-CM procedure codes for colorectal resection, colostomy or ileostomy formation, reversal or revision of an enterostomy, or colorectal anastomosis. Chi-square tests were used to investigate associations between laparoscopy and race, insurance status, county population, and median household income.

Results: Overall, 54.0% of the surgical cases involved the use of laparoscopy. Hispanic patients were significantly more likely to undergo laparoscopic procedures (OR 1.19, $p < 0.0004$). Black and Native American patients were less likely to have laparoscopic surgery (OR 0.68, $p < 0.0001$ and OR 0.47, $p < 0.0002$, respectively). Patients with private insurance were more likely to have a laparoscopic procedure (OR 1.72, $p < 0.0001$), whereas self-pay patients were significantly less likely to undergo a laparoscopic procedures (OR 0.58, $p < 0.0001$).

Patients from smaller communities, defined as a population less than 50,000, and those with a median household income less than \$48,000 were less likely to have laparoscopic surgery (OR 0.60, $p < 0.0001$ and OR 0.62, $p < 0.0001$).

Conclusion: These results demonstrate significant disparities in the use of laparoscopic versus open surgery to treat diverticulitis. Further research is warranted to understand the reason for these differences and make any possible changes such that more patients can reap the benefits of laparoscopic surgery.

NOTES

#36

**COMPLIANCE WITH SEQUENTIAL
COMPRESSION DEVICES IN AN ORTHOPEDIC
UNIT: A QUALITY ASSURANCE STUDY**

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Introduction: Orthopaedic surgery and trauma patients have increased risks of developing deep vein thrombosis (DVT) and pulmonary embolism (PE).

Objective: To identify the compliance rate with mechanical DVT prophylaxis (Sequential compression devices, SCD) in an orthopaedic unit and risk factors associated with non-compliance.

Methods: A quality assurance observational study in the orthopaedic unit of a Level 1 trauma center was conducted over a 4-week period (June 2015).

Results: Of 1,356 observations in 109 patients, 434 observations (32%) were fully compliant with SCD prophylaxis. Of the 922 non-compliant observations, 65.8% of patients were in bed, 10% were in a chair, 8% had TED compression stockings in place only, 2% had casts, splints or ace bandages on both legs, and 0.4% were ambulating. In 14% of cases there were no SCDs in the room despite being ordered. The morning observations had the highest compliance rate (38.3%) whereas the afternoon (23.5%) and evening observations (33.1%) had significantly less ($p < 0.0001$) compliance rates. Average patient age was 53.8 years old (range 19 – 99), 50% of patients were women, 90% were Caucasian, 5.5% African American, 0.9% Native American, 0.9% Asian, 3.7% Hispanic, and 2.8% other. 55% were admitted for the management of traumatic injuries and 45% were admitted for elective surgeries. The admitting services were: orthopaedic trauma (34%), spine surgery (24%), foot and ankle (14%), hand/upper extremity (10%), orthopaedic oncology (9%), sports (5.5%), and internal medicine (3.7%). SCD compliance in trauma patients was higher (21%) as compared to elective surgical patients (10%), $p < 0.0001$. There was a significantly higher compliance rate weekdays (33.9%) as compared to weekends (28%), $p < 0.03$.

Conclusion: In this first study evaluating SCD compliance rate in an orthopaedic surgery unit, we found a compliance rate of only 32%. Weekdays, mornings, admittance to orthopaedic service, and non-elective surgeries were associated with a significantly higher rate of SCD compliance. Anecdotal experiences on the floor also indicated that the devices are often broken and difficult to work with, and patients find them painful and aggravating. This study indicates a problem with compliance and not the modality of the prophylaxis as the cause of the inconsistent results.

NOTES

PARTIAL P65 BLOCKADE IMPROVES BONE QUALITY WITHOUT INHIBITING FRACTURE HEALING

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Introduction: The transcription factor nuclear factor kappa B (NF- κ B) plays a critical role in inflammatory and immune responses. Many studies indicate that NF- κ B antagonists hold great promise for the treatment of metabolic bone diseases. Concerns about the inhibition of the NF- κ B signaling pathway may also impair bone healing through the influence of inflammatory processes. For example, corticosteroids, NSAIDs, and bisphosphonates all interfere with inflammation and have been shown to be detrimental to fracture healing.

Methods: We investigated the effects of partial blockade of the NF- κ B signalling pathway through the use of p65 $^{+/-}$ mice.

Results: Partial ablation of the P65 subunit improves bone quality: MicroCT revealed that at age one year, p65 $^{+/-}$ mice displayed more dense bone tissues both in the lumbar vertebra and the mid-shaft of femur compared to their WT littermates. Quantitative analyses demonstrated that p65 $^{+/-}$ mice had significantly more bone tissue (BV/TV) ($p=0.0378$), a greater number of trabeculae (Tb. N) ($p=0.0089$), and less trabecular spacing (Tb. Sp) ($p=0.0066$) in their lumbar vertebra. Moreover, they had thicker cortical bone ($p=0.0352$), and higher bone mineral density (BMD) ($p=0.030$) in the mid-shaft of their femur when compared with WT mice. These data demonstrated that the inhibition of NF- κ B by partial ablation of P65 subunit improves bone quality when compared to their WT littermates. Partial ablation of the P65 subunit does not influence bone healing: At all time points after surgery, X-ray radiographs showed evidence of callus formation at the defect areas in both the p65 $^{+/-}$ mice and WT mice. No significant differences were found in either of the groups regarding the volume of callus and BMD (Fig. 1, $n=8$). H&E and von Kossa staining of cross-sections of the defect area showed evidence of newly-formed bone calcification.

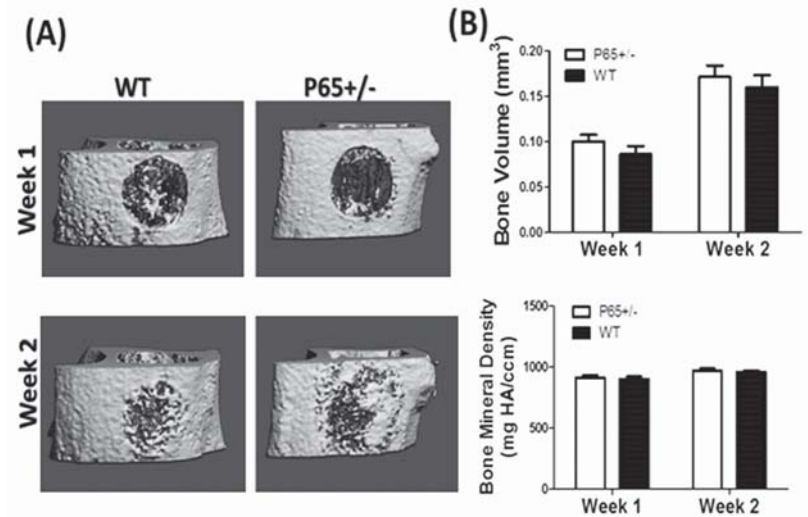


Figure 1: Quantitative evaluation of bone defect healing on tibia

All specimens in both groups showed woven bone-bridging across the defect areas; no significant differences were found between p65 $^{+/-}$ mice and WT mice regarding collagen deposition and calcification. These data indicate that the inhibition of NF- κ B by partial ablation of p65 subunit does not affect bone healing.

Conclusion: Partial p65 blockade improves bone quality without impeding fracture healing.

NOTES

CONSIDERING LONGER-TERM OUTCOMES OF CARE: RACIAL/ETHNIC DISPARITIES AMONG ADULT AND OLDER ADULT EMERGENCY GENERAL SURGERY PATIENTS AT 30, 90, AND 180 DAYS

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Introduction: Each year, racial/ethnic disparities account for >83,000 deaths and \$57 billion dollars in hospital costs, yet, despite recognition, differences in longer-term outcomes remain poorly explored. Prior work demonstrated a lack of 30-, 90-, and 180-day differences by race among universally-insured emergency general surgery (EGS) patients in the Department of Defense (DoD) healthcare system, including active/reserve/retired military and dependent-civilian personnel.

Objective: To provide a comparison ascertaining whether racial/ethnic disparities in 30/90/180-day outcomes persist within general adult (18-64 yo) and older adult (≥ 65 yo) EGS populations.

Methods: Five years (2007-2011) of longitudinal data from the California State Inpatient Database linked to AHA hospital-level variables were queried for patients (≥ 18 yo) with primary EGS diagnoses, as defined by the American Association for the Surgery of Trauma. Time-to-event survival analysis with Cox proportional-hazards models was used to assess racial/ethnic differences in mortality, major morbidity, and re-admission at 30/90/180 days among: adult, older adult, operative adult, and operative older adult patients. Models were risk-adjusted for baseline fixed-effects using inverse-probability-of-treatment weighting and propensity scores. Sub-analyses considered stratified effects by EGS diagnosis and among known disparity-related parameters, including primary insurance, volume of EGS procedures performed, percentage of minority patients managed, and COTH-teaching status.

Results: A total of 25,952 adult and 37,253 older adult patients were identified—of whom 60.3/73.6% were Non-Hispanic White, 11.5/4.4% Black, 24.4/14.2% Hispanic, 2.4/6.4% Asian, and 2.3/2.0% “other.”

Outcomes for readmission and morbidity are presented (Table); restriction to operative cases demonstrated similar trends. For both at 30/90/180 days, stratification by EGS diagnosis revealed consistently higher risks for Non-Hispanic Black versus White patients. Consideration of disparity-related parameters identified the greatest inequities at low-volume centers (lowest-tertile 30-day readmission, HR[95%CI]:1.39[1.24-1.55]) and centers managing the lowest percentage of minority patients (HR[95%CI]:1.27[1.06-1.53]).

TABLE. Risk-adjusted relative hazards over time, by race/ethnicity

	<i>Adult emergency general surgery diagnoses (18-64y)</i>							
	Non-Hispanic White		Non-Hispanic Black		Hispanic		Non-Hispanic Asian	
	Hazard Ratio (HR)	HR	95%CI	HR	95%CI	HR	95%CI	
Major morbidity								
30-day morbidity	1.00 (reference)	1.34*	1.11-1.61	0.96	0.83-1.13	0.71	0.45-1.11	
90-day morbidity	1.00 (reference)	1.20*	1.01-1.40	0.95	0.83-1.08	0.64*	0.43-0.94	
180-day morbidity	1.00 (reference)	1.25*	1.08-1.45	0.92	0.82-1.04	0.61*	0.43-0.87	
Readmission								
30-day readmission	1.00 (reference)	1.28*	1.19-1.38	1.09*	1.02-1.15	1.00	0.85-1.16	
90-day readmission	1.00 (reference)	1.18*	1.11-1.25	1.03	0.99-1.09	0.89	0.79-1.02	
180-day readmission	1.00 (reference)	1.17*	1.11-1.23	1.03	0.99-1.07	0.88	0.79-1.00	
Older adult emergency general surgery diagnoses (>64y)								
Major morbidity								
30-day morbidity	1.00 (reference)	1.28*	1.07-1.53	1.12	1.00-1.25	1.11	0.94-1.30	
90-day morbidity	1.00 (reference)	1.28*	1.10-1.48	1.03	0.93-1.13	1.07	0.94-1.23	
180-day morbidity	1.00 (reference)	1.32*	1.15-1.51	1.04	0.95-1.13	1.10	0.97-1.24	
Readmission								
30-day readmission	1.00 (reference)	1.22*	1.10-1.36	1.13*	1.06-1.20	1.09	1.00-1.20	
90-day readmission	1.00 (reference)	1.21*	1.11-1.31	1.08*	1.03-1.13	1.01	0.94-1.09	
180-day readmission	1.00 (reference)	1.19*	1.11-1.27	1.06*	1.02-1.11	0.98	0.92-1.05	

*Denotes significance, two-sided $p < 0.05$

Cox-proportional hazards (time-to-event survival analysis) models accounted for risk-adjustment using inverse-probability-of-treatment weighting based on calculated propensity scores and for clustering of patients within hospitals. **Propensity score calculation** for each endpoint included consideration of baseline fixed-effects: age, gender, CA median income quartile, primary insurance (adult only), residential population ($>$ or $<$ 1 million people), quartile of hospital EGS volume, teaching status (COTH teaching, non-COTH teaching, non-teaching), admission year, and Charlson Comorbidity Index. Models were further risk-adjusted for operative receipt and EGS diagnosis. **Inclusion** required admission/discharge prior to 06/2011, continuous follow-up for 180 post-discharge days (unless died), non-transfer index hospital discharge, and non-planned “V-code” readmission. **Major morbidity included:** pneumonia, PE, renal failure, CVA, MI, cardiac arrest, ARDS, sepsis, and severe sepsis.

Conclusion: In contrast to the lack of racial/ethnic disparities reported among universally-insured DoD patients, consideration of longer-term outcomes in the general population revealed significant differences in major morbidity and readmission at 30/90/180 days. The profound contrast between the two groups—both managed in civilian institutions—provides compelling evidence for insurance-based health-policy change. Further work is needed to identify the etiology of disparities at low-volume centers and centers managing the lowest percentages of minority patients.

#39

PHYSIOLOGICALLY-BASED, PREDICTIVE ANALYTICS USING THE HEART-RATE-TO-SYSTOLIC-RATIO SIGNIFICANTLY IMPROVES THE TIMELINESS AND ACCURACY OF SEPSIS PREDICTION COMPARED TO SIRS

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Introduction: Sepsis is a systemic response to infection that kills over 258,000 Americans each year. The potential for utilizing predictive analytics to evaluate increasingly robust big data sources remains largely unexplored. We hypothesize that using a physiologically-based model combined with a big data-driven approach incorporating the heart-rate-to-systolic-ratio significantly increases the accuracy of prediction of septic patients earlier in their course of presentation to the emergency department compared to traditional systemic inflammatory response syndrome (SIRS) criteria.

Methods: We evaluated the records of 53,313 patients who presented to the emergency department of an urban teaching hospital over a 6-month period. The analyzed dataset consisted of 22 variables, including vitals, laboratory data, demographics, and discharge diagnoses. 884 patients with a discharge diagnosis of sepsis, severe sepsis, or septic shock were identified. A novel variable HR-to-systolic -ratio was used to predict sepsis in our 2015 emergency room patient cohort. There were 884 patients with a sepsis diagnosis. The study was approved by the Morehouse School of Medicine Institutional Review Board.

Results: Three presenting variables, based only on vital signs and triage data (i.e., before lab tests were ordered) were determined to be the primary predictors of sepsis with 74% (654/884) sensitivity compared to 34% (304/884) sensitivity using SIRS criteria ($p < 0.001$), which is greater than two-fold (215%) that of prediction using SIRS criteria (vitals only) on the same population. The biggest predictor of sepsis, by far, was a new variable, the heart-rate-to-systolic-ratio (the “sepsis predictive probability index”), accounting for 66% of the overall predictive ability of the final machine learning algorithm.

Conclusion: Sepsis can be identified earlier after onset using the innovative heart-rate-to-systolic-ratio, which is powered by the HR-to-systolic ratio. Physiologically-based, predictive analytics using big-data sources improved the sensitivity and reliability of earlier identification by greater than two-fold (215%), which can be used to enhance the workup and treatment of septic patients.

NOTES

#40

THE ASSOCIATION BETWEEN RACE AND FALL-RELATED MORTALITY

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Introduction: While racial disparities have been shown in trauma mortality overall, with Blacks often having poorer outcomes compared to Whites, the potential disparities in in-hospital fall-related mortality and long-term mortality after a fall have not been explored.

Objective: To determine the incidence of fall-related mortality by race in the US, Maryland, and among patients at an urban trauma center.

Methods: National and state data on fall-related mortality was obtained from the CDC Wonder database. The fall patients admitted to a trauma center from 1997 to 2008 were then identified and compared. The trauma center database was linked to the National Death Index through 2008. Statistical analysis included chi-squared tests, multivariable logistic regression and Cox proportional hazard analysis.

Results: Age-adjusted rates of fall-related mortality per 100,000 population was significantly lower for Blacks compared to Whites in both the US (3.6 vs. 7.2) and Maryland (4.7 vs. 7.3) and was consistently lower in all age groups. For the trauma center patients, adjusted multivariable logistic regression showed lower odds of in-hospital death for Blacks compared to Whites [OR 0.7, 95% CI (0.61, 0.79)]. Additional co-variables associated with increased mortality were male sex ($p<0.001$), blood alcohol level (BAL) greater than 0.08% ($p<0.001$), and previous admission to the trauma center ($p<0.001$). Over the long-term follow-up period after discharge, Black patients were more likely to die of disease-related but not injury causes compared to Whites adjusted HR 1.28 ($p<0.001$).

Conclusion: Blacks actually have lower rates of in-hospital fall-related mortality at all ages, although they have higher risks of dying long-term from diseases. These data suggest that male sex, elevated BAL, and recurrent injury are associated with fall-related mortality. Further investigation is required on the role of hip fractures in fall-related mortality by race. There is a critical public health need to implement interventions to reduce fall injury risk within the United States.

#41

SEXUAL DIMORPHIC RESPONSE TO BLUNT TRAUMATIC HEMORRHAGIC SHOCK: AN ANALYSIS OF THE GLUE GRANT DATABASE

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Introduction: The differential response of males and females to trauma is well established in animal studies, but its demonstration in humans has proved elusive.

Objective: To determine if a sexual dimorphic response occurs in clinical blunt traumatic hemorrhagic shock.

Methods: The Glue Grant Database was examined. Male and female patients were compared. Multivariable analyses were performed to identify independent predictors of in-hospital complications that were different between sexes.

Results: 1,976 patients were included, males accounting for 66%, and females slightly older (45 ± 20 vs. 42 ± 18 , $p=0.011$). Males had higher incidence of liver disease (4.3% vs. 2.2%, $p=0.012$), smoking (28.5% vs. 21.8%, $p<0.001$), and statin use (7.8% vs. 5.3%, $p=0.039$). Females had higher incidence of asthma (7.5% vs. 3.4%, $p<0.001$) and oral contraceptive use (2.7% vs. 0.0%, $p<0.001$), with no difference in Injury Severity Score (32 ± 13 vs. 33 ± 14 , $p=0.661$) and systolic BP (109 ± 32 vs. 111 ± 31 , $p=0.271$) between sexes. Males had higher heart rate (107 ± 25 vs. 110 ± 28 , $p=0.049$), lactate (4.7 ± 2.9 vs. 4.3 ± 2.7 , $p=0.002$), multiple organ dysfunction score, MODS (4.7 ± 2.5 vs. 5.5 ± 2.8 , $p<0.001$) and APACHE-II score (28.1 ± 7.4 vs. 28.9 ± 7.3 , $p=0.025$). Males received more blood, mL (2884 ± 3563 vs. 2489 ± 2897 , $p=0.013$) and had a higher incidence of ARDS (25.5 vs. 19.7%, $p=0.005$), pulmonary embolism (4.6% vs. 2.1%, $p=0.006$), pneumonia (32.6% vs. 20.8%, $p<0.001$), and extremity compartment syndrome (3.8% vs. 0.8%, $p<0.001$).

Hospital length of stay (24±25 vs. 22±20 days, p=0.039), ICU days (13.5±13.5 vs. 11.9±10.1, p<0.001), and ventilation days (10.1±11.3 vs. 8.8±9.0, p=0.008) were longer in males. Predictors of ARDS include MODS (OR: 1.53, CI: 1.39-1.70) and ventilation days (OR: 1.14, CI: 1.08-1.20). Predictors of pulmonary embolism include statins (OR: 3.28, CI: 1.14-9.42), lactate (OR: 1.16, CI: 1.05-1.27) and heart rate (OR: 1.016, CI: 1.003-1.029). Predictors of pneumonia include APACHE-II score (OR: 1.05, CI: 1.01-1.08), MODS (OR: 1.09, CI: 1.01-1.19), ventilation days (OR: 1.06, CI: 1.01-1.12) and ICU days (OR: 1.08, CI: 1.03-1.13)

Conclusion: For similar injury severity, males have a higher MODS, complication rates, ICU days and hospital stay than females, suggesting a superior female response to blunt traumatic hemorrhagic shock. How this clinically relevant sexual dimorphic response may be modulated to improve survival deserves further investigation.

NOTES

#42

THE MEASURED EFFECT OF CO-MORBIDITIES ON BURN INJURY MORTALITY

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Introduction: The ability to better prognosticate burn injury outcome is challenging. Historically, most centers use the Baux or revised Baux score to help prognosticate burn outcome, but the weighted contribution of co-morbidity on burn mortality has traditionally not been accounted for, nor adequately studied. We therefore sought to determine the effect of co-morbidities, using the Charlson co-morbidity index (CCI) on burn mortality.

Methods: A total of 7,640 patients were included in this study.

Results: Overall survival rate was 96%. Forty percent of our burn cohort had at least one co-morbidity. There was a linear increase in the likelihood of death with an increase in CCI. The logistic regression model for mortality outcomes identified four statistically significant variables: age, TBSA, inhalational injury and the presence of co-morbidities (OR = 1.59 for each 1 point increase in CCI; 95% CI 1.44-1.76). The unadjusted LA50 was 53% for the entire cohort. The unadjusted regression model for each age group after showed LA50s of 81%, 55% and 30% for 0-18, 19-64 and over 65 years age categories, respectively. After fully adjusting for all significant covariates, including co-morbidities, the resulting LA50s were 64% for the 0-18 age group, 43% for the 19-64 age group, and 22% for the ≥65 age group.

Table. Effect of prognostic factors on LA50^a

	Unadjusted	Partially Adjusted for inhalation injury and mechanism	Fully Adjusted ^b
Overall	53%	45%	35%
Age			
≤ 18 years	81%	78%	64%
19-64 years	55%	50%	43%
≥ 65 years	30%	23%	22%

^a Lethal TBSA burn at which 50% of the cohort will succumb from the burn injury.

^b Adjusted for inhalation injury, burn mechanism, and preexisting comorbidities.

Conclusion: Pre-existing co-morbidities have a significant effect on burn injury mortality in all age groups, particularly the younger burn population. The measured effect of co-morbidities in the > 65 yr age cohort was mitigated by the co-linearity between age and co-morbidities. The inclusion of CCI is imperative so as to better prognosticate burn outcome and help guide expectations and resource utilization.

NOTES

#43

A PRELIMINARY STUDY EVALUATING RACIAL DISPARITIES WITH RESPECT TO PATIENTS PRESENTING FOR SPORTS MEDICINE SURGERY

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Introduction: Health disparities are known to exist in orthopaedic surgery. In recent years, several studies have identified the presence of racial disparities with regard to joint and spine surgery. Specifically, access to care and patient outcomes have been shown to differ between White and Black patients. Similarly, studies have shown the existence of significant disparities between patients with different insurance types in total joint arthroplasty and spine surgery. Currently, there are no studies evaluating the existence of racial or insurance disparities for sports medicine surgery.

Objective: To evaluate the existence of these disparities in sports medicine preoperative findings.

Methods: Preoperative patient-reported information was gathered prospectively using the clinical outcomes platform Orthopaedics Minimal Data Set (OrthoMiDaS) Episode of Care (OME). Metrics included pain, function, patient satisfaction, activity level, and Veteran's Rand-12 (VR-12) physical component score (PCS) and mental component score (MCS). Each joint-specific metric is reported as a score from 0-100, with 0 being poor and 100 being excellent. Due to low numbers, only White/Black trends were investigated.

Results: Black patients presented with lower mean scores for all but one of both knee and shoulder metrics. No trends could be investigated for hip patients. Patients were also grouped by insurance type independent of race. In all joint cohorts, Medicare patients had the lowest scores in most metrics, followed by Medicaid patients and self-pay patients, respectively. Mean scores for patients with commercial insurance exceeded scores for every other insurance type in most measurements.

Table 1. Scores for patient-reported joint-specific metrics by race.

	# of Patients	Pain	Function	Patient Sat.	Act. Lvl.	PCS	MCS
Hip	80	45.6 ± 18.3	57.7±19.3	-	49.0 ± 23.0	31.9 ± 9.9	51.3 ±11.1
White	79	45.9 ± 18.2	58.1±19.1	-	48.2	32.0 ± 9.9	51.2 ± 11.1
Black	1	17.5	25.2	-	100	21	64.1
Knee	320	58.5 ± 21.5	61.3±17.8	34.3 ± 19.9	46.4 ± 35.5	35.9 ± 10.3	54.0 ± 10.7
White	284	58.8 ± 20.9	62.1±17.0	34.4 ± 19.7	46.3 ± 35.4	35.9 ± 10.3	54.2 ± 10.8
Black	36	55.2 ± 25.9	55.3±22.5	34.2 ± 21.8	47.5 ± 37.3	35.7 ± 10.2	52.2 ± 10.0
Shoulder	192	46.0 ± 23.1	47.7 ± 21.6	22.7 ± 23.3	39.2 ± 26.6	37.0 ± 10.3	51.3 ± 10.8
White	176	46.2 ± 22.6	47.9 ± 21.8	23.1 ± 23.1	39.4 ± 27.0	37.1 ± 10.5	51.2 ± 11.0
Black	16	44.0 ± 28.9	45.1 ± 19.6	17.5 ± 26.2	36.0 ± 23.6	36.4 ± 7.9	51.6 ± 8.7

Table 2. Scores for patient-reported joint-specific metrics by insurance status.

	# of Patients	Pain	Function	Patient Sat.	Act. Lvl.	PCS	MCS
Hip	82	45.2 ± 18.3	57.4 ± 19.2	-	48.7 ± 23.0	31.6 ± 10.0	51.4 ± 11.1
Commercial	66	47.1 ± 18.6	59.6 ± 18.5	-	51.2 ± 22.7	32.6 ± 10.0	53.0 ± 10.1
Medicaid	10	37.5 ± 13.6	51.5 ± 20.0	-	44.0 ± 23.2	27.9 ± 5.9	44.7 ± 14.1
Medicare	4	28.75 ± 15.9	36.5 ± 17.8	-	20	22.3 ± 12.4	44.5 ± 14.3
Other	2	51.3 ± 19.4	55.8 ± 24.5	-	25.0 ± 7.1	33.3 ± 14.9	44.9 ± 4.3
Knee	347	59.3 ± 21.3	61.9 ± 17.7	34.6 ± 20.3	45.8 ± 35.2	36.01 ± 10.1	54.0 ± 10.5
Commercial	286	61.3 ± 20.3	63.3 ± 16.3	35.4 ± 19.7	46.4 ± 35.0	36.94 ± 10.1	54.6 ± 9.7
Medicaid	33	50.9 ± 27.9	54.4 ± 26.6	30.5 ± 25.6	53.7 ± 36.0	33.9 ± 10.1	49.3 ± 14.7
Medicare	13	48.3 ± 18.0	56.3 ± 12.0	29.3 ± 19.0	11.7 ± 21.2	27.4 ± 7.5	55.5 ± 11.5
Self-pay	12	48.6 ± 19.8	55.7 ± 20.8	30.7 ± 21.9	17.5 ± 26.4	29.5 ± 7.3	53.5 ± 11.9
Other	3	50.0 ± 10.0	59.6 ± 4.6	39.6 ± 9.5	-	34.3 ± 3.6	46.1 ± 8.8
Shoulder	202	46.2 ± 23.2	47.7 ± 21.8	22.5 ± 23.1	39.6 ± 26.3	37.0 ± 10.3	51.1 ± 11.1
Commercial	144	49.1 ± 22.9	50.4 ± 22.6	22.6 ± 21.7	38.9 ± 26.5	38.8 ± 10.2	51.8 ± 11.3
Medicaid	20	35.3 ± 23.7	41.9 ± 19.0	21.0 ± 28.3	38.5 ± 24.9	33.0 ± 7.2	48.0 ± 13.2
Medicare	25	40.4 ± 21.3	36.6 ± 15.6	26.4 ± 27.1	54.0 ± 21.3	32.5 ± 9.9	51.3 ± 8.6
Self-pay	4	31.67 ± 19.9	42.3 ± 17.3	7.5 ± 9.6	1	27.8 ± 12.4	53.8 ± 8.1
Other	9	45.9 ± 26.0	50.3 ± 21.9	21.1 ± 26.7	67	34.2 ± 10.7	45.6 ± 10.9

Conclusion: Preliminary data suggest the existence of White/Black and insurance disparities in sports medicine surgery, although the trends for racial disparities are somewhat more compelling. Preliminary analysis found statistical significance only for knee function, however. This study was only able to evaluate trends. Although data capture was 100%, the low amount of patient data collected thus far precludes us from conclusively stating the existence of racial or insurance disparities in patients presenting for sports medicine surgery. However, our preliminary data are interesting. Our next steps will be to expand our sample size and analyze data on postoperative measures.

#44

EXAMINING THE ROLE OF FOLLOW-UP SKELETAL SURVEYS IN NON-ACCIDENTAL TRAUMA

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Introduction: Non-accidental trauma (NAT) represents a significant cause of morbidity in children. Diagnosing NAT can be challenging and often includes a series of radiographs, known as a skeletal survey, to identify bony abnormalities indicative of abuse. At Carolinas Healthcare System, a follow-up survey is repeated in two weeks to assess for possible injuries previously not revealed. We examined whether the extensive nature of this imaging is necessary and whether follow-up surveys are warranted.

Methods: We queried our trauma database to identify cases of suspected NAT in children less than 4 years old (2013-2014). Initial and follow-up skeletal findings, injury type, and radiation exposure were examined.

Results: Of 110 patients, 87 (79%) had positive initial findings. In patients with negative initial imaging, no new injuries were revealed on follow-up. In all follow-up surveys, there were no new clinically relevant findings. Characterizing by injury demonstrated the skull, femur and ribs to be the most prevalent types of injury. No patients had pelvic injuries, while spinal injuries accounted for approximately 1% of cases. Conversely, pelvic images result in the greatest radiation exposure (70 mrem), followed by lumbar and c-spine films (30 and 27 mrem).

Conclusion: These findings suggest that routine follow-up skeletal surveys are unnecessary with negative initial imaging or if needed at all. Furthermore, as pelvic and spinal injuries are uncommon, the radiation exposure to these areas may warrant their exclusion from initial skeletal surveys unless clinical examination indicates otherwise.

#45

THIOREDOXIN-1 OVEREXPRESSION IN MICE DECREASES SEPSIS-INDUCED CARDIAC FAILURE

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Introduction: Sepsis is the leading cause of death in intensive care units across the U.S. A major theory behind multi-organ dysfunction syndrome is that an imbalance exists between reactive oxygen species and the antioxidant systems that maintain the cellular redox state. Thioredoxin-1 (Trx-1) is a key 12kDa multifunctional protein that balances cellular redox state.

Objective: To determine the effects of Trx-1 overexpression on the hearts of septic mice and explore the mechanism by which Trx-1 may prevent heart failure.

Methods: Mice were divided into wild type (WT) sham, WT CLP (cecal ligation and puncture), Trx-1Tg/+ sham, and Trx-1Tg/+ CLP. A preoperative echocardiogram was performed on all mice and CLP surgery was performed to create severe sepsis. After 24h, a postoperative echocardiogram was performed before heart collection for immunohistochemical or western blot analysis. A separate group of WT and Trx-1Tg/+ animals underwent Evans blue dye injection 3h prior to termination at 24h post-CLP. Hearts were evaluated for vascular leakage.

Results: Echocardiogram revealed preserved cardiac function postoperatively in Trx-1Tg/+ CLP mice compared to WT CLP mice (ejection fraction 67.03% vs. 53% and fractional shortening 36.32% vs. 26.68%, $p < 0.05$). Western blot analysis revealed increased expression of Trx1 (24.88 fold), HO1 (3.94 fold), and also increased nuclear translocation of Trx-1 (20.31 fold) in Trx-1Tg/+ CLP hearts compared to WT CLP ($p < 0.05$). Western blot analysis revealed a significant decrease in levels of TXNIP (2.31 fold) and oxidative stress indicator 3-nitrotyrosine (1.53 fold) in Trx-1Tg/CLP hearts compared to WT CLP ($p < 0.05$).

Immunohistochemical analysis of heart tissue revealed decreased 4-HNE, apoptosis, and cardiovascular leakage in Trx-1Tg/+ CLP hearts vs. WT CLP ($p < 0.05$).

Conclusions: Our results show that Trx-1 is a powerful antioxidant that can protect the heart from damage at the cellular level and promote significantly improved cardiac function in severe sepsis. Trx-1 may be a beneficial therapeutic target in severe sepsis to help reduce morbidity and mortality for patients.

NOTES

#46

A NOVEL TISSUE ENGINEERED APPROACH TO OSTEOARTHRITIS TREATMENT

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Introduction: Currently there is no cure for osteoarthritis (OA), with treatment aimed at symptom relief and improved function. Muscle-derived stem cells (MDSCs) have been shown to exhibit long-term proliferation, high self-renewal, and can undergo chondrogenic differentiation when cultivated in chondrogenic medium *in vitro* and can differentiate into chondrocytes and repair injured AC *in vivo*. MDSCs retrovirally transduced to express chondrogenic proteins (BMPs) differentiate into chondrocytes and enhance cartilage repair *in vivo*. Gene therapy is a promising approach to promote the chondrogenic potentials of MDSCs for AC repair; however, its utilization in clinical applications is much further down the road. We have developed a unique sustained growth factor delivery platform comprised of native heparin and a synthetic polycation incorporated with BMP2 (BMP2 coacervate) which can sustain deliver BMPs to stimulate the chondrogenesis of MDSCs for AC repair.

Methods: MDSC were stimulated *in vitro* with a single dose of free BMP2, multi-dose BMP2, BMP2 coacervate, coacervate alone (vehicle only), or in the absence of BMP2 and coacervate (control). BMP2 effects on MDSCs were evaluated by RT-PCR. 20 μ l of a MIA solution was injected into the knee joint of C57B6 mice to induce osteoarthritic lesions. Two weeks after MIA injection, 20 μ l of PBS (PBS control), 1×10^6 MDSCs with 1 μ g of free BMP2 (MDSC-free BMP), or MDSCs with 1 μ g BMP2-coacervate (MDSC-BMP coacervate) were injected into the knee joints of the OA injured mice. After 4 weeks, macroscopic and histologic evaluations of cartilage regeneration were conducted.

Results: mRNA expression of Aggrecan and Col2A were significantly higher in each BMP2 group compared to control or vehicle only ($p < 0.05$). Multi-dosage free BMP2 demonstrated significantly higher Aggrecan expression compared to single-dose free BMP2 ($p < 0.05$).

Col2A and aggrecan expression in the BMP coacervate group was superior to both single and multi-dose free BMP2 delivery ($p < 0.05$) (Fig 1A). Histologic examination demonstrated superior cartilage repair and integration in the BMP2 coacervate group (Fig. 1B).

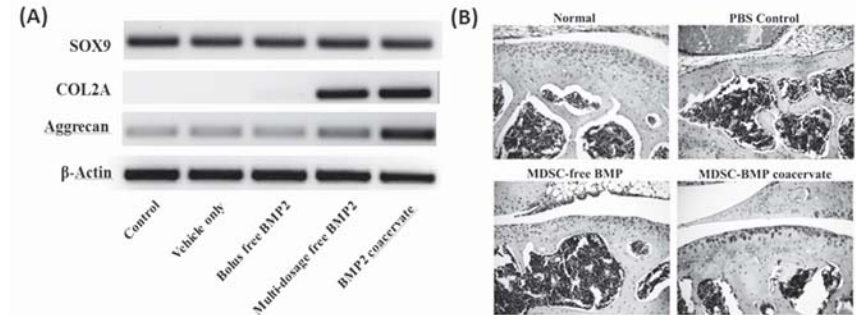


Figure 1. (A) *In vitro* MDSCs chondrogenesis following BMP2 delivery via RT-PCR; (B) Histological analysis of cartilage regeneration in MIA-induced OA via Safranin-O staining.

Conclusion: This study demonstrates that sustained growth factor delivery (BMP2) is a potential therapeutic option for muscle-derived stem cell based cartilage regeneration for the treatment of osteoarthritis.

NOTES

#47

EFFECT OF VORINOSTAT ON NOTCH AND STAT3 PATHWAY IN HEPATOCELLULAR CARCINOMA

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Introduction: Histone deacetylase (HDAC) plays an important role in the regulation of gene expression, thus controlling various cellular activities such as cellular proliferation and differentiation. Inhibitors of HDACs are a potential therapy for cancer treatment. Vorinostat, a histone deacetylase inhibitor, has been shown to have antihepatocellular carcinoma (HCC) efficacy in preclinical studies. However, the molecular mechanism is not well defined. Notch signaling is highly active in HCC and inhibition of Notch reduces HCC proliferation. Therefore, we sought to investigate the effect on Notch1 pathway expression following vorinostat treatment. We hypothesize that vorinostat treatment will result in inhibition of HCC cellular proliferation through reduction of Notch. We sought to further delineate the mechanism of action of vorinostat in HCC and identify potential targets to enhance vorinostat activity.

Methods: Human HCC cell lines, Huh-7 and Hep3B, were treated with various concentrations of vorinostat (0-10 μ M). Cell proliferation was determined by MTT assay and colonogenic assay. Cell lysates were analyzed via Western blotting for Notch signaling pathway, signal transducer and activator of transcription 3 (STAT3), extracellular signal-regulated kinase 1/2 (ERK1/2), and AKT protein expressions.

Results: Following treatment with vorinostat, MTT results showed a significant (<0.05) concentration and time-dependent reduction of cellular growth at 48, 72, and 96 hrs. Vorinostat treated cells exhibited reduced colonies compared to control treatment. Western analysis showed reduction in Notch1, Notch2, but not the Notch3 protein levels in vorinostat treated cells. Downstream of Notch signaling pathway members such as HES-1, cyclinD1, and survivin were also reduced. In addition, there was a reduction in the levels of AKT and ERK1/2. Interestingly, the level of total STAT3 as well as phosphorylated STAT3 was not changed.

Conclusion: Vorinostat inhibits specifically the Notch, AKT, and Raf-1 pathways but not the STAT3 pathway. We believe that STAT3 may lead to cancer cell progression and reduce the cytotoxicity effect of vorinostat in HCC. Therefore, a combination of vorinostat and STAT or Notch inhibition may be a strategy for HCC treatment.

NOTES

#48

**ANALGESIC EFFICACY OF LAPAROSCOPIC-
GUIDED TRANSVERSE ABDOMINIS
PLANE BLOCK USING LIPOSOMAL
BUPIVACAINE IN BARIATRIC SURGERY**

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Introduction: Postoperative pain management is a major contributor to speed of recovery and hospital discharge in bariatric surgery. Local anesthetic agents are of particular interest: they are non-sedating and have been shown to improve postoperative pain control and reduce hospital length of stay.

Objective: To evaluate the efficacy of laparoscopic-guided transverse abdominis plane (TAP) block using liposomal bupivacaine in bariatric surgery.

Methods: The Bariatric Surgery Service Database was queried for all patients undergoing laparoscopic Roux-en-Y gastric bypass or laparoscopic sleeve gastrectomy from January 1, 2012 through December 31, 2014. Patients were divided into those who received liposomal bupivacaine intra-operatively (Liposomal Group) and those who did not (PCA Group). Demographic data was collected. Measured outcomes included postoperative narcotic use, hospital length of stay, anti-emetic use, and subjective pain scales. Logistic regression was performed to determine the contribution of liposomal bupivacaine to hospital length of stay, postoperative pain, and amount of narcotic used in the postoperative period.

Results: The liposomal bupivacaine group consisted of 233 patients, and the PCA group consisted of 243 patients. Demographic data between the liposomal and PCA groups were similar. The liposomal group had significantly less narcotic use than the PCA group as measured in terms of IV morphine equivalents (44.5 mg vs. 78.0 mg, $p=0.00001$). This did not translate into a reduction in hospital length of stay in the liposomal group (68.4 hours vs. 74.11 hours, $p=0.0580$).

Anti-emetic use was significantly higher in the liposomal group within the first 24 hours after surgery (1.7 administrations vs. 1.1 administrations, $p=0.0000$). Limitations: Data collection errors inherent to large database registries, retrospective study design, the exclusion of open bypass surgeries, and lack of randomization.

Conclusion: TAP block using liposomal bupivacaine, despite leading to less narcotic requirements, does not affect outcome and should be abandoned in bariatric surgery patients.

NOTES

#49

SURGICAL OUTCOMES OF CERVICAL NEUROBLASTOMA IN CHILDREN: A DIFFERENT BEAST ALTOGETHER

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Introduction: Neuroblastoma (NB) arises from the sympathetic nerve chain between the neck and pelvis. Studies show that thoracic and pelvic NBs possess more favorable biological and clinical characteristics, but little has been described regarding the characteristics of cervical NB which represents only 2-4% of all NBs. Currently, it is accepted practice to resect as much tumor as is safely possible without injuring adjacent vital structures.

Objective: To identify the characteristics of cervical neuroblastic tumors and to determine the effect of extent of resection on rate of complication and overall survival in these patients.

Methods: We performed a retrospective review of patient records to collect location of tumor, age at diagnosis, age at resection, extent of resection, chemotherapy course, INSS stage, INPC histological classification, and MYCN amplification.

Results: At our institution over a 15-year period (1/1990-2/2015), 13 out of 325 patients (4%) were found to have cervical neuroblastic tumors, neuroblastoma in 10 (77%), ganglioneuroblastoma (GNB) in 1 (7.7%), and ganglioneuroma (GN) in 2 (15.3%) [Table 1]. The median age at diagnosis was 5 months (range 1 mo - 15 yrs). Only one patient of the 10 with NB was over 12 months old. There were no tumors with MYCN amplification and all but one had favorable histology. Resection was performed in 6/10 NB patients (5 gross total resection [GTR] and 1 partial resection) while the other 4 received biopsy followed by chemotherapy or observation. After GTR, one NB patient required prolonged intubation and tracheostomy and another developed eyelid ptosis. Also post-GTR, the GNB patient developed Horner syndrome. The 2 GN patients underwent GTR as well, which resulted in permanent injury to 5 cranial nerves in one and eyelid ptosis in the other. At latest follow-up, there has been 1 death secondary to relapsed disease.

Table 1	Age (median/range)	Stage	Risk	Favorable INPC	Chemo	Resection	Complication
Neuroblastoma (n=10)	5 (1-180 mo)	Stage 2 – 5 Stage 3 – 1 Stage 4 – 3 Stage 4S – 1	Low – 1 Int – 8 High – 1	9	9	GTR – 5 Partial – 1 Biopsy – 4	2
Ganglioneuroblastoma (n=1)	48 mo	Stage 2 – 1	Low – 1	1	1	GTR – 1	1
Ganglioneuroma (n=2)	42 (18-66 mo)	n/a	n/a	2	1	GTR – 2	2

Stage (INSS); INPC: International Neuroblastoma Pathology Classification; GTR: Gross Total Resection

Conclusion: Similar to other extra-abdominal neuroblastic tumors, cervical neuroblastic tumors represent favorable lesions with good outcomes. In our study, there was superb survival regardless of extent of tumor resection. Based on our data, given the high incidence of complications following GTR, we advocate a minimally aggressive surgical approach in treating patients with cervical neuroblastic tumors.

NOTES

#50

**ROUTINE POST-OPERATIVE ESOPHAGRAM
IS NOT NECESSARY AFTER REPAIR OF
ESOPHAGEAL ATRESIA**

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Introduction: Esophagrams are routinely performed following repair of esophageal atresia (EA) with or without tracheoesophageal fistula (TEF). A normal esophagram is often obtained prior to initiation of oral feeds to detect an anastomotic leak or stricture. However, its utility in all EA repairs has not been validated. We hypothesized that routine post-operative esophagram is not necessary in the evaluation of asymptomatic patients.

Methods: All infants who underwent EA repair from 2003-2014 at a single pediatric hospital were retrospectively reviewed. EA repair was performed in 105 infants (2 type A, 103 type C) during our study period. Seventy-seven percent of patients were repaired on day of life 1-3. Postoperative esophagram was performed in 99% of patients on post-operative day 7.9 (± 5.2).

Results: Eight patients (7.6%) were diagnosed with a leak on esophagram. Four showed clinical signs of a leak (pneumothorax, pleural effusion, or respiratory distress) prior to esophagram and required an intervention (1 stent, 1 reoperation, and 2 tube thoracostomies). Four patients without clinical signs of a leak had a contained leak on esophagram. Repeat esophagram 613 days later showed resolution. No intervention was required in patients with a contained leak. Anastomotic narrowing was identified on initial postoperative esophagram in 62 (59%) patients, 17 (27%) of whom required later dilation, suggesting that narrowing on initial post-operative esophagram does not predict the development of a symptomatic stricture later in life. Of the 43 (41%) patients who did not have a narrowing on initial esophagram, 13 (30.2%) required dilation later in life.

Conclusion: Routine post-operative esophagram in patients undergoing an EA repair is not necessary. Patients with an anastomotic leak that requires intervention manifest clinical or radiologic signs prior to diagnosis on esophagram. Symptomatic stricture requiring dilation later in life was not predicted by the initial esophagram. Therefore, routine post-operative esophagram is not necessary in the evaluation of post-operative EA repair to identify clinically significant leaks or to predict the development of a symptomatic stricture.

NOTES

#51

EVALUATION OF RISK FACTORS AND SURVIVAL OUTCOMES IN BLACK FEMALES WITH INVASIVE BREAST CARCINOMA

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Introduction: Every year, approximately 29,000 Black females are diagnosed with breast cancer. Mortality remains higher compared to White females.

Objective: To assess the relationship between risk factors and survival outcomes in a large cohort of Black females diagnosed with breast cancer at an urban academic institution.

Results: Our inclusion criteria resulted in 1,372 patients from the registry. The most common diagnosis was infiltrating ductal carcinoma (93.9%). Of those, the mean age at diagnosis was 57.9 years, 93.4% of patients had an income level of 3 (\$35,000-\$74,999) or below, 42.8% had a smoking history, 15.3% were illicit drug users, 46.4% were alcohol users, and 78% had a history of oral contraceptive use. Regarding risk factors and survival at 5 years: smoking (48.4% survival vs. 51.5% no survival, $p=0.00$), alcohol (45% survival vs. 55% no survival, $p=0.970$), illicit drug use (47.9% survival vs. 52% no survival, $p=0.526$), and OCP use (52.8% survival vs. 47.3% no survival, $p=0.103$). Smoking was the only significant finding as shown above. On multivariate analysis, surgical intervention was the most important factor in improvement of survival at 5 years ($p=0.01$). The surgical interventions evaluated were breast conserving therapy (lumpectomy or partial mastectomy followed by radiation) and mastectomy (total/simple, radical, or modified radical). Treatment options included chemotherapy, hormone therapy, and surgical intervention. On multivariate analysis, it was found that after 5 years, non-smokers were more likely to be disease free ($p=0.004$).

Conclusion: Our analysis demonstrates that among Black females, smoking proved to be a significant contributor to mortality. Educating breast cancer patients on smoking cessation should be incorporated into counseling.

#52

ESCHERICHIA COLI 07:K1 CE10 IS A SUBSTANTIAL FIRST COLONIZER IN NEONATAL RATS AND PROTECTS FROM NEC

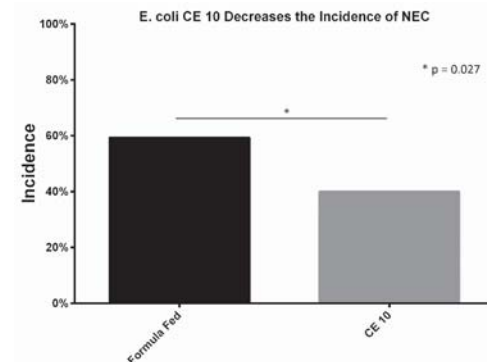
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Introduction: The microbiota of the early post-natal gut plays a vital role in the pathogenesis of necrotizing enterocolitis (NEC), a severe gastrointestinal disease that is often seen in premature infants. Whereas some bacteria may act as opportunistic pathogens when they colonize the gastrointestinal tract, others might be innocuous and even protective in nature. In our previous studies, the presence of *E. coli* CE10 in 4-day-old rats had negative correlation with NEC.

Objective: To test the hypothesis that CE10 is capable of becoming a first colonizer in neonatal rats and protects them from NEC.

Results: *E. coli* CE10 established itself as a first colonizer in all animals that received it. FF/H alone caused NEC in 60% of neonatal rats. *E. coli* CE10, when given with the first feed, reduced the incidence of NEC to 39% ($p=0.027$). FF/H yielded a higher rate of apoptosis than *E. coli* CE10 via TUNEL staining.

Conclusion: *E. coli* 07:K1 CE10 is an efficient first colonizer in neonatal rats. CE10 significantly reduced the incidence of NEC. Bacteria similar to this strain may be used for the prophylaxis and treatment of NEC.



#53

POST-OPERATIVE OUTCOMES AMONG OBESE AND NON-OBESE CHILDREN UNDERGOING CHOLECYSTECTOMY

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Introduction: Obesity in children is an epidemic in the U.S. Laparoscopic cholecystectomy procedures, which are routinely performed, are becoming more common among children with high BMI.

Objective: To evaluate the impact of obesity in children and adolescents on operative factors and outcomes, as well as morbidity and postoperative complications.

Methods: A cross-sectional analysis was conducted using the 2012 American College of Surgeons National Surgical Quality Improvement Program Pediatric (ACS NSQIP Pediatric) data. Data from 2,148 U.S. pediatric patients between the ages of 10 and 17 undergoing laparoscopic cholecystectomy were stratified by obesity status (BMI ≥ 30 kg/m² vs. BMI < 30 kg/m²).

Results: In an analytical sample of 2,185 cholecystectomies, 75.8% of subjects were female, 38% were obese, and the mean age was 15 years (SD = 2.0 years). When stratifying by obesity status, more obese females (40.6%) than obese males (30.6%) undergo the procedure ($p < .001$). The mean operating time for the non-obese population was 77.7 minutes and 88.5 minutes for obese patients ($p < .001$). When looking at prolonged operating time (75th percentile), more obese patients than non-obese counterparts had prolonged operating time (75th percentile; $p < .001$).

There were no statistically relevant differences in the total length of stay between both groups ($p = .147$). In regards to post-operative complications such as renal, neurological, cardiac and respiratory complications, all rates were below 1% and not statistically significant.

Table 1. Individual-level characteristics of children ages 10-17 undergoing a cholecystectomy procedure; N = 2,148

Age, mean (SD)	15.0 (2.0)
Gender, n (%)	
Females	1, 629 (75.8)
Males	519 (24.2)
Obese (BMI >30 kg/m ²), n (%)	820 (38.2)
Race/ethnicity, n (%)	
White Non-Hispanic	1, 306 (60.8)
Black Non-Hispanic	322 (15.0)
Hispanic	392 (18.3)
Other	243 (11.3)

Table 2. Post-operative outcomes by obesity status in children ages 10-17 undergoing a cholecystectomy procedure; N = 2,148

	Non-obese (BMI <30 kg/m ²)	Obese (BMI >30 kg/m ²)	p*
Gender, n (%)			
Female	968 (59.4)	661 (40.6)	p < .001
Male	360 (69.4)	159 (30.6)	p < .001
Procedure Characteristic			
Emergent Case (v. Elective or Urgent), n (%)	195 (58.6)	138 (41.4)	p = .182
Inpatient Setting, n (%)	724 (59.6)	491 (40.4)	p = .015
Total operation time (min.), mean (SD)	77.7 (42.3)	88.5 (39.4)	p < .001
Length of time-to-OR (hrs.), mean (SD)	1.2 (10.3)	1.7 (13.6)	p = .321
Length of hospital stay (days), mean (SD)	2.1 (2.9)	2.3 (3.6)	p = .147
Surgical Outcomes, n (%)			
Prolonged total operation time (min, ≥ 75 th percentile)	269 (51.0)	259 (49.1)	p < .001
Prolonged time-to-OR, (hrs. ≥ 75 th percentile)	242 (57.4)	180 (42.7)	p = .035
Prolonged length-of-hospital-stay (days, ≥ 75 th percentile)	215 (57.5)	159 (42.5)	p = .057

*p < 0.05 significance in bold

Conclusion: Obese children have longer operative time and length of time to the operating room. However, this does not result in increased complications. The costs associated with caring for obese children undergoing cholecystectomy may be higher due to longer preoperative and intraoperative times.

#54

GENERAL SURGERY CONSULTATION AFTER BONE MARROW TRANSPLANT

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Introduction: Bone marrow transplant for the treatment of patients with hematologic malignancies is increasing in frequency.

Objective: To better understand the complications of bone marrow transplant which lead to general surgery consultation. Improvements in the understanding of complications requiring general surgery consultation can inform management decisions.

Methods: We performed a retrospective review of 1,124 patients who underwent bone marrow transplant at the Dana-Farber/Brigham and Women's Cancer Center from 2006 to 2011. All instances of general surgery consultation which occurred after bone marrow transplant were identified and cataloged.

Results: General surgery was consulted for 178 patients, with more than one consult per patient resulting in 213 consultations. The most common reasons for consultation were abdominal (64%), cutaneous (16%) and perianal (7%). Median time from bone marrow transplant to surgical consultation was 10 months. 103 (48%) of consultations led to operative interventions, with a 30-day mortality of 14%. Forty-one patients (20%) died within 30 days of consultation; 12 of these 41 patients underwent surgery.

Conclusions: This review of general surgery consultations after bone marrow transplant is the largest to date. 20% of patients died within 30 days of surgical consultation, suggesting the need for surgical consultation is a marker of severity of disease after bone marrow transplant. Ongoing study of patients undergoing bone marrow transplant will further improve our understanding of the indications for consultation and may improve management strategies for complications requiring surgical intervention. Furthermore, our database contains comprehensive clinical characteristics of each patient, thus enabling in-depth analysis of factors contributing to the need for general surgery consultation and outcomes.

#55

CIGARETTE SMOKE INDUCES MICRORNA-145 DYSREGULATION DURING ESOPHAGEAL CARCINOGENESIS

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Introduction: Cigarette smoking has been linked to development of esophageal cancers; however, the mechanisms by which cigarette smoke mediates esophageal carcinogenesis have not been fully elucidated. In this study we utilized a novel *in-vitro* model system to examine microRNA (miR) alterations during tobacco-induced esophageal adenocarcinogenesis.

Objective: To characterize microRNA alterations seen during cigarette smoke-induced esophageal adenocarcinogenesis.

Methods: Immortalized esophageal squamous (Het-1A), Barrett's epithelia (CP-A, CP-C; non-dysplastic metaplasia and high-grade dysplasia, respectively), and esophageal adenocarcinoma (EAC) lines (NCI-EsC1, NCI-EsC2, NCI-EsC3, OE-19, and OE-33) were cultured with or without cigarette smoke condensate (CSC) under relevant exposure conditions. Micro-array and qRT-PCR techniques were used to identify miRs modulated by CSC exposure in cell lines, with correlative analysis of primary EAC specimens and paired normal esophageal tissues.

Results: Sixty miRs were significantly induced, whereas 21 were repressed following five-day CSC exposure. Sixteen of the induced miRs are oncomirs, including miR-21 and miR-372, both previously shown to be up-regulated in esophageal cancers. Fourteen of the repressed miRs are putative tumor suppressors, including miR-487b and miR-217, which are epigenetically repressed in lung and esophageal cancers and silenced in normal respiratory and esophageal epithelia by cigarette smoke. Twenty-seven are novel miRs with unknown roles in human cancers. Of note, miR-145 was repressed in immortalized esophageal squamous epithelia, Barrett's epithelia, and EAC lines by CSC in a time and dose dependent manner.

Endogenous levels of miR-145 were significantly lower in EAC lines/primary tumors compared to immortalized cells/normal mucosa. Stable knock-down of miR-145 significantly enhanced proliferation, invasion and migration of EAC *in vitro*, and significantly increased tumorigenicity of EAC in athymic nude mice.

Conclusion: MicroRNA expression profiles in immortalized esophageal epithelial and EAC cells following CSC exposure reflect aberrations in primary EACs. Further analysis of this *in-vitro* model may facilitate elucidation of mechanisms by which cigarette smoke contributes to esophageal carcinogenesis. This includes further efforts to identify miR-145 targets and/or efforts targeted at reactivation of miR-145 for treatment of EACs.

NOTES

#56

SURGICAL INTERVENTION FOR NECROTIZING ENTEROCOLITIS (NEC): AN ANALYSIS BY BIRTH WEIGHT IN A NATIONAL DATABASE

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Introduction: Necrotizing enterocolitis (NEC) is a leading cause of mortality and morbidity within the neonatal patient population. Birth weight seems to play a critical role in predicting outcomes of NEC patients.

Objective: To evaluate postoperative outcomes of surgical intervention for children with NEC by birth weight utilizing a national database.

Methods: Using 2012-2013 American College of Surgeons National Surgical Quality Improvement Program Pediatric (ACS NSQIP Pediatric) we analyzed data from 383 NEC patients. Descriptive statistics were estimated for patient demographics and characteristics and postoperative outcomes (unplanned re-operation and mortality). All analysis was stratified by birth weight (under 1000 grams vs. above 1000 grams).

Results: Of the 383 NEC patients, the majority in both above and below 1,000 g groups were males ($p < .05$). The mean gestational age for the overall population was 28.62 weeks ($SD=4.46$), for the less than 1,000 g group 25.55 weeks ($SD=0.19$), and 31.19 weeks ($SD=.37$) for the above 1,000 g group ($p < .001$). A total of 45 unplanned re-operations occurred, with 64.4% in the less than 1,000 g group and 35.6% for the above 1,000 g group ($p < .001$). Regarding mortality, a majority (59.7%) were in the lower than 1,000 g group ($p < .001$).

There were no significant differences between both groups in terms of surgical outcomes and postoperative complications, such as unplanned readmission, prolonged total operating time, prolonged time to operating room, prolonged length of stay, surgical site infections (superficial and organ/space), wound dehiscence, sepsis, steroid use, and respiratory, renal or cardiac complications.

Table 1. Post-operative outcomes by birth weight in children with Necrotizing Enterocolitis (NEC); N=383

	Birth weight ≤1000 grams	Birth weight >1000 grams	
	n (%)	n (%)	p
Gender			
Female	82 (52.2)	75 (47.8)	p=.013
Male	89 (39.4)	137 (60.6)	p=.013
Gestational age, mean (SD) (n=248)	25.6 (0.2)	31.2 (0.4)	p<.001
Procedure Characteristics			
Emergent Case (v. Elective or Urgent)	127 (48.9)	133 (51.6)	p=.016
Inpatient Setting	169 (44.5)	211 (55.5)	p=.441
Surgical Outcomes			
Unplanned reoperation	29 (64.4)	16 (35.6)	p<.001
Unplanned readmission	0.00	1 (100)	p=.369
Prolonged total operation time (min, ≥75th percentile)	7 (36.8)	12 (63.2)	p=.483
Prolonged time-to-OR,(hrs. ≥75th percentile)	90 (46.4)	104 (53.6)	p=.487
Prolonged length-of-hospital-stay (days, ≥75th percentile)	63 (39.9)	95 (60.1)	p=.115
Mortality	46 (59.7)	31 (40.3)	p<.01
Perioperative outcomes			
Superficial surgical site infection	5 (33.33)	10 (66.67)	p=.369
Deep surgical site infection	0	0	
Organ/Space surgical site infection	4 (80.0)	1 (20.0)	p=.109
Wound dehiscence	7 (53.9)	6 (46.2)	p=.497
Respiratory complications	17 (56.7)	13 (43.3)	p=.168
Renal complications	6 (46.15)	7 (53.85)	p=.911
Neurological complications	2 (33.3)	4 (66.7)	p=.574
Cardiac complications	7 (58.33)	5 (41.67)	p=.333
Sepsis	1 (33.3)	2 (66.7)	p=.692
Steroid use, n(%)	23 (56.1)	18 (43.9)	p=.119

Conclusion: Our study demonstrates that there are differences in unplanned re-operations and mortality between patients with a birth-weight above and below 1,000 g. The role of birthweight continues to serve as an important indicator of survival in patients with NEC.



CONSTITUTION

CONSTITUTION OF THE SOCIETY OF BLACK ACADEMIC SURGEONS

ARTICLE I: Designation

The name of the organization shall be the Society of Black Academic Surgeons (SBAS). It shall be incorporated as a non-profit organization and have no capital stock or shareholders. The address of the Society will be the address of the central office.

ARTICLE II: Objective

The paramount objectives of the Society of Black Academic Surgeons shall be supportive of and consistent with the enhancement of the academic surgical community both nationally and internationally. The specific objectives are as follows:

- A. Identify and promote professional and intellectual exchange among surgeons and scientists involved in their related fields.
- B. Promote the participation of minority surgeons and scientists in the activities of all academic surgical organizations.
- C. Stimulate and assist government, private industry, and voluntary organizations to develop and promote programs to increase the participation of minority surgeons in the academic community.
- D. Encourage and assist minority surgeons to conduct original research in both the basic and clinical sciences.
- E. Support and strengthen the surgical section programs of the National Medical Association.

ARTICLE III: Members

A *member* of The Society of Black Academic Surgeons may be an academic surgeon of any surgical subspecialty recognized by the American Board of Medical Specialties (ABMS), a surgical fellow or resident-in-training of any surgical subspecialty as defined by the Accreditation Council on Graduate Medical Education (ACGME), a medical student, as defined by the Association of American Medical Colleges (AAMC) or the American Association of Colleges of

Osteopathic Medicine (AACOM), or a MD, DO, or PhD researcher. Eligibility for membership in these categories and membership certification may be further stipulated in the Bylaws of the Society. Academic surgeons certified by the American Board of Medical Specialties or its sub-boards and holding faculty appointment in a university, university affiliate, free standing department of surgery, an institution within a hospital, or an institute of the National Institutes of Health, shall be designated “*Fellows*” of the Society. All other members shall be designated as “*Associate Members*.” All members will be elected to fellowship or membership, and have continued fellowship or membership, according to the Constitution and Bylaws. Termination of a member by death, resignation, failure to pay dues, failure to support the Society, or any other manner addressed in the Bylaws will end all rights and privileges in the Society. None of the assets nor privileges shall be transferable to any representative of a member’s estate.

ARTICLE IV: Officers/Council

The Officers of the Society shall be President, President-Elect, Secretary, and Treasurer. The President and President-Elect shall be elected for a one-year term; the President-Elect shall automatically become President. The Secretary and the Treasurer shall be elected for three-year terms. This slate of officers, along with four Fellows (appointed by the President) will be designated as the Executive Council.

ARTICLE V: Organization Structure

- A. The Society’s organizational structure will consist of General Membership, Officers, Executive Council, and the following Standing Committees: Finance, Membership, Advocacy, Education/Research, Annual Program, Audit, Nominating, and Informatics. The span of authority, rights and, privileges shall be based on the Constitution and Bylaws.
- B. The duties, powers, and regulations governing the Society’s organizational structure shall be defined and delineated in the Society’s Bylaws.

**CONSTITUTION OF THE
SOCIETY OF BLACK ACADEMIC SURGEONS**
(CONTINUED)

ARTICLE VI: Meetings

The Society shall hold an annual scientific and business meeting, the time and place of which will be determined by the Executive Council at least two years in advance of the meeting. Only members of the Society may attend the business meeting.

ARTICLE VII: Rules

The conduct of all Society meetings, including those of the Executive Council, shall be governed by the Bylaws of the Society and Robert's Rules of Order.

ARTICLE VIII: Governance

Section 1 The Society shall be governed by this Constitution and Bylaws, the latter document to provide specific direction for the organization, administration, and services of the Society.

Section 2 The Society's Constitution and Bylaws shall be consistent with provisions and content of any organizational charter or certificate of incorporation the Society may propose and/or execute.

ARTICLE IX: Certificate of Incorporation

Section 1 The Society may propose and execute an organizational charter or certificate of incorporation in accordance with all local, state, and federal (U.S.) regulations, codes, and laws.

Section 2 The certificate of incorporation shall not vitiate any provision of this Constitution or the Society's Bylaws, unless a court of competent jurisdiction expressly rules, orders, or directs otherwise. If any such provision or certificate, in whole or part, is held to be unlawful, only the unlawful provision or certificate will be null and void. The remaining provisions and/or certificate, in whole or part, will continue in effect as valid.

Section 3 The certificate of incorporation shall not govern the application and administration of the Constitution or the Society's Bylaws.

Section 4 Notwithstanding any other provisions of these articles, the organization is organized exclusively for one or more of the purposes as specified in Section 501(c)(3) of the Internal Revenue Code of 1954, and shall not carry on any activities not permitted to be carried on by an organization exempt from Federal income tax under IRC 501(c)(3) or corresponding provisions of any subsequent Federal tax laws.

Section 5 No part of the net earnings of the organization shall inure to the benefit of a member or any private individual (except that reasonable compensation may be paid for services rendered to or for the organization), and no member of the organization or any private individual shall be entitled to share in the distribution of any of the organization's assets on dissolution of the organization.

Section 6 No substantial part of the activities of the organization shall be carrying on propaganda, or otherwise attempting to influence legislation [except as otherwise provided by IRC 501(h)] and does not participate in, or intervene in (including the publication or distribution of statements), any political campaign on behalf of any candidate for public office.

CONSTITUTION OF THE SOCIETY OF BLACK ACADEMIC SURGEONS

(CONTINUED)

- Section 7 In the event of dissolution, all of the remaining assets and property of the organization shall, after payment of necessary expenses, thereof be distributed to such organizations as shall qualify under section 501(c)(3) of the Internal Revenue Code of 1986 and approved by the Executive Committee.
- Section 8 In any taxable year in which the corporation is a private foundation as described in IRC 509(a), the organization shall distribute its income for said period at such time and manner as not to subject it to tax under IRC 4942, and the organization shall not [a] engage in any act of self-dealing as defined in IRC 4941(d), retain any excess business holdings as defined in IRC 4943(c), [b] make any investments in such a manner as to subject the organization to tax under IRC 4944, or [c] make any taxable expenditures as defined in IRC 4945(d) or corresponding provisions of any subsequent Federal tax laws.

ARTICLE X: Funds and Expense

Funds for the Society may be raised by approved dues and/or in any manner approved initially by the Executive Committee and the organization. Funds may be appropriated by the Executive Council to defray the expense of the Society to carry out the necessary functions, and for any other purpose approved by the Council, provided that no funds or assets shall be used to inappropriately benefit one member of the unit.

ARTICLE XI: Amendments

This Society, at any annual business meeting of the Fellows, may amend any Article of this Constitution by a two-thirds majority of the voting Fellows present, provided that a copy of the proposed Amendment has been furnished to each voting Fellow at least thirty days in advance of the meeting.

ARTICLE XII: Effective Date for any Change to the Bylaws of the Constitution

These revised Bylaws shall take effect immediately upon acceptance by a simple majority of the voting Fellows and extend indefinitely, subject to alteration, amendment, or repeal in whole or part, as specifically provided in the Constitution.

BYLAWS: SOCIETY OF BLACK ACADEMIC SURGEONS

Section 1 Annual Meeting

The Society of Black Academic Surgeons shall meet annually at such time and place as designated by the Executive Council.

Section 2 Quorum

The Fellows present shall constitute a quorum for business. All questions before the Society shall be determined by the vote of the majority of Fellows present at any regular business meeting.

Section 3 Fiscal Year

The fiscal year shall begin on the first of July. The annual dues of each member shall be determined by the Executive Council with approval of the membership, payable on the first of September of each year. Each member of the Society who reaches the age of seventy shall automatically have his or her dues waived.

Section 4 Parliamentary Procedure

Robert's Rules of Order shall govern the sessions of the Society.

CONSTITUTION OF THE SOCIETY OF BLACK ACADEMIC SURGEONS

(CONTINUED)

Section 5 Membership

A. Eligibility for Fellowship in the Society of Black Academic Surgeons

1. An individual who occupies a faculty position in a university department of surgery, institute, or its affiliated hospitals.
2. An individual who occupies a faculty position in a free-standing surgical residency program.
3. An investigator (M.D., D.O., Ph.D., or Sc.D., as examples) or teacher (M.D., D.O., Ph.D., or Sc.D., as examples) in an academic department of surgery or an ACGME-approved surgery program.
4. An individual who meets one of the criteria above in any surgical specialty shall be eligible for membership as a Fellow.

B. Membership Certification

Membership in the Society shall include the following categories: Active Fellow, Senior Fellow, Associate Member, Honorary Fellow, and Institutional Member.

1. Active Fellow: Any person who is a Doctor of Medicine (M.D. or D.O.), Doctor of Philosophy (Ph.D.), or Doctor of Science (Sc.D.) who shares an interest in the purpose of the Society and is approved by the Membership Committee. Only active Fellows have the right to vote and hold office.
2. Senior Fellow: Any active Fellow upon reaching the age of seventy shall become a Senior Fellow. Senior Fellows are exempt from paying dues, and shall continue to vote, but shall not have the privilege of holding office.

3. Associate Member: Any medical student in good standing at an LCME approved medical school or an AOA (American Osteopathic Association) approved osteopathic school, or surgical fellow-in-training, or resident in good standing in an ACGME-approved fellowship or residency program who desires to pursue an academic surgical career.
4. Honorary Fellow: Any person who is a Doctor of Medicine (M.D. or D.O.), or Doctor of Philosophy (Ph.D.), or Doctor of Science (Sc.D.), and has distinguished himself/herself by outstanding achievement and dedication to the objectives of the Society. Honorary Fellows shall pay no dues or initiation fees and may not vote or hold elected office.
5. Institutional Member: Any ACGME approved academic institution (such as LCME), medical school, or institution sponsoring graduate medical education that wishes to pay institutional dues or otherwise financially support the mission of the Society of Black Academic Surgeons.

Section 6 Responsibilities of the Officers

- A. It shall be the duty of the President to (1) preside at all meetings of the Society, (2) give the deciding vote, (3) ensure that Robert's Rules of Order and decorum are properly enforced in all deliberations of the Society, and (4) sign the approved proceedings of each meeting.
- B. In the absence of the President, the President-Elect shall preside, or, in his/her absence, the Secretary.
- C. It shall be the duty of the Secretary to (1) keep a true and correct record of the proceedings of the Meetings, (2) preserve all books, papers, and articles belonging to the Society, (3) keep an account of the Society with its Fellows, and (4) keep a register of the Fellows with the dates of their admission and places of residence. The Secretary shall report unfinished business at previous meetings requiring action, and attend to such other business as the Society may direct. The Secretary shall assist with the correspondence of the Society. It shall be the duty of the Treasurer to collect the dues of the Society and make disbursements for expenses. (*cont.*)

CONSTITUTION OF THE SOCIETY OF BLACK ACADEMIC SURGEONS

(CONTINUED)

The Treasurer shall present an annual report of the financial condition of the Society. The accounts of the Treasurer shall be audited annually by a committee appointed by the President.

Section 7 Vacancies, Resignations and Removal from Membership

A. Vacancies

Vacancies occurring in the offices of the Society, other than that of the President, shall be filled by appointment by the President until the next meeting. The President shall appoint members to all Committees.

B. Resignations

Any Fellow may resign from the Society by delivering a written resignation to the President or Secretary.

C. Expulsions

The removal of a Fellow from the Society shall be based on gross negligence or poor character as determined by the Executive Council and a majority of the full membership.

D. Suspension

Any member who is three years in arrears will be suspended for non-payment of dues. Reinstatement for membership can be accomplished with payment of past dues.

Constitution changes ratified April 11, 2015 by vote of 45:1 of eligible voting Fellows present during Business Meeting of the Society at the Carolina Inn at Chapel Hill, North Carolina. Bylaws changes ratified by vote of 46:0.

Recorded by Frederick D. Cason, MD, Fellow, historian/archivist, and at-large member of the Executive Council.



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Lisa Green – Communications & Marketing

Ann Forchione – Administrative Associate

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- 1991 Harvard University, Boston, MA
- 1993 UC Davis-East Bay (Meeting held in Napa Valley, CA)
- 1994 University of Texas Medical Branch, Galveston, TX
- 1995 University of North Carolina, Chapel Hill, NC
- 1996 University of Colorado, Denver, CO
- 1997 State University of New York, Buffalo, NY
- 1998 Howard University College of Medicine, Washington, DC
- 1999 University of Louisville, Louisville, KY
- 2000 Charles R. Drew University, Los Angeles, CA
- 2001 Harvard University, Boston, MA
- 2002 Morehouse School of Medicine, Atlanta, GA
- 2003 University of Alabama at Birmingham, Birmingham, AL
- 2004 Howard University, Washington, DC
- 2005 University of Pittsburgh, Pittsburgh, PA
- 2006 University of Cincinnati, Cincinnati, OH
- 2007 Rush University Medical Center, Chicago, IL
- 2008 Cleveland Clinic, Cleveland, OH
- 2009 University of Washington, Seattle, WA
- 2010 Duke University, Chapel Hill, NC
- 2011 Massachusetts General Hospital, Boston, MA
- 2012 Johns Hopkins School of Medicine, Baltimore, MD, and Howard University, Washington, DC
- 2013 University of Mississippi, Jackson, MS
- 2014 Temple University and The University of Pennsylvania, Philadelphia, PA
- 2015 University of North Carolina, Chapel Hill, NC

FUTURE SBAS MEETINGS

- 2017 University of Chicago, Chicago, IL
- 2018 University of Alabama at Birmingham, Birmingham, AL

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