

THE SOCIETY OF
BLACK ACADEMIC SURGEONS



IN JOINT SPONSORSHIP WITH

WEILL CORNELL MEDICINE
DEPARTMENT OF SURGERY

&

NEW YORK PRESBYTERIAN

PRESENTS THE

TWENTY-NINTH ANNUAL MEETING

APRIL 25 - 27, 2019

INTERCONTINENTAL NEW YORK BARCLAY
NEW YORK, NY



Weill Cornell Medicine



NewYork-Presbyterian

WEILL CORNELL MEDICINE
& THE DEPARTMENT OF SURGERY

are proud to host

THE 29TH ANNUAL SCIENTIFIC SESSION FOR THE
SOCIETY OF BLACK ACADEMIC SURGEONS
APRIL 25-27, 2019 | NEW YORK, NEW YORK

Please join us for special events Friday and Saturday evening:

RECEPTION

FRIDAY, APRIL 26, 6:30 - 9:30 PM
HAROLD PRATT HOUSE
58 EAST 68TH STREET, NEW YORK, NY 10065

featuring

THE GEORGE GEE SWING ORCHESTRA AND
BIG APPLE LINDY HOPPERS

BLACK TIE AFFAIR

SATURDAY, APRIL 27, 6:30 - 11:00 PM
INTERCONTINENTAL NEW YORK BARCLAY
111 EAST 48TH STREET, NEW YORK, NY 10017



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OFFICERS

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OFFICERS (CONT.)

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SOCIETY OF BLACK ACADEMIC SURGEONS
TWENTY-NINTH ANNUAL MEETING
COMMITTEES & CONTACTS

PROGRAM COMMITTEE

Andre Campbell, MD – Chair	Sean McLean, MD
Obinna Adibe, MD	Marissa
Leah Backhus, MD	Howard-McNatt, MD
Errol Bush, MD	Asishana Osho, MD
Paris Butler, MD	Selwyn Rogers, MD
Michael Edwards, MD	Randi Smith, MD
Stephen Gray, MD	Ala Stanford, MD
Juvonda Hodge, MD	Hassan Tetteh, MD

COMMITTEE FOR LOCAL ARRANGEMENTS

Dr. Fabrizio Michelassi – Chair, Department of Surgery
Weill Cornell Medicine

Dr. Anthony Watkins – Local Program Committee Co-Chair

Dr. Daniel Hunt

Dr. Anton Kelly

Dr. Tracey Ann Moo

Sheila Maietta, Administrative Manager

EMERGENCY CONTACTS

Dr. Anthony Watkins: 201-618-1500 (Cell Phone)

Sheila Maietta 917-459-0144 (Cell Phone)

Randi Strachman 516-524-8376 (Cell Phone)

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), the University of California at Davis (1993), the University of Texas Medical Branch at Galveston (1994), the University of North Carolina at Chapel Hill (1995, 2015), the University of Colorado at Denver (1996), SUNY Buffalo (1997), Howard University (1998, 2004, 2012), the University of Louisville (1999), Charles R. Drew University of Medicine and Science (2000), Morehouse School of Medicine (2002), the University of Alabama at Birmingham (2003, 2018), the University of Pittsburgh (2005), the University of Cincinnati (2006), Rush University Medical Center (2007), the Cleveland Clinic (2008), the University of Washington (2009), Duke University (2010), Massachusetts General Hospital (2011), Johns Hopkins School of Medicine (2012), the University of Mississippi (2013), Temple University School of Medicine and the University of Pennsylvania (2014), the Ohio State University (2016), and the University of Chicago (2017).

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
2015-2016: Orlando C. Kirton, MD
2016-2017: Patricia L. Turner, MD
2017-2018: Anthony Stallion, MD

PROGRAM AGENDA

THURSDAY

APRIL 25, 2019

- 1:00-5:00 PM Welcome/Registration at the Intercontinental New York Barclay (**Gallery**)
- 1:00-5:00 PM SBAS Executive Council Meeting (**Astor Suite I**)
- 12:30-4:30 PM SBAS Leadership and Faculty Development Institute (**Rockefeller Suite**)
- 1:00-5:00 PM Grant Writing Workshop **Pre-Registration required** (**Astor Suite II**)
- 3:00-5:00 PM Financial Wellness Workshop (**Barclay Salon**)
Sponsored by Northwestern Mutual and Morgan Stanley
- 5:30-6:30 PM Women in Surgery Reception (**Rockefeller Suite**)
- 6:30-7:30 PM Welcome Reception (**Barclay Salon**)

FRIDAY

APRIL 26, 2019

- 5:30 AM -3:00 PM Registration at the Intercontinental New York Barclay (**Gallery**)
- 5:30-6:15 AM Continental Breakfast (**Empire Ballroom**)
- 6:30-7:00 AM Bus transportation from Intercontinental New York Barclay (**Lobby**)
- 7:00 AM Welcome and Opening Remarks (**Uris Auditorium**)
Dr. Malcolm Brock, SBAS President
Dr. Andre Campbell, Chair, Program Committee
- 7:30 AM History of the Weill Cornell Medicine Department of Surgery
Fabrizio Michelassi, MD, FACS
Lewis Atterbury Stimson Professor and Chair,
Department of Surgery, Weill Cornell Medicine;
Surgeon-in-Chief, New York-Presbyterian/
Weill Cornell Medical Center

FRIDAY (CONT.)**APRIL 26, 2019**

- 8:00 AM **Local Program Session 1: Institutional and Community Outreach** – *Speakers: Drs. Elizabeth Wilson-Anstey, Marcus Lambert, Suzana Morales, and Monika Safford*
- 8:45-9:15 AM *Break and Photo*
- 9:30 AM **Local Program Session 2: Clinical Science Research** – *Speakers: Drs. Darren Schneider, Ben Samstein, and Anthony Watkins*
- 10:15 AM **Local Program Session 3: Translational Science Research** – *Speakers: Drs. Lisa Newman, Thomas Fahey, and Jason Spector*
- 11:00 AM Bus transportation back to Intercontinental New York Barclay (*where afternoon sessions will occur*)
- 12:00-1:00 PM Lunch (**Empire Ballroom**)
- 12:20-12:50 PM **The L.D. Britt, MD, MPH, FACS Lecture (Empire Ballroom) Sponsored by CIGNA**
Edward Barksdale, MD, FACS
UH Rainbow Babies and Children’s Hospital
Cleveland, OH
- 1:00-1:45 PM **State of the Art Lecture (Grand Ballroom):**
“Development of Standards for Quality Valued Care”
Introduction by Malcolm V. Brock, MD, FACS,
SBAS President
Fabrizio Michelassi, MD, FACS
Lewis Atterbury Stimson Professor and Chair,
Department of Surgery, Weill Cornell Medicine;
Surgeon-in-Chief, NewYork-Presbyterian/
Weill Cornell Medical Center
- 1:45-2:00 PM Break (**Grand Ballroom**)
- 2:00-3:30 PM **SCIENTIFIC SESSION #1 (Grand Ballroom)**
Podium Presentations: Healthcare Disparities

FRIDAY (CONT.)**APRIL 26, 2019**

- 3:30-3:40 PM **AAS/SBAS Awardee Presentation**
- 3:45-4:45 PM **SCIENTIFIC SESSION #2 (Astor I, Astor II and Morgan) – Poster Sessions: Pediatric Surgery, General Surgery, Ortho & Urology, Transplant, CVT, Other, Critical Care/Trauma, Healthcare Disparities, Education Outcomes**
- 4:45-5:30 PM Free Time
- 5:30-5:50 PM Buses leave for The Pratt House (**Lobby**)
- 6:30-9:30 PM Weill Cornell Medicine Event at The Pratt House
Featured Musical Guests: *George Gee Swing Orchestra and Lindy Hoppers*

SATURDAY**APRIL 27, 2019**

- 7:00-11:00 AM Registration at the Intercontinental New York Barclay (**Gallery**)
- 6:30-7:30 AM Committee Meetings – Finance, Advocacy, Membership, Health Disparities, Research & Education, Women in Surgery, Informatics, Residents, Young Surgeons, Medical Students Committees (**Empire Ballroom**); Program Committee (**Morgan**)
- 8:00-9:30 AM **SCIENTIFIC SESSION #3 (Grand Ballroom)**
Podium Presentations: *Basic Science, Education Outcomes, Oncology & Pediatric Surgery*
- 8:00-9:30 AM **NIH in the House: Intramural and Extramural Face of the NIH (Empire Ballroom)**
Speaker: Roland Owens, PhD
Panel: S. Somers, L. Kovacs, T. Hurst, N. Emenaker
- 9:30-9:45 AM Break (**Grand Ballroom**)
- 9:45-11:05 AM **SCIENTIFIC SESSION #4 (Grand Ballroom)**
Podium Presentations: Critical Care/Trauma, Cardiothoracic & Vascular, Ortho, & Other
- 11:15 AM - 12:15 PM SBAS Members Business Meeting (**Grand Ballroom**)

SATURDAY (CONT.)**APRIL 27, 2019**

- 12:30-1:30 PM Mentorship Lunch (**Empire Ballroom**) – *(tables by specialty with suggested topics for discussion)*
Sponsored by Cook Medical
- 1:30-1:40 PM Speaker Introduction – *Malcolm V. Brock, MD, FACS, SBAS President*
- 1:40-2:20 PM **Asa Yancey Lecture (Grand Ballroom)**
“PD-1 Blockade: A Common Denominator for Cancer Therapy”
Suzanne L. Topalian, MD, FACS
Professor of Surgery and Oncology; Associate Director, Bloomberg-Kimmel Institute for Cancer Immunotherapy; Melanoma Program Director, Johns Hopkins Medicine
- 2:40-4:30 PM **SCIENTIFIC SESSION #5 (Grand Ballroom)**
Podium Presentations: General Surgery & Transplant
- 2:40-4:30 PM **Resident and Medical Student Breakout Session (Morgan)**
- 4:35-4:45 PM Introduction of the President
- 4:45-5:30 PM **Presidential Address (Grand Ballroom)**
“The Evolving Role of SBAS”
Malcolm V. Brock, MD, FACS
Professor of Surgery and Oncology; Director of Clinical and Translational Research in Thoracic Surgery; Medical Director, Center for Sweat Disorders, Johns Hopkins Medicine
- 5:30-6:30 PM Free Time
- 6:30-7:30 PM Reception (**Empire Ballroom**)
- 7:30-11:00 PM Black Tie Dinner / Awards Presentation / Dancing and Entertainment (**Grand Ballroom**)

SUNDAY**APRIL 28, 2019**

- 8:00-11:30 AM Student Mentorship Session (**Rockefeller**)

SOCIETY OF BLACK ACADEMIC SURGEONS

LOCAL PROGRAM

WEILL CORNELL MEDICINE

FRIDAY

APRIL 25, 2019

- 5:30 AM -3:00 PM Registration at the Intercontinental New York Barclay (**Gallery**)
- 5:30-6:15 AM Continental Breakfast (**Empire Ballroom**)
- 6:30-7:00 AM Bus transportation from Intercontinental New York Barclay (**Lobby**)
- 7:00 AM Welcome and Opening Remarks (**Uris Auditorium**)
Dr. Malcolm Brock, SBAS President
Dr. Andre Campbell, Chair, Program Committee
- 7:30 AM History of the Weill Cornell Medicine Department of Surgery
Fabrizio Michelassi, MD, FACS, Lewis Atterbury Stimson Professor and Chair, Department of Surgery, Weill Cornell Medicine; Surgeon-in-Chief, NewYork-Presbyterian/Weill Cornell Medical Center
- 8:00 AM **Local Program Session 1: Institutional and Community Outreach – *Speakers: Drs. Elizabeth Wilson-Anstey, Marcus Lambert, Suzana Morales, and Monika Safford***
- 8:45-9:15 AM *Break and Photo*
- 9:30 AM **Local Program Session 2: Clinical Science Research – *Speakers: Drs. Darren Schneider, Ben Samstein, and Anthony Watkins***
- 10:15 AM **Local Program Session 3: Translational Science Research – *Speakers: Drs. Lisa Newman, Thomas Fahey, and Jason Spector***
- 11:00 AM Bus transportation back to Intercontinental New York Barclay (*where afternoon sessions will occur*)

SCIENTIFIC SESSIONS

PROMOTING ACADEMIC EXCELLENCE IN CAREER DEVELOPMENT THROUGH MENTORSHIP

FRIDAY

APRIL 26, 2019

- 5:30-6:15 AM Continental Breakfast (**Empire Ballroom**)
- 7:00 AM Welcome & Opening Remarks (**Uris Auditorium**)
Dr. Malcolm Brock, SBAS President
Dr. Andre Campbell, Chair, Program Committee
Dr. Fabrizio Michelassi, Lewis Atterbury Stimson Professor and Chair, Department of Surgery, Weill Cornell Medicine; Surgeon-in-Chief, New York-Presbyterian/Weill Cornell Medical Center
- 7:30-11:00 AM LOCAL PROGRAM SPEAKERS
- 12:20-12:50 PM **The L.D. Britt, MD, MPH, FACS Lecture (Empire Ballroom) Sponsored by CIGNA**
Edward Barksdale, MD, FACS
- 1:00-1:45 PM **State of the Art Lecture (Grand Ballroom)**
Fabrizio Michelassi, MD, FACS
- 2:00-3:30 PM **SCIENTIFIC SESSION #1 (PODIUM) (Grand Ballroom)**
- 3:30-3:40 PM **AAS/SBAS Awardee Presentation**
- 3:45-4:45 PM **SCIENTIFIC SESSION #2 (POSTERS) (Astor I, Astor II & Morgan)**

SCIENTIFIC SESSIONS

PROMOTING ACADEMIC EXCELLENCE IN CAREER DEVELOPMENT THROUGH MENTORSHIP

SATURDAY

APRIL 27, 2019

- 8:00-9:30 AM **SCIENTIFIC SESSION #3 (Grand Ballroom)**
- 8:00-9:30 AM **NIH in the House: Intramural and Extramural
Face of the NIH (Empire Ballroom)**
Speaker: Roland Owens, PhD
Panel: S. Somers, L. Kovacs, T. Hurst, N. Emenaker
- 9:45-11:05 AM **SCIENTIFIC SESSION #4 (Grand Ballroom)**
- 12:30-1:30 PM **Mentorship Lunch (Empire Ballroom) – (tables
by specialty with suggested topics for discussion)**
Sponsored by Cook Medical
- 1:40-2:20 PM **Asa Yancey Lecture (Grand Ballroom)**
Suzanne L. Topalian, MD, FACS
- 2:40-4:30 PM **SCIENTIFIC SESSION #5 (Grand Ballroom)**
- 2:40-4:30 PM **Resident and Medical Student Breakout Session
(Morgan)**
- 4:45-5:30 PM **Presidential Address (Grand Ballroom)**
Malcolm V. Brock, MD, FACS

SUNDAY

APRIL 28, 2019

- 8:00-11:30 AM **Student Mentorship Session (Rockefeller)**

SCIENTIFIC SESSION 1 (PODIUM PRESENTATIONS)

FRIDAY, APRIL 26, 2019

*GRAND BALLROOM,
INTERCONTINENTAL NEW YORK BARCLAY*

2:00-3:30 P.M.

HEALTHCARE DISPARITIES

**Moderators: Paris Butler, MD;
and Lisa Newman, MD**

- 2:00 PM RACIAL MINORITIES UNDERGOING DISTAL PANCREATECTOMY FOR PANCREATIC CANCER ARE MORE LIKELY TO RECEIVE CARE AT LOW VOLUME CENTERS AND HAVE PROLONGED HOSPITALIZATIONS
SENIOR AUTHOR: M. Baker; PRESENTER: E. Eguia
- 2:10 PM ASSESSMENT OF BLACK/WHITE DIFFERENCES IN ALL-CAUSE MORTALITY AMONG PATIENTS WITH TRIPLE-NEGATIVE BREAST CANCER
SENIOR AUTHOR: A. Balanean; PRESENTER: A. Cobb
- 2:20 PM NATIONAL TRENDS IN THE UTILIZATION OF PARTIAL NEPHRECTOMY
SENIOR AUTHOR: A. Medwalli; PRESENTER: M. Nunez
- 2:30 PM RACIAL DISPARITIES IN IVC FILTER PLACEMENT FOR BARIATRIC SURGERY: A MBSAQIP DATABASE ANALYSIS
SENIOR AUTHOR: M. Edwards; PRESENTER: M. Edwards
- 2:40 PM COMPARING THE EFFECT OF DISTANCE TO TREATMENT FACILITY ON RECONSTRUCTION AND BREAST CONSERVATION THERAPY FOR EARLY STAGE INVASIVE DUCTAL CARCINOMA BETWEEN THE NATION AND THE MOUNTAIN REGION
SENIOR AUTHOR: C. St. Hill; PRESENTER: D. Cheng

SCIENTIFIC SESSION 1 (CONT.)

- 2:50 PM RACIAL DISPARITIES IN SURGICAL CARE AND MORTALITY ACROSS TUMOR TYPES OF VARYING PROGNOSIS: A SEER ANALYSIS FROM 2000-2015
SENIOR AUTHOR: A. Morris; PRESENTER: M. Miller
- 3:00 PM RACIAL AND ETHNIC DISPARITIES IN OUTCOMES AFTER ESOPHAGECTOMY ARE ELIMINATED WITH TREATMENT AT A HIGH-VOLUME CENTER
SENIOR AUTHOR: D. Molena; PRESENTER: K. Collier
- 3:10 PM RACIAL SEGREGATION WITHIN NEW YORK CITY'S HEALTHCARE SYSTEM
SENIOR AUTHOR: D. Chang; PRESENTER: S. Stapleton
- 3:20 PM BLACK FEMALE SURGEON SCIENTISTS: UNDER-REPRESENTED AND UNDERFUNDED WITHIN THE FIELD OF ACADEMIC SURGERY
SENIOR AUTHOR: A. Hayes-Jordan; PRESENTER: C. Berry

SCIENTIFIC SESSION 2 (PARALLEL POSTER SESSIONS)

FRIDAY, APRIL 26, 2019

*ASTOR I, ASTOR II & MORGAN,
INTERCONTINENTAL NEW YORK BARCLAY*

3:45-4:45 P.M.

POSTER GROUP 1 PEDIATRIC SURGERY, GENERAL SURGERY, ORTHO & UROLOGY

**Moderators: Asishana Osho MD;
and Demetri Merianos, MD**

POSTER GROUP 1

THE IMPACT OF AN ENHANCED RECOVERY PERIOPERATIVE PATHWAY FOR PEDIATRIC PECTUS EXCAVATUM REPAIR

SENIOR AUTHOR: S.E. McLean; PRESENTER: S. Mangat

EVALUATING THE ASSOCIATION BETWEEN PATIENT ETHNICITY, INTRAOPERATIVE PAIN MANAGEMENT AND POSTOPERATIVE OUTCOMES OF CHILDREN UNDERGOING CYTOREDUCTIVE SURGERY WITH HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY

SENIOR AUTHOR: A. Hayes-Jordan; PRESENTER: P. Owusu-Agyemang

EFFECT OF SOCIODEMOGRAPHIC FACTORS ON OUTCOMES AFTER BARIATRIC SURGERY

SENIOR AUTHOR: D. Johnson; PRESENTER: R. Jean

STAPLED HEMORRHOIDOPEXY HAS BETTER OUTCOMES THAN EXCISIONAL HEMORRHOIDECTOMY

SENIOR AUTHOR: V. Nfonsom; PRESENTER: S. Thompson

LONG-TERM FOLLOW UP ON WOMEN WITH BREAST CANCER WHO CHOOSE CONTRALATERAL PROPHYLACTIC MASTECTOMIES

SENIOR AUTHOR: M. Howard-McNatt; PRESENTER: V. Jones

ASSOCIATIONS BETWEEN TREATMENT PATTERNS AND DISTANCE TO TREATING FACILITY AMONG PATIENTS WITH SOFT TISSUE SARCOMA OF THE EXTREMITY

SENIOR AUTHOR: J. Farma; PRESENTER: A. Moten

BREAST ONCOLOGY CARE CAPACITY-BUILDING IN AFRICA: MEETING NEEDS THROUGH AN INTERNATIONAL DISPARITIES RESEARCH PROGRAM

SENIOR AUTHOR: L. Newman; PRESENTER: L. Newman

NARCOTIC PRESCRIBING PRACTICES IN PATIENTS WITH SURGICALLY TREATED DISTAL RADIUS FRACTURES

SENIOR AUTHOR: B. Attum; PRESENTER: E. Okwumabua

DOES PAIN CATASTROPHIZING PREDICT AGE OF ONSET IN SYMPTOMATIC HIP DYSPLASIA AND FEMOROACETABULAR IMPINGEMENT?

SENIOR AUTHOR: J. Wells; PRESENTER: S. Okpara

POSTER GROUP 1 (CONT.)

PENOSCROTAL-ANTERIOR PELVIS ALLOTRANSPLANTATION:
EXPERIENCE WITH FIRST-EVER PROCEDURE

SENIOR AUTHOR: A.L. Burnett II; PRESENTER: A.L. Burnett II

EFFECT OF REGIONAL ANESTHESIA ON HOSPITAL LENGTH OF
STAY AFTER ANKLE FRACTURE FIXATION IN PATIENTS WITH AND
WITHOUT DIABETES MELLITUS

SENIOR AUTHOR: G. Liu; PRESENTER: I. Nwafor

SCIENTIFIC SESSION 2 (PARALLEL POSTER SESSIONS)

FRIDAY, APRIL 26, 2019

*ASTOR I, ASTOR II & MORGAN,
INTERCONTINENTAL NEW YORK BARCLAY*

3:45-4:45 P.M.

POSTER GROUP 2 TRANSPLANT, CVT & OTHER

**Moderators: Stephen Gray, MD;
and Anthony Watkins, MD**

LONGER COLD ISCHEMIC TIMES IN KIDNEY TRANSPLANTATION DO
NOT SIGNIFICANTLY AFFECT POST-TRANSPLANT RENAL FUNCTION

SENIOR AUTHOR: J.A. Graham; PRESENTER: J. Torabi

DOES CENTER VOLUME IMPACT MORTALITY IN PATIENTS
UNDERGOING LUNG TRANSPLANTATION FOR OBSTRUCTIVE
LUNG DISEASE?

SENIOR AUTHOR: A.A. Osho; PRESENTER: A. Amardey-Wellington



SOCIETY OF BLACK ACADEMIC SURGEONS

TWENTY-NINTH ANNUAL MEETING

PROGRAM AGENDA

POSTER GROUP 2 (CONT.)

HEPATITIS C ANTIBODY POSITIVE DONOR KIDNEYS FOR TRANSPLANTATION IN HCV NON-INFECTED RECIPIENTS

SENIOR AUTHOR: J.A. Graham; PRESENTER: J. Torabi

PANCREAS IMPORTATION FOR CENTERS WITH EXCESSIVELY LONG WAIT-LIST TIMES

SENIOR AUTHOR: J.A. Graham; PRESENTER: J. Torabi

OUTCOMES OF SUBSTERNAL THYROIDECTOMIES IN THE UNITED STATES

SENIOR AUTHOR: W. Bond; PRESENTER: C. Smith

A FEASIBILITY STUDY: BURNOUT IN SURGICAL RESIDENTS OF UNDERREPRESENTED MINORITY BACKGROUNDS. WHAT FACTORS MAKE A DIFFERENCE?

SENIOR AUTHOR: K.R. Abdelfattah; PRESENTER: M. Teke

BODY CONTOURING SURGERY OUTCOMES BY BARIATRIC SURGEONS: A FIVE YEAR RETROSPECTIVE STUDY

SENIOR AUTHOR: D. Jawara; PRESENTER: D. Jawara

THEORY-BASED DEVELOPMENT OF AN IMPLEMENTATION INTERVENTION UTILIZING COMMUNITY HEALTH WORKERS TO INCREASE PALLIATIVE CARE USE

SENIOR AUTHOR: F. Johnston; PRESENTER: B. Kubi

ADJUNCT BLOCKS FOR MASTECTOMIES: IMPROVING PAIN MANAGEMENT FOR POST-OPERATIVE PATIENT CARE

SENIOR AUTHOR: C. Coyne; PRESENTER: C. Coyne

OPTIMIZING THE DEVELOPMENT OF A TISSUE ENGINEERED MITRAL VALVE USING A COMPUTATIONAL MODEL

SENIOR AUTHOR: A. D'Amore; PRESENTER: C. Tompkins-Rhoades

LONG NON-CODING RNAs INVOLVED IN BETA-AMINO-PROPIONITILE AORTIC ANEURYSM MODEL

SENIOR AUTHOR: A. Gorav; PRESENTER: M. Suraju

**SCIENTIFIC SESSION 2
(PARALLEL POSTER SESSIONS)**

FRIDAY, APRIL 26, 2019

***ASTOR I, ASTOR II & MORGAN,
INTERCONTINENTAL NEW YORK BARCLAY***

3:45-4:45 P.M.

**POSTER GROUP 3
CRITICAL CARE/TRAUMA,
HEALTHCARE DISPARITIES,
EDUCATION OUTCOMES**

**Moderators: Abraham Po-Han Houg, MD;
and Marissa Howard-McNatt, MD**

TRAUMA INFORMED CARE SIMULATION-BASED TRAINING FOR
HEALTHCARE PROVIDERS

SENIOR AUTHOR: P. Bendix; PRESENTER: H. Strobl

ORGAN DONATION AFTER SUICIDE

SENIOR AUTHOR: R. Smith; PRESENTER: N. Enofe

EVALUATION OF A DISPOSABLE BRONCHOSCOPE FOR DIAGNOSTIC
AND THERAPEUTIC BRONCHOSCOPY IN A BURN INTENSIVE CARE
UNIT

SENIOR AUTHOR: S. Jones; PRESENTER: M. Jefferson

THE TOURNIQUET TOSSING STUDY: VARIATION IN TOURNIQUET
STABILITY AFTER APPLICATION

SENIOR AUTHOR: L. Punch; PRESENTER: Z. Burton

IMPLEMENTING A CULTURAL DEXTERITY SURGICAL EDUCATION
CURRICULUM: A QUALITATIVE ANALYSIS OF SURGICAL FACULTY
PERCEPTIONS OF POTENTIAL BARRIERS

SENIOR AUTHOR: G. Ortega; PRESENTER: G. Lee

POSTER GROUP 3 (CONT.)

COMPLICATIONS IN PRIMARY CLEFT LIP REPAIR: A REVIEW OF THE ACS NSQIP PEDIATRIC DATABASE

SENIOR AUTHOR: A. Kalluri; PRESENTER: A. Kalluri

EVALUATION OF RACIAL DETERMINANTS OF MORTALITY IN BURN PATIENTS USING NIH DATABASE

SENIOR AUTHOR: D. Carter; PRESENTER: S. Murphy

ASSESSING COLORECTAL CANCER SCREENING BARRIERS IN RURAL APPALACHIAN AREA

SENIOR AUTHOR: E. Thompson; PRESENTER: T. Wolbert

PATIENT-PROVIDER RACE/ETHNICITY CONCORDANCE: A NATIONAL STUDY OF HEALTHCARE SATISFACTION, QUALITY OF CARE, AND PROVIDER COMMUNICATION

SENIOR AUTHOR: C. Tiko-Okoye; PRESENTER: C. Tiko-Okoye

PURSUING A CAREER IN ACADEMIC SURGERY AMONG AFRICAN AMERICAN MEDICAL STUDENTS

SENIOR AUTHOR: R.R. Kelz; PRESENTER: S. Roberts

EXPLORING RACIAL DISPARITY IN PERIOPERATIVE OUTCOMES FOLLOWING REVISIONAL BARIATRIC SURGERY: A CASE-CONTROL MATCHED ANALYSIS

SENIOR AUTHOR: M. Edwards; PRESENTER: S. Agarwal

DEVELOPMENT OF AN INNOVATIVE MULTIMEDIA EDUCATIONAL PLATFORM TO IMPROVE PATIENT EDUCATION IN THE PERI-OPERATIVE SETTING

SENIOR AUTHOR: J.A. Benson; PRESENTER: J.A. Benson

IMPACT OF SURGICAL TRAINING ON FAITH AND RELIGIOUS PRACTICE

SENIOR AUTHOR: J. Porterfield; PRESENTER: C. Johnson

ORTHOPAEDIC SURGERY IS FAILING TO ATTRACT SURGEON-SCIENTISTS

SENIOR AUTHOR: E. von Kaepler; PRESENTER: M. Akabas

SCIENTIFIC SESSION 3 (PODIUM PRESENTATIONS)

SATURDAY, APRIL 27, 2019

*GRAND BALLROOM,
INTERCONTINENTAL NEW YORK BARCLAY*

8:00-9:30 A.M.

BASIC SCIENCE, EDUCATION OUTCOMES, ONCOLOGY & PEDIATRIC SURGERY

**Moderators: Leah Backhus, MD;
and Tracy Ann Moo, MD**

- 8:00 AM LOOKING BEYOND THE SOCIAL DETERMINANTS OF HEALTH: ETHNICITY-SPECIFIC RNA BIOMARKERS FOR THE DETECTION OF NON-SMALL-CELL LUNG CANCER IN AFRICAN AMERICANS
SENIOR AUTHOR: M. Brock; PRESENTER: N. Fackche
- 8:10 AM THE SOCIETY OF BLACK ACADEMIC SURGEONS CURRICULUM VITAE BENCH MARKING INITIATIVE: A MENTORING TOOL AND ACADEMIC ROADMAP
SENIOR AUTHOR: C. Martin; PRESENTER: B. Hughes
- 8:20 AM ANALYSIS OF FACTORS IMPACTING PROGNOSIS IN PATIENTS WITH DISSEMINATED APPENDICEAL TUMORS UNDERGOING SOMATIC MUTATION PROFILING: RESULTS FROM A US HIPEC COLLABORATIVE
SENIOR AUTHOR: H. Mogal; PRESENTER: E. Strong
- 8:30 AM FDG-PET-CT IS UNNECESSARY IN INITIAL STAGING OF NODAL METASTASIS IN THIN CUTANEOUS MELANOMA
SENIOR AUTHOR: D. Kirgan; PRESENTER: D. Cheng
- 8:40 AM OUTCOMES OF SURGICAL RESECTION FOR METASTATIC CHOLANGIOCARCINOMA
SENIOR AUTHOR: U. Maduekwe; PRESENTER: X. Baldwin



SOCIETY OF BLACK ACADEMIC SURGEONS

TWENTY-NINTH ANNUAL MEETING

PROGRAM AGENDA

SCIENTIFIC SESSION 3 (CONT.)

- 8:50 AM AN ALTERED TUMOR INFILTRATING LYMPHOCYTES PHENOTYPE AFTER ANTI-PD-1 THERAPY AND POTENTIAL RAMIFICATIONS FOR ADOPTIVE CELL THERAPY WITH TUMOR INFILTRATING LYMPHOCYTES FOR PATIENTS WITH METASTATIC MELANOMA
SENIOR AUTHOR: P. Robbins; PRESENTER: G. Ivey
- 9:00 AM SAFETY NET HOSPITALS AND PATTERNS OF CARE FOR WOMEN WITH UTERINE CANCER IN NEW YORK STATE
SENIOR AUTHOR: J. Wright; PRESENTER: C. Gamble
- 9:05 AM SURGICAL AND MEDICAL ONCOLOGY PATIENT PREFERENCES OF ADVANCE CARE PLANNING
SENIOR AUTHOR: F. Johnston; PRESENTER: B. Kubi
- 9:10 AM A COMPREHENSIVE GENETIC ANALYSIS TO DETERMINE THE EFFECT OF MATERNAL GESTATIONAL STRESS ON NEONATAL GUT AND IMMUNE DEVELOPMENT
SENIOR AUTHOR: C. Martin; PRESENTER: V. Yeramilli
- 9:20 AM VIOLENT INJURIES AND RECIDIVISM IN PEDIATRIC TRAUMA PATIENTS IN AN URBAN ENVIRONMENT
SENIOR AUTHOR: E. Barksdale; PRESENTER: T. Thomas
- 9:25 AM LIPOPOLYSACCHARIDE DECREASES EXPRESSION OF THE FARNESOID X RECEPTOR AND FIBROBLAST GROWTH FACTOR 15
SENIOR AUTHOR: C. Gayer; PRESENTER: M. Philippe-Auguste

SCIENTIFIC SESSION 4 (PODIUM PRESENTATIONS)

SATURDAY, APRIL 27, 2019

*GRAND BALLROOM,
INTERCONTINENTAL NEW YORK BARCLAY*

9:45-11:05 A.M.

CRITICAL CARE/TRAUMA, CARDIOTHORACIC & VASCULAR, ORTHOPEDIC & OTHER

**Moderators: Colin Martin, MD;
and Anton Kelly, MD**

- 9:45 AM QUANTIFYING THE RISK OF END-STAGE RENAL DISEASE AFTER TRAUMA NEPHRECTOMY
SENIOR AUTHOR: A. Salim; PRESENTER: M. Castillo-Angeles
- 9:55 AM IS TRAUMA CENTER DESIGNATION ASSOCIATED WITH DISPARITIES IN DISCHARGE TO REHABILITATION CENTERS AMONG ELDERLY PATIENTS WITH TRAUMATIC BRAIN INJURY?
SENIOR AUTHOR: C. Berry; PRESENTER: E. Warnack
- 10:05 AM ARE THERE VARIATIONS IN TIMING TO TRACHEOSTOMY PLACEMENT IN A TERTIARY ACADEMIC MEDICAL CENTER?
SENIOR AUTHOR: S. Stain; PRESENTER: A. Gillis
- 10:15 AM RESIDENTIAL BURN INJURIES IN NORTH CAROLINA
SENIOR AUTHOR: K. Atwell; PRESENTER: K. Atwell
- 10:25 AM HIV STATUS AND LOWER EXTREMITY BYPASS SURGERY OUTCOMES: A NATIONAL INPATIENT SAMPLE ANALYSIS
SENIOR AUTHOR: E. Cornwell III; PRESENTER: R. Udesh

SCIENTIFIC SESSION 4 (CONT.)

- 10:35 AM OUTCOMES IN TRANS-HIATAL VERSUS TRANSTHORACIC ESOPHAGECTOMIES FOLLOWING NEOADJUVANT THERAPY
SENIOR AUTHOR: A. Pickens; PRESENTER: E. Ndubisi
- 10:45 AM RURAL BARRIERS TO EARLY LUNG CANCER DETECTION: EXPLORING ACCESS TO LUNG CANCER SCREENING PROGRAMS IN NEW HAMPSHIRE AND VERMONT
SENIOR AUTHOR: D. Finley; PRESENTER: R. Hasson Charles
- 10:50 AM THE ROLE OF BODY MASS INDEX IN PERIOPERATIVE COMPLICATIONS AMONG PATIENTS UNDERGOING TOTAL KNEE ARTHROPLASTY
SENIOR AUTHOR: R. Wilson; PRESENTER: R. Willacy
- 11:00 AM COSTS ASSOCIATED WITH HOSPITAL ADMISSIONS FOR DIVERTICULAR DISEASE IN THE UNITED STATES
SENIOR AUTHOR: E. Cornwell III; PRESENTER: O. Olufajo

SCIENTIFIC SESSION 5 (PODIUM PRESENTATIONS)

SATURDAY, APRIL 27, 2019

*GRAND BALLROOM,
INTERCONTINENTAL NEW YORK BARCLAY*

2:30-4:00 P.M.

GENERAL SURGERY & TRANSPLANT

**Moderators: Errol Bush, MD;
and Daniel Hunt, MD**

- 2:30 PM IDENTIFYING FACTORS ASSOCIATED WITH EARLY OPIOID DISCONTINUATION FOLLOWING SURGERY: A LONGITUDINAL STUDY USING MILITARY HEALTH SYSTEM DATA
SENIOR AUTHOR: A. Haider; PRESENTER: M. Chaudhary

SCIENTIFIC SESSION 5 (CONT.)

- 2:40 PM COMPARATIVE ANALYSIS OF CONTRIBUTING FACTORS AND SHORT-TERM SURGICAL OUTCOMES OF PATIENTS WITH EARLY-ONSET RECTAL CANCER
SENIOR AUTHOR: V. Nfonsam; PRESENTER: A. Ewongwo
- 2:50 PM TRANSLATING MOTION TRACKING DATA INTO RESIDENT FEEDBACK: AN OPPORTUNITY FOR STREAMLINED VIDEO COACHING
SENIOR AUTHOR: C. Pugh; PRESENTER: K. Perrone
- 3:00 PM BEST SURGICAL OPTION FOR PATIENTS WITH CHOLEDOCHOLITHIASIS
SENIOR AUTHOR: M. Nazzal; PRESENTER: S. Markowiak
- 3:10 PM PATIENT MOBILITY BY RACE AND INSURANCE IN NEW YORK CITY
SENIOR AUTHOR: M. Watkins; PRESENTER: N. Perez Jr.
- 3:20 PM INSURANCE TYPE AFFECTS SHORT-TERM OUTCOMES AFTER HARTMANN'S PROCEDURE
SENIOR AUTHOR: S. Pannell; PRESENTER: M. Adair
- 3:30 PM LEAN DAILY MANAGEMENT PROGRAM IMPLEMENTATION IMPROVES FIRST CASE ON-TIME START EFFICIENCY
SENIOR AUTHOR: O. Danner; PRESENTER: A. Okonkwo
- 3:35 PM ECMO AND AFFORDABLE CARE ACT (ACA): ACCESS TO LUNG TRANSPLANTATION IN MEDICAID RECIPIENTS
SENIOR AUTHOR: G. Abbas; PRESENTER: J. Awori Hayanga
- 3:45 PM BORTEZOMIB BASED INDUCTION THERAPY DECREASES DELAYED GRAFT FUNCTION IN HIGH-RISK KIDNEY TRANSPLANTATION
SENIOR AUTHOR: J. Melancon; PRESENTER: K. Mahendran
- 3:50 PM ELEVATED NEUTROPHIL TO LYMPHOCYTE RATIO IS ASSOCIATED WITH POOR LONG-TERM SURVIVAL AND GRAFT FAILURE AFTER LUNG TRANSPLANTATION
SENIOR AUTHOR: E. Bush; PRESENTER: A. Krishnan
- 3:55 PM UTILIZATION OF LCP-TACROLIMUS (ENVARUSUS XR) IN SIMULTANEOUS PANCREAS AND KIDNEY (SPK) TRANSPLANT RECIPIENTS
SENIOR AUTHOR: J. Graham; PRESENTER: J. Torabi



SOCIETY OF BLACK ACADEMIC SURGEONS
TWENTY-NINTH ANNUAL MEETING
PROGRAM AGENDA

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.
2018 RESIDENT AWARD WINNERS**

Chad Barnes, MD [1st Place]

Medical College of Wisconsin

Mubina Isani MD [2nd Place]

Children’s Hospital Los Angeles

Rosandra Walker, MD [3rd Place]

University of Texas Medical Branch - Galveston

SCIENTIFIC SESSION MODERATORS

Leah Backhus, MD, MPH – Associate Professor, Stanford University

Paris Butler, MD – Assistant Professor, University of Pennsylvania

Errol Bush, MD – Assistant Professor, Johns Hopkins University

Stephen Gray, MD – Associate Professor, University of Maryland Medical Center

Abraham Po-Han Houg, MD – Assistant Professor, Weill Cornell Medicine

Marissa Howard-McNatt, MD – Associate Professor, Wake Health

Daniel Hunt, MD – Assistant Professor, Weill Cornell Medicine

Anton Kelly, MD – Instructor, Weill Cornell Medicine

Colin Martin, MD – Associate Professor, University of Alabama Birmingham

Demetri Merianos, MD – Assistant Professor, Weill Cornell Medicine

Tracy Ann Moo, MD – Assistant Attending, Memorial Sloan Kettering Cancer Center

Lisa Newman, MD – Assistant Professor, Weill Cornell Medicine

Asishana Osho, MD – General Surgery Resident, Harvard University

Anthony Watkins, MD – Assistant Professor, Weill Cornell Medicine

ASA YANCEY LECTURE

Suzanne L. Topalian MD, FACS

Professor of Surgery and Oncology

Associate Director,

Bloomberg-Kimmel Institute for Cancer Immunotherapy

Melanoma Program Director

Johns Hopkins Medicine

“PD-1 Blockade: A Common Denominator for Cancer Therapy”

L.D. BRITT, MD, MPH, FACS LECTURE

Edward Barksdale, MD, FACS

UH Rainbow Babies and Children’s Hospital

Cleveland, OH

[Sponsored by CIGNA]

STATE OF THE ART LECTURE

Fabrizio Michelassi, MD, FACS

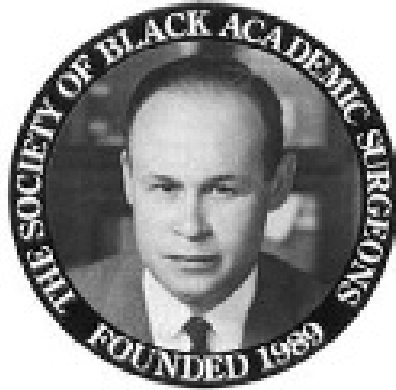
Chairman of Surgery, Weill Cornell Medical College

The Lewis Atterbury Stimson Professor of Surgery,

Weill Cornell Medical College

Surgeon-in-Chief, New York-Presbyterian Hospital

“Development of Standards for Quality Valued Care”



ABSTRACTS

#1

RACIAL MINORITIES UNDERGOING DISTAL PANCREATECTOMY FOR PANCREATIC CANCER ARE MORE LIKELY TO RECEIVE CARE AT LOW VOLUME CENTERS AND HAVE PROLONGED HOSPITALIZATIONS

**E. Eguia, A. Cobb, P. Sweigert, G. Aranha, M.S. Baker.
Loyola University Medical Center, Chicago, IL**

Introduction: Few studies evaluate the racial disparities in access and clinical outcomes of care for patients with pancreatic cancer.

Methods: We queried the Healthcare Cost and Utilization Project State Inpatient Database to identify patients undergoing distal pancreatectomy (DP) for pancreatic adenocarcinoma in FL, MD, MA, NY, and WA between 2012 and 2014. Multivariable linear and logistic regression (MVR) was used to evaluate the association between race and rates of postoperative complication, overall lengths of stay (LOS) and aggregate costs of care including readmissions to 90 days following DP. Candidate variables were determined *a priori* using best variable subsets and included: age, gender, insurance, race/ethnicity, Charlson comorbidity index (CCI), pathology (benign vs. malignant), annual hospital DP volume broken into terciles (low: <6 DPs/year; moderate: 641 DPs/year) and overall LOS.

Results: A total of 2,733 patients underwent DP; 265 (10%) were black, and 221 (8%) were of Hispanic ethnicity. On univariate analysis, a higher proportion of black and Hispanic patients had Medicaid Insurance (17% vs. 23% vs. 9%; $p<.01$), low income (49% vs. 39% vs. 22%; $p<.01$), prolonged overall LOS (13 vs. 11 vs. 10; $p<.01$), and 90 day readmissions (36% vs. 30% vs. 27%; $p<.01$) compared to the total population. Blacks and Hispanics were less likely to be treated in a hospital performing >10 DP/year (67% vs. 52% vs. 29%; $p<.01$). Black patients had higher 90-day cost of care (\$37,000 vs. \$32,000; $p = .02$) compared to the total population.

On MVR, Blacks and Hispanics were less likely than whites to undergo surgery in hospitals performing >10 DP/year (OR 0.58; 95% CI [0.44, 0.75]; OR 0.68; 95% CI [0.51, 0.92]). On MVR, black patients had a greater risk of prolonged LOS (OR 1.74; 95% CI [1.25, 2.44]) and 90-day readmissions (OR 1.53; 95% CI [1.15-2.02]) compared to white patients. On multivariable modeling not adjusting for LOS, black patients undergoing DP in high-volume centers had higher aggregate costs of care (\$12,157; 95% CI [\$2,878, \$21,436]) compared to white patients. On MVR adjusted for LOS, the cost of caring for black and Hispanics patients was identical to whites independent of hospital DP volume. Risk factors associated with prolonged LOS among black patients included: having a 90 day readmission (OR 1.86; 95% CI [1.14, 3.03]), low income (OR 9.25; 95% CI [3.50, 24.43]) and being discharged to a skilled nursing facility (OR 5.29; 95% CI [2.45, 11.42]) or home health (OR 2.35; 95% CI [1.32, 4.21]).

Conclusion: Black and Hispanic patients are less likely than whites to undergo distal pancreatectomy for cancer in high-volume centers. Black patients have increased risk of prolonged hospitalization and higher aggregate 90-day costs of care. Risk factors associated with black patients having a prolonged LOS included 90-day readmissions, low income, and postoperative disposition. These findings identify access to centers of excellence and social determinants of health such as housing, income and discharge environment as potential targets for preventive efforts to reduce readmissions and improve care quality among racial minorities being treated for pancreatic cancer.

NOTES

#2

ASSESSMENT OF BLACK/WHITE DIFFERENCES IN ALL-CAUSE MORTALITY AMONG PATIENTS WITH TRIPLE-NEGATIVE BREAST CANCER

A. Cobb, A. Silva, S. Lo, A. Balanean.
Loyola University Medical Center, Chicago, IL

Introduction: Although black and white women have a similar incidence of breast cancer, black women have a higher breast cancer mortality rate. The mortality is due, in part, to differences in tumor subtypes. Compared with white women, black women are more often diagnosed with aggressive tumors that have a poor prognosis, such as triple negative breast cancer (TNBC). Among women diagnosed with TNBC, some studies have noted that survival is worse for black women as compared to white women. However, other studies have failed to identify any differences.

Objective: The present study will leverage a large national hospital-based cancer registry to evaluate all-cause mortality differences, overall and by stage, in this high risk population of breast cancer patients.

Methods: This study is a retrospective analysis of patients with breast cancer diagnosed between 2010 and 2014 who were included in the National Cancer Data Base (NCDB). Sponsored by the Commission on Cancer of the American College of Surgeons and the American Cancer Society, the NCDB is a nationwide cancer database that captures approximately 70% of all newly diagnosed cancers in the United States from approximately 1,500 hospitals accredited by the Commission on Cancer. Patients were included if they were non-Latina (nL) black or nL white and were diagnosed with stage I-IV tumors. Cox proportional hazards regression was used to estimate hazard ratios (HR) and corresponding associated 95% confidence intervals (CI). The baseline model adjusted for age and comorbidity. Additional models sequentially adjusted for tumor characteristics, treatment receipt, environmental factors (e.g., urbanicity), and then hospital facility characteristics (e.g., cancer program type). All models were stratified by stage.

Results: A total of 15,796 nL black and 51,643 nL white patients were identified. Baseline models showed that among all (stages) women with TNBC, black women had a 23% higher risk of mortality as compared to white women (HR=1.23; 95% CI: 1.19-1.28). However, these racial/ethnic differences were eliminated after adjusting for tumor characteristics (including stage) and treatment receipt. Stratified baseline models revealed that racial/ethnic disparities were limited to women with Stage I (HR=1.16; 95% CI: 1.05-1.27) or Stage III cancers (HR=1.12; 95% CI: 1.04-1.20). After accounting for differences in tumor characteristics and treatment, the disparities were erased. Among women with Stage II and IV TNBC, no racial/ethnic differences in survival were noted in the baseline models nor in any of the adjusted models.

Conclusion: Black/White disparities in all-cause mortality among women with TNBC varied by stage at diagnosis. Differences in tumor characteristics and treatment helped explain the disparity among those with Stage I or III cancers. More equitable access to treatment could help ameliorate mortality disparities among women with TNBC.

NOTES

#3

NATIONAL TRENDS IN THE UTILIZATION OF PARTIAL NEPHRECTOMY

M.F. Nunez, O.A. Olufajo, W. Southerland, A. Medwalli.
Howard University Hospital, Washington, DC

Introduction: Due to widespread utilization of modern surgical techniques, treatment patterns for kidney cancer have evolved during the past decade. Partial Nephrectomy (PN) has been demonstrated to achieve oncologic outcomes equivalent to those produced by Radical Nephrectomy (RN) in localized kidney tumors, leading to a reduced risk of adverse outcomes such as chronic kidney disease linked to the RN.

Objective: To evaluate contemporary practice pattern trends in the use and outcomes of PN in the US.

Methods: A retrospective analysis of 2005 -2014 data from the National Inpatient Sample identified adult (≥ 18 yo) patients who underwent nephrectomy for a diagnosis of malignant neoplasm of kidney. Patients were classified based on the type of nephrectomy into RN and PN. Nationally-representative survey weights were used for subsequent analyses. The proportion of patients treated with partial nephrectomy was calculated for each year. Demographic, clinical and hospital factors were extracted for each patient. Patterns of hospital mortality and length of stay (LOS) were determined. Using multivariate logistic regression models, factors associated with the use of partial nephrectomy were identified.

Results: A total weighted sample of 352,653 patients was included. The proportion of patients undergoing PN increased from 19.3% in 2005 to 36.8% in 2014 ($p < 0.001$). LOS for patients undergoing PN was 4.16 days vs. 5.38 days in patients undergoing RN ($p < 0.001$). Overall mortality rate was 0.73% (0.27% in PN vs. 0.92% in RN, $p < 0.001$). Among patients who underwent PN, the mortality rate went from 0.42% in 2005 to 0.22% in 2014 and LOS from 5.04 days in 2005 to 3.5 days in 2014. In the multivariate analysis, younger patients, female gender, private insurance, high household income and urban teaching hospital status were associated with performing PN.

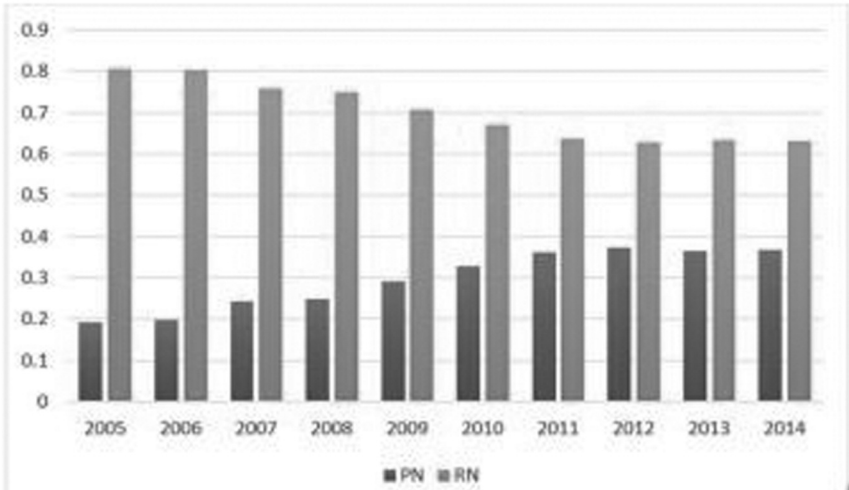


Figure 1. National trends of partial and radical nephrectomy.

	Odds Ratio	P value	[95% Conf. Interval]
Age_cat (years)			
40-59	0.62766	0	.5822285 - .6766366
60-79	0.557529	0	.5155643 - .6029104
>80	0.243073	0	.2171853 - .272047
Female			
	1.079511	0	1.0432 - 1.117085
Insurance			
Medicare	0.776489	0	.7436893 - .8107347
Medicaid	0.800491	0	.7435151 - .8618323
Uninsured	0.693829	0	.6203961 - .7759541
Other	0.852746	0.001	.7738354 - .9397031
Hospital_type			
Urban non-teach	1.049984	0.291	.9590799 - 1.149505
Urban teach	1.821213	0	1.669997 - 1.986122
Median household income QT			
2	1.050186	0.047	1.000566 - 1.102267
3	1.131914	0	1.078763 - 1.187683
4	1.324444	0	1.26197 - 1.390011

Figure 2. Multivariate analysis: likelihood of undergoing partial nephrectomy.

Conclusion: Although the use of PN has increased in the United States in the last decade, there remains a significant underutilization of this procedure, particularly among the elderly, male, and socio-economic disadvantaged population. Strategies to optimize the adoption of PN in rural and non-academic hospitals need to be evaluated.

#4

RACIAL DISPARITIES IN IVC FILTER PLACEMENT FOR BARIATRIC SURGERY: A MBSAQIP DATABASE ANALYSIS

M.A. Edwards, M. Mazzei, R. Bashir.
Mayo Clinic, Jacksonville, FL

Introduction: Inferior vena cava (IVC) filter placement as prophylaxis in bariatric surgery patients is a physician- and patient-dependent practice pattern with unclear safety and efficacy. There is data to suggest that prophylactic IVC filters do not prevent PE and may cause additional complications. It is unclear what factors mediate physicians' decisions for IVC filter placement preoperatively. We hypothesized that it is partially influenced by patient race and ethnicity.

Methods: Using the MBSQIP database, we identified patients undergoing primary bariatric procedures from 2015-2016. Univariate analysis and multivariate logistic regression was used to examine the association between white versus black race and receipt of an IVC filter preceding bariatric surgery. General and venous thromboembolism (VTE)-related outcomes were compared across races.

Results: Of the 226,872 black or white patients who underwent primary sleeve or gastric bypass, 1,578 (0.69%) had a prophylactic IVC filter placed. Black patients were nearly three times as likely to undergo IVC filter placement despite having lower baseline rates of DVT, PE and limited ambulation or total dependence status. On multivariate analysis, black race was an independent predictor of IVC filter placement. Black patients receiving IVC filters had higher rates of 30-day outcomes and VTE complications (*Table 1*).

Conclusion: In this large database analysis, black race is independently associated with the likelihood of receiving prophylactic IVC filter, despite lower rates of risk factors. Future research, including a larger sample size and matched cohort analysis, is needed to confirm this finding and identify the causes of this racially-mediated inconsistency in care.

Table 2. Demographics and 30-day outcomes in bariatric patients with prophylactic IVC filtered by Race

	Race_White [n = 863/180,530]	Race_Black [n = 717/46,342]	OR	P-value
% of Study Population Receiving IVC Filter (n = 226,872)	0.48%	1.52%	3.19	<0.001
Comorbid Conditions in the setting of IVC Filter placement				
Age	56.71	57.38	1.01	0.252
BMI, Highest	53.91	55.16	1.02	0.022
ASA Score	3.05	2.98	0.98	<0.001
History of MI	3.95%	1.39%	0.35	0.002
Hypertension	66.43%	65.41%	0.98	.669
Diabetes	36.70%	29.71%	0.81	0.003
COPD	7.32%	2.93%	0.4	<0.001
Smoking within one year	9.41%	13.95%	1.48	0.005
History of DVT	27.53%	13.95%	0.51	<0.001
History of PE	22.42%	9.90%	0.44	<0.001
Limited Ambulation	12.08%	5.44%	0.45	<0.001
Need for Therapeutic Anticoagulation	25.20%	10.18%	0.4	<0.001
Partial Dep.	4.88%	3.35%	0.69	0.13
Total Dep.	1.51%	0.28%	0.18	0.012
COPD	7.32%	2.93%	0.4	<0.001
Home O2	3.60%	1.39%	0.39	0.006
30-Day Perioperative Outcomes in the setting of IVC Filter placement				
Postoperative Length of Stay	2.32	1.93	0.83	0.002
Intervention	7.43%	12.13%	1.63	0.002
Reoperation	2.09%	2.51%	1.2	0.578
Readmission	5.34%	9.62%	1.8	0.001
Mortality	0.23%	0.98%	4.2	0.051
VTE	2.79%	3.49%	1.25	0.425

ASA Score = American College of Surgeons perioperative risk score; BMI = body mass index; COPD = chronic obstructive pulmonary disease; DVT = deep vein thrombosis; PE = inferior vena cava; LOS = length of stay; MI = myocardial infarction; OR = odds ratio; PE = pulmonary embolism; VTE = venous thromboembolism

NOTES

**COMPARING THE EFFECT OF DISTANCE
TO TREATMENT FACILITY ON
RECONSTRUCTION AND BREAST
CONSERVATION THERAPY FOR EARLY STAGE
INVASIVE DUCTAL CARCINOMA BETWEEN
THE NATION AND THE MOUNTAIN REGION**

D. Cheng, J. Baynosa, D. Kirgan, C. St. Hill.
UNLV School of Medicine, Las Vegas, NV

Introduction: Treatment patterns for early stage invasive ductal carcinoma (IDC) vary across the nation and continue to evolve with time. Nationwide, the use of breast conservation therapy (BCT) has decreased over time, likely due to increased rates of reconstruction. There is currently no literature looking specifically at the Mountain Region (MR). In our region, we suspect BCT has similarly decreased, but without a proportionate increase in reconstruction. Due to the geographical constraints of the region, we suspect a decrease in BCT is associated with increased distances to treatment facilities that hinder completion of radiation therapy.

Methods: Utilizing the National Cancer Database (NCDB), we identified 171,967 cases of females, age < 65, with Stage I (AJCC 6th Edition) IDC from 2004 to 2015. We identified cases within the MR (AZ, CO, ID, MT, NM, NV, UT, WY). Using logistical regression analysis, we compared radiation, mastectomy, and reconstruction treatment patterns across several demographic and clinical strata. A subgroup analysis was performed within the MR.

Results (see Tables): There are significant differences in Age, Race, Ethnicity, Facility Type, Primary Payer, Charlson/Deyo Score, Location, and Year of Diagnosis between the Non-Mountain and MR. A greater proportion of patients in the MR live > 50 miles from their treatment facility ($p < 0.01$). Using logistical regression analysis, we controlled for the above differences. Nationwide, from 2004-2009 to 2010-2015, there is a trend towards decreasing odds of radiation, increasing odds of mastectomy (compared to partial mastectomy), and increasing odds of reconstruction.

Compared to those living 0 to 25 miles from their facility, patients living > 50 miles from their facility were 0.53x less likely to receive external beam radiation (p<0.01), 1.65x more likely to undergo mastectomy (p<0.01), and 1.42x more likely to undergo reconstruction (p<0.01). Living within the MR increased the odds of undergoing mastectomy by 1.07x (p=0.023). Within the MR, from 2004-2009 to 2010-2015, there is a similar trend of increasing rates of mastectomy and reconstruction. Compared to those living 0 to 25 miles from their facility, patients living > 50 miles from their facility were 0.71x less likely to receive external beam radiation (p<0.01) and 1.35x more likely to undergo mastectomy (p<0.01). However, patients living > 50 miles from their facility were 0.73x less likely to undergo reconstruction (p=0.017).

Conclusion: Nationwide, decreased odds of external beam radiation are consistent with decreasing rates of BCT for Stage I IDC. This is associated with overall increasing odds of mastectomy and reconstruction. In addition, patients living > 50 miles from their facility appear to be opting for mastectomy and reconstruction over BCT, which may be due to the vigorous radiation schedule required. However, within the MR, a similar decreased odds of radiation in those living > 50 miles from their facility is not accompanied by an increased odds of reconstruction. In the MR, patients unable to complete a course of radiation due to geographic constraints are less likely to experience the same benefits of reconstruction seen nationwide. Efforts should be made to increase access to reconstruction or radiation for BCT in our region.

Nationwide Treatment Patterns	Radiation		Mastectomy (versus Partial Mastectomy)		Reconstruction	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
<i>Age</i>	1.02	<0.01	0.97	<0.01	0.94	<0.01
<i>Race:</i> White						
Black	1.00	0.94	0.94	<0.01	0.72	<0.01
American Indian/Native American	0.98	0.87	0.89	0.37	0.66	0.049
Asian	0.81	<0.01	1.29	<0.01	0.73	<0.01
National Hawaii/Pacific Islander	1.29	0.058	0.82	0.17	0.56	0.012
Other	0.81	<0.01	1.12	0.16	1.03	0.77
<i>Ethnicity:</i> Non-Hispanic						
Hispanic	0.85	<0.01	1.06	0.047	0.97	0.45
<i>Charlson Deyo Score:</i> 0						
1	0.75	<0.01	1.37	<0.01	1.17	<0.01
2	0.56	<0.01	1.79	<0.01	0.99	0.95
3	0.58	<0.01	1.61	<0.01	0.86	0.52
<i>Primary Payer:</i> Uninsured						
Private Insurance	1.14	<0.01	0.92	0.055	2.59	<0.01
Medicaid	1.00	1.00	1.07	0.18	1.44	<0.01
Medicare	0.84	<0.01	1.19	<0.01	1.78	<0.01
Other Government	1.01	0.91	1.02	0.81	2.36	<0.01
Unknown	0.82	<0.01	0.86	0.025	1.03	0.82
<i>Facility Type:</i> Community Cancer Program						
Comprehensive Community Cancer Program	0.88	<0.01	1.19	<0.01	1.79	<0.01
Academic Research Program	0.81	<0.01	1.30	<0.01	2.47	<0.01
Integrated Network Cancer Program	0.80	<0.01	1.32	<0.01	2.47	<0.01
<i>Great Circle Distance:</i> 0-25 miles from facility						
26-50 miles from facility	0.77	<0.01	1.26	<0.01	1.19	<0.01
>50 miles from facility	0.53	<0.01	1.65	<0.01	1.42	<0.01
<i>Year of Diagnosis:</i> 2004-2009						
2010-2015	0.84	<0.01	1.38	<0.01	1.67	<0.01
<i>Location:</i> Non-Mountain Region						
Mountain Region	0.95	0.064	1.07	0.023	1.13	<0.01

Table 1

Mountain Region Treatment Patterns						
	Radiation		Mastectomy (versus Partial Mastectomy)		Reconstruction	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
<i>Age</i>	1.02	<0.01	0.96	<0.01	0.94	<0.01
<i>Race: White</i>						
Black	1.23	0.30	0.65	0.047	0.74	0.32
American Indian/Native American	1.09	0.76	0.74	0.29	1.01	0.99
Asian	0.76	0.17	1.48	0.042	0.65	0.16
National Hawaii/Pacific Islander	0.48	0.28	0.91	0.89	0.63	0.66
Other	0.65	0.31	2.09	0.081	0.63	<0.01
<i>Ethnicity: Non-Hispanic</i>						
Hispanic	0.79	0.034	1.13	0.30	0.56	<0.01
<i>Charlton/Dejo Score: 0</i>						
1	0.83	0.052	1.29	<0.01	1.20	0.20
2	0.62	0.095	1.37	0.30	0.21	0.13
3	0.38	0.30	1.32	0.75	3.34	0.28
<i>Primary Payer: Uninsured</i>						
Private Insurance	1.02	0.90	1.06	0.76	2.67	<0.01
Medicaid	1.16	0.46	0.99	0.96	1.19	0.67
Medicare	0.89	0.56	1.21	0.38	1.44	0.40
Other Government	1.05	0.86	0.95	0.86	2.26	0.066
Unknown	0.94	0.84	1.35	0.28	1.77	0.27
<i>Facility Type: Community Cancer Program</i>						
Comprehensive Community Cancer Program	0.74	0.005	1.05	0.68	2.08	<0.01
Academic/Research Program	0.96	0.76	1.00	0.97	1.74	<0.01
Integrated Network Cancer Program	1.04	0.76	0.99	0.95	2.52	<0.01
<i>Great Circle Distance: 0-25 miles from facility</i>						
26-50 miles from facility	0.92	0.40	1.12	0.22	0.98	0.85
>50 miles from facility	0.71	<0.01	1.35	<0.01	0.73	0.017
<i>Year of Diagnosis: 2004-2009</i>						
2010-2015	0.96	0.67	1.33	<0.01	1.55	<0.01

Table 2

NOTES

#6

RACIAL DISPARITIES IN SURGICAL CARE AND MORTALITY ACROSS TUMOR TYPES OF VARYING PROGNOSIS: A SEER ANALYSIS FROM 2000-2015

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Introduction: Cancer is the second leading cause of mortality among black Americans. Therapeutic interventions can reduce cancer mortality if patients have access to and receive the appropriate care.

Objective: To assess access to care and the impact on mortality, we compared surgical intervention for black and white patients with cancer. We hypothesized that black patients with cancer undergo fewer surgical interventions than white patients.

Methods: We used the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) Registry to identify patients over the age of 18 years, race black or white, diagnosed with pancreas, colorectal, or prostate cancer from 2000-2015. We performed logistic regression to determine the difference in surgical intervention for black compared to white patients. We performed a survival analysis between black and white patients using Cox regression and Kaplan-Meier curves. All analyses were adjusted for sex, age, insurance status, and stage of cancer.

Results: A total of 764,712 patients met inclusion criteria with diagnosis of pancreatic (n=69,631), colorectal (n=284,294) or prostate (n=410,787) cancer. The 5-year overall survival in this cohort was poor for pancreatic cancer (survival = 11%), intermediate for colorectal cancer (survival = 69%) and high for prostate cancer (survival = 94%). In adjusted logistic regression analysis, black patients were significantly less likely to undergo surgical intervention compared to white patients across all tumor types (pancreatic cancer [= -0.33 (95% CI -0.40 to -0.26) p<0.0001], colorectal cancer [= -0.22 (95% CI -0.25 to -0.18) p<0.0001], and prostate cancer [= -0.53 (95% CI -0.55 to -0.51) p<0.0001]).

In an adjusted Cox regression model, as the prognosis of the tumor improved, there was an increased risk of death among black compared to white patients (pancreatic cancer [HR = 1.07 (95% CI 1.03-1.10) p<0.0001], colorectal cancer [HR = 1.22 (95% CI 1.19-1.24) p <0.0001], and prostate cancer [HR = 1.49 (95% CI 1.45-1.54) p<0.0001]. When stratifying patients into presence or absence of surgical intervention, there was no significant reduction in the mortality difference for black compared to white patients.

Conclusion: Among poor-, intermediate-, and good-prognosis tumor types, black patients consistently were less likely to undergo surgical intervention compared to white patients. As the prognosis (and therefore treatability) of the tumor type improved, the mortality gap between black and white patients widened. Surgical intervention did not reduce this mortality gap between black and white cancer patients. Potentially other treatment modalities such as chemo- or radiation therapy have a larger influence on reducing this disparity.

NOTES

#7

**RACIAL AND ETHNIC DISPARITIES IN
OUTCOMES AFTER ESOPHAGECTOMY
ARE ELIMINATED WITH TREATMENT
AT A HIGH-VOLUME CENTER**

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Introduction: Significant racial and ethnic disparities in esophageal cancer treatment and survival have previously been demonstrated. Race has been linked to delayed diagnosis, decreased oncology referrals, reduced likelihood of receiving curative treatment, and increased risk of postoperative mortality. Black patients are less likely to undergo surgery at a high-volume center and have been demonstrated to have higher postoperative mortality after esophagectomy. While the etiology of these inequalities remains undefined, access to high-quality care likely plays an important role.

Objective: To determine whether observed differences in health outcomes between White and Non-White patients persist after surgical treatment is undertaken at a high-volume facility.

Methods: Esophageal cancer patients were identified from a prospectively maintained institutional database of esophagectomies performed between 1995 and 2018. Clinicopathologic and perioperative outcomes were compared by race (White and Non-white). Cohorts were matched by age, gender, comorbidity status, clinical stage (2 or 3), and histology. In a sub-analysis, Non-white patients were further classified as Black, Hispanic and Asian. Continuous variables were assessed using the Wilcoxon rank sum test and categorical variables using Chi Square. Cumulative incidence was determined for recurrence and loss to follow-up between cohorts. Survival was evaluated using the Kaplan Meier method. Cumulative incidence and survival were compared between groups using Grays and log-rank test, respectively. Logistic regression was performed to identify factors predictive of postoperative 30-day complications and mortality.

Results: Of 2,140 total esophagectomies, 748 procedures met study criteria. There were 576 White (77%) and 172 Non-white patients (23%). Unmatched clinicopathologic data is presented in *Table 1*. White patients had a higher incidence of cardiac disease ($p<.0001$). Non-white patients were more likely to have squamous cell carcinoma histology (39% vs. 25%) and proximal/middle tumor disease (15% vs. 6%) ($p<.0001$). Non-white patients had longer median length of stay (13 days vs. 11 days, $p=0.01$). On logistic regression, independent predictors of 30-day complications included diabetes, pulmonary, and cardiac comorbidities. Independent predictors of 30-day mortality included age, proximal/middle tumor location, cardiac comorbidity, and diabetes.

The matched cohort contained 61 White and Non-white patient pairs. Matched cohort outcomes are outlined in *Table 2*. Overall, Non-white patients received neoadjuvant therapy less frequently than White patients. On postoperative pathology, Non-white patients had less nodal disease. Non-white patients had better response to induction therapy, as evidenced by the higher frequency of pathological stage 0-1 (35%) as compared to Whites (23%). No differences were observed in 30-day complication or mortality rate. There was no significant difference in recurrence or overall survival.

Table 1
Unmatched Clinicopathologic Characteristics
of White & Non-White Patients

Clinicopathologic Data	White (n=576)	Non-White (n=172)	P Value
Age, years, median (IQR)	62 (56-69)	63 (54-70)	0.038
Male Gender (%)	453 (79)	128 (73)	0.243
BMI, median (IQR)	26 (21-30)	26 (23-30)	0.417
Histology (%) Adenocarcinoma/HGD Squamous Cell Carcinoma	435 (76) 141 (25)	105 (61) 67 (39)	<0.001
Comorbid Conditions			
Pulmonary	52(9)	18 (11)	0.51
Cardiac	221 (39)	44 (26)	0.003
Diabetes	91 (16)	43 (26)	0.004
Clinical Stage			
2	192 (33)	66 (38)	0.22
3	384 (67)	106 (62)	

Table 2
Outcomes of Matched Patient Cohort

Operative/Pathologic Data		White (n=61)	Non White (n=61)	P Value
Neoadjuvant	Any	58 (95)	48 (79)	<0.001
	Chemo	57 (93)	46 (75)	
Pathologic N Stage	0	18 (30)	33 (54)	<0.001
	1	23 (38)	14 (23)	
	2	15 (25)	9 (15)	
	3	5 (8)	5 (8)	
Pathologic Stage	0	10 (16)	9 (15)	0.032
	1	4 (7)	12 (20)	
	2	14 (23)	19 (31)	
	3	33 (54)	19 (31)	
	4	0 (0)	2 (3)	
Total Nodes Harvested	Mean (SD)	21 (6.7)	24.6 (10.9)	<0.001
Total Positive Nodes Harvested	Mean (SD)	2.6 (3.2)	1.7 (3.4)	<0.001
Health Outcomes		White (n=61)	Non White (n=61)	P Value
Median Length of Stay	Days (IQR)	11 (9-21)	11 (10-22)	0.643
Reoperation	Y (%)	2 (5)	4 (11)	0.322
In-Hospital Mortality	Y (%)	6 (10)	3 (5)	0.287
30-Day Mortality	Y (%)	2 (3)	2 (3)	0.621

** Surgery Type, Year of Surgery, and Tumor location not statistically significant

Conclusion: Non-white patients that receive surgical treatment at a high-volume facility achieve equitable perioperative outcomes compared to White patients with resectable esophageal cancer. Observed racial and ethnic disparities may reflect limited access to high-quality treatment.

NOTES

#8

RACIAL SEGREGATION WITHIN NEW YORK CITY'S HEALTHCARE SYSTEM

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Introduction: While efforts to desegregate our society are ongoing, the extent to which racial segregation affects our health system remains unclear.

Methods: Analysis of the New York Statewide Planning and Research Cooperative System (SPARCS) was performed for 2010-2016. All non-newborn patients were included. Extraction was limited to New York City (NYC) given its known gender and racial diversity (53.9% female, 33.2% white, 22.9% black, 29.9% Hispanic; U.S. Census Bureau). Primary outcome was racial composition of patients seen by individual surgeons and hospitals (surgical and non-surgical patients were included for the latter). Cardiothoracic, Colorectal, General, Plastic, Thoracic, and Vascular surgeons who are fellows of the American College of Surgery were included. A sensitivity analysis exploring gender mix of patients was performed for these same groups. Upper and lower extremes were defined as surgeons and hospital with patient compositions (by gender and race) greater and lower than one SD from the respective population mean.

Results: A total of 7,041,190 patients were analyzed among 776 surgeons and 55 hospitals. The mean % of female patients for surgeons and hospitals were 52.7% (SD 15.9%) and 57.0% (SD 7.7%) respectively, and the mean % of white patients were 45.4% (SD 28.7%) and 35.5% (SD 25.8%) respectively. There were 12.6% of surgeons in the upper extreme of female patients, while there were 21.5% in the upper extreme of white patients. Similarly, there were 12.3% of hospitals in the upper extreme of female patients, while there were 20.3% of hospitals in the upper extreme of white patients (*Figure 1*).

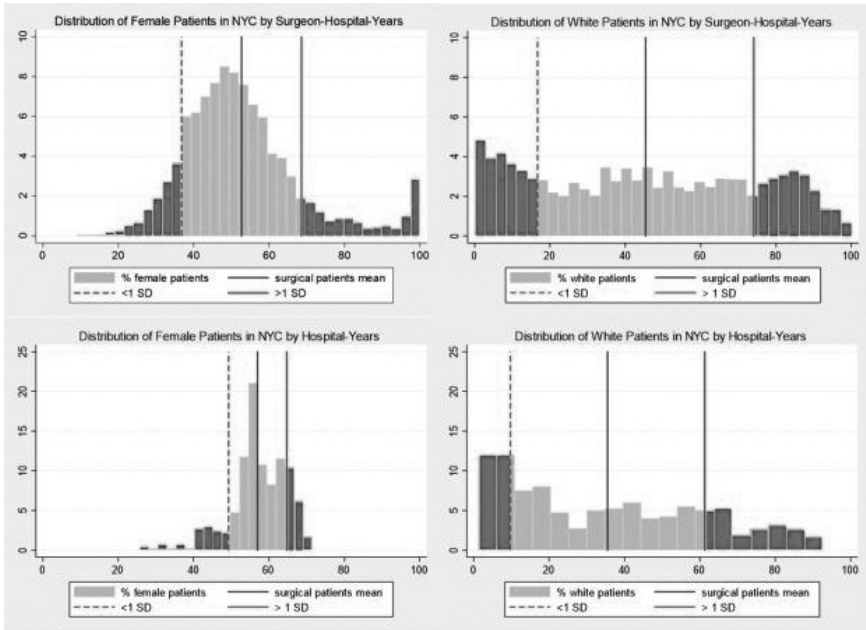


Figure 1

Conclusion: High levels of racial segregation are observed within NYC’s health system. This inequality in care is particularly striking given its racially diverse population. Future studies should investigate contributors to this segregation, including obstacles to patient access, referral biases, and system-wide issues.

NOTES

**BLACK FEMALE SURGEON SCIENTISTS:
UNDERREPRESENTED AND UNDERFUNDED
WITHIN THE FIELD OF ACADEMIC SURGERY**

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Introduction: Despite increasing ethnic/racial and gender diversity in United States (U.S.) medical schools and residencies, Black women continue to be underrepresented within the field of academic surgery. It is well established that surgeon-scientists who are academically productive are more likely to achieve promotion and tenure.

Objective: To report the prevalence of Black female surgeons among U.S. medical school faculty and to assess the number of NIH grants awarded to Black female surgeon-scientists over the past two decades.

Methods: A retrospective review of the Association of American Medical Colleges (AAMC) 2017 Faculty Roster and the National Institutes of Health (NIH) Funding data (1998-2017) was performed. Data from the AAMC included the total number of medical school surgery faculty, subspecialty, academic rank, tenure status, and department chair roles. The number of NIH grants awarded to surgeons was obtained and then stratified by race and gender. Descriptive statistics for Black female academic surgeons were performed.

Results: Of the 15,671 U.S. medical school faculty, 124 (0.79%) were Black female surgeons. When stratified by academic rank, 15 (12%) Black female surgeons were instructors, 73 (59%) were assistant professors, 19 (15%) were associate professors, and 10 (8%) were professors of surgery. Of the 2,011 tenured surgical faculty, 11 (0.54%) were Black females. Most Black female surgeons (68%) in this data set were not on the tenure-track. Of the 372 department chairs of surgery, there were no Black women, 10 (2.7%) were Black men, 276 (74.2%) were White men, and 12 (3.2%) were White women. Of the 9,139 NIH grants awarded to academic surgeons between 1998 and 2017, 31 (0.34%) grants were awarded to fewer than 12 Black female surgeons (*Table 1*).

Table 1
Number of Academic Surgeons Receiving NIH Funding
from 1973 to the Present

Fiscal Years	Total Under-represented Minorities by Race	Total Hispanic or Latino Ethnicity	Total Black or African American	All Races/Ethnicities			
				Female	Male	Gender Unknown/Withheld	Total
1973-1977	17	<11	<11	21	782	283	1,086
1978-1982	12	<11	<11	20	846	369	1,235
1983-1987	23	<11	<11	50	906	314	1,270
1988-1992	36	<11	20	80	1,181	244	1,505
1993-1997	64	24	41	119	1,530	76	1,725
1998-2002	67	38	35	178	1,734	45	1,957
2003-2007	96	76	56	328	2,122	31	2,481
2008-2012	92	73	57	431	1,966	<11	2,407
2013-2017	83	109	46	440	1,830	24	2,294
Total	490	340	273	1,667	12,897	1,396	15,960

Fiscal Years	Black or African American			
	Female	Male	Gender Unknown/Withheld	Total
Total 1998-2017	31	163	<11	194

**Data acquired from the NIH Freedom of Information Act Office*

Conclusion: Although these datasets do not take into account all surgical subspecialties and may be limited by self-reporting, the overall results confirm that Black women are grossly underrepresented in the field of academic surgery. Few attain promotion to the rank of professor with tenure. To date, a Black woman has yet to ascend to the role of department chair of surgery. These results can be used for programmatic development of Black women as surgeon-scientists as a strategy for attaining promotion and tenure within the field of academic surgery.

NOTES

#10

THE IMPACT OF AN ENHANCED RECOVERY PERIOPERATIVE PATHWAY FOR PEDIATRIC PECTUS EXCAVATUM REPAIR

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Introduction: Chest wall deformities are a common occurrence in pediatric patients. Techniques for repair of chest wall deformities are associated with both significant pain and hospital resource utilization. Standardized care protocols improve surgical outcomes, reduce hospital resource use, and increase patient satisfaction. To improve perioperative outcomes, we introduced an Enhanced Recovery Pathway (ERAS) for the care of our post-surgical pectus excavatum patients. Our aim was to determine if the ERAS pathway led to improvements in pain control and reduced resource utilization in post-surgical pectus excavatum patients.

Methods: We introduced our ERAS pathway on August 1, 2015. To analyze our results, we queried our institutional electronic medical record (EMR) for the CPT codes for minimally invasive repair of pectus excavatum (Nuss: 21743) and modified open thoracoplasty (Ravitch: 27140) procedures from June 2014 (the initiation of our EMR) to August 2018 (date of analysis). We then grouped patients based on the timing of their surgery into our pre-intervention group (June 2014 to July 2015) and our post-intervention group (December 2015 to August 2018). Next a retrospective chart review was performed for our primary and secondary outcomes. Patients were separated by procedure prior to analysis and comparison of pre-intervention group to post-intervention group. Data were compared using student t-test, Fishers exact test, and chi-square analysis ($p < 0.05$) where applicable.

Results: For both procedures, each group had similar distributions of age, sex, ASA status and Haller Index. **Nuss procedure (Table 1):** There were a total of 41 patients (13 pre-ERAS patients and 28 post-ERAS patients). There was no difference in length of procedure, length of stay, or postoperative pain scores between the two groups.

There was a significant increase in total postoperative morphine equivalents in the post-ERAS intervention group; however, they had a lower incidence of postoperative pruritus. **Ravitch procedure (Table 2):** There were a total of 14 patients (4 pre-ERAS patients and 10 post-ERAS patients). There was no difference in length of procedure or length of stay between the two groups. The post-ERAS intervention group did have a significant decrease in intraoperative morphine equivalents and discharge pain scores.

Conclusions: This study demonstrates the successful implementation of an ERAS protocol for perioperative care of patients that have undergone surgery for chest wall deformities. ERAS in Nuss procedure patients had the unexpected finding of an increase in total morphine use in the post-intervention group. The ERAS protocol failed to show any other differences in the Nuss group. Ravitch patients had significant improvement in pain scores. Revisions to our current protocol may demonstrate an impact in the target areas of pain control and resource utilization. The small number of patients in each arm limits the ability to determine statistically significant changes related to the use of the ERAS protocol. Implementation of a multi-institutional protocol would be necessary to achieve statistical significance to show improvements in pain control, resource utilization and patient satisfaction.

Table 1: Nuss Procedure Outcomes

Nuss Outcomes	Pre ERAS Intervention (n=13)	Post ERAS Intervention (n=28)	p Value
Length of procedure (minutes)	164.8±68.65	175.3±42.23	0.55
Length of postoperative Stay (days)	4.92±0.49	5.32±1.28	0.15
Total Epidural Time (hours)	90.75±11.22	84.81±30.71	0.19
Intraop morphine equivalents (mg/kg)	0.22±0.15	0.15±0.08	0.056
Total postop morphine equivalents (mg/kg)	1.75±0.58	2.64±1.35	0.005*
Discharge pain scores	3.00±2.24	2.25±2.29	0.33
<i>Data reported as mean± standard deviation Pain scores reported using 0-10 scale or FLACC scale. Data reported as mean± standard deviation *p value<0.05 indicates statistical significance</i>			

Table 2: Ravitch Procedure Outcomes

Ravitch Outcomes	Pre ERAS Intervention (n=4)	Post ERAS Intervention (n=10)	p Value
Length of procedure (minutes)	357.8±73.94	391.6±90.78	0.522
Length of postoperative Stay (days)	6.25±1.89	5.6±0.84	0.37
Total Epidural Time (hours)	104.3±22.21	75.35±36.36	0.168
Intraop morphine equivalents (mg/kg)	0.380±0.176	0.181±0.079	0.01*
Total postop morphine equivalents (mg/kg)	1.435±0.911	1.987±1.309	0.460
Discharge pain score	4.50±1.29	2.00±2.10	0.04*
<p><i>Data reported as mean± standard deviation</i> <i>Pain scores reported using 0-10 scale or FLACC scale. Data reported as mean± standard deviation</i> <i>*p value<0.05 indicates statistical significance</i></p>			

NOTES

#11

EVALUATING THE ASSOCIATION BETWEEN PATIENT ETHNICITY, INTRAOPERATIVE PAIN MANAGEMENT AND POSTOPERATIVE OUTCOMES OF CHILDREN UNDERGOING CYTOREDUCTIVE SURGERY WITH HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY

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Introduction: Studies have suggested ethnic-based differences in perioperative pain management and postoperative outcomes.

Methods: A retrospective study of 94 children who had undergone cytoreductive surgery with hyperthermic intraperitoneal chemotherapy was performed. Fishers exact or Chi-square test was used to evaluate the association between perioperative characteristics and patient ethnicity. Logistic regression models were fitted to estimate the effect of ethnicity on surgical outcomes.

Results: The average age was 12 years, and 69% were Caucasian. The use of epidural analgesia ($p = 0.292$), intraoperative opioid administration ($p = 0.500$), early postoperative pain scores ($p = 0.186$), and length of stay ($p = 0.937$) were similar between Caucasian and non-Caucasian children. In the unadjusted model, patient ethnicity was not associated with the incidence of high-grade complications (odds ratio [OR], 95% confidence interval [95% CI]; 2.16 [0.66, 7.12], $p = 0.205$) or 30-day readmissions (OR 0.79, 95% CI [0.23, 2.71], $p = 0.702$).

Conclusion: In this study, intraoperative pain management and early postoperative outcomes were not associated with patient ethnicity.

#12

EFFECT OF SOCIODEMOGRAPHIC FACTORS ON OUTCOMES AFTER BARIATRIC SURGERY

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Introduction: Bariatric surgery is an effective treatment for obesity, resulting in both sustained weight loss and reduction in obesity-related comorbidities. It is uncertain how sociodemographic factors, including race and income, affect outcomes after Roux-en-Y gastric bypass and sleeve gastrectomy.

Methods: The Healthcare Cost and Utilization Project National Inpatient Sample from 2004 to 2014 was queried for patients undergoing Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy (SG). Postoperative length of stay (LOS) and in-hospital mortality were compared by race and income. The sample was analyzed using multivariable logistic regression analysis, adjusted for age, comorbidity, sex, and other hospital factors. Comorbidity severity was defined using the Elixhauser comorbidity index.

Results: There were 930,467 patients captured by the database during the study period, of which 637,985 had a RYGB and 292,482 had SG. Of the RYGB cohort, 37.7% were non-White, including 12.1% Black and 9.5% Hispanic. Of patients undergoing SG, 38.0% were non-White, including 15.9% Black and 12.3% Hispanic. Overall there were 1,127 in-hospital deaths (0.2%). In adjusted logistic regression, patients who were Black (OR 1.38, 95% CI [1.27, 1.48]) had greater odds of increased postoperative LOS greater than 3 days. Other significant predictors of increased length of stay included older age, increasing comorbidity, and government funded insurance rather than private payors. There was no significant association between race and in-hospital mortality; however, lower income (top income quartile vs. bottom income quartile OR 0.65, 95% CI [0.44, 0.96]) and Medicaid (OR 2.11, 95% CI [1.29, 3.46]) and Medicare (OR 2.12, 95% CI [1.52, 2.98]) insurance rather than private were associated with significantly higher mortality.

Conclusion: Black patients undergoing RYGB or SG were more likely to experience prolonged LOS compared to other racial groups. Although race was not associated with in-hospital mortality, there was an association with reduced mortality among patients in higher median income quartiles.

NOTES

#13

STAPLED HEMORRHOIDOPEXY HAS BETTER OUTCOMES THAN EXCISIONAL HEMORRHOIDECTOMY

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Introduction: Hemorrhoids is a very common benign anal disease. Patients typically undergo surgical intervention with symptomatic disease and failure of nonsurgical management. The type of surgery depends on the grade of disease and surgeon.

Objective: To compare the short-term outcomes of stapled hemorrhoidopexy (HPX) and excisional hemorrhoidectomy (HDT).

Methods: We performed a 3-year (2014-2017) retrospective review of all patients who presented to our tertiary care hospital with a diagnosis of hemorrhoids and underwent either HPX or HDT. Patients were stratified into two groups based on the type of surgical intervention: HPX and HDT. The outcomes measured were postoperative pain control, need for analgesia, time to 1st bowel movement, and postoperative complications. Regression analysis was performed.

Results (see Table 1): A total of 189 patients were included. Mean age was 53±12 years, 67% were males, and median grade of hemorrhoids was 3[3-4]. Overall 62.5% patients underwent HPX. Patients who underwent HPX were more likely to have lower grades of hemorrhoids (3[3-4] vs. 4[3-4], p=0.03). Patients undergoing HPX had better pain control (p=0.02), lower requirement of analgesia over the first 3-days (p=0.02), and shorter time to 1st bowel movement (p=0.03) compared to HDT. Additionally, patients in HPX group had lower rates of postoperative complications (p=0.02). On regression analysis, HPX was independently associated with lower odds of complications (OR:0.79[0.49-0.89], p=0.02) and need for analgesia (OR:0.86[0.39-0.94], p=0.03).

Table 1. Outcome measure of the analysis			
Outcomes	Stapler Hemorrhoidopexy (n=118)	Excisional Hemorrhoidectomy (n=71)	p-value
Pain score at 24hrs, median[IQR]	3[1-5]	5[3-8]	0.02
30-d Complications, %	22%	31%	0.02
Postop Bleeding	21%	34%	0.01
Urinary retention	6%	13%	0.03
Constipation	3%	9%	0.04
SSI	3%	5%	0.12
Recurrence	13%	12%	0.14
Time to 1 st bowel movement, hrs., mean \pm SD	29 \pm 13	38 \pm 16	0.03

d=day, SSI= Surgical site infection

Conclusion: Stapled hemorrhoidopexy is less invasive, causes significantly less postoperative pain, and leads to earlier recovery. This procedure should be considered for grade 3 internal hemorrhoids.

NOTES

#14

LONG-TERM FOLLOW-UP ON WOMEN WITH BREAST CANCER WHO CHOOSE CONTRALATERAL PROPHYLACTIC MASTECTOMIES

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Introduction: There is an increasing trend of women with unilateral breast cancer opting for contralateral prophylactic mastectomy (CPM). We previously analyzed a cohort of women who chose CPM for various factors to help determine which patients are likely to undergo this procedure. We now seek to identify if these women have had any additional surgeries, recurrences, or deaths.

Methods: We retrospectively identified 98 women in our prospectively maintained database who met the inclusion criteria. Two patients were lost to follow-up and the final cohort included 96 patients with unilateral invasive breast cancer who underwent CPM. Patient demographics, tumor characteristics, and insurance status were also reviewed. Additional plastic surgery after completion of initial breast reconstruction was examined. Breast cancer recurrence and death were reviewed.

Results: The mean age at the time of diagnosis was 50.3 years. The majority of patients were married (78%) with children (59%). The cohort was largely Caucasian (73%) and insured (51%). The majority of women had breast reconstructive surgery at the time of their initial operation (64%). At a median follow-up of 9.1 years, 44% had additional plastic surgery (e.g., revision of the implant, fat grafting, or implant removal) on their reconstructed breast; 14% of the women had breast cancer recurrence and 11 women died due to breast cancer.

Conclusion: Our study is one of the few in the literature that has followed women with unilateral breast cancer who have chosen a CPM. The women tend to be Caucasian, insured, and choose to have breast reconstructive surgery. Many require additional plastic surgery over the years after their first reconstructive surgery. Recurrence and death are uncommon events in our group. Women who choose CPM need to be followed as to their long-term outcomes and morbidities.

#15

ASSOCIATIONS BETWEEN TREATMENT PATTERNS AND DISTANCE TO TREATING FACILITY AMONG PATIENTS WITH SOFT TISSUE SARCOMA OF THE EXTREMITY

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Introduction: The impact that distance travelled to a treatment facility has on treatment patterns and outcomes among patients with soft tissue sarcoma (STS) of the extremity has yet to be thoroughly investigated.

Methods: Information on patients treated for STS of the extremity between 2006 and 2015 was obtained from the National Cancer Database (NCDB). The median distance between patient's residence and their treatment facility was calculated and used to stratify patients into two groups: those who travelled less than the median distance and those who travelled greater than the median distance. Chi-square tests were used to test associations between categorical variables and distance to treatment. Kaplan-Meier survival estimates were calculated, and Cox regression was used to estimate the risk of cause-specific death.

Results: The sample included 21,763 patients with STS of the extremity. Mean age was 59.3 years, 54.6% were male, and 83.2% were white. The median distance travelled to treating facility was 15.6 miles. When stratified by distance to treatment, 49.0% travelled <15 miles and 51.0% travelled \geq 15 miles. Patients who travelled \geq 15 miles were more likely to have undifferentiated rather than well-differentiated tumors (OR=1.21; 95% CI: 1.11-1.33), and stage II (OR=1.16; 95% CI: 1.07-1.25) or stage III (OR=1.22; 95% CI: 1.13-1.32) disease rather than stage I disease compared to patients who travelled <15 miles. Also, patients who travelled \geq 15 miles to treatment were more likely to be treated at an academic rather than non-academic facility (OR=2.44; 95% CI: 2.30-2.59), undergo limb-sparing resection (OR=1.60; 95% CI: 1.46-1.77) or amputation (OR=1.96; 95% CI: 1.69-2.28) rather than no surgery, and receive chemotherapy (OR=1.26; 95% CI: 1.18-1.35) compared to patients who travelled <15 miles.

There was no difference in the risk of cause-specific death between patients who travelled ≥ 15 miles and those who did not (HR=1.00; 95% CI: 0.93-1.06).

Conclusion: Further research into reasons why greater distance travelled is associated with more advanced disease but comparable survival is warranted.

NOTES

#16

BREAST ONCOLOGY CARE CAPACITY-BUILDING IN AFRICA: MEETING NEEDS THROUGH AN INTERNATIONAL DISPARITIES RESEARCH PROGRAM

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Introduction: The breast cancer burden of low- and middle-income countries (LMIC) in Africa is rising, but these countries are tragically under-resourced with regard to multidisciplinary oncology services. Higher breast cancer mortality and higher incidence of triple negative breast cancer in African American compared to White American women generates questions regarding African ancestry as a marker of hereditary susceptibility for biologically-aggressive breast tumor phenotypes. These domestic and international disparities have prompted growing interest in global oncology collaborations, and these partnerships are often led by surgeons because surgical care is the mainstay of breast cancer management and because access to tissue is essential in research of solid organ malignancies. The extent to which these international collaborations can be capacity-building in LMIC is unclear, and African healthcare providers should contribute to discussions of how their needs can be optimally met.

Objective: To define the prioritized needs of African cancer care providers with regard to capacity-building achieved through international partnerships.

Methods: We surveyed attendees at two consecutive annual Breast Cancer in Africa symposia sponsored through a global breast cancer research collaborative. Respondents were asked to rank their preferences for needs from American partners from the following options: 1) Direct financial/monetary support; 2) Medical/hospital supplies; 3) Training opportunities in the USA; 4) Training programs conducted in Africa; 5) Academic recognition/authorship in publications; 6) Academic involvement as co-investigators on grant applications.

Results: 399 African attendees responded (170 at the 2017 conference in Ghana; 229 at the 2018 conference in Ethiopia). Physicians comprised 41.1% of respondents; nurses 20.1% and medical students 27.6%. Among physicians, training programs conducted in Africa was the top-ranked need, followed by donation of supplies (34.8% and 24.1%, respectively); among nurses, opportunities to train in the US was ranked highest (40.3%), followed by training programs in Africa and donation of supplies (22.4% each). Direct financial support was ranked highest by only 13.5% of physicians and 14.9% of nurses. In contrast, 34.4% of medical students ranked direct financial support as the top need from international partners, followed by training programs in Africa (22.4%), training in the US (20.8%) and donation of supplies (20.8%). The differences in priorities between physicians, nurses and students were statistically significant ($p < 0.0001$).

Conclusions: Practicing healthcare providers from Africa tend to prioritize training programs and donation of medical/hospital supplies above direct monetary support and academic recognition, whereas medical students show a preference for financial support. Whether these generational differences reflect patterns that will be sustained over time is worthy of ongoing study.

NOTES

#17

NARCOTIC PRESCRIBING PRACTICES IN PATIENTS WITH SURGICALLY TREATED DISTAL RADIUS FRACTURES

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Introduction: Over the past 20 years, misuse of opiates has dramatically increased, resulting in high incidence of overdoses, many of which result in fatalities, increased emergency room visits, increased healthcare costs, and diversion of narcotics in the community. While there are many factors contributing to this phenomenon, one possible contributor is the over-prescription of narcotics by physicians.

Objectives: The main objectives of this study were: 1) to identify current opioid prescription practices, 2) determine the quantity of narcotics prescribed by orthopedics/non-orthopedic team members to narcotic-naïve and narcotic-exposed patients, and 3) provide recommendations for narcotic prescribing practices in patients with operative distal radius fractures.

Methods: We collected data on 39 patients with operative distal radius fractures who received narcotics for postoperative pain management, via the State Controlled Substance Monitoring Database (CSMD). This data included the type of narcotic prescribed, the dosage, and the number of pills per prescription. We calculated the mean and standard deviation of morphine milligram equivalents (MMEs) prescribed by orthopedic vs. non-orthopedic teams in opiate-naïve and opiate-exposed patients.

Results: Total mean MMEs prescribed by all physicians was 976 (SD 992) in opiate-naïve patients, compared to 1,253 (SD 748) in opiate-exposed patients. The mean (833, SD 673) MMEs prescribed by orthopedists for opiate-exposed patients was higher than for opiate-naïve patients (739, SD 639).

Conclusion: Our prescribing recommendation is for providers to prescribe half of the mean of orthopedic MMEs prescribed, which is 27 (416 MMEs) of oxycodone 10 mg plus one refill. This recommendation is valuable because it moves clinicians towards a more standardized practice for prescription narcotics, with the intention of mitigating misuse and diversion. Such efforts are anticipated to reverse the growing opioid epidemic by addressing physician responsibility of prescription practices and cutting down on patients' physician-provided access to excess narcotics.

NOTES

#18

DOES PAIN CATASTROPHIZING PREDICT AGE OF ONSET IN SYMPTOMATIC HIP DYSPLASIA AND FEMOROACETABULAR IMPINGEMENT?

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Introduction: Age of onset in symptomatic hip dysplasia and femoroacetabular impingement varies and can be affected by an individual's mental status. Pain catastrophizing is described as the tendency to magnify a painful experience, making it difficult to cope with pain. Anxiety and depression can also lead to an increased reported pain intensity.

Objective: To investigate if pain catastrophizing, anxiety and depression can predict the age of onset of hip pain in hip dysplasia (DDH) and femoroacetabular impingement (FAI).

Methods: 84 FAI and 56 hip dysplasia patients were identified based on a retrospective IRB-approved analysis of data prospectively collected at academic orthopedic centers. Each was diagnosed based on radiographic findings and clinical history. Pain catastrophizing and depression were assessed with the pain catastrophizing scale and hospital anxiety and depression scale, respectively. In addition to pain catastrophizing, anxiety and depression, other potential predictors of age of onset were assessed: Sex, BMI (>30 kg/m² vs. 30 kg/m²), history of hip surgery, laterality, Tonnis grade, Tonnis angle, Anterior Center Edge Angle, Lateral Center Edge Angle, Alpha Dunn angle, and Alpha Frog angle. Patient-reported outcome measures were also utilized: International Hip Outcome Tool, Hip Outcome Score, UCLA activity score, SF12, and WOMAC.

Results (see Table and Figure): Pain catastrophizing, anxiety and depression did not predict age of DDH or FAI onset. LASSO-penalized linear regression revealed that alpha Dunn angle, Tonnis grade, prior hip surgery, WOMAC pain score, and iHOT total score predicted age of FAI onset (Adjusted R² = 0.3099). Lateral center edge angle (LCEA), alpha Frog angle, Tonnis grade, SF12 physical functioning, and BMI predicted age of DDH onset (Adjusted R² = 0.3578).

Table: Age of Onset in FAI and DDH.

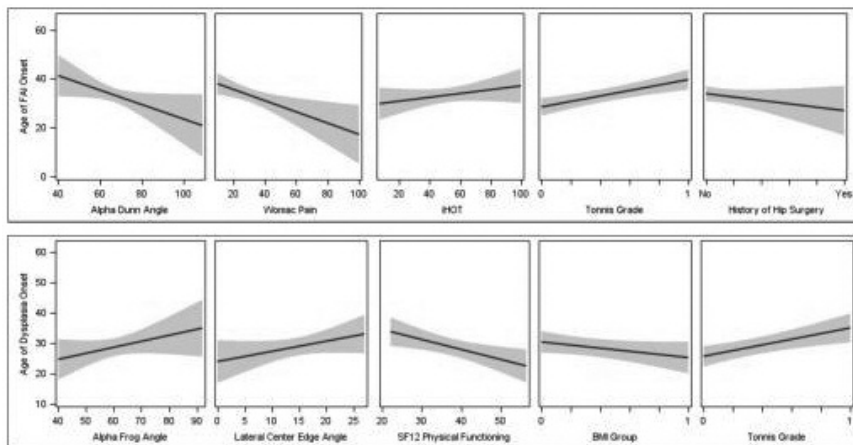
Age of FAI Onset

Model Outcome and Predictor Variables*	Mean Estimate	SD	95% CI
Intercept	41.9464	6.7085	30.9471 to 53.6079
Tonnis Grade (1 vs. 0)	10.8888	2.6368	5.2199 to 15.5958
WOMAC Pain	-0.1669	0.0714	-0.2963 to -0.0457
iHOT (Quality of Life)	0.0926	0.0440	0.0263 to 0.1939
History of Hip Surgery	-6.2836	3.1424	-12.7454 to -1.5995
Alpha Dunn Angle	-0.1967	0.1076	-0.4009 to -0.0275

Age of Dysplasia Onset

Model Outcome and Predictor Variables*	Mean Estimate	SD	95% CI
Intercept	16.8407	8.3440	-0.9374 to 31.7791
Tonnis Grade (1 vs. 0)	5.7330	2.8341	1.0041 to 11.2229
SF12 Physical Functioning	-0.2302	0.1086	-0.4739 to -0.0595
Alpha Frog Angle	0.2521	0.1187	0.0687 to 0.5245
BMI group (>30 vs. ≤30kg/m ²)	-4.5927	2.2554	-9.0442 to -1.0147
Lateral Center Edge Angle	0.2782	0.1428	0.0567 to 0.5795

Figure: Plots showing Age of Onset in FAI (top) and DDH (bottom).



Conclusions: It was hypothesized that a higher PCS score and HADS score would lead to a younger age of onset in FAI and DDH patients due to the negative impact of a poor mental state on an individual's perception of pain. However, in our group of patients, we concluded that pain catastrophizing, anxiety, and depression did not influence the age of onset in DDH and FAI.

The goal of our use of Lasso statistics is to select the best subset of predictors that optimize the penalized least squares criterion and minimize prediction error. PCS and HADS did not contribute to minimizing prediction error, and thus did not prove to be reliable predictors of age of onset in those that experience symptomatic dysplasia or FAI. Other variables such as severity of disease, as measured by LCEA and alpha Dunn, proved significant in predicting DDH and FAI onset, respectively. More severe disease predicts earlier age of onset; and in patients with DDH, modifiable factors such as BMI and activity level also proved to be significant predictors. It is likely that individuals with higher PCS and HADS scores will exhibit greater pain scores, but based on our study, the perception of pain does not influence the age of onset in symptomatic hip patients.

NOTES

#19

**PENOSCROTAL-ANTERIOR PELVIS
ALLOTRANSPLANTATION: EXPERIENCE
WITH FIRST-EVER PROCEDURE**

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Introduction: Vascularized composite allotransplantation (VCA) is increasingly used in the reconstruction of complex functional structures. We describe elements in introducing a genitourinary (GU) VCA program at our medical center and our experience at 1-year follow-up after performing a first-ever penile and pelvic composite allograft surgery.

Methods: In November 2013, the Johns Hopkins Medical Institutions approved a proposal for a GU VCA program with the initial aim to restore functional status to combat war veterans who had sustained devastating genital injuries from military conflict. A multidisciplinary team was assembled consisting of plastic and urologic surgeons, other physician specialists in immunology, infectious disease, cardiology and psychiatry, psychosocial workers, and nurse coordinators. Procedural components included ethics reviews, institutional regulatory board approval, interaction with organ donor organizations, clinical team organization, candidate physical and mental health screening, clinical and radiographic evaluations, surgical rehearsals, technical exercises, novel immune modulatory protocol implementation, postoperative clinical trial monitoring, and financing.

Results: In March 2018, after performing organ procurement of the anterior pelvis (without pelvic bones), penis, scrotum and perineum (without testes), along with the vertebral column in a donor, we performed a successful allotransplant surgery in combination with bone marrow transfusion that induced immune tolerance in a US combat war veteran (recipient). Our patient (recipient) has had restored urinary and sexual functions as well as acceptable anterior pelvic and genital cosmesis using minimal tacrolimus immunosuppression. In addition, he has achieved significant improvements in overall health and sense of well-being without major complications.

Conclusion: Our accomplishment suggests that GU VCA (genitalia alone with or without adjacent pelvic structures) in conjunction with novel immune modulatory protocols provides a feasible option for advancing the treatment of genital and pelvic tissue loss. Ongoing studies of preclinical models and immunosuppression therapies can be expected to move this field forward scientifically. Future progress of this field will also hinge on educating the public and medical community, and overcoming barriers for the donation of GU tissues.

NOTES

#20

EFFECT OF REGIONAL ANESTHESIA ON HOSPITAL LENGTH OF STAY AFTER ANKLE FRACTURE FIXATION IN PATIENTS WITH AND WITHOUT DIABETES MELLITUS

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Introduction: Diabetes mellitus (DM) is a risk factor for higher rates of in-hospital mortality, postoperative complications, and increased hospital length of stay after ankle fracture fixation. The use of regional anesthesia has been explored as a method of decreasing hospital length of stay to improve patient outcomes.

Objective: To assess the relationship between regional anesthesia and hospital stay in patients with ankle fracture fixation with a focus on DM.

Methods: A retrospective review of the American College of Surgeons-National Surgical Quality Improvement Program (ACS-NSQIP) database was conducted. A total of 4,289 patients with ankle fracture treated in the inpatient setting non-electively were identified between 2014 and 2017. Patients were grouped by general, regional, and general + regional anesthesia.

Results: The overall average time from operation to discharge was 2.8 ± 4.0 days. The regional only group had significantly higher time to discharge than the regional + general anesthesia group (3.7 ± 6.1 days vs. 2.6 ± 3.2 days, $p = 0.046$). However, no significant differences were appreciated between the general and the regional + general anesthesia groups (2.8 ± 4.1 days vs. 2.6 ± 3.2 days, $p = 0.106$) or general only and regional only groups (2.8 ± 4.1 days vs. 3.7 ± 6.1 days, $p = 0.244$). Total hospital stay was also significantly longer in regional only vs. regional + general anesthesia groups (5.5 ± 6.9 days vs. 3.9 ± 3.7 days, $p = 0.016$) and the regional only vs. general only groups (5.5 ± 6.9 days vs. 4.1 ± 5.1 days, $p = 0.007$), but no difference was found with general only vs. regional + general anesthesia (4.1 ± 5.1 days vs. 3.9 ± 3.7 days, $p = .571$).

In the multivariate linear regression, older age ($p < 0.0001$), greater body mass index ($p < 0.0001$), insulin control (no diabetes vs. insulin, $p = 0.003$; non-insulin vs. insulin, $p = 0.018$), steroid use ($p = 0.040$), and American Society of Anesthesiologists class ≥ 3 ($p < 0.0001$) were significantly associated with increased time to discharge. Conversely, independent pre-operative function ($p=0.0025$) was associated with decreased time to discharge. However, anesthesia method was not a significantly predictive factor.

Conclusion: Regional anesthesia alone was associated with increased time to discharge after ankle fracture fixation compared to regional + general anesthesia. However, anesthesia was not an independent factor. These findings may reflect that patients who receive regional only anesthesia have higher general anesthesia risk and may subsequently require longer stay for closer observation. Further study is needed to confirm this hypothesis.

NOTES

#21

LONGER COLD ISCHEMIC TIMES IN KIDNEY TRANSPLANTATION DO NOT SIGNIFICANTLY AFFECT POST-TRANSPLANT RENAL FUNCTION

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Introduction: Efforts to reduce kidney discard rates include utilization of kidneys with prolonged cold ischemic times (CIT).

Methods: This was a single center retrospective study of 429 deceased donor renal transplant recipients. Recipients were stratified by CIT of <20, 20-30, 30-40 and >40 hours. GFR was calculated at 90 and 365 days. Recipients were case matched on age, donor age, history of diabetes, and AKIN stage.

Results: Significant differences between groups were observed including higher age in the 20-30 and 30-40 hour groups. After creating a case matched cohort, higher rates of delayed graft function was observed in the 30-40 and > 40 hour groups; however, all groups had comparable GFR at 90 and 365 days. Linear regression analysis including CIT, WIT, donor age and recipient age demonstrated that CIT did not significantly contribute to GFR at one year. The only significant predictor of GFR was donor age.

Conclusion: Prolonged CIT does not significantly influence post-transplant renal function. These kidneys may represent a suitable donor pool to be utilized for transplantation.

NOTES

#22

DOES CENTER VOLUME IMPACT MORTALITY IN PATIENTS UNDERGOING LUNG TRANSPLANTATION FOR OBSTRUCTIVE LUNG DISEASE?

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Introduction: Center volume has been associated with patient outcomes following lung transplantation. From a technical standpoint, transplantation for obstructive lung disease is less demanding than transplantation for other etiologies, and may be less impacted by center volume. This study aims to investigate the relationship between center volume and mortality in patients with obstructive lung disease.

Methods: The study was conducted using the database of the United Network for Organ Sharing (UNOS). Transplantations performed between May 2005 and March 2016 were considered. All adult patients who received primary, isolated lung transplantation in the United States for a diagnosis of obstructive lung disease (including chronic obstructive pulmonary disease and emphysema) were identified. Operative mortality was defined as death that happened prior to discharge or within 30 days of the lung transplantation operation. Operative mortality and long-term survival were compared across terciles of transplantation center stratified by transplantation volume using regression models.

Results: 5,071 patients undergoing lung transplantation for obstructive lung disease met criteria for inclusion in the study. Following stratification by center volume, multivariate logistic regression models adjusting for age, gender, race, type of transplantation (single vs. double) and functional status highlighted a significantly higher risk of operative mortality at centers in the lowest volume tercile compared with those in the highest volume tercile ($p = 0.0004$; HR 1.95, 95% CI 1.29 - 2.95). Evaluation of longitudinal survival using multivariable Cox-regression models suggests persistence of this relationship in the long term, with significantly higher mortality at centers in the lowest volume tercile compared with those in the highest mortality terciles ($p < 0.0001$; HR 1.55, 95% CI 1.33-1.82).

Conclusions: In patients undergoing transplantation for obstructive lung disease, there is a significant association between transplant center volume and mortality in the short and long term. Future work will explore factors that contribute to this relationship.

NOTES

#23

HEPATITIS C ANTIBODY POSITIVE DONOR KIDNEYS FOR TRANSPLANTATION IN HCV NON-INFECTED RECIPIENTS

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Introduction: Historically, efforts to increase the donor pool have centered on the use of kidneys from donors with high risk behavior, long cold ischemia times, or extended criteria. Here we present a novel strategy to increase transplantation volume by the utilization of kidneys from donors that are hepatitis C antibody positive viral negative (HCV Ab+, NAT-).

Methods: This was an observational study of non-infected recipients transplanted with HCV Ab+, NAT- kidneys (n=10) and compared to all other recipients between 2017-2018 at our center (n=128).

Results: Recipients of (HCV Ab+, NAT-) kidneys had a higher mean age (60.6 vs. 54.0 years; p=0.11) and were predominantly male (80% vs. 68%; p=0.43). The mean donor age was similar (37.4 vs. 37.6 years; p=0.96), but the KDPI was higher (66.5% vs. 51.6%; p=0.01). Waitlist times were longer for HCV Ab+, NAT- kidney recipients (1420 vs. 1028 days; p=0.21). Three of the 10 patients were Hepatitis C antibody positive at time of transplant. There was no passive transfer of HCV antibodies after transplant (mean follow up = 44.3 days). There was no detection of HCV RNA post-transplant.

Conclusion: Though our small sample size limits the power of the study, our experience using HCV Ab+, NAT- deceased donors has resulted in excellent outcomes to date. The use of HCV Ab+, NAT- donors offers an attractive option for increasing donor supply.

#24

PANCREAS IMPORTATION FOR CENTERS WITH EXCESSIVELY LONG WAITLIST TIMES

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Introduction: Pancreas transplantation is a durable option for patients with insulin dependent diabetes. However, geographic inequity has created a supply side problem for our region. As such, our center has implemented a pancreas graft importation policy to increase donor availability and shorten waitlist times for our patients.

Methods: The study comprised a single-center retrospective cohort of 47 patients who received simultaneous pancreas-kidney (SPK) or pancreas after kidney (PAK) over five years. Donor service area and regional waitlist times were assessed, and outcomes metrics were detailed.

Results: Aggressive importation increased the amount of imported pancreata from 43% in 2014 to 86% in 2018 (*Figure 1*). Waitlist times decreased drastically from a median of 1470 days (range: 345-2425) in 2014 to 514 days (range: 18-2318) in 2018; $p=0.11$ (*Figure 1*). The mean follow-up time was 780 days. There was one graft loss and one patient death. Waitlist times (days) at MMC (total = 526, SPK = 518, PAK = 546) approached the national median (total = 511, SPK = 572, PAK = 225; $p=NS$) and were well below Region 9 (total = 915, SPK = 980, PAK = 528; $p=0.12$, $p=0.01$, $p=0.92$) (*Figure 2*).

Conclusion: Centers disadvantaged by donor service area and regional allocation must implement pancreata importation to address long waitlist times.

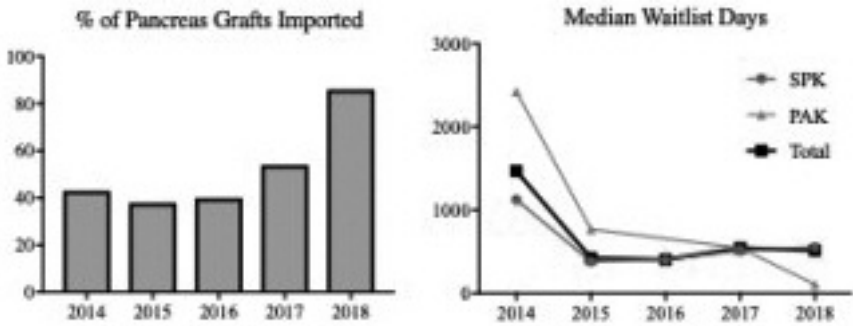


Fig. 1: Center Importation Trends and Waitlist Times from 2014-2018

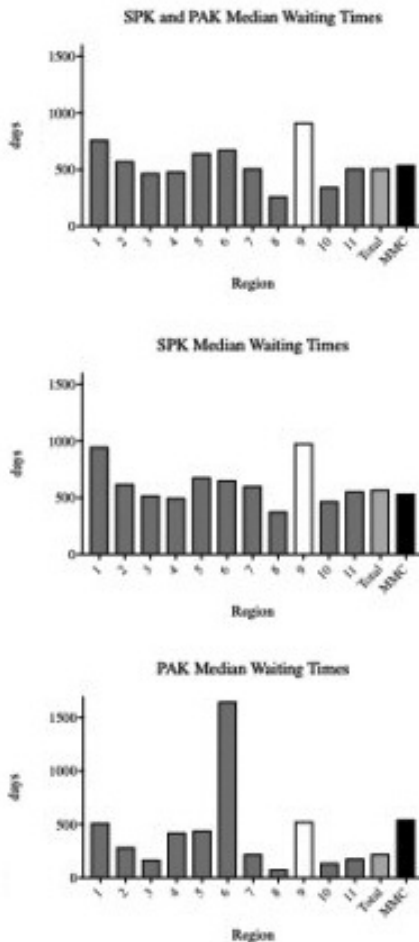


Fig. 2: Nationwide Waitlist Times Between 2014-2018

OUTCOMES OF SUBSTERNAL THYROIDECTOMIES IN THE UNITED STATES

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Introduction: With the growing rates of thyroid nodule detection alongside improved surgical techniques, there has been a steady rise in thyroidectomies in the United States. Although substernal goiters are known to be associated with worse symptom burden and more complex surgical techniques, the financial implication of their care has not been fully examined. As healthcare costs continue to rise, the financial implications of thyroidectomies and their complications are an important consideration in an era of cost savings and financial accountability. Therefore, we aimed to assess patients with substernal thyroidectomies and examine the clinical and financial outcomes associated with their care.

Methods: The Healthcare Cost and Utilization Project Nationwide Inpatient Sample database was queried to identify patients with goiter who underwent thyroidectomy between the years of 2005 and 2014. Based on International Classification of Diseases, Clinical Modification, 9th Revision procedure codes, patients were classified as having substernal or non-substernal thyroidectomies. Demographic, clinical and hospital characteristics were evaluated. Outcomes of interest were hospital mortality, need for surgical airways, and total hospital charge. Descriptive statistics were used to identify differences between patients with substernal goiters and those with non-substernal goiters. Independent predictors of the outcomes of interest were evaluated with multivariate regression models.

Results: The cohort for analysis comprised 45,583 patients who underwent thyroidectomy for goiter. Of these, 43,315 (92.83%) were non-substernal goiters and 3,268 (7.17%) were substernal goiters. Compared to patients with non-substernal goiters, patients with substernal goiter were more likely to be Black (27.6% vs. 16.8%), on public insurance (50.0% vs. 34.2%), and with Charlson co-morbidity Index greater than 2 (16.3% vs. 10.4%) (all $p < 0.001$).

Substernal goiters were associated with higher mortality (0.43% vs. 0.06%), increased need for surgical airways (1.96% vs. 0.69%), and higher median hospital charges (\$25,469 vs. \$17,960) (all p<0.001). After adjusting for patient and hospital factors, substernal goiters were associated with an increased predicted mean hospital charge of \$10,369.76 (95% Confidence Interval: \$9,250.03 - \$11,489.48) [Table].

Multivariate Analyses of Outcomes comparing Patients with Non-Substernal Goiters and Substernal Goiters

	Predicted Mean Charge [\$, 95% CI]	Surgical Airway [OR, 95% CI]
Goiter Status		
Non-substernal Goiter	Ref	Ref
Substernal Goiter	10369.76 [9250.03 – 11489.48]	1.91 [1.41 – 2.59]
Age	47.65 [22.25 – 73.05]	1.03 [1.02 – 1.05]
Sex		
Male	Ref	Ref
Female	343.23 [(-)324.15 – 1010.62]	0.89 [0.67 – 1.17]
Race/Ethnicity		
White	Ref	Ref
Black	7460.54 [6678.18 – 8242.89]	2.96 [2.28 – 3.84]
Hispanic	6240.37 [5137.32 – 7343.42]	1.30 [0.81 – 2.08]
Asian and Pacific Islander	5572.79 [3950.55 – 7195.04]	1.07 [0.49 – 2.31]
Native American	(-)1646.12 [(-)6108.85 – 2816.59]	–
Other	3376.52 [1800.99 – 4952.06]	1.62 [0.88 – 2.98]
Insurance Type		
Private Insurance	Ref	Ref
Medicare	4174.10 [3336.57 – 5011.62]	1.20 [0.87 – 1.67]
Medicaid	3803.64 [2674.04 – 4933.24]	2.56 [1.75 – 3.75]
Self-Pay	2414.25 [414.43 – 4414.07]	2.47 [1.30 – 4.70]
Other	894.38 [(-)509.78 – 2298.55]	1.20 [0.61 – 2.41]
Hospital Location		
Rural	Ref	Ref
Urban Non-teaching	7512.63 [6216.02 – 8809.24]	1.23 [0.63 – 2.38]
Urban Teaching	8762.89 [7483.54 – 10042.25]	1.57 [0.83 – 3.01]
Charlson Score		
< 2	Ref	Ref
≥ 2	11662.57 [10716.51 – 12608.64]	3.43 [2.68 – 4.40]

Conclusion: Thyroidectomies for substernal goiters are associated with worse postoperative outcomes and increased spending. Racial minorities and patients on public insurance are disproportionately more represented among patients with substernal goiters. Increased surveillance, early surgical treatment of goiters, and better access to care may mitigate against the increased health burden associated with substernal goiters.

#26

A FEASIBILITY STUDY: BURNOUT IN SURGICAL RESIDENTS OF UNDER-REPRESENTED MINORITY BACKGROUNDS. WHAT FACTORS MAKE A DIFFERENCE?

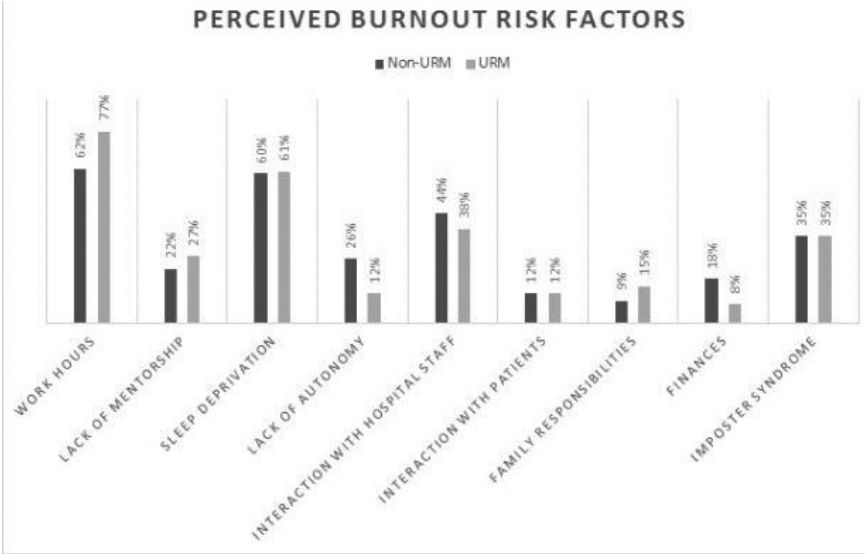
M. Teke, L.R. Taveras, L.S. Hynan,
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Introduction: Burnout is common in surgical residents and practicing surgeons, and it has been shown to have a direct correlation with diminished mental health and clinical performance. Key aspects of burnout are feelings of depersonalization, emotional exhaustion and lack of personal achievement which can be assessed by the Maslach Burnout Inventory survey (MBI). The influence of multiple factors have been studied in surgical residents; however, there is a paucity of information about burnout in under-represented minority (URM) residents. We hypothesize that URM general surgery residents may be at a higher risk of burnout. This study aims to assess the feasibility of our protocol.

Methods: A cross-sectional study using a 38-item Web-based survey was designed. The questionnaire collected data on demographic and academic background, support system and family, and perceived risk factors for burnout. The MBI-Human services survey for medical personnel was included to assess risk of burnout. The survey was distributed to general surgery residents from 11 different programs via their program directors. Response was voluntary and anonymous. Cohorts were divided based on racial background.

Results: Of 204 surveys opened, 94 respondents completed surveys (46%) from 7 different general surgery programs throughout the country. Respondents were more often female (53%), U.S. citizen graduates from U.S. medical schools (89%). Twenty-six of the respondents were URM (28%). There were no differences in number of children, perceived availability of a support system, or recent occurrence of a major life event.

Average risk of burnout for the entire sample was 58.5%. URM had a higher risk of burnout as assessed by MBI (69% vs. 54%, $p = 0.192$, Cohens $d = 0.306$). Perceived risk factors for burnout were similar between the groups (*Figure*).



Conclusion: The results from this study confirms the feasibility of our proposed methodology. There is a critical need to study this area in more detail to understand the unique challenges that may contribute to burnout in this population.

NOTES

BODY CONTOURING SURGERY OUTCOMES BY BARIATRIC SURGEONS: A FIVE YEAR RETROSPECTIVE STUDY

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Introduction: Body contouring procedures post major weight loss or bariatric surgery is usually performed to remove excess skin and fat, which improves overall patient satisfaction and quality of life. According to the American Society of Plastic Surgeons, the number of body contouring procedures is increasing every year, with panniculectomy and abdominoplasty accounting for 43% of the total body procedures done in 2016. Generally, this procedure is done by plastic surgeons; however, due to limited availability and economic factors, this may not always be an option available to all patients. We reviewed the outcomes of body contouring procedures done by trained bariatric surgeons at our institution.

Methods: A retrospective chart review of patients who underwent body contouring surgery was conducted in a tertiary hospital system from the period between 2010-2015. During this time period, 88 patients underwent body contouring surgery following bariatric surgery, of which 29 were excluded from the study due to body contouring surgery that was not on the abdominal wall. For the remaining 59 patients that underwent body contouring surgery on the abdominal wall (panniculectomy or abdominoplasty), surgeon specialty (bariatric vs. plastic) was recorded as well as the complications associated with each procedure.

Results: Of the 59 patients that met the inclusion criteria for the study, 20 patients (33.9%) had their body contouring surgery performed by a bariatric surgeon and the other 39 patients (66.1%) had their surgery performed by a plastic surgeon. The rates of complication were: 8.5% had wound dehiscence, 6.8% had anemia due to blood loss, 3.4% had seroma, 3.4% had partial wound necrosis, 3.4% had hematoma, and 1.7% had cellulitis. Patient characteristics being equal, there was no statistical significance ($p=0.48$) in the rate of complications from body contouring surgery performed by a bariatric surgeon compared to a plastic surgeon.

Conclusion: Comparisons of complications from body contouring surgeries performed by bariatric or plastic surgeons on the abdominal wall show no significant difference between these two groups. This data, though limited to a specific geographic area, can help guide patients in their choice of surgeon for their body contouring procedures and can mitigate issues of access to plastic surgeons and other socioeconomic factors.

NOTES

#28

**THEORY-BASED DEVELOPMENT OF AN
IMPLEMENTATION INTERVENTION
UTILIZING COMMUNITY HEALTH WORKERS
TO INCREASE PALLIATIVE CARE USE**

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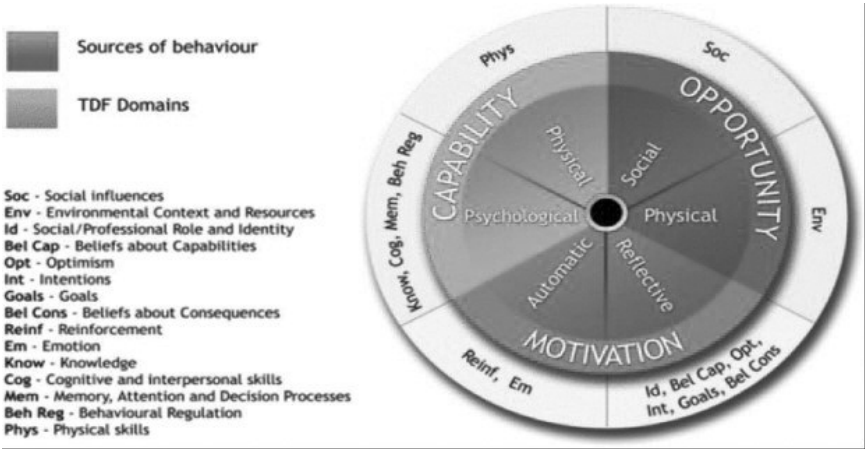
Introduction: Opportunities for the use of palliative care (PC) services continue to be missed despite Level I evidence demonstrating its benefits. Uptake of PC services is even lower in African American communities.

Objective: To use a theory-based approach to design implementation interventions, delivered by community health workers (CHWs), to increase the use of PC services in African American communities.

Methods: We used the Theoretical Domains Framework (TDF) and Behavior Change Wheel (BCW) theoretical models to develop interventions to increase use of PC. Thematic analysis was performed on transcripts of four audiotaped focus group (FGDs). We then used the BCW and TDF to examine patient and provider behavior, and identify viable behavior targets for change.

Results: Twenty-four individuals yielded a total of seven transcripts across four engagements, and thematic analysis of the transcripts produced a total of 122 coded reference comments to the 14 sources of behavior of the TDF. We identified barriers and facilitators to PC use: patient conflation of PC and hospice care, unrealistic patient expectations about prognosis, negative social influences and beliefs about PC, lack of provider interpersonal skills and cultural sensitivity, and emotional burden of PC discussions. Targeted behaviors were for patients to gain knowledge about benefits of PC, physicians to begin PC discussions earlier in treatment, and for physicians to gain more effective interpersonal communication skills regarding PC conversations.

Given these targeted behaviors, interventions were mapped from the BCW to improve patient capability (knowledge), physician capability (interpersonal skills, behavioral regulation), patient motivation (beliefs about consequences, optimism), physician motivation (reinforcement, beliefs about consequences), and increase patient opportunities to use PC services (environmental resources, social influences). These strategies were all combined into a pragmatic implementation intervention to be delivered and facilitated by palliative CHWs including: the creation and dissemination of brochures about PC to patients, communication skills training for physicians, patient activation by CHWs for goals of care discussions, bi-monthly CHW outreach to community churches to discuss PC, and expanding the social support of patients.



The Behavior Change Wheel and Theoretical Domains Framework (TDF) domains. [Adapted with permission from Michie et al.]

Conclusion: A multi-component implementation strategy facilitated by CHWs may increase both provider and patient use of PC services in African American communities.

NOTES

#29

**ADJUNCT BLOCKS FOR MASTECTOMIES:
IMPROVING PAIN MANAGEMENT FOR
POSTOPERATIVE PATIENT CARE**

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Introduction: Surgery inevitably causes pain, and requires patients to utilize analgesia for comfort postoperatively. Minimizing pain through adjunct techniques decreases the use of opioids along with their adverse and unwanted side-effects. The use of long-acting, preoperative pectoralis and serratus blocks for analgesia decreases the amount of narcotic pain control postoperatively and improves the patient's postoperative course.

Methods: Observational study focusing on patients with both unilateral and bilateral mastectomies for cancer or prophylactic treatment who underwent preoperative, ultrasound-guided pectoralis and serratus blocks with Ropivacaine. Patient postoperative narcotic use was recorded during their observational 23-hour course in the hospital. Finally, postoperative discharge narcotic prescriptions were reviewed and standardized to total oral morphine milligram equivalents.

Results: Twenty-three patients were reviewed over a 7-month period. All patient were undergoing mastectomies, either bilateral or unilateral and underwent ultrasound-guided pectoralis and serratus blocks preoperatively prior to induction of anesthesia. There were no significant complications noted with blocks. Patients were discharged after a 23-hour observation period. An average of 11 narcotic pain pills were prescribed per patient (range 7-21 pills) with an average of 45.54 morphine equivalents (range 0-180 morphine equivalents). Specifically 9 of the 23 patients (39%) were discharged with no narcotic pain medications.

Conclusion: A preoperative block for breast mastectomy has proven to decrease narcotic prescription use within our institution while continuing to achieve a minimal length of stay within the hospital. Implementation of pectoralis and serratus blocks has decreased narcotic use, thus avoiding adverse side-effects of these medications without sacrificing appropriate and necessary postoperative analgesias.

#30

**OPTIMIZING THE DEVELOPMENT OF
A TISSUE ENGINEERED MITRAL VALVE
USING A COMPUTATIONAL MODEL**

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Introduction: In the United States alone, over five million people are diagnosed with heart valve disease each year, with the aortic and mitral valves being the most commonly affected. Heart disease kills over 600,000 people a year, making it the number one cause of death in this country. Valvular heart disease includes any defect or damage to one of the four major valves that can result in valvular insufficiency and regurgitation, degradation, and calcification. The mitral valve specifically can be compromised by valve prolapse, stenosis, or congenital malformations. Valve insufficiency can result in the development of numerous complications such as embolism, atrial fibrillation, stroke, and heart failure.

Currently, there are various methods of treating valvular heart disease including pharmaceutical management for symptomatic relief or valve repair or replacement surgery. Mechanical or biological valve replacement procedures are usually recommended for patients with severe disease and can be life-saving procedures, though they can be accompanied by their own set of consequences such as lifetime coagulation therapy or subsequent replacement surgeries.

This project focuses on the development of a synthetic mitral valve that would be more durable and long-lasting than biological valves, and anti-thrombogenic unlike mechanical valves. Prototyping of a synthetic mitral valve is time consuming, expensive, and has proven difficult because of the complex anatomy and high pressures in the left heart, but a computational model in Finite Element Analysis (FEA) will allow us to better predict the biomechanics, durability, and viability of a synthetic bicuspid heart valve and therefore streamline the prototyping of the device.

Computational models of heart anatomy have been used to provide quantitative data on the mechanics of heart and vessel deterioration in heart disease as well as determine treatment strategies based on disease progression. These models are based on numerical values for the hemodynamics and wall mechanics and can provide a virtual simulation for how the cardiovascular system will adjust to a change in one or multiple variables such as blood flow rate and wall shear stress. This type of model is necessary in order to develop a bioengineered mitral valve replacement that will effectively open to let blood flow into the left atrium during relaxation and force blood into the aorta upon heart contraction without failing under pressure or allowing too much regurgitation.

Methods: The parametric driven computational model is created in a software program called Rhinoceros using a Grasshopper software plug to store the variable dimensions. The model is then imported into the program ABAQUS, a commercially-available computer-aided engineering software that can complete Finite Element Analysis (FEA). Modeling consists mainly of four steps: geometry reconstruction, implementation of material properties and loading conditions, solutions, and results analysis. Geometry reconstruction is based on five preliminary mandrel geometries that were developed based on human mitral valve dimensions. The model options are then compared to each other based on the Von Misses stress and strain, fully open configuration, and presence of any leaflet prolapse during peak diastole in the simulation. The ABAQUS software runs the simulation of the cardiac cycle based on pressure and flow values in the left heart, and shows the stress and strain on the valve leaflets visually through color and configuration mapping.

Results: The optimal configuration was the mandrel geometry option that maximized the anterior leaflet area compared to the posterior leaflet. This configuration minimized the Von Misses stress on both leaflets and resulted in a fully open valve during cardiac diastole in the simulation. The other options were inferior due to high stress variables that would lead to valve degradation over time or valve prolapse that would lead to regurgitation or failure.

Conclusions: Overall, this project was successful in that we were able to create a model of a tissue-engineered mitral valve that will allow us to change the dimensions of the model and run a full simulation of the cardiac cycle on multiple geometries fast and efficiently.

This provides a starting point for gathering quantitative data on the biomechanics of the valve and determining the optimal configuration based on the functional criteria listed above. Having a computational model is also necessary in order to validate and continue the development of the physical prototype.

There are limitations to the data extracted from the simulation due to the fact that the boundary conditions established in the Abaqus simulation may not reflect an accurate representation of how the anatomy encompassing and surrounding the valve will contribute to the biomechanics of the leaflets in a wide range of patients.

In the future, the further development of this model will include adding other anatomical pieces of the left heart such as chordae tendonae and forces from the papillary muscles. This computational model will be also be used to compare the data gathered from pressure testing of the physical prototype.

NOTES

#31

**LONG NON-CODING RNAS INVOLVED
IN BETA-AMINOPROPIONITILE
AORTIC ANEURYSM MODEL**

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Introduction: Aortic aneurysm related deaths are estimated to be approximately 11,000 each year in the United States and have a 50% mortality rate following emergent repair. Yet, our current understanding of the pathophysiology of this disease remains limited. Recently, a number of studies have proposed a possible role of long non-coding RNAs (lncRNAs), untranslated RNA molecules of greater than 200 nucleotides, in a number of cardiovascular diseases including myocardial infarction and heart failure. However, the role of non-coding RNAs in aneurysm growth and possible rupture remains unknown.

Objective: In the present study, we sought to identify lncRNAs involved in a novel model of aortic aneurysm rupture.

Methods: Using quantitative real time PCR, we screened for expression of ten lncRNAs in mouse aortic smooth muscle (SMCs) and mouse aortic endothelial cells (ECs) following treatment with saline, Elastase, or beta-aminopropionitrile (BAPN) for 24 hours.

Results: AK139328, a lncRNA previously implicated in ischemia/reperfusion injury, was found to be upregulated by about two-fold in SMC but not in ECs following treatment with 0.4% BAPN (*see Figure*).

Conclusion: These results suggest that long non-coding RNAs are an unexploited avenue of research within aneurysm formation and rupture, and could represent potential therapeutic targets for treatment of aneurysm formation and rupture.

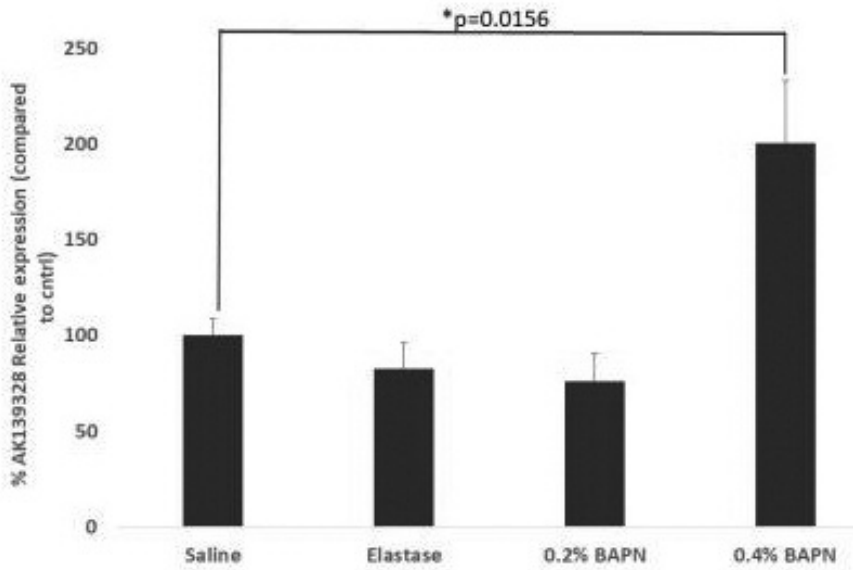


Figure: 0.4% BAPN resulted in a two-fold increase in AK139328 in VSMCs compared to the saline-treated control.

NOTES

#32

TRAUMA INFORMED CARE SIMULATION-BASED TRAINING FOR HEALTHCARE PROVIDERS

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Introduction: Our patient population includes individuals who suffer from high rates of gun violence, community violence, domestic violence, sexual assault, and other forms of severe and chronic trauma. The presenting injuries that we treat are experienced by patients and families with prior physical and emotional traumas, social insecurities, and prior vicarious exposures to violence. Victims of violence often report more negative interactions with, and perceptions of, healthcare providers. Trauma informed care (TIC) is an organizational structure and treatment framework that involves understanding and responding to the effects of trauma. We developed and implemented a TIC simulation-based training curriculum, specific to our community on the Southside of Chicago, to help our surgical residents provide better care for our patients within their current and prior traumatic milieus. We surveyed our residents to determine the effectiveness of TIC simulation-based training.

Methods: Twenty general surgery residents completed the 2-hour TIC simulation-based training. To measure competence in knowledge and application of TIC practices, residents completed self-assessment questionnaires at the beginning and end of the training session. Residents participated in three simulation scenarios where they assumed the role of the main healthcare provider. Each resident was observed as she/he: 1) disclosed death of a child to a parent, 2) provided care for a non-compliant patient who has suffered from interpersonal violence, and 3) de-escalated an intense interaction with a combative patient who was recently a victim of domestic violence. Professionally trained actors were utilized to make the simulated scenarios as realistic as possible. Violence recovery specialists facilitated small group discussions and provided the residents with immediate feedback after each scenario.

Results: Surgical residents who participated in the simulation-based training reported increased competence in knowledge and application of TIC principals at the end of the training session. Practices that demonstrated the most significant increase in self-reported competence include: recognition and management of acute stress experienced by patients and family members ($p=0.0001$), appropriate resource referral for victims of violence ($p=0.0004$) or surviving family members who have lost a loved one ($p=0.0001$), thorough assessment of patients' environmental safety and awareness of resources available which promote safe housing, work, and education ($p=0.0002$), recognition of concerning behavioral or emotional reactions and ability to encourage patients to seek behavioral health help ($p=0.0002$), appropriate and confident disclosure of death to family members ($p=0.0009$), and ability to de-escalate a situation while avoiding patient re-traumatization ($p=0.0010$). Resident satisfaction with the simulation-based training was 90%, and 90% of the residents found the training to be effective.

Conclusions: The simulation-based training increases general surgery resident competence in knowledge and application of TIC practices. The specificity of our curriculum is unique and our simulation-based training provides surgical residents with immediate feedback from violence recovery specialists and opportunities to receive feedback from their peers during small group discussions. Our ultimate goals are to establish an evidence-based TIC treatment framework within the context of a Level 1 adult trauma center and expand training to all hospital staff members.

NOTES

#33

ORGAN DONATION AFTER SUICIDE

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Introduction: Suicide is a public health problem that afflicts all demographics across the lifespan. Recent high profile suicides have increased inquiry of risks and possible prevention strategies, yet little is known about the consequences of suicides.

Objective: To determine the contribution of suicide to the organ donation pool and subsequent local procurement rates.

Methods: A retrospective cohort analysis of adult patients at a high-volume, Level I urban trauma center with self-inflicted injuries from July 2013 to December 2017 was performed. Patient demographics, mechanism of injury (MOI), operative procedures, and outcomes were recorded. Data regarding referral and procurement was obtained from the local organ procurement organization (OPO). Outcomes (hospital length of stay [LOS], hospital costs, referral to organ donation, procurement rates), patient characteristics and injury characteristics were compared using X2 and logistic regression models.

Results: 101 patients met inclusion criteria. 83.2% (N=84.0) were male, 47.5% (N=48) White, 46.5% (N=47) Black, and median age was 33.0 years (Q1-Q3: 24.0 48.0). Penetrating injuries accounted for 75.2% (n=76) and were all GSWs. Blunt mechanisms accounted for 24.8% (N=25): 3 jump from height, 5 involving a motor vehicle, and 16 hangings; one individual had an undifferentiated mechanism of injury. 9% had a history of psychiatric illness documented. 12% had at least one surgical procedure performed. 26.9% (N=101) were referred to the local OPO for potential organ donation; 16.8% (N=17) resulted in procurement of a total of 64 organs. Median number of organs procured from individuals was 4.0 (Q1:Q3: 3.0-5.0). In this cohort, younger patients were more likely to progress to organ procurement than older patients (OR 0.95, 95% CI 0.90-0.99). Although Blunt MOI had a lower procurement rate than Penetrating injuries, this association was not statistically significant (OR= 0.47, 95% CI 0.03-6.65).

No significant difference was seen in referral or procurement rates when individuals were compared by race.

Conclusion: Suicide, though tragic, may provide a significant contribution to the limited organ donor pool. Future investigations should be aimed at identifying causes of non-referral and non-procurement in this unique population.

NOTES

#34

EVALUATION OF A DISPOSABLE BRONCHOSCOPE FOR DIAGNOSTIC AND THERAPEUTIC BRONCHOSCOPY IN A BURN INTENSIVE CARE UNIT

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Introduction: In a retrospective review, we aimed to evaluate the use of a disposable bronchoscope (DB), the Ambu aScope 3, which was developed by the Ambu® Corporation and is distributed in our Burn Intensive Care Unit (BICU). We hypothesized that by transitioning from re-usable bronchoscopes (RBs) to DBs, we hoped to improve work-flow efficiency, decrease healthcare costs by decreasing the need for high level disinfection and its associated equipment and human resource costs, and potentially decrease the risk of cross-contamination not only from failures in disinfection, but also by decreasing the footprint associated with the significant amount and size of equipment required for re-usable bronchoscopes, i.e., decrease the risk of cross-contamination between patients due to the risk of bacterial contamination associated with inanimate surfaces and equipment.

Methods: The University of North (UNC) Carolina Medical Center is a 900+ academic medical center affiliated with the UNC Medical School. Within the UNC Medical Center is the North Carolina Jaycee Burn Center, which services outpatients and inpatients with burns and inhalation injuries in a 21-bed intensive care unit. There are approximately 680 patients per year admitted to the Burn Intensive Care Unit (BICU) and approximately 44 patients admitted per year with positive inhalation injuries with and without cutaneous burns.

Prior to using the disposable bronchoscopes, we introduced this new technology to our BICU caregivers by providing an extensive orientation of the new product to physicians, nurses and respiratory therapists who would be performing or assisting in bronchoscopy procedures.

Diagnostic and therapeutic bronchoscopies are performed on BICU patients as indicated. Therapeutic bronchoscopies of inhalation injured patients are performed on an as-needed basis to remove soot and debris from the airways. When the possibility of lung infections are suspected, diagnostic bronchoscopies using standard broncho-alveolar lavage procedures are performed, infectious organisms are identified, and appropriate antibiotics are administered when indicated.

The Ambu aScope3 system consists of the disposable bronchoscope and the Ambu aView Monitor. The disposable bronchoscope is similar to the non-disposable bronchoscopes in that it has a working channel, a control lever, a suction button and a handle. The distal end of the disposable bronchoscope contains the camera, the light source, and the working channel exit. The Ambu aView monitor displays the video image, allows the user to take snapshots/pictures/video, and provides for file management of the videos and pictures. A standard USB stick can be used to transfer a picture to the electronic medical record. The bronchoscopes come in three different sizes; small, regular, and large, which are comparable to the different sizes of the RBs.

Although the aScope3 bronchoscopes are disposable, the video monitor used during the procedures was shared between patients and requires that it is appropriately disinfected after each procedure. The footprint of the cart on which the aView Monitor resides is much smaller than the footprint of the bronchoscopy cart (Olympus) currently used, and therefore takes up much less space in the patient's room. The DB is self-calibrating which eliminates the need to perform a calibration prior to the procedure, which is a requirement with the RB.

Results: From May 1, 2017 until October 20, 2017, we performed 107 diagnostic and therapeutic bronchoscopies on 18 different patients admitted to our BICU. The subjects' age, gender, admitting diagnosis, diagnostic yields, and antibiotic management are listed in *Table 1*.

Caregivers reported that the DB was easy to use, took up less space in the patients' rooms, functioned as well as the RBs, was much more readily available than the RB, and took much less time to prepare for the bronchoscopy procedure. Both physician providers and respiratory therapists who assisted during the bronchoscopy procedures considered the DB to be more than adequate for simple diagnostic and therapeutic bronchoscopy procedures.

Table: Cost Comparing Re-usable Bronchoscopes versus Disposable Bronchoscopes in BICU		
<i>Number of bronchoscopies done in hospital per year: 1100 (excluding the Operating Room)</i>		
<i>Number of bronchoscopies done in the BICU per year: 275</i>		
	Reusable	Disposable
Initial Capital Costs:	-Cost of new bronchoscope: \$32,000 -Cost of cart, light source & processor: \$78,000 Total capital outlay: \$110,000	-Cost of reusable monitor: \$2995 Total capital outlay: \$2995
Costs of Repairs:	-Per bronchoscope: \$8,000 - \$10,000 -Cost/yr to repair all scopes: \$135,000 - \$173,000 -Avg # of times that scopes are sent out for repairs/yr: 16-18 times	-No costs for repair/ bronchoscope
Costs per procedure:	Assuming 1 hr/procedure and 1 hr to perform HLD of the bronchoscope (based on 275 procedures/yr in the BICU) -Respiratory Therapist salary: \$28.00/hr -Equipment Technician salary: \$14.00/hr -Supply costs for procedure and sterilization: \$152.00/procedure -Depreciation of capital equipment over 10 yrs: \$40.00/procedure -Repair costs spread: \$136.00/procedure Total Cost/procedure: \$370.00	Assuming 30 min of Respiratory Therapist time: -Respiratory Therapist time: \$14.00 -Supply costs: \$26.00 -Cost of bronchoscope: \$189.00 Total Cost/procedure: \$229.00

Conclusion: The underlying study points out that using disposable bronchoscopes for diagnostic and therapeutic bronchoscopy for burned and inhalation-injured patients may be a viable alternative to using reusable bronchoscopes in preventing cross-contamination in a patient population that is extremely susceptible to infections. Given the detailed and sometimes cumbersome sterilization process of reusable bronchoscopes, the practicality of using disposable bronchoscopes seems obvious. Training is simple, there is immediate accessibility, the footprint of the cart is smaller, making it easier to maneuver in small places, it gives caregivers the ability to do more procedures in one day due to decreased processing time, there are no reprocessing or repair costs, and there is zero cross-contamination.

NOTES

#35

THE TOURNIQUET TOSSING STUDY: VARIATION IN TOURNIQUET STABILITY AFTER APPLICATION

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Introduction: Tourniquets (TQ) have been shown to reduce mortality from peripheral-extremity hemorrhage in both the military and civilian setting, and are an essential component of the Bleeding Control 1.0 course as taught by the American College of Surgeons. The application of TQ prior to the onset of shock leads to a substantial survival advantage. TQ work by applying direct pressure proximal to the area of injury to prevent exsanguination until definitive trauma care can be provided. The Combat Application Tourniquet (CAT, North American Rescue) is a widely recommended brand of TQ. Little data exists comparing the effectiveness of various commercially available brands to the CAT.

Methods: Five off-label TQ brands were studied and compared to the CAT (n=6). Each TQ was applied on a foam roller by a Bleeding Control 1.0 Certified individual, after which each roller was tossed in a bin for 1 minute, then agitated in a rolling cart for 9 minutes to simulate ambulance transport. This process was repeated after soaking the TQ in water and synthetic blood during each trial for a total of 5 trials. The tightness was measured using length (in centimeters) from the clip to buckle at initial application and after simulated transport. A delta tightness was calculated for each TQ and compared against the standard CAT using a t-test.

Results: This study analyzed six different brands of TQ in five trials (*Table 1*). The A, C and D brand TQ were associated with a statistically significant increase in the number of turns required to reach maximal tightness (2.3 vs. 3.0, 3.4 and 5.4, $p < 0.01$). All TQ brands were associated with no change or decrease in distance between the belt and the buckle when wet or with saturation with artificial blood (0.0-0.1 cm), with no statistical difference. Only TQ brand D was associated with a significant increase in distance associated with loosening of an average of 0.14 cm, ($p < 0.05$) in the dry trials.

Table 1: Tourniquet Comparison Chart

Table 1 TQ	Dry ΔT	Water ΔT	Blood ΔT	Turns	Price
A	0.33	-0.06	-0.04	3.0*	\$9.00
B	0.2	-0.06	0.02	2.2	\$7.75
C	0	-0.06	0.02	3.4*	\$11.00
D	0.14*	0.02	0.06	5.4*	\$6.75
E	0.05	-0.1	-0.02	2.5	\$15
CAT	0	0	-0.02	2.3	\$29.00

Conclusion: The ability of TQ to remain tight is a critical performance measure which translates into efficacy of the applied pressure on an injured limb to stop blood flow. The purpose of this study was to examine the application and stability of various brands of TQ before and after their application in wet and dry scenarios to simulate real-life conditions. Brand B and E performed at a level which was not significantly different from the CAT, while being available at one half and nearly one quarter the cost, respectively. Effective and affordable TQ are an essential component of the national Stop the Bleed campaign. Alternatives to the CAT may allow for greater availability to TQ in communities where financial constraints restrict access to the brand name CAT.

NOTES

#36

**IMPLEMENTING A CULTURAL DEXTERITY
SURGICAL EDUCATION CURRICULUM:
A QUALITATIVE ANALYSIS OF
SURGICAL FACULTY PERCEPTIONS
OF POTENTIAL BARRIERS**

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and Howard University College of Medicine, Washington, DC**

Introduction: With the United States becoming increasingly diverse, it is essential that the behaviors and practices of healthcare providers address the needs of their patient populations correspondingly. Racial and ethnic minority patients are more likely to suffer adverse outcomes due to medical errors typically caused by miscommunication or language barriers. It has been estimated that racial disparities in healthcare account for 83,000 excess deaths and over \$250 billion a year in direct medical costs and indirect costs for the patients.

More specifically, there is increasing evidence of such inequities across the surgical field, including trauma and emergent general surgery. Black patients are 33% more likely than white patients to die after cardiac surgery, 20% more likely to die after traumatic injury, have worse operative morbidity/mortality rates, more postoperative complications, and are less likely to be offered minimally invasive surgical approaches. One of the ways that these negative outcomes can be addressed at the provider level is through incorporating cultural training within the surgical residency curriculum.

The National Institutes of Health (NIH), the National Academies of Science, Engineering, and Medicine (NASEM), the Accreditation Council for Graduate Medical Education (ACGME), and the American College of Surgeons (ACS) have set cross-cultural training as a research priority for eliminating health care disparities. In spite of this, less than 10 surgical residency programs have successfully integrated and sustained such training into their curricula.

The Provider Awareness and Cultural Dexterity Toolkit for Surgeons (PACTS) is the first major attempt to mitigate disparities in surgical outcomes by improving patient-centeredness and enhancing patient-clinician communication through a cultural dexterity framework, which places a greater emphasis on skills acquisition and adaptability to dynamic interpersonal circumstances than the traditional cultural competency framework.

The significance of this theoretical approach was made evident through one of our qualitative studies, in which surgical residents and faculty remarked on the effectiveness of emphasizing skills application rather than the traditional recitation of facts. The PACTS curriculum follows a flipped classroom design in which participants complete interactive e-learning modules prior to participating in an in-person experiential learning session. This session deviates from the classic lecture format in that the typical didactic content is delivered via an interactive slide deck beforehand, with the opportunity for discussion, role-playing, and feedback during the session itself. As an educational model, the flipped classroom approach has been described in the literature as an effective way to foster learning, engagement, and camaraderie for adult learners in health care professions.

For our current study, we obtained surgical faculty perceptions on potential barriers to implementing our cultural dexterity curriculum, PACTS. The results will be used to improve the final version of the curriculum, which is currently undergoing pilot testing.

Methods: *Participants and Setting:* We obtained surgical faculty perceptions via four focus groups. Participants constituted a convenience sample of largely junior level (assistant and associate professors) surgery faculty who are members of the Association of Academic Surgery, representing 30 academic medical centers in the United States. Each surgeon was provided with all 4 e-learning modules in advance and enacted 4 role play scenarios. The first role play was a video demonstration played for the group and followed with a group discussion. The second and third role plays were enacted by the focus groups and included the role play scenario and scripts. The fourth role play was enacted by the focus group, but only included a role play scenario with no script. *Data Collection:* The study team developed the semi-structured interview guide to elicit rich descriptions of the faculty members' experience with the PACTS curriculum and, more generally, with caring for diverse patients.

The 4 focus groups were conducted simultaneously at Northwestern University in Chicago, IL. Each group consisted of 9-10 surgery faculty and lasted approximately 1 hour.

Focus groups were moderated by 4 different investigators with qualitative experience (G.O., D.S., A.G., N.R.U.). One of these investigators is a physician trainee, one is an internist, and two are general surgery faculty. Participants were asked about their general perception of the PACTS curriculum, the logistical aspects of the curriculums delivery, how PACTS differed from their prior experiences with cross-cultural training, and what they perceived to be barriers in implementing the curriculum recommendations. Focus group sessions were recorded and the audio files were stored on a secure institutional server.

Qualitative Data Analyses: Focus group recordings were transcribed verbatim and deidentified. The transcriptions were coded using an inductive, grounded theory approach by a team of 4 investigators (G.J.L., G.O., C.D., B.L.). Grounded theory was originally defined by Glaser and Strauss as a means of deriving theory to explain a phenomenon. It occurs in 3 stages: (1) open coding, when codes are assigned to summarize textual data; (2) axial coding, to begin identifying relationships between the open codes; and (3) selective coding, where the data are refined into a single phenomenon, thus forming the grounded theory. The team members coded each manuscript independently, and a finalized codebook was created. The team then met multiple times to discuss codes and achieve consensus among coders. Recurrent themes were identified, and relevant quotes were classified according to these themes by hand.

Results: The focus group consisted of 37 surgery faculty from 30 institutions: 33% were women; 60% were White; 8% were Black; 0% were Hispanic; and 32% were Asian/Pacific Islander. The demographic characteristics of the faculty participants are summarized in Table 1.

Table 1. Characteristics of Surgical Faculty Focus Group Participants

	White	Black	Hispanic	Asian/Pacific Islander	Total
Male	15	1	0	9	25
Female	7	2	0	3	12
Total	22	3	0	12	37

Four major themes emerged from the data. (1) *Institutional buy-in*: the faculty described the importance of having support from all levels of the institution to integrate cultural dexterity into the practices of the surgical department. This includes providing personnel support such as a research assistant and training of faculty, space and equipment, protected curriculum time for both faculty and residents, and changes in policies that reflect the importance of culturally dexterous care. (2) *Faculty buy-in*: the faculty also noted that they and their colleagues need to be willing to receive training in order to implement the curriculum, serve as role models, and act as local champions. Their attitudes toward the curriculum are important in creating an environment that supports cultural dexterity, especially in the OR, which is more likely to occur with institutional buy-in. (3) *Resident buy-in*: the faculty noted the need for residents to recognize their own implicit biases and the impact on patient care in order to view the cultural dexterity curriculum as worthwhile. Additionally, having a variety of options for dissemination of the e-learning would assist in this process. This is more likely to occur with institutional buy-in and faculty buy-in. (4) *Relevance of the curriculum*: the faculty noted relevance as critical in ensuring the buy-in of the institution, faculty, and residents. The curriculum must include scenarios that are realistic and teach skills that are applicable in day-to-day practice for the patient population.

Conclusions: Surgical faculty who asked for feedback on the PACTS curriculum identified several barriers to implementation of a cultural dexterity surgical education curriculum. The main, overall barrier to the implementation of a cultural dexterity curriculum as perceived by surgery faculty includes a lack of buy-in at all levels: institutional, faculty, and residents. In order to ensure the success and sustainability of this curriculum, further steps must be taken to address these barriers, which the PACTS implementation team has begun to do.

NOTES

#37

**COMPLICATIONS IN
PRIMARY CLEFT LIP REPAIR:
A REVIEW OF THE
ACS NSQIP PEDIATRIC DATABASE**

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Introduction: Craniofacial defects such as clefts of the lip and palate have a compound etiology and can have an extensive effect on a person's aesthetics, health, co-morbidities, and social and cultural assimilation. With a worldwide prevalence of 1/700 people, the implications of cleft lip and palate repair are widespread. The prevalence varies by race/ethnicity, as Asian and Caucasian populations have the highest rates, followed by Native Americans and African Americans. The variance is likely multi-factorial as the development of a cleft is due to the influence of chromosomal, Mendelian, teratogenic, and environmental factors. This prompts our search for a better understanding of how these variables influence post-surgical differences, such as complication rates, in an effort to overcome them. To do this, we aim to identify risk factors for readmission and complication rates for cleft palate surgery.

Methods: A retrospective study was conducted using the American College of Surgeons National Surgical Quality Improvement Program Pediatric (ACS NSQIP-Pediatric) database between 2012 and 2014. Selection criteria included patients with CPT codes for variation of cleft lip, 40700, 40701, 40702, and 40720. We performed descriptive statistics on patient characteristics such as demographic information, co-morbidities, hospital characteristics, morbidity and mortality.

Results: A total of 1,232 patients met our inclusion criteria. A majority were male (61.36%, n=756), White (66.72%, n=822), and between 0-6 months old (56.08%, n=691). Of those who had cleft lip only surgery, a majority were male (61.32%, n=750), White (66.88%, n=818), and between 0-6 months old (56.17%, n=687) (p=0.00).

Of those who had cleft lip only surgery, a majority were male (61.32%, n=750), White (66.88%, n=818), and between 0-6 months old (56.17%, n=687) (p=0.00). Of those who had cleft lip surgery, with marginal palate interference, a majority were male (66.66%, n=6), White (44.44%, n=4), and equally distributed between 0-6 and >24 months old (44.44%, n=4). Overall the readmission rate was 0.57% (n=7), the overall reoperation rate was 0.73% (n=9), and the overall mortality rate was 0.16% (n=2). Concerning mortality and age categories, the 0-6 months age group had the highest rate (0.16%) (p=0.456). Of lip only procedures, a notable amount of co-morbidities existed (11.86%, n=145). GI complications were the most prevalent of these co-morbidities (77.24%, n=112). Concerning GI complications, the 0-6 months age group had the highest rate followed by the 6-24 months age group and >24 months age group (66.96% vs. 25.00% vs. 8.03%) (p=0.00).

Conclusion: Our data demonstrate that cleft lip procedures are relatively low risk and that the older patients have a lower mortality rate. Further research is warranted to elucidate factors that contribute to higher GI co-morbidities in younger age groups undergoing cleft lip surgery.

NOTES

#38

EVALUATION OF RACIAL DETERMINANTS OF MORTALITY IN BURN PATIENTS USING NIH DATABASE

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Introduction: The NIH database functions as a cohort of information, designed to be a “snapshot” of patient outcomes in a specific region and regulated in such a way as to be representative of the patient population, unbiased and unabridged. As an addendum to our previous study, we sought to determine if the outcomes noted using National Burn Registry Data with designated burn center data were congruent with those found in the NIH Database.

Methods: This is a retrospective cohort study. We used the NIH HCUP National Inpatient Sample (NIS), 2002-2015, and stratified patients by ICD-9 coding. Those with any ICD-9-CM diagnosis code in the range 940.x 946.x or 949.x, or 692.71, 692.76 or 692.77 were considered eligible for analysis. No interventions were performed, and our outcome was inpatient mortality.

Results: After extraction of data from NIS Core and Hospital files, a combination of multiple years, calculation of co-morbidity scores, and multiple imputation of missing values for burned body surface area (BSA), we identified 136,345 cases (excluding transfers out) corresponding to a weighted population of 672,293 for the 14 years. Raw mortality varied by reported racial categories (*Table 1*).

Weighted survey logistic regression demonstrated that mortality was significantly increased by age, BSA, inhalation, residence in a low-income ZIP code, lack of private insurance, and admission to a large and/or teaching hospital. After controlling for these factors, racial categories were still associated with somewhat different odds of mortality when compared to White (*Table 2*).

**Table 1:
Mortality Outcomes Based on Race Using NIH Data**

Race	Sample Size (n)	Mortality
White	68,292	2.65%
Black	18,360	2.66%
Hispanic	14,092	1.70%
Asian	2,323	2.32%
Unknown	32,374	2.97%

**Table 2:
Adjusted Mortality and Morbidity
Odds Ratios by Race Using NIH Database**

Race	OR	95% Confidence Interval
Black	1.16	0.99-1.34
Hispanic	0.87	0.72-1.05
Asian	1.01	0.73-1.40
Unknown	1.21	1.05-1.36

Conclusion: Compared to previous National Burn Registry studies showing an increase in adjusted mortality for black patients of 37% or more, the effect of race on mortality in the NIS is at least partially explained by economic factors and possibly by differences in data quality and completeness.

NOTES

#39

**ASSESSING COLORECTAL CANCER
SCREENING BARRIERS IN
RURAL APPALACHIAN AREA**

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Introduction: Colorectal cancer (CRC) remains the second most common cause of cancer mortality in West Virginia (WV). Interestingly, while the overall rate of CRC in the United States has been decreasing, the incidence rates in West Virginia have remained stable or even increased in some counties. The WV Cancer Registry indicates that Cabell County has higher invasive CRC incidence rates than most of the other WV counties. Specifically, Cabell County had a 65.2 per 100,000 rate of CRC and Mason County had a 52 per 100,000 rate. This correlated with the lower colorectal screening rates in West Virginia compared to national rates.

Objective: To assess colorectal cancer screening behaviors and knowledge to identify the barriers that prevent eligible patients over the age of 50 from receiving potentially life-saving colorectal cancer screening in the rural Appalachian area.

Methods: Individuals from the rural Appalachian area including Cabell county, Mason county, and Putnam county were surveyed at various clinical and non-clinical sites. The survey, which remained strictly confidential and anonymous, consisted of questions regarding the patient's perceptions of colorectal cancer, screening behaviors, and some demographic information. The collected data were analyzed, and a preliminary report was established. This project was approved by our IRB.

Results: 255 adults over the age of 50 were asked 54 questions regarding their thoughts on colorectal cancer (CRC) screening. Statistical analysis demonstrated that the following factors had a significant positive influence on CRC screening: having a primary care physician ($p < 0.001$), knowledge and awareness of CRC screening ($p < 0.05$), having a family history of CRC ($p < 0.05$), having concerns or symptoms prior to screening ($p < 0.001$), and prior screening experience ($p < 0.001$) especially if accompanied by the discovery of polyps or other lesions ($p < 0.001$).

On the other hand, the following factors had significant negative influence on CRC screening: busy work schedule ($p<0.001$), the cost and length of time of the screening procedure ($p<0.001$), uncomfortable nature of the conversations regarding CRC screening and the screening itself ($p<0.001$), fear of diagnosis ($p<0.001$), feeling of embarrassment ($p<0.001$), bowel preparation ($p<0.001$), and when the place of residence is rural ($p=0.672$).

Conclusions: The colorectal cancer screening rate in rural Appalachia has been significantly lower than those of the state and the nation. This study reveals that there are many barriers to CRC screening. The new in-home product which has been recently introduced as an easy way to screen at home appears to only address one or two of the barriers to CRC screening. A coordinated effort will be needed to increase the screening rate, and hopefully decrease the colorectal cancer morbidity and mortality in the region. It is our recommendation to promote and raise awareness of colorectal cancer via patient education to remove stigma thought, fears that prevent patients from seeking age-appropriate screening tests. It is crucial to utilize pre-existing assets such as primary care and community activities for intervention efficacy.

NOTES

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**PATIENT-PROVIDER RACE/ETHNICITY
CONCORDANCE: A NATIONAL STUDY OF
HEALTHCARE SATISFACTION, QUALITY OF
CARE, AND PROVIDER COMMUNICATION**

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Introduction: Patient health outcomes are often influenced by issues related to racial disparities in healthcare engagement. One area of disparity relates to ineffective communication between patients and providers. Published meta-analysis and smaller clinical survey data have suggested varying associations between patient-provider race concordance and health outcomes. In an era where provider satisfaction stands in as a metric for quality care delivery, we wanted to extend the examination into the relationship between race concordance and patient-provider communication satisfaction and patient perception of health status.

Methods: A retrospective analysis was conducted on the 2016 Medical Expenditure Panel Survey (MEPS) data, a set of large-scale, nationwide surveys of families and individuals, their medical providers, and employers. All adults who completed both the household and self-administered questionnaire were eligible for our study. Respondents were classified as concordant if they shared the same race/ethnicity as their provider and were considered discordant otherwise. For each race/ethnicity, patient characteristics and healthcare satisfaction were compared between the concordant and discordant groups using either a Pearson chi-square test or an adjusted Wald test. Cronbachs alpha was used to identify five questions which measured healthcare satisfaction, and these questions were used to create a composite satisfaction score for each patient. Univariate and multivariate linear regression were used to assess the association between racial concordance and healthcare satisfaction, while controlling for possible confounders. All tests were two-sided and the statistical significance level was set to 0.05.

Results: There were a total of 4,474 (weighted n: 58 million) respondents who met the eligibility criteria for our study. Data was weighted in order to be representative of the U.S. population. After weighting the data, 77% (45 million) of the respondents were non-Hispanic white, 9% (5 million) were non-Hispanic black, 5% were non-Hispanic Asian (3 million), and 9% were Hispanic (5 million). On average, the respondents were 55 (13.2) years old, and the majority completed at least some college. Almost a quarter had private insurance, 39% had Medicare, and 13% had Medicaid over the course of the year. A multivariate logistic regression was conducted and expressed that racial concordance for black patients was found to be significantly associated with poorer perceived health; 29.5% of concordant patients vs. 19.7% of discordant patients reported their health as being poor/fair (OR = 2.01, 95% CI: 1.20-3.36, p-value = 0.008) after controlling for age, income, insurance and provider specialty. However, in both the univariate and multivariate linear regressions, racial concordance for black patients was not found to be a significant predictor of overall healthcare satisfaction.

Conclusion: The analysis suggests that racial concordance is not significantly associated with predictors of overall health quality. However, it is known that race contributes to the story of a patient’s health, care delivery and outcomes. Further recommendations include examination of factors that may affect the relationship between racial concordance and predictors of overall health quality.

NOTES

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**PURSUING A CAREER IN
ACADEMIC SURGERY AMONG
AFRICAN AMERICAN MEDICAL STUDENTS**

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Introduction: There are few African American students in medical school, and of those in medicine, fewer are choosing academic careers. Surgery in particular has a deficiency in the number of underrepresented minority (URM) residents, junior faculty and tenured professors. To our knowledge, a study exploring African American medical student perceptions towards academic surgical careers has not been performed. Our objective is to provide insight into what barriers URM students perceive when considering a career in academic surgery.

Methods: This qualitative, descriptive study was conducted at the Perelman School of Medicine at the University of Pennsylvania (PSOM). A total of 16 students were recruited to participate in the study, four students from each class year. Interview participants were African American students with a self-reported interest in pursuing a career in general surgery or a surgical subspecialty. Interviews were conducted through January to March 2018. Interviews were transcribed and data was analyzed for thematic content. The main outcomes reported are themes of how African American students who are interested in surgery perceive the challenges of pursuing a career in academic surgery.

Results: Major barriers to pursuing a career in academic surgery cited by students included lifestyle concerns, financial pressures, having to work in a predominantly white environment, lack of mentorship, feeling like you have to prove yourself, financial concerns, stressful environments and concerns of being a minority female in surgery.

Conclusion: These study findings indicate that the persistent dearth of African Americans in academic surgery is likely multifactorial. Some possible ways surgical leadership can begin addressing these issues is through establishment or enhancement of formal mentorship programs, ensuring non-discriminatory recruiting processes, stating explicit goals for improving program diversity, and supporting pipeline programs.

EXPLORING RACIAL DISPARITY IN PERIOPERATIVE OUTCOMES FOLLOWING REVISIONAL BARIATRIC SURGERY: A CASE-CONTROL MATCHED ANALYSIS

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Introduction: Bariatric surgery is an effective treatment for severe obesity; however, 20-30% of bariatric patients do not have long-term success. As a result, a revisional bariatric operation is the third most common bariatric operation performed today, estimated at 13%. Disparity in outcomes following bariatric surgery remains a controversial topic. Outcomes following revisional bariatric surgery among ethnic minorities with severe obesity are even less understood. The goal of this study was to determine if a disparity exists in perioperative outcomes among ethnic groups following revisional bariatric surgery.

Methods: Patients who had a revisional bariatric operation in 2015-2016 were identified from the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program Participant Use Data File (MBSAQIP PUF). 1:1 case-control matching was performed using patient demographics and co-morbidities as covariates to generate statically equivalent cohorts stratified by race. Univariate analysis using t-tests and Chi-squared tests were used to compare perioperative and 30-day outcomes of unmatched and case-control matched cohorts.

Results: Of 27,030 patients requiring a revision/conversion bariatric procedure, 24,197 were included in this analysis. Among these, 5,028 (20.78%) were black. Black patients were younger, had a higher preoperative BMI, and had a higher prevalence of hypertension, renal disease and IVC filter placement. White patients were older and had a higher prevalence of several pre-existing comorbidities. In matched cohort analysis of 5,708 patients, postoperative length of stay, 30-day readmission, superficial SSI and aggregate bleeding were all significantly higher in black compared to white patients. All other perioperative outcomes were similar between cohorts (*Table 1*).

Table 1: Perioperative outcomes in black and white patients undergoing revisional bariatric surgery						
	Unmatched			Case-control Matched		
	Black n = 2,028	White n = 19,169	p-value	Black n = 2,854	White n = 2,854	p-value
Operation length (min)	127.99 ± 69.78	124.89 ± 70.68	0.0055	122.52 ± 64.19	122.75 ± 67.9*	0.8953
Days to Death after operation	0.02 ± 0.52	0.02 ± 0.48	0.1114	0.01 ± 0.23	0.02 ± 0.43	0.6027
HLOS	2.28 ± 3.13	2.21 ± 3.13	0.3978	2.12 ± 2.50	1.91 ± 2.39	0.0012
Conversion	80 (1.39)	256 (1.23)	0.828	3 (0.18)	14 (0.05)	1
able to Follow 30 days	4694 (93.36)	17878 (92.27)	0.8165	2662 (93.27)	2682 (93.97)	0.2786
30-day Outcomes, n (%)						
Unplanned ICU Admission	70 (1.39)	317 (1.65)	0.1883	20 (0.70)	24 (0.84)	0.3449
Reoperation	166 (2.50)	648 (3.38)	0.7823	81 (2.84)	71 (2.49)	0.411
Readmission	372 (7.40)	1514 (6.85)	0.1777	183 (6.48)	143 (3.08)	0.0233
Intervention	178 (2.40)	648 (3.38)	0.3788	79 (2.77)	72 (2.52)	0.5627
Mortality	12 (0.24)	37 (0.19)	0.3217	6 (0.21)	2 (0.18)	0.7628
Death related to operation	7 (0.14)	19 (0.10)	0.6737	3 (0.11)	2 (0.11)	0.7401
Perioperative complications, n (%)						
ARF	7 (0.14)	22 (0.13)	0.8785	2 (0.07)	0 (0.00)	0.1772
Progressive renal insufficiency	7 (0.14)	17 (0.09)	0.3111	2 (0.07)	6 (0.21)	0.157
CFR	9 (0.18)	13 (0.07)	0.0189	3 (0.11)	0 (0.00)	0.0832
NIH	2 (0.04)	5 (0.03)	0.6113	0 (0.00)	0 (0.00)	0.0000
DVT requiring therapy	11 (0.22)	43 (0.23)	0.8338	7 (0.25)	4 (0.14)	0.3632
PE	13 (0.26)	33 (0.18)	0.2812	8 (0.28)	3 (0.18)	0.4048
Anticoagulation	26 (0.52)	83 (0.43)	0.4279	12 (0.42)	7 (0.25)	0.2506
Transfusion	88 (1.72)	276 (1.44)	0.1076	38 (1.33)	26 (0.91)	0.1314
Unplanned intubation	20 (0.40)	57 (0.30)	0.2605	8 (0.28)	5 (0.18)	0.1312
Peripartur nerve injury	1 (0.02)	1 (0.01)	0.3084	1 (0.04)	0 (0.00)	0.3172
Wound disruption	7 (0.14)	21 (0.11)	0.5818	2 (0.07)	2 (0.07)	1.0000
Ventilator > 48 hours	11 (0.22)	27 (0.15)	0.3488	1 (0.04)	2 (0.11)	0.3171
Pneumonia	22 (0.50)	116 (0.61)	0.3708	11 (0.39)	13 (0.46)	0.6825
UTI	26 (0.52)	115 (0.59)	0.5455	12 (0.42)	17 (0.60)	0.3219
Sepsis	27 (0.54)	116 (0.61)	0.3747	10 (0.35)	13 (0.46)	0.3308
Septic shock	12 (0.24)	58 (0.30)	0.4527	4 (0.14)	3 (0.11)	0.7053
Superficial SSI	28 (0.72)	223 (1.18)	0.0061	13 (0.33)	32 (1.12)	0.0128
Deep SSI	11 (0.22)	54 (0.28)	0.6533	6 (0.21)	9 (0.32)	0.4487
Organ space SSI	43 (0.86)	29 (0.15)	0.1015	20 (0.70)	13 (0.46)	0.2217
Incisional Hematoma	8 (0.12)	21 (0.11)	0.8333	3 (0.11)	2 (0.07)	0.6546
Aggregate perioperative complications, n (%)						
Leak	41 (0.82)	208 (1.09)	0.0917	19 (0.67)	20 (0.70)	0.8723
Bleeding	32 (0.64)	142 (0.74)	0.4327	8 (0.28)	20 (0.70)	0.028
Cardiovascular	10 (0.20)	23 (0.12)	0.1772	5 (0.18)	1 (0.04)	0.3171
Pulmonary	54 (1.07)	252 (1.21)	0.426	21 (0.74)	21 (0.74)	1
Renal	14 (0.28)	43 (0.22)	0.4311	4 (0.14)	6 (0.21)	0.3267
VTE	19 (0.78)	123 (0.64)	0.2997	17 (0.60)	11 (0.39)	0.3257
Wound infection	103 (20.5)	242 (1.23)	0.0023	44 (1.54)	26 (1.96)	0.2226
Other Infection	100 (1.99)	427 (2.23)	0.352	40 (1.40)	48 (1.81)	0.3144
Total Infection	173 (3.44)	806 (4.20)	0.0144	75 (2.63)	89 (3.12)	0.2673

n = number of patients, HLOS = postoperative length of stay, n = number of events, ARF = acute renal failure, CFR = cardio-pulmonary arrest, SSI = surgical site infection, PE = pulmonary emboli, UTI = urinary tract infection, SSI = surgical site infection, VTE = venous thrombo-embolic event

Conclusions: Revision/conversion bariatric surgery is overall safe. The outcomes between black and white patients having revisional bariatric surgery are similar. With the exception of a higher rate of superficial SSI, bleeding, postoperative length of stay and readmission, outcomes after revisional surgery are not mediated by race.

NOTES

#43

DEVELOPMENT OF AN INNOVATIVE MULTIMEDIA EDUCATIONAL PLATFORM TO IMPROVE PATIENT EDUCATION IN THE PERI-OPERATIVE SETTING

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Introduction: Studies have shown that patients retain only half of pre-operative information after the traditional informed consent process for elective surgery. Multimedia platforms in several clinical settings have shown promise for improving patient education and information retention. We sought to develop and evaluate a personalized multimedia patient education tool to be used at the point of care to improve self-efficacy, health literacy and overall satisfaction with care for thoracic surgery cancer patients.

Methods: We developed a multimedia patient education tool following a needs assessment of patient interview and clinical stakeholder input to identify priority elements for inclusion in the platform. Identified priority elements were incorporated into our application created by our industry partner, Pathos Health, Inc. We used an iterative process to refine the tool in collaboration with our clinical stakeholders which consisted of a multidisciplinary team of surgeons, nurse coordinators, nurse practitioners, our Office of Patient Education, and our Cancer Center leadership. Monthly meetings were held with the clinical stakeholder team to optimize workflow and provide additional refinements to the tool. The tool was integrated into all Stanford Thoracic Surgery clinics as part of the pre-operative teaching for suspected lung cancer cases requiring surgical resection.

Results: Interviews with 12 recent thoracic surgical patients found that most patients (92%, 11/12) were current users of our institutional MyHealth electronic medical record patient portal.

Identified patients were most interested in the following electronic tools to enhance MyHealth: a map of the clinic and hospital, anatomic diagrams drawn by doctors, voice recordings of their visits, the ability to print or email screenshots from MyHealth, and printable discharge instructions to be accessed at home. Review of these patient preferences with clinical stakeholders led to the development of a tool that that could be used by surgeons in clinics during their preoperative teaching. The final product was an iPad application developed in partnership with Pathos Health that allowed surgeons to do real-time annotation of both anatomic diagrams of thoracic structures and individual patient imaging (including CT and PET scans, see *Figures 1 and 2*). Additionally patients would leave their pre-operative visit with their surgeon-annotated images and improved companion printed materials which were updated to match patient input. Deployment of the new tool and process required overcoming technical challenges with information technology infrastructure that included protection of patient data, wireless printing, and secured communication. The tool has now been utilized in over 150 patient encounters and is being used by all thoracic surgeons at our institution.

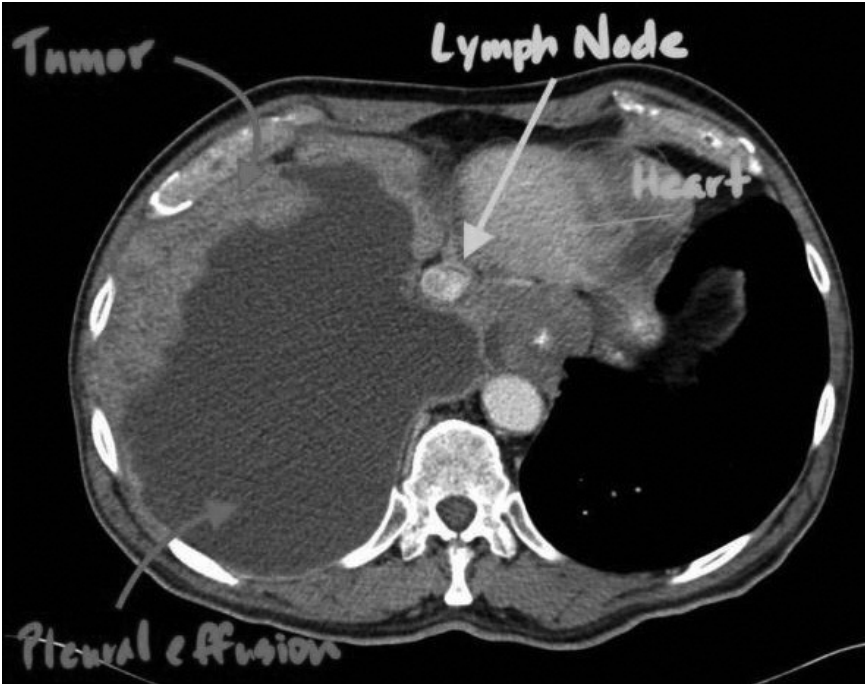


Figure 1

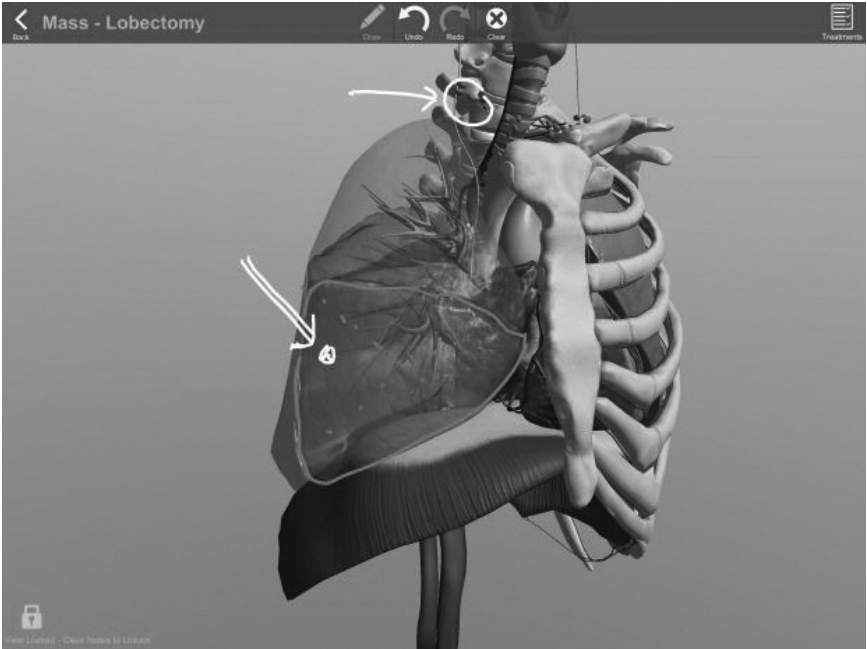


Figure 2

Conclusions: A development process that includes both patient and provider input can be used to create an innovative electronic pre-operative educational tool that prepares and empowers patients in the shared decision-making process before surgery. Examination of the impact of this tool on patient self-efficacy, health literacy and overall satisfaction using pre/post study design surveys is currently underway.

NOTES

#44

IMPACT OF SURGICAL TRAINING ON FAITH AND RELIGIOUS PRACTICE

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Introduction: Attrition and burnout are prevalent among general surgery trainees. A healthy personal wellness strategy including the ability to practice one's faith could potentially be life-changing among trainees experiencing burnout. We aim to evaluate the impact of surgical training on the ability to practice a person's faith. We hypothesize that surgical training will decrease the opportunities for trainees to practice their faith.

Methods: All surgery trainees at a single institution were invited to complete an 18-question survey that focused on the importance and practice of faith during surgical training.

Results: 54 out of 82 surgical trainees completed the survey (response rate: 66%). Of the respondents, 44% were female, 80% were residents, and 20% were fellows. The majority of trainees (65%) reported experiencing burnout at least sometimes. More than 75% of trainees stated that faith was important to them and had impacted their life in a positive way. Two-thirds of respondents reported that their faith had positively or very positively impacted their life during surgical training. More than half (51%) reported that their faith helped them while they experienced burnout or helped to reduce stress. A majority (70%) of trainees reported a decrease or substantial decrease in time spent at a house of worship, whereas 30% reported no change. More than 55% of trainees noted a decrease or substantial decrease in praying and studying religious texts. In contrast, 11% of trainees reported an increase in time spent praying and 2% noted an increase in their study of religious texts.

Conclusion: A majority of surgical trainees indicated that faith was important to them and had positively impacted their life during training. Faith was found to be a helpful strategy for the majority of trainees experiencing burnout; however, most trainees noted a decrease or substantial decrease in time spent practicing their faith. Identifying ways to improve a trainee's ability to practice their faith as part of a comprehensive wellness plan may lead to a reduction in burnout rates among surgical trainees.

#45

ORTHOPAEDIC SURGERY IS FAILING TO ATTRACT SURGEON-SCIENTISTS

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Introduction: With the dramatic expansion of the biomedical knowledge base, it is increasingly difficult for practicing clinicians, especially in surgically-intensive fields like orthopaedic surgery, to remain abreast of scientific discoveries. Dually trained MD-PhD clinician-scientists are particularly well-suited to tackle this disconnect between the bench and the bedside, but have been historically underrepresented in orthopaedic surgery. Given the overwhelming burden of musculoskeletal disease, MD-PhDs remain an underutilized source of intellectual capital that could contribute significantly to the translational efforts underlying biomedical innovation in orthopaedic surgery. This study compared the characteristics of MD-PhD graduates pursuing orthopaedic surgery to other surgical and non-surgical specialties.

Methods: Survey data previously collected and published in the recent 2018 Association of American Medical Colleges (AAMC) National MD-PhD Program Outcomes Study were re-analyzed for years pre-1975 through 2004. Of the 10,591 total graduates of United States MD-PhD programs identified, 4,647 individuals who completed residency training and 2,124 still in training responded to the 2014 AAMC survey and were analyzed in this report. Numbers, proportions, workplace choice and percent research effort of MD-PhD alumni completing orthopaedic surgery over time were analyzed by linear regression analysis and compared with other surgical and non-surgical specialties.

Results: Within the cohort evaluated, 1.1% of MD-PhD graduates pursued orthopaedic surgery compared to 25% of graduates pursuing internal medicine. Among surgical specialties analyzed, orthopaedic surgery had the lowest proportion of residents who were MD-PhD graduates. Furthermore, a smaller proportion of MD-PhD trained orthopedists (50%) than internists (64%) have opted for a careers in academia and, among those who have, a much smaller proportion are able to sustain a research effort 50%.

Conclusion: Although more MD-PhDs are choosing to pursue non-internal medicine options, they remain underrepresented in orthopaedic surgery. We suggest that institutions should assume more responsibility for recruiting and supporting those committed to research by creating an atmosphere that supports, incentivizes, and sustains dually trained orthopaedic trainees and faculty who wish to succeed as surgeon-scientists.

NOTES

#46

**LOOKING BEYOND THE SOCIAL
DETERMINANTS OF HEALTH:
ETHNICITY-SPECIFIC RNA BIOMARKERS
FOR THE DETECTION OF NON-SMALL-CELL
LUNG CANCER IN AFRICAN AMERICANS**

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Introduction: Lung cancer outcome disparities disproportionately affect African Americans. While social determinants of health have historically been used to explain these differences in outcome, recent oncology literature points to the existence of subtle ethnicity-specific differences in tumor biology as a potential factor. Protein functional effectors RNAs (pfeRNA) are novel small non-coding RNAs (sncRNA) with a known role in lung cancer tumorigenesis. Using a novel panel of pfeRNAs that showed high potential for early detection of non-small cell lung cancer (NSCLC) in plasma samples, we demonstrated differential sensitivity and specificity based on ethnicity in native Asians, European-Americans (EA) and African-Americans (AA). Given these preliminary results, we hypothesized that identifying ethnicity-specific pfeRNA targets could lead to biomarkers with greater discriminative potential for diagnosis and clinical risk-stratification in African Americans with NSCLC.

Methods: The expression levels of eight AA-specific target pfeRNA genes previously identified through next-generation gene sequencing were quantified in the plasma sample of 37 self-identified AA. The cohort comprised 28 cancers and nine controls from a prospectively maintained biospecimen database. Clinical characteristics were collected via a retrospective chart review. A statistical algorithm was used to design a composite biomarker by combining select pfeRNAs levels and clinical factors.

Results (see Figures 1 and 2): Seven of the eight identified targets were clinically relevant (A-D, A-E, C-D, C-H, E-H, F-G, and G-H). pfeRNA A-E performed best with a sensitivity of 90%, a specificity of 80%, and AUC of 94.6% (P= 0.004).

The computer-generated composite biomarker [formula: $3.29 * \text{Age} - 78.96 * \text{male} + (-38.00) * \text{A.D} + 16.45 * \text{C.H} + 5.94 * \text{E.H} - 24.88 * \text{F.G} + 16.25 * \text{G.H} + (-123.08) * (\text{A.E} \geq 4.562104) + 40$] performed with an accuracy of 100% in the detection of cancer ($P = 0$). pfeRNA C-D demonstrated a statistically significant correlation with overall survival in the cancer subgroup $N(28)$. Among 12 patients with $\text{C-D} < (-6.69)$, none died during the 12-year follow-up period. However, six of 16 with $\text{C-D} \geq (-6.69)$ died within the first five years.

Conclusion: PfeRNAs demonstrate excellent potential as both diagnostic and prognostic tools for the clinical risk stratification of AA with NSCL. These findings improve the prospect of developing population-specific clinical assays to help guide treatment strategies in impoverished areas of the world with poor access to CT scanning and in economically advanced countries enrolling smokers to lung cancer screening programs. Given our small sample size, validation studies in larger cohorts are warranted for definitive conclusions.

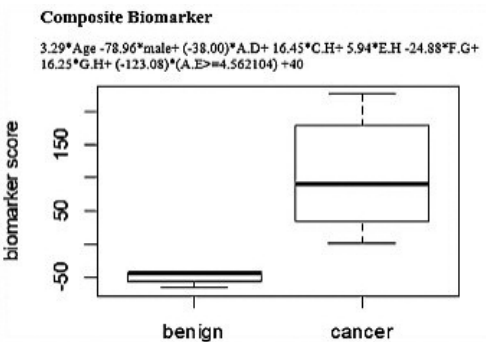


Figure 1: Performance of pfeRNA composite biomarker for the detection of NSCLC in AA.

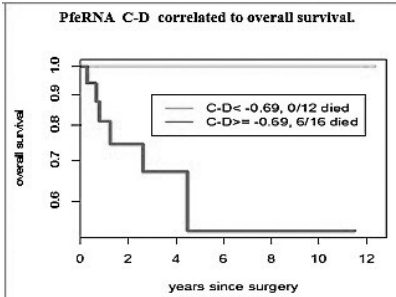


Figure 2: Prognostic value of AA-specific of pfeRNA in AA with NSCLC.

#47

**THE SOCIETY OF BLACK ACADEMIC
SURGEONS CURRICULUM VITAE BENCH
MARKING INITIATIVE: A MENTORING
TOOL AND ACADEMIC ROADMAP**

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Introduction: The Society of Black Academic Surgeons (SBAS) has a primary mission to support the academic growth of its members. Since the first meeting in 1989, the number of SBAS members that are Division Chiefs, Chairs, and Deans has increased. Despite this progress, nationally surgeons of color are less likely to receive academic tenure and obtain leadership positions. Furthermore, the number of students of color choosing careers in surgery has plateaued. Further mentoring strategies are needed.

Objective: To query the curriculum vitae (CVs) of SBAS leadership to develop a benchmarking tool for academic success for students and junior faculty.

Methods: The SBAS membership committee requested the CVs from SBAS presidents and current and past SBAS executive council members. CVs were reviewed to determine academic productivity at early career stages. Specific variables queried were: manuscripts published, grant funding, surgical societal involvement, and invited lectureships.

Results: To date, a total of 12 unique CVs have been reviewed with 16 leadership positions benchmarked. This included: 7 Division Chiefs, 5 SBAS Presidents, 2 Department Chairs, and 2 Deans. The results are summarized in the *Table*.

Conclusion: We present a tangible benchmarking tool for faculty in the first 5-10 years of academic practice to track progress compared to SBAS faculty that have gone on to leadership positions. Ongoing analysis will determine benchmarks for mid-career faculty members that are ascending to higher leadership positions. Finally, creative strategies are needed to pair this information with appropriate faculty mentoring and sponsorship.

	Division Chief	Department Chair	Dean	SBAS President
Publications 5 years	20.2	30.5	28	24.8
Publications 10 years	57.6	61	66	55.4
Funded Grants 5 years	7	5.5	4.5	5.8
Funded Grants 10 years	15.2	14	15.5	13.4
Surgical Societal Committees 5 years	4.4	3.5	8.5	7
Surgical Societal Committees 10 years	7.6	11.5	15.5	17.2
Invited Lectureships 5 Years	14.2	21.5	15.5	21.4
Invited Lectureships 10 Years	29.4	39.5	33.5	46.4

NOTES

#48

**ANALYSIS OF FACTORS IMPACTING
PROGNOSIS IN PATIENTS WITH
DISSEMINATED APPENDICEAL
TUMORS UNDERGOING SOMATIC
MUTATION PROFILING RESULTS FROM
A US HIPEC COLLABORATIVE**

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Introduction: Prognosis in patients with disseminated appendiceal tumors (dATs) undergoing cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (CRS/HIPEC) is dependent on patient and tumor-related factors. While somatic mutation profiling (SMP) of advanced tumors has been employed to guide therapy, the prognostic role of somatic alterations, specifically KRAS mutations, is not well defined.

Objective: To elucidate characteristics of patients who undergo SMP and analyze the prognostic impact of KRAS status on long-term outcomes.

Methods: Using a retrospective review of a multi-institutional database, patients with dATs undergoing CRS/HIPEC whose tumors underwent SMP were identified. KRAS was the only consistently reported mutation. Clinicopathologic variables between KRAS wild type (WT) and mutated (MUT) groups were compared using Chi square and Mann-Whitney U tests. Univariable (UVA) and multivariable (MVA) Cox proportional hazard regression analyses were performed to determine factors affecting overall survival (OS) and recurrence-free (RFS). OS and RFS were estimated by the Kaplan-Meier method and compared using log rank test.

Results: Of the 9% (144/1524) dAT patients with known SMP, 65% (91/144) were KRAS mutated. KRAS-WT patients were younger (median age 51.5 vs. 57.5 years, $p=0.046$) and more likely to be female (70% vs. 51%, $p=0.029$) compared with KRAS-MUT.

KRAS-WT and MUT were similar in lymph node (LN) status (LN positive 26% vs. 36%, $p=0.296$), tumor grade (high-grade 58% vs. 66%, $p=0.549$), PCI (median 20 vs. 20, $p=0.874$), CC status (CC0/CC1 74% vs. 77%, $p=0.724$), neoadjuvant chemotherapy (48% vs. 44%, $p=0.863$), and adjuvant chemotherapy (33% vs. 41%, $p=0.445$). KRAS-WT and MUT groups showed comparable OS (44.63 months; 95%CI 29.44-59.83 vs. 51.1 months; 95%CI 44.97-57.30, $p=0.987$) and RFS (13.87 months; 95%CI 10.81-16.82 vs. 17.43 months; 95%CI 13.67-21.20; $p=0.995$). OS and RFS were worse for high-grade dATs, but no difference was observed between KRAS-WT and MUT groups when stratified by grade (see Figure 1). Palliative operative intent, positive LN status, high-grade tumor, CC2/CC3 resection, lymphovascular invasion (LVI), neoadjuvant, and adjuvant chemotherapy were significantly associated with worse OS on UVA. Only LVI (HR 4.650; 95%CI 1.755-12.323, $p=0.002$) and LN status (HR 2.603; 95%CI 1.022-6.631, $p=0.045$) were significant on MVA. High tumor grade, LVI, neoadjuvant chemotherapy, and adjuvant chemotherapy were associated with poorer RFS on UVA. No factor remained significant on MVA (Table 1).

Conclusion: Although frequently mutated, KRAS status does not appear to confer prognostic significance in this highly-selected cohort of patients with advanced disseminated appendiceal tumors undergoing CRS/HIPEC. Clinically annotated multi-institutional genomic registries utilizing uniformly collected tumor mutation profiles may improve prognostic ability of somatic alterations including KRAS mutations.

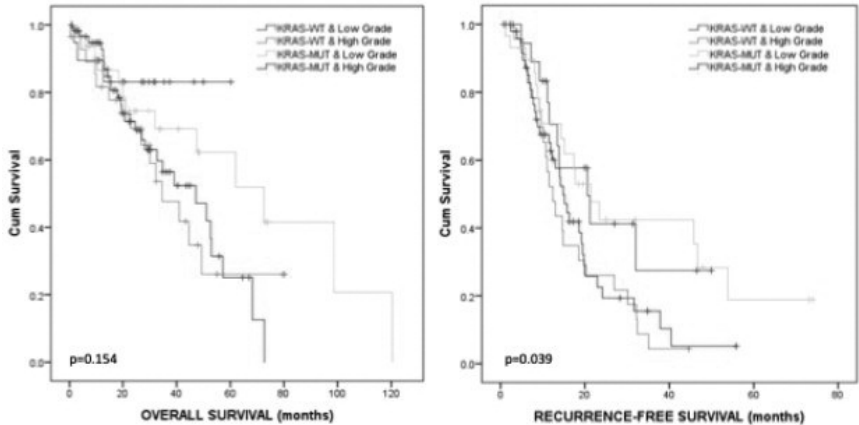


Figure 1 – Kaplan-Meier curves comparing (A) overall survival in KRAS stratified patients with low and high grade disease and (B) recurrence-free survival in KRAS stratified patients with low and high grade disease, in patients with disseminated appendiceal tumors (dATs) undergoing CRS/HIPEC.

Table 1. Univariable Analyses of Overall Survival and Recurrence-Free Survival in Patients with Disseminated Appendiceal Tumors (dATs) Undergoing CRS/HIPEC.

	Overall Survival		Recurrence-Free Survival	
	HR (95%CI)	P value	HR (95%CI)	P value
Age	1.012 (0.998-1.027)	0.1	0.997 (0.985-1.010)	0.688
Female Sex	0.793 (0.567-1.109)	0.176	0.999 (0.744-1.341)	0.992
Node Status				
Negative	Ref		Ref	
Positive	2.116 (1.188-3.769)	0.011	1.468 (0.881-2.448)	0.141
Tumor Grade				
Low	Ref		Ref	
High	1.979 (1.077-3.637)	0.023	1.938 (1.214-3.095)	0.006
LVI				
Absent	Ref		Ref	
Present	3.518 (1.783-6.941)	0.0003	1.830 (1.067-3.141)	0.028
KRAS				
Wild-Type	Ref		Ref	
Mutant	0.995 (0.567-1.749)	0.987	0.898 (0.576-1.399)	0.633
Operative Intent				
Curative	Ref		Ref	
Palliative	3.610 (1.580-8.248)	0.002	0.048 (0.0003-9.165)	0.258
PCI				
<10	Ref	0.4	Ref	0.188
10-20	1.744 (0.761-3.998)	0.189	0.983 (0.556-1.738)	0.953
>20	1.647 (0.721-3.760)	0.237	0.629 (0.344-1.150)	0.132
CC Status				
CC0/CC1	Ref		N/A	
CC2/CC3	2.047 (1.138-3.682)	0.017		
Neoadjuvant Chemo				
No	Ref		Ref	
Yes	2.888 (2.052-4.065)	<0.001	2.545 (1.868-3.467)	<0.001
Adjuvant Chemo				
No	Ref		Ref	
Yes	2.652 (1.530-4.595)	0.001	2.878 (1.858-4.459)	<0.001

NOTES

FDG-PET-CT IS UNNECESSARY IN INITIAL STAGING OF NODAL METASTASIS IN THIN CUTANEOUS MELANOMA

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Introduction: Fluorodeoxyglucose positron emission tomography-computed tomography (PET-CT) imaging is often used to stage nodal metastasis in thin cutaneous melanoma, with limited evidence.

Methods: This is a retrospective chart review of all patients treated at our institution from 2005 to 2015 diagnosed with cutaneous malignant melanoma identified by ICD-9-CM codes. Patients were included in the study if they received a PET-CT prior to surgical lymphadenectomy. Biopsy histopathologic features, lymph node status, comorbidities, and PET-CT results were collected. Statistical testing was performed using Stata/IC 14.2. We calculated the overall sensitivity, specificity, accuracy, likelihood ratios, and positive predictive value of PET-CT for identifying nodal metastasis. Results were also stratified by initial biopsy tumor depth (American Joint Committee on Cancer TNM staging system).

Results: We identified 367 subjects, and 95 had a PET-CT prior to lymphadenectomy. The mean Breslow depth was 4.57 ± 5.0 mm, median time from diagnosis to PET-CT was 22 days, and median follow-up was 427 days. There were 17 subjects classified as T1 (thin), 14 subjects as T2, 17 subjects as T3, and 44 subjects as T4. Of the 95 subjects, 26 had nodal metastasis found on lymphadenectomy, and no T1 subjects had nodal metastasis. There were no statistically significant differences in age ($p=0.5$), gender (0.6), and diabetes mellitus prevalence ($p=0.93$) between the groups. The sensitivity of PET-CT was 37.9% overall, 0% for T2, 33.3% for T3, and 36.8% for T4 tumors (*Table 1*). The specificity was 95.4% overall, 88.2% for T1, 100% for T2, 100% for T3, and 96% for T4. The positive predictive value (PPV) was 78.6% overall, 0% for T1, 100% for T3, and 87.5% for T4. The positive likelihood ratio (LR) was 8.34 overall and 9.21 for T4. PET-CT had a 77.9% accuracy for categorizing nodal status overall.

PET-CT Diagnostic Characteristics for Nodal Basin Metastases in Cutaneous Melanoma						
	Overall	T1	T2	T3	T4	p-value
Subjects (n)	95	17	14	17	44	--
Age mean ± SD	59.6 ± 16.1	59.6 ± 13.4	66.2 ± 10.9	56.5 ± 21.5	59.0 ± 16.0	0.54
Male (n)	64	9	9	12	32	0.68
Female (n)	31	8	5	5	12	
Diabetes Mellitus (n)	14	2	2	3	6	0.93
Breslow thickness (mm) mean ± SD	4.57 ± 5.0	0.64 ± 0.27	1.61 ± 0.24	2.79 ± 0.46	7.71 ± 5.73	--
Ulceration (n)	38	1	4	5	28	< 0.01
Diagnosis to PET (days) median (IQR)	22 (16, 35)	32 (16, 52)	18 (11, 22)	22 (19, 51)	24 (18.5, 35)	0.01
Diagnosis to Surgery (days) median (IQR)	51.5 (35, 69)	64 (43.5, 298)	63 (37, 70)	50 (35, 61)	48.5 (34, 68)	0.12
PET to Surgery (days) median (IQR)	23 (14, 41)	31 (16, 48)	22.5 (19, 42)	20 (12, 25)	29 (14, 40.5)	0.21
Follow-Up (days) median (IQR)	427 (126, 929)	486 (304, 893)	544.5 (156, 939)	191 (83, 427)	526 (139.5, 1172.5)	0.08
Sensitivity (95% CI)	37.9% (20.7%, 7.7%)	--	0% (0%, 97.5%)	33.3% (4.3%, 77.7%)	36.8% (16.3%, 61.6%)	--
Specificity (95% CI)	95.4% (87.3%, 99.1%)	88.2% (63.6%, 98.5%)	100% (75.3%, 100%)	100% (71.5%, 100%)	96% (79.7%, 99.9%)	--
Positive Predictive Value (95% CI)	78.6% (52.5%, 92.4%)	0%	--	100%	87.5% (48.4%, 98.1%)	--
Positive Likelihood Ratio (95% CI)	8.34 (2.51, 27.70)	--	--	--	9.21 (1.24, 68.7)	--
Negative Likelihood Ratio (95% CI)	0.65 (0.49, 0.87)	1.13	1.00	0.67 (0.38, 1.17)	0.66 (0.46, 0.94)	--
Accuracy (95% CI)	77.9% (68.2%, 83.8%)	88.2% (63.6%, 98.5%)	92.9% (66.1%, 99.8%)	76.5% (50.1%, 93.2%)	70.5% (54.8%, 83.2%)	--

Table 1

Conclusion: PET-CT has been over-utilized in staging thin cutaneous malignant melanoma, as no T1 subjects had nodal metastasis and the PPV was 0%. PET-CT has a low sensitivity and is not recommended for initial staging of nodal metastasis.

NOTES

OUTCOMES OF SURGICAL RESECTION FOR METASTATIC CHOLANGIOCARCINOMA

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Introduction: Cholangiocarcinoma, a malignancy affecting the biliary system, is divided into two subtypes: liver/intrahepatic and extrahepatic/hilar cholangiocarcinoma. Currently, the only curative treatment option for either type is surgical resection. However, it is controversial whether patients with metastatic disease benefit from resection. The purpose of this study is to understand the impact of surgical resection in cholangiocarcinomas, and how that effect varies with disease stage and histologic subtype. Our initial hypothesis was that patients with metastatic disease would have no benefit from surgical resection.

Methods: Adult (>18 years old) cases of cholangiocarcinoma diagnosed between 2006-2015 were obtained from the Surveillance Epidemiology and End Results (SEER) cancer registry database. Five-year survival was compared between patients receiving surgery and those not receiving surgery by using Cox proportional hazards regression to obtain the hazard ratio (HR), adjusted for age, sex, race, stage, and type of cholangiocarcinoma. Interaction terms between receipt of surgery with stage and subtype were included in the model. The SEER database is limited by lack of data about patient comorbidities, chemotherapy, and variations in data coding and reporting.

Results: 4,502 cases of cholangiocarcinoma were identified in the SEER database, 62% of which were classified as liver and intrahepatic bile duct cancers and 38% other cholangiocarcinomas. The mean age of patients was 68.7 years (standard deviation: 13.1); 51% of patients were male; 75% of patients were white, 8% black, and 17% other. Overall, median survival was 7 months. Among patients with liver/intrahepatic bile duct cancer, patients who received surgery, compared to those who did not receive surgery, had a lower 5-year risk of mortality (all p-values <0.0001) adjusted for age, sex and race, in stage I patients (HR=0.22), stage II patients (HR=0.21), stage III patients (HR=0.35), and stage IV patients (HR=0.42).

Among patients with other cholangiocarcinomas, surgery was also associated with decreased mortality (all p-values <0.0001) in stage I patients (HR=0.36), stage II patients (HR=0.34), stage III patients (0.58), and stage IV patients (HR: 0.69). Importantly, across the whole sample, the beneficial association of surgery was stronger in early stage patients (interaction p<0.0001) and patients with liver and intrahepatic bile duct cancer (interaction p<0.0001).

TABLE 1. Adjusted association between surgery and 5-year all-cause mortality, according to type of cholangiocarcinoma and stage of disease.

	Liver intrahepatic bile duct				Other Cholangiocarcinomas			
	N	Median survival, months [†]	HR (95% CI) [†]	p-value	N	Median survival, months [†]	HR (95% CI) [†]	p-value
Stage I								
No surgery	337	9 (7, 11)	REF		175	8 (5, 10)	REF	
Surgery	190	-	0.22 (0.17, 0.27)	<.0001	96	29 (20, 42)	0.36 (0.28, 0.46)	<.0001
Stage II								
No surgery	88	8 (4, 11)	REF		196	5 (4, 7)	REF	
Surgery	89	-	0.21 (0.16, 0.27)	<.0001	164	19 (17, 24)	0.34 (0.27, 0.43)	<.0001
Stage III								
No surgery	448	8 (7, 9)	REF		77	8 (5, 10)	REF	
Surgery	155	28 (19, 33)	0.35 (0.28, 0.43)	<.0001	196	24 (13, 32)	0.58 (0.45, 0.74)	<.0001
Stage IV								
No surgery	932	4 (3, 4)	REF		622	3 (3, 4)	REF	
Surgery	43	15 (7, 25)	0.42 (0.32, 0.54)	<.0001	33	6 (3, 8)	0.69 (0.52, 0.91)	0.0088

[†]Adjusted for age, sex, and race

[†]Where not reported, median survival or confidence limit was greater than time of censoring

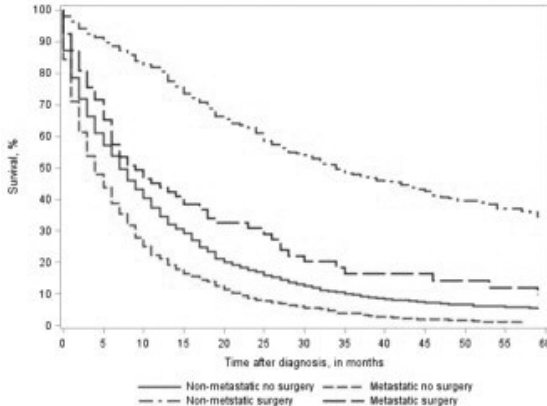


Figure 1. Five-year all-cause mortality crude survival curves, stratified by metastatic tumor status and receipt of surgical resection.

Conclusion: Surgery was associated with improved 5-year survival in both non-metastatic and metastatic patients with cholangiocarcinoma, although this association was weaker in the metastatic group. Surgery also showed more benefit in the liver/intrahepatic subtype compared to other cholangiocarcinomas in all stages of disease. Future research could explore this issue further with large databases to investigate how patient and treatment factors contribute to the conclusions drawn from this study.

#51

**AN ALTERED TUMOR INFILTRATING
LYMPHOCYTES PHENOTYPE AFTER ANTI-PD-1
THERAPY AND POTENTIAL RAMIFICATIONS
FOR ADOPTIVE CELL THERAPY WITH TUMOR
INFILTRATING LYMPHOCYTES FOR PATIENTS
WITH METASTATIC MELANOMA**

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Introduction: Adoptive cell transfer (ACT) of tumor infiltrating lymphocytes (TIL), a salvage therapy for patients with metastatic melanoma who experience progression of disease after first-line treatment, is dependent on the ability to generate anti-tumor TIL following metastasectomy. We therefore sought to evaluate whether previous treatment with immune checkpoint blockade impacts the phenotype of generated TIL, as alterations could impact the effectiveness of ACT.

Methods: Between 2011 and 2018 a total of 301 patients with metastatic melanoma underwent resection of a metastatic deposit for the purpose of TIL generation. We performed multiparameter flow cytometry on the TIL generated from acquired tumor specimens.

Results: TIL generated from patients previously treated with anti-PD-1 have a significantly decreased percentage of CD3+ ($p<.0001$) and CD8+ ($p<.0001$) T cells, an increased percentage of CD4+ T cells ($p<.0498$), and an increased percentage of NK cells ($p<.0001$) when compared with TIL generated from patients who had not received prior anti-PD-1 treatment. In contrast, the TIL generated from patients previously treated with anti-CTLA-4 share a similar phenotypic appearance to TIL generated from patients who have not received prior anti-CTLA-4 treatment.

Conclusion: The generated TIL from patients with metastatic melanoma who experience progression of disease after treatment with anti-PD-1 therapy have an altered TIL phenotype in comparison to patients who have not received prior anti-PD-1. It is unclear if this phenotype impacts the effectiveness of ACT. Ongoing studies are being carried out to answer this question.

#52

**SAFETY NET HOSPITALS AND PATTERNS
OF CARE FOR WOMEN WITH
UTERINE CANCER IN NEW YORK STATE**

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Introduction: Safety net hospital (SNH) care for a significant proportion of patients who are uninsured or underinsured, and may lack the resources to provide comprehensive cancer care, yet gynecologic cancer care within SNHs has not been studied. We sought to identify the effect of payer mix on patterns of care for women with uterine cancer.

Methods: The New York Statewide Planning and Research Cooperative System database was used to identify hospitals at which women with uterine cancer underwent a hysterectomy from 2000-2015. For each hospital, using the overall patient population, the percentage of uninsured, Medicaid, and dual Medicaid/Medicare patients was calculated. Hospitals were stratified into quartiles based on these percentages. Hospitals caring for the highest quartile of uninsured/Medicaid patients were defined as SNHs. Primary outcomes included overall morbidity, inpatient mortality, perioperative complications, length of stay, and total charges. Multilevel mixed-effect log-Poisson models were developed for the multivariable analysis accounting for hospital and surgeon clustering as the random intercept.

Results: A total of 47,446 patients treated at 219 hospitals were identified. The median percentage of women who were uninsured/Medicaid in each quartile of hospitals (Q1, 2, 3, 4) was 13.2%, 21.6%, 28.8% and 43.6%, respectively. From 2006, the percentage of patients who were uninsured/Medicaid decreased for Q1-3, and increased for SNH. SNHs cared for the fewest number of uterine cancer patients over the study period. SNHs cared for a larger proportion of Black patients (15.5% vs. 9.6% at Q1; $p < 0.0001$).

There was no difference by hospital quartile in overall morbidity (Q1 16.6%, Q2 16.6%, Q3 15.8%, Q4 15.8%, $p=0.13$), and the adjusted risk ratio of mortality in SNF hospitals was not significantly different (0.9% at SNH vs. 0.5% at Q1 hospitals, aRR 1.10; 95%CI 0.75-1.61). Total median charges were the lowest for SNH (aRR 0.59; 95%CI 0.51-0.68), likely reflecting significant proportion of uncompensated/charity care provided.

Conclusion: SNHs tend to have a lower volume of patients with uterine cancer than non-SNHs. There is no increase in perioperative morbidity or mortality at SNHs compared to non-SNHs.

NOTES

#53

**SURGICAL AND MEDICAL ONCOLOGY
PATIENT PREFERENCES OF
ADVANCE CARE PLANNING**

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Introduction: Advance Care Planning (ACP) has been shown to be beneficial in improving outcomes for cancer patients, and is heavily endorsed by both physicians and patients alike. However, opportunities for ACP discussions continue to be missed, in part due to minimal understanding of patient preferences for, and experiences with, ACP discussions.

Objective: To determine which practitioners oncology patients desire to have ACP discussions with, and the optimal timing in which to do so. A secondary objective is to capture patient opinions and experiences regarding ACP.

Methods: This was a semi-structured bedside interview of 200 consented patients in surgical and medical oncology units in a tertiary academic hospital. A questionnaire was used to ascertain subjects demographic data, past experience with ACP discussions, as well as preference for personnel and timing of ACP discussions. A coding structure was used to analyze qualitative data, and quantitative variables were assessed with chi-square tests for categorical variables and t-tests for continuous variables.

Results: Of the 200 subjects (124 surgical oncology, 76 medical oncology) only 24% reported having previously had ACP discussions with their physician despite 82.5% reporting a desire to do so. Patients felt that ACP discussions were a priority (to alleviate familial guilt, maintain control, and prevent others' values from guiding EOL), but reported that previous ACP discussions had been incomprehensive and confusing. 43.5% of subjects preferred to have ACP discussions with their PCPs, compared with 7% and 5.5% for surgeons and oncologists, respectively.

Reasons cited included trust and familiarity with PCPs, lack of time invested by surgeons and oncologists, and patient belief that ACP fell outside the scope of practice of these practitioners. Most subjects (94%) preferred to have ACP discussions early, with many preferring early in life while patients are still healthy (48.5%). Our data also revealed that most subjects preferred to have ACP discussions early in the course of cancer disease, regardless of prognosis.

Conclusion: Despite the number of practitioners that they see, cancer patients prefer to have ACP discussions with their PCPs, and prefer to do so earlier rather than later. To improve uptake of advance care planning, interventions must be better tailored to patient preferences.

NOTES

#54

**A COMPREHENSIVE GENETIC ANALYSIS TO
DETERMINE THE EFFECT OF MATERNAL
GESTATIONAL STRESS ON NEONATAL GUT
AND IMMUNE DEVELOPMENT**

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Introduction: Our understanding of the newborn immune system is complicated by its immaturity and its reliance on a developing microbiome which plays a crucial role in the development and function of the gut. Uncontrolled activation of inflammatory cascades by the immature neonatal immune system contributes to the development of many pediatric diseases including necrotizing enterocolitis (NEC). Infants develop NEC in the first 2-3 weeks of life and show evidence of immune dysfunction at birth. The mechanism of pathogenesis is unknown. Because women in psychologically stressful environments have a higher incidence of adverse birth outcomes, we hypothesized that psychological stress during pregnancy negatively impacts the development of intestinal tissues in offspring. Consistent with this hypothesis, we have reported shorter villi and a decrease in total surface area in the small intestine of pups derived from dams that were chronically stressed during gestation. In this study, we investigated the molecular changes in the gut following psychological stress.

Methods: To identify differentially expressed genes (DEGs), RNA was isolated from the ileum of 2-week-old mice derived from dams that were either stressed or not stressed during gestation and sequenced at a high resolution. To perform in-depth molecular analysis of human tissue, a gene expression microarray was performed using RNA obtained from premature infants that had surgical resection for NEC and age-matched ileal atresia controls.

Results: A number of DEGs including up- and down-regulated genes were identified in mouse and human tissues. In a principal component analysis, unlike females, stressed males clustered separately from controls, indicating that the effects of gestational stress are sex-dependent.

Gene ontology pathway analysis revealed that genes involved in the activation of the complement cascade were up-regulated in males. PPAR signaling, mucin type-O glycosylation and epidermal growth factor receptor signaling genes were also up-regulated. In the human microarray analysis, genes involved in IFN and IL-17 signaling were up-regulated, indicating a Th1 and IL-17 mediated inflammation during NEC.

Conclusion: Several critical genes and relevant pathways were revealed in this study. These findings could advance the understanding of how gestational stress affects the development and function of the intestine in offspring. Ongoing studies are focused on understanding how the activation of the complement cascade in the neonatal gut following maternal stress leads to the development of intestinal inflammation and injury.

NOTES

#55

VIOLENT INJURIES AND RECIDIVISM IN PEDIATRIC TRAUMA PATIENTS IN AN URBAN ENVIRONMENT

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Introduction: Violence-related injuries are a concerning cause of morbidity in children in the U.S. In 2016 there were 201,884 non-fatal violence-related injuries and 1,795 fatalities in ages 0-15. Pediatric trauma centers play an important role in addressing violence-related injuries by utilizing registry data to inform targeted intervention, prevention, and outreach programs. Our Level I Pediatric Trauma Center serves an urban environment that reflects many of the risk factors linked to violence.

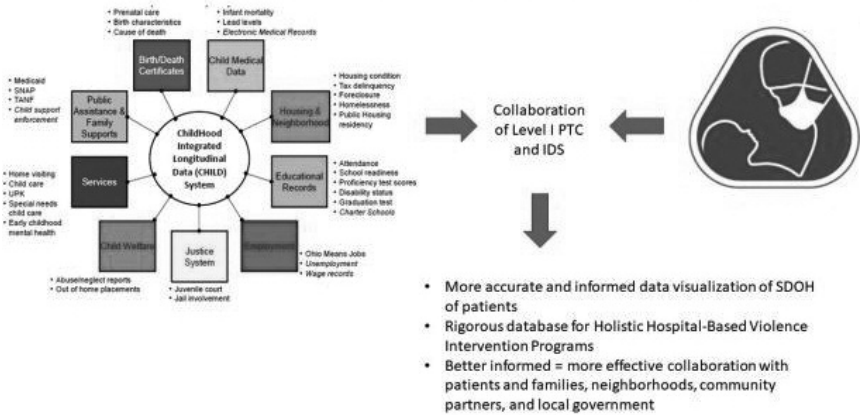
Objective: To describe the incidence of violence-related injuries in patients aged 0-15 treated at our trauma center and to propose our new approach for developing targeted interventions.

Methods: IRB approval was received. The study population was queried through the trauma registry for patients aged 0-15 who had injuries due to gun-shot wounds (GSW), assaults and non-accidental trauma between January 1, 2017 and December 31, 2017. Medical records were reviewed for each patient to collect re-injury rates, demographic data, and socioeconomic history.

Results: There were 116 patients aged 0-15 treated for violence. The vast majority of GSWs and assault victims were aged 13-15. Ninety-nine (85%) of patients were black (56.8% Male). There were 51 assaults, 35 GSWs, and 30 abuse cases, with a fatality rate of 3%. GSW victims had a 28.6% re-injury rate. Most patients suffered a violent injury between March and July (60%). Most days of the week saw at least 18 cases. The distribution of injuries occurred in two neighborhoods.

Conclusions: Violence is driven by many socioeconomic factors that are not captured in medical records. Although the violent injury pattern in our patients is similar to other reports, the appropriate demographics to develop targeted interventions to reduce recidivism are not known. We propose a new paradigm of care in violence that encourages collaboration with an integrated data system (*see Figure*) to further inform prevention efforts.

Pediatric Trauma Center and Integrated Data System Collaboration



NOTES

#56

**LIPOPOLYSACCHARIDE DECREASES
EXPRESSION OF THE FARNESOID X RECEPTOR
AND FIBROBLAST GROWTH FACTOR 15**

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Introduction: Farnesoid X receptor (FXR) is a nuclear bile acid receptor that has been shown to play a role in intestinal barrier integrity. Our lab has previously shown that in global FXR knock-out (KO) mice, LPS-induced intestinal damage is attenuated compared to wild-type mice. The mechanism through which this occurs, however, is unknown. We hypothesized that LPS leads to FXR activation and up-regulation of its downstream product fibroblast growth factor 15/19 (Fgf15).

Methods: IEC-6 cells were treated with 100 uM GW4064, a potent FXR activator, and 2 ng/mL LPS for 30 min, one, two, six and 24 hours. RNA was extracted with Trizol reagent. Real-time PCR was used to measure mRNA expression of FXR and Fgf15. IEC-6 cells were then treated with combined 100 uM GW4064 and 2 ng/mL of LPS for six hours. RNA extraction was performed with subsequent RT-PCR analysis.

Results: IEC-6 cells treated with 100 uM GW4064 showed an increase in mRNA expression of Fgf15 compared to control that peaked at six hours (40% increase, $p < 0.05$). At the same time point, epithelial cells treated with 2 ng/mL of LPS showed a 90% decrease ($p < 0.0005$) in Fgf15 expression compared to control cells, which was opposite of what we expected since LPS had no effect on the barrier of FXR KO mice. We also noted a 50% decrease in FXR expression ($p < 0.05$) versus control at 24-hours in LPS-treated cells. Finally, when treated in combination, LPS blunted the effect of GW4064 on Fgf15 expression, bringing it back to control levels.

Conclusion: These data, contrary to our hypothesis, suggest that LPS actually decreases expression of FXR and its downstream product of Fgf15 at six hours. The protective intestinal barrier seen in FXR KO mice may be due to something other than Fgf15, but suggests that Fgf15 may be an important mediator of the intestinal epithelial barrier in injury.

#57

**QUANTIFYING THE RISK OF
END-STAGE RENAL DISEASE
AFTER TRAUMA NEPHRECTOMY**

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Introduction: Recent data suggests that kidney donors are at increased risk of end-stage renal disease (ESRD) over time when compared with the 0.03% risk of ESRD in the general population. Nephrectomy is an accepted treatment for high-grade renal injuries. Very little is known regarding the long-term risk of ESRD in this patient population.

Objective: To evaluate the incidence of ESRD following traumatic nephrectomy.

Methods: The 2007-2014 TRICARE insurance database was queried for patients 18-64 years with traumatic renal injuries who underwent total nephrectomy. Basic demographic data as well as clinical characteristics were obtained. Our main outcome was the diagnosis of ESRD. Patients were followed from date of trauma to death, ESRD diagnosis, or end of study.

Results: Over the eight-year period, 4,704 patients were admitted with a traumatic renal injury. Median age was 35 years old (IQR 21-58), 68.37% were male, and median follow-up was 677 (IQR 273-1309) days. 59 (1.03%) patients underwent total nephrectomy after the traumatic event with a median age of 23 (IQR 20-34), 76.27% male, and median follow-up of 532 (IQR 168-1447) days. A total of 300 (6.30%) patients with traumatic renal injuries developed ESRD after the event. Of those who underwent a nephrectomy, 5 (8.47%) developed ESRD within 691 days after the procedure. There was no statistically significant difference in the incidence of ESRD between patients who underwent nephrectomy vs. those who did not (8.47 vs. 6.27%, $p = 0.41$).

Conclusion: In this longitudinal study of patients with traumatic renal injuries, there was no statistical difference in developing ESRD between patients undergoing nephrectomy and those that did not. However, the overall risk of ESRD in this group of patients with renal trauma was higher than that found in the general population. Further studies are warranted to evaluate the causes of this increased risk of long-term renal complications.

NOTES

#58

IS TRAUMA CENTER DESIGNATION ASSOCIATED WITH DISPARITIES IN DISCHARGE TO REHABILITATION CENTERS AMONG ELDERLY PATIENTS WITH TRAUMATIC BRAIN INJURY?

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Introduction: Physical therapy and rehabilitation are essential in improving long-term functional outcome among elderly patients with traumatic brain injury (TBI). Given increasing evidence that disparities exist among patients with TBI, we sought to evaluate the association of trauma center designation, race, and insurance status with disposition to rehabilitation centers among elderly patients with isolated moderate to severe TBI.

Methods: The National Trauma Data Bank (NTDB) was used to identify elderly (>65 year old) patients who presented from 2014-2015 with isolated moderate to severe blunt TBI (defined as head AIS 3-5 with GCS < 13, all other AIS 2) and survived to discharge. Stratified by trauma center designation, race and insurance status, patient demographics and outcomes were compared. A multivariable logistic regression analysis was performed to determine the relationship between trauma center designation, race, insurance status, and disposition to rehabilitation centers.

Results (see Tables 1 & 2): 3,292 elderly patients with isolated moderate to severe TBI were identified. The majority of patients evaluated at Level I trauma centers were White (71.4%); 19.1% of patients evaluated at a Level I trauma center were discharged to rehabilitation centers vs. 21.6% at Level II trauma centers and 5.1% at Level III trauma centers. When stratified by trauma center designation, Asian patients at Level I hospitals were less likely to be discharged to rehabilitation centers if they had non-private versus private insurance (42.9% vs. 12.7%, $p = .01$), as were patients with ethnicity listed as other (66.7% vs. 11.1%, $p = .02$).

There were no significant differences in disposition to rehabilitation centers for patients evaluated at Level II or Level III trauma centers. When segregated by insurance status and race, there was a trend towards Asian patients with private insurance being more likely to be discharged to a rehabilitation center when compared to uninsured Asian patients (30% vs. 16.4%, $p = .08$). In a logistic regression analysis, black patients were 1.5 times less likely (AOR .64, $p = .01$) and Latino patients were 1.7 times less likely (AOR .58, $p = .007$) to be discharged to rehabilitation centers when compared with white patients, irrespective of trauma center designation.

Table 1. Comparison Between Patient Race/Ethnicity

Comparison Between Patient Race/Ethnicity						
	White Non-Latino (%)	Black (%)	Asian (%)	Other (%)	Latino (%)	P value
Age (median, IQR)	76 [70,83]	75 [69,81]	77 [70, 82.25]	76 [69, 81]	74 [68, 80]	.004
Male	53.3	57.5	56.5	58.4	69.9	<.001
Insurance						
Private	16.5	14.7	17.6	16.9	25	.017
Medicaid	1.3	5.8	5.3	1.3	11	<.001
Medicare	75.4	71	66.5	68.8	53	<.001
Self Pay	1.5	3.1	4.1	6.5	3.4	.001
Other	4.3	3.9	5.3	6.5	6.4	.51
Other Government	0.9	1.5	1.2	0	1.3	.76
Charlson	4 [3,5]	4 [3,5]	4 [3,5]	4 [3,4,5]	3 [3,4]	.006
ISS	17 [16,25]	17 [16,25]	17 [16,25]	17 [16,25]	17.5 [16,25]	.04
Head AIS	4 [4,5]	4 [4,4]	4 [4,5]	4 [4,5]	4 [4,5]	.27
Hospital Type						
University	37.7	53.3	52.4	40.3	55.1	<.001
Non-Teaching	18.7	15.1	17.1	7.8	8.1	<.001
Community	43.6	31.7	30.6	51.9	36.9	<.001
Trauma Center						
Level 1	71.4	9	6.7	2	10.9	<.001
Level 2	75	6	7	3.2	8.8	.002
Level 3	91.5	3.4	4.3	0	0.9	.003
Not Applicable	82	8.4	3.2	2.3	4.2	<.001
SBP (median, IQR)	138 [118,158]	142 [124, 170]	141 [118,161.25]	145 [128, 164.5]	139.5 [116.25, 157]	.004
HR (median, IQR)	84 [72,98]	87 [73,100]	86 [76.75, 96]	82 [73.5, 96.5]	84 [72, 99.7]	.29
GCS (median, IQR)	9 [4,11]	9 [6,11]	9 [6,11]	9 [3,11]	9 [5,11]	.91
Disposition						
Home	19.7	24.3	24.1	27.3	28	.007
SNF	27.8	34	27.6	31.2	27.1	.289
Rehab	20.4	14.3	18.8	13	14.8	.02
Other	32.2	27.4	29.4	28.6	30.1	.49
Complications	34.5	32.4	45.9	42.9	40.7	.005
Hospital LOS	6[2,13]	8 [3,17]	8 [3.5, 16]	9 [4.5, 15.5]	8 [4,19]	<.001
ICU LOS	5 [3,10]	5 [3,10]	4 [2,11]	4 [2, 9.75]	6 [3,14]	<.001
Vent Days	3 [2,9]	5 [2,12.15]	5 [2,14]	7 [2,11]	6 [2,13.5]	.007

Table 2. Logistic Regression for Likelihood of Disposition to Rehabilitation Center

	Elderly Patients
	AOR (<i>p</i>)
PATIENT DEMOGRAPHICS	
Race (white non-Latino*)	
Black	.64 (.01)
Asian	.87 (.52)
Other	.55 (.08)
Latino	.58 (.007)
Insurance (private*)	
Medicaid	1.14 (.64)
Medicare	.97 (.81)
Self Pay	.55 (.13)
Other	1.2 (.39)
Other Government	.35 (.09)
Gender (male vs female*)	1.09 (.3)
Charlson Score	.83 (< .001)
PHYSIOLOGIC CHARACTERISTICS	
ISS	1.01 (.1)
HR	1.001 (.73)
SBP	1.003 (.05)
Operative (Operative vs. Non-operative*)	1.3 (.04)
HOSPITAL CHARACTERISTICS	
Trauma Center Type (Level 1 or 2 vs other*)	1.14 (.16)
Hospital Type (University *)	
Non-Teaching	.88 (.35)
Community	1.01 (.85)

*= reference

Conclusions: Insurance status, ethnicity, and trauma center designation influence the likelihood of disposition to rehabilitation centers for elderly patients with isolated moderate to severe TBI. Although not statistically significant, there was a trend towards Asian patients with private insurance being more likely to be discharged to a rehabilitation center when compared to uninsured Asian patients with moderate to severe TBI. Black and Latino elderly patients with isolated, moderate to severe TBI were less likely to be discharged to rehabilitation centers when compared to their white counterparts, irrespective of trauma center designation. Regarding Level I trauma centers, uninsured elderly Asian patients with moderate to severe TBI and those with ethnicities listed as Other were less likely to be discharged to rehabilitation centers. Further investigations into eliminating racial disparities among elderly patients with TBI are warranted.

#59

ARE THERE VARIATIONS IN TIMING TO TRACHEOSTOMY PLACEMENT IN A TERTIARY ACADEMIC MEDICAL CENTER?

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Introduction: Early tracheostomy is generally accepted to improve outcomes, but it is not universally practiced. The decision on tracheostomy procedure timing involves both complex medical judgment and patient/family discussions. It is unclear which patient characteristics drive the difference between an early vs. late tracheostomy procedure. This study was designed to evaluate if variations exist in timing to tracheostomy.

Methods: With IRB approval, we conducted a retrospective chart review of all patients who underwent a tracheostomy after intubation from 2007-2017 by our general surgery department. We excluded age<18 and emergent/urgent tracheostomies. We defined an early tracheostomy as one occurring 7 days post intubation, while a late tracheostomy occurs at >10 days. Data was analyzed with STATA using univariate analysis with Pearson X2 for categorical variables and Kruskal-Wallis nonparametric tests for continuous variables. Statistical significance was set as $p<0.05$.

Results (see Figure): A total of 1,640 patients were identified in the database. The mean time to tracheostomy was 11.26 days (SD=7.75 days). The mean time for patients on trauma service was 9.3 days (SD=4.8), internal medicine 11.3 days (8.3), neurology 8 days (3.9), and general surgery 10.6 days (7.8). Men (30% vs. 28% of women; $p=0.05$), those with a traumatic admission (33% vs. 28%; $p<0.05$), and those with HMO and no-fault insurance (32.5% for both; $p=0.01$) were all slightly more likely to receive early tracheostomy procedure, although the difference was not clinically significant. When comparing age, ethnicity and income, there were no differences in early vs. late groups ($p=0.9, 0.8, 0.8$, respectively). Patients who underwent late tracheostomy had a longer mean length of stay (46 vs. 32 days, $p<0.01$ [95% CI:8, 26]) and higher mortality rate (19% vs. 13% $p<0.01$). There was no difference in ventilator-associated pneumonia (VAP) incidence between groups (28% vs. 32% $p=0.23$).

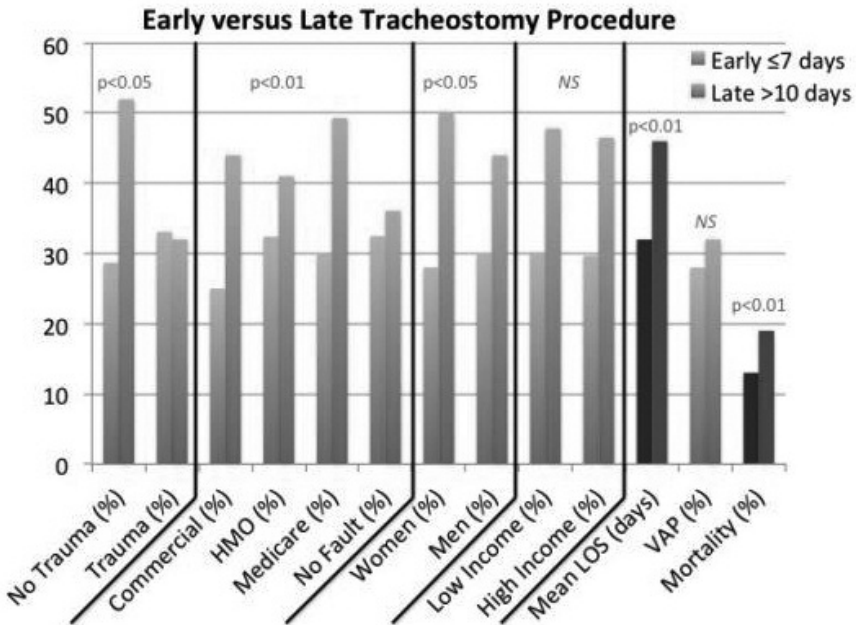


Figure 1: The rates of early versus late tracheostomy procedures by patient demographics (in %). Also outcomes of early versus late procedure such as mean LOS (in days), rate of ventilator associate pneumonia [VAP], and mortality. Health Maintenance Organization (HMO)

Conclusions: There were slight variations in tracheostomy procedure timing, with men, trauma admissions and certain insurances receiving more early tracheostomies after intubation. There were no differences between various ages, ethnicities and incomes. This is likely due to a lack of unconscious bias among practitioners at a large tertiary care center. There were, however, differences in outcomes based on the timing of the tracheostomy procedure. This indicates an area for future study, given that shorter length of stay and reduced mortality are positively correlated with early tracheostomy.

NOTES

#60

RESIDENTIAL BURN INJURIES IN NORTH CAROLINA

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Introduction: Residential fires account for the majority of burn-related injuries and fatalities. Risk factors include male gender, racial minority, children and elderly individuals, those with a low socioeconomic status, and various housing characteristics including poor maintenance and non-functioning protective measures or the lack thereof. In North Carolina, the rates of residential fire injuries and deaths are higher than the national average. Therefore, we decided to describe the trends in residential fire hospitalizations at a large regional burn center. We hypothesized that most residential burn admissions would come from counties with median household incomes lower than the state median household income.

Methods: A retrospective analysis of burn admissions from January 2002 to December 2015. Patients were dichotomized into 2 groups: Residential and Non-Residential. We evaluated the trends in residential burn admissions over the course of the study period. To determine the role of household income, we then used a multivariate logistic regression model to estimate the odds of a patient experiencing a residential burn injury.

Results: Of the 10,506 patients admitted during the study period, 8,232 suffered a residential burn injury. There was a four-fold increase in residential burn admissions during the study period. Median TBSA decreased over the course of the study from 6.5% in 2002 to 2.0% in 2015. Overall mortality was 3.3%, decreasing from 5.3% in 2002 to 2.4% in 2015. The median household income (IQR) for the study population was \$46,786 (\$40,457 - \$54,093). There was no statistical difference in median household income between residential and non-residential patients ($p=0.262$). An increased odds of residential burns was noted for females (OR 2.98, 95% CI 2.39-3.73; $p<0.001$), minorities (OR 2.21, 95% CI 1.84-2.66; $p<0.001$), increasing CCI (OR 1.34, 95% CI 1.18-1.52; $p<0.001$), and presence of alcohol history (OR 1.87, 95% CI 1.24-2.80; $p=0.003$). While a median household income $< \$48,256$ was associated with an increased odds of being admitted with a residential burn injury (OR 1.03, 95% CI 0.86-1.24), this was not statistically significant ($p=0.718$).

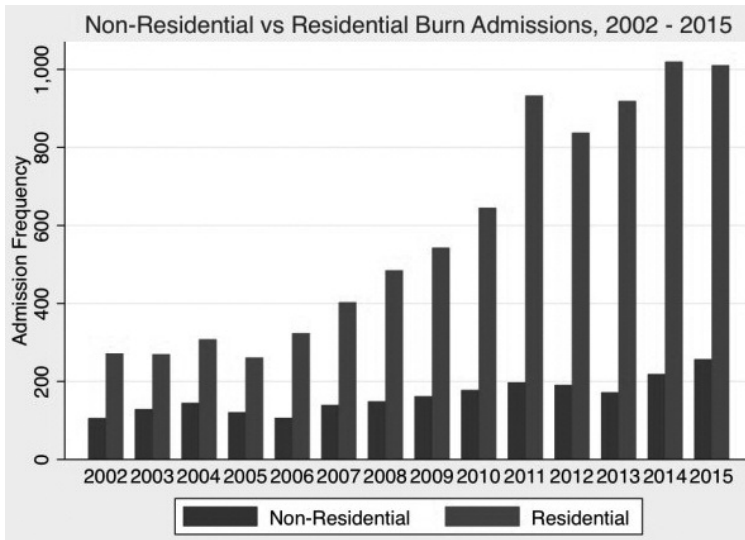


Table: Multivariate Logistic Regression Estimating Odds of Suffering a Residential Fire

	Adjusted OR, 95% Confidence interval (CI)	p-Value
Gender (male ref)	2.98 (2.39 - 3.73)	< 0.001
Age, Category		
< 16 years (ref)	-	-
16 - 64 years	0.19 (0.14 - 0.24)	< 0.001
≥ 65 years	0.90 (0.54 - 1.50)	0.680
Race		
White (ref)	-	-
Other	2.21 (1.84 - 2.66)	< 0.001
Etiology		
Flame (ref)	-	-
Scald	0.49 (0.34 - 0.72)	< 0.001
Other	1.01 (0.83 - 1.23)	0.907
CCI	1.34 (1.18 - 1.52)	< 0.001
Smoker	1.21 (0.92 - 1.59)	0.181
Alcohol	1.87 (1.24 - 2.80)	0.003
Drug use/abuse	1.43 (0.90 - 2.27)	0.126
Median household income*	1.03 (0.86 - 1.24)	0.718

*Median household income above the NC state median (> \$48,256) used as reference (ref)

Conclusions: Residential fires remain the major source of burn injuries and fatalities. While median household income is not associated with an increased risk of admission due to residential burn injury, females, minorities, patients with medical comorbidities, and those with a history of alcohol use/abuse are at greater risk. This study provides a good picture of residential fires seen at a regional institution and highlights the need for continued research and additional efforts to address this issue.

#61

HIV STATUS AND LOWER EXTREMITY BYPASS SURGERY OUTCOMES: A NATIONAL INPATIENT SAMPLE ANALYSIS

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Introduction: Peripheral arterial disease (PAD) and its associated complications are an increasing cause of morbidity and mortality in HIV patients. HIV-associated accelerated atherogenesis has been attributed as a predominant factor for increasingly poor outcomes in patients with PAD by several studies in current literature. Our understanding of this hypothesis, however, appears to be limited with poorly established evidence for outcomes after lower extremity bypass surgery in HIV+ patients. We undertook this study in an effort to determine the perioperative outcomes of lower extremity arterial bypass in patients with HIV.

Methods: The Nationwide Inpatient Sample (NIS) Database was studied to identify all patients who underwent infrainguinal lower extremity arterial bypass surgery from 2005-2014. Patient demographics, comorbidities and postoperative outcomes were identified and compared between HIV+ and HIV- patients. Multivariate analysis was done adjusting for multiple factors including diabetes, cardiac, renal and pulmonary comorbidities, and outcomes were studied.

Results: A total of 199,584 patients who had undergone lower extremity arterial bypass surgery between the years 2005-2014 were identified from the NIS database. Among these patients, 693 (0.34%) were found to be HIV positive. The study cohort was predominantly male (78.6% HIV+ vs. 60.9% HIV-) and fell in the 45-64 yr age group (73.3% of HIV+ vs. 34.6% HIV-). 11.5% of HIV+ patients fell in the <45 year age category compared to 4.1% of HIV- patients. The study population was predominantly black in the HIV+ group (47.7% HIV+ vs. 13.5% HIV-) and white in the HIV- group (41.9% HIV+ vs. 76.3% HIV-), respectively. Patients overall were also more likely to have public insurance (47.8% HIV+ and 65.1% HIV-) than private insurance or self-pay.

Intermittent claudication was the most common indication for lower extremity bypass surgery regardless of HIV status (19.1% in HIV+ vs. 20.2% in HIV-, $p=0.009$) followed by rest pain (14.7% HIV+ vs. 11.7% HIV-, $p=0.009$). There was no difference in the percutaneous intervention rates between the groups (17.7% HIV+ vs. 17.9% HIV-, $p=0.87$) during the same admission. HIV+ patients were more likely to have undergone the procedure emergently compared to HIV- patients (51.8% HIV+ vs. 40% HIV-, $p=0.00$). There was no difference in postoperative mortality rates between the two groups (2.3% in HIV+ vs. 3.4% in HIV-, $p=0.10$). Despite having similar rates of postoperative graft failure (11.4% HIV+ vs. 13% HIV-, $p=0.20$) and wound infection (4.4% HIV+ vs. 3.5% HIV-, $p=0.18$), the HIV+ group had significantly higher postoperative bleeding (7.1% HIV+ vs. 5.3%, $p=0.05$) and major amputation rates (4.9% HIV+ vs. 3.4% HIV-, $p=0.03$).

Conclusions: An early incidence of PAD was noted in HIV+ patients. These patients are more likely to undergo lower extremity bypass surgery emergently compared to HIV- patients. Despite having similar graft occlusion/failure rates and wound complications, postoperatively HIV+ patients were found to have higher postoperative bleeding and poorer limb salvage rates after their arterial bypass surgery. Our study findings provide further evidence to the consensus that people living with HIV develop early and more severe PAD. Further investigation into the biological basis of this observation would help tailor PAD management in HIV+ individuals.

NOTES

OUTCOMES IN TRANSHIATAL VERSUS TRANSTHORACIC ESOPHAGECTOMIES FOLLOWING NEOADJUVANT THERAPY

E.M. Ndubisi, P. Harrington, F. Fernandez,
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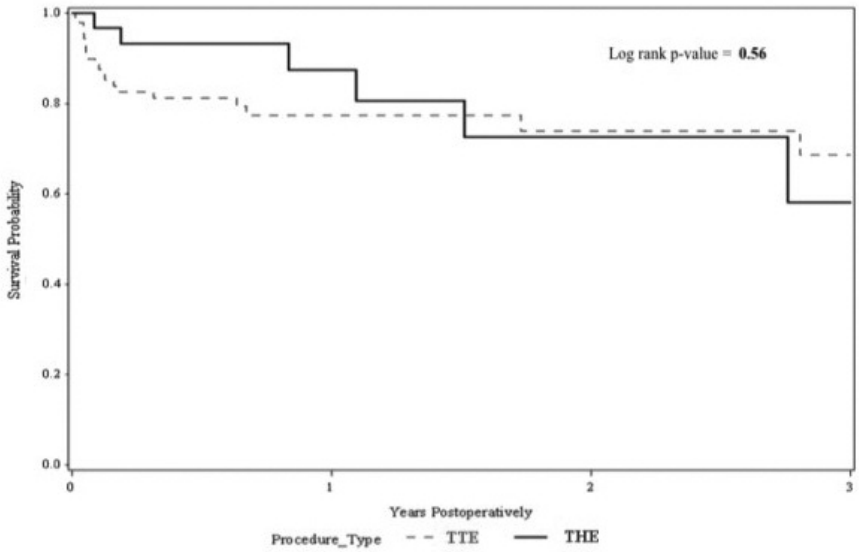
Introduction: Esophagectomy with thoracotomy (TTE) and esophagectomy without thoracotomy (THE) are both accepted surgical techniques; however, controversy persists on any superiority between the two techniques following neoadjuvant chemo- or radiation therapy (CRT).

Methods: A retrospective chart review of the institutional Society of Thoracic Surgeons (STS) database yielded 126 consecutive patients from a major tertiary referral center and academic teaching hospital from 2008-2015 who underwent TTE or THE for esophageal cancer after CRT. Preoperative, intraoperative and postoperative variables were compared using the t-test (or the Mann Whitney test) or the chi-square (or Fishers exact) as appropriate. A three-year Kaplan-Meier survival curve was also created and the log rank test was employed to compare groups.

Results (see Figure): Preoperative characteristics between the TTE (n=93) and THE (n=33) groups were similar. When comparing 30-day mortality for TTE (9.6%) and THE (0%), there was no statistically significant difference. Also, there was no significant difference in the rate of anastomotic complications (TTE 5.38% vs. THE 3.03%, p=0.59). Moreover, postoperative all-cause morbidities were similar (tracheostomy, myocardial infarction, cerebral vascular accident, acute renal failure needing new hemodialysis, reoperation for bleeding, pneumonia and pulmonary embolus) between groups (TTE 23.7% vs. THE 18.2%, p=0.72). The three-year Kaplan-Meier curve showed no significant difference in long-term survival between the groups.

Conclusion: Despite a perceived increased risk in THE following neoadjuvant CRT, no significant difference was observed in 30-day mortality, anastomotic complications, major postoperative all-cause morbidities, and 3-year survival between TTE and THE.

THE vs. TTE 3-Year Kaplan Meier Survival Curve



NOTES

#63

**RURAL BARRIERS TO EARLY LUNG
CANCER DETECTION: EXPLORING ACCESS
TO LUNG CANCER SCREENING PROGRAMS
IN NEW HAMPSHIRE AND VERMONT**

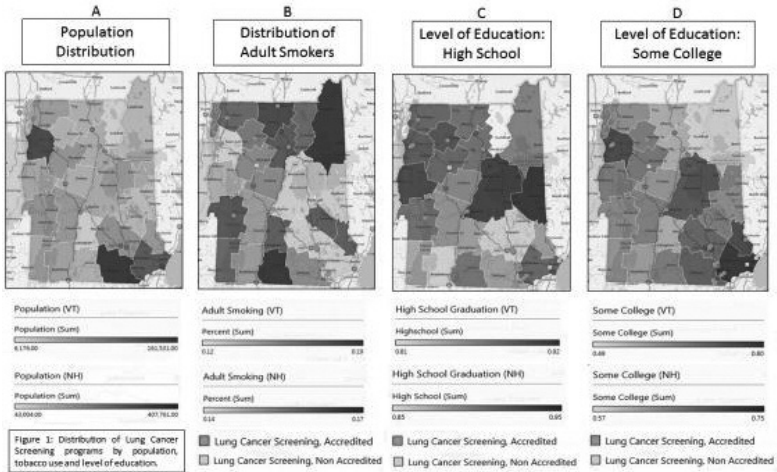
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Introduction: Rural populations face many health disadvantages compared to urban areas including lower education and socioeconomic status, and lack of access to health care services. In particular, these communities are disproportionately impacted by tobacco use and lung cancer. Higher rates of late stage diagnoses and mortality make them a key target for early detection through low-dose computed tomography (LDCT) screening; however, barriers identified have included patient education level and proximity to a screening program. Consequently, there is a critical need to better understand the current screening landscape in rural communities to identify areas of improvement. We sought to understand population density, adult tobacco use patterns, and education demographics in two rural states to improve awareness and increase participation in LDCT survey.

Methods: Data from the County Health Rankings was collected with respect to county population, percentage of adult smokers, high school graduation rate, and percentage of adults with some post-secondary education for both New Hampshire and Vermont. This data was mapped and then superimposed with a listing of the accredited and non-accredited Lung Cancer Screening Facilities in both states using the American College of Radiology guidelines. The intent was to evaluate participant demographics including population density, distribution of adult smokers, and level of education, and to compare that to the distribution of Lung Cancer Screening Facilities throughout Vermont and New Hampshire. Decreased access to a screening facility was defined as those with a designated screening program located outside 30 miles, or a >30-minute drive to the closest facility.

Results: Both Vermont and New Hampshire have an above average incidence rate of lung cancer compared to the national incidence of 63 cases/100,000 persons (66.7 cases and 68.1 cases/100,000, respectively). The distribution of lung cancer screening programs is also above the national average of 4.8 centers/million in both Vermont (8.0 centers/million people) and New Hampshire (9.0 centers/million people). Screening programs are well distributed in Vermont in regards to population density and higher areas of adult smokers (*Fig. 1A and B*), while those in southern counties with lower levels of education have decreased access (*Fig. 1C and D*). New Hampshire programs are well distributed in regards to population density (*Fig. 1A*); however, there are no programs closely available in the areas with the largest distribution of smokers, and decreased access in some areas with the lowest levels of education (*Fig. 1B, C, and D*).



Conclusion: Although the number of designated LDCT screening centers has increased by more than 8 times overall since 2014, disparities in the distribution of centers exist in rural areas, especially in areas of high tobacco use and lower education levels. This disparity in access is troubling, considering the large proportion of high-risk persons living in rural areas and their higher incidence and later presentation of lung cancer compared to urban settings. Improving equitable access to high-quality screening services in rural regions and the creation of targeted interventions to address decreased access in areas of high tobacco use and low education is vital to decreasing the incidence of late stage presentation and morbidity and mortality of diagnosis within this population.

**THE ROLE OF BODY MASS INDEX
IN PERIOPERATIVE COMPLICATIONS
AMONG PATIENTS UNDERGOING
TOTAL KNEE ARTHROPLASTY**

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Introduction: Osteoarthritis is a degenerative condition which affects weight-bearing joints such as the knee, hip, ankle and spine. Obesity is a modifiable risk factor which causes mechanical forces to be exerted on the joints, further contributing to the debilitating effects of osteoarthritis. There has been a lack of agreement between studies that examined the role of increased Body Mass Index (BMI) on perioperative complications among patients receiving Total Knee Arthroplasty (TKA), highlighting the importance of establishing if a significant relationship exists. Therefore, our study seeks to establish if increased BMI is associated with increased perioperative complications.

Methods: A retrospective analysis was conducted using the 2011-2014 American College of Surgeons-National Surgical Quality Improvement Program (ACS-NSQIP) dataset. Patients between 18 and 90 years of age who underwent Total Knee Arthroplasty met the inclusion criteria for the study. All study subjects were stratified into five categories based on their BMI (underweight, normal weight, overweight, Class I/II obesity, Class III obesity). Demographic characteristics and comorbidities (cardiovascular, pulmonary, hematologic, renal and metabolic conditions) were determined. Using Chi-square tests and multivariate regression models, complication rates were compared based on patient BMI.

Results (see Tables): A total of 106,088 patients met the inclusion criteria. A majority of patients that underwent TKA were female (62.07%) and the mean age was 66.6 years of age. Of the patients who underwent TKA, 89.88% were overweight or obese. When postoperative complications were compared by BMI categories, higher BMI was associated with a higher rate of surgical site infections ($p < 0.001$) and respiratory complications ($p < 0.001$).

After adjusting for patient characteristics in the multivariate analyses, compared to normal weight patients, patients with Class III obesity had significantly higher respiratory complications (Odds Ratio: OR 1.99, 95% Confidence Interval: 95%CI 1.40-2.82), systemic septic complications (OR 2.25, 95%CI 1.12-4.55), and renal complications (OR 1.79, 95%CI 1.37-2.31). Compared to normal weight, Class III obesity was not significantly associated with increased surgical site infection (OR 1.31, 95%CI 0.99-1.74), cardiovascular complications (OR 0.70, 95%CI 0.42-1.14), or venous thromboembolism (OR 1.00, 95%CI 0.75-1.34).

Table 1. Postoperative Complications by BMI Categories

Complications	<18.5 (%)	18.5-24.9 (%)	25-29.9 (%)	30-39.9 (%)	>40 (%)	p value
Surgical site infections	0.40	0.76	0.61	0.84	1.29	0.000
Respiratory complications	0.40	0.50	0.69	0.87	0.88	0.000
CVS complications	0.40	0.40	0.34	0.29	0.24	0.143
Systemic complications	0.40	0.10	0.14	0.16	0.31	0.000
Renal complications	1.61	1.01	0.93	1.04	1.39	0.000
DVT complication	0.00	0.80	0.99	0.93	0.74	0.027

Table 2. Multivariate Analysis of the Odds Ratio (OR) of Developing a Complication by BMI Category

BMI Categories	Infection		Respiratory		CVS		Renal		Systemic		DVT	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Underweight	0.50	0.07-3.65	0.88	0.12-6.44	1.34	0.18-9.83	1.37	0.43-4.37	3.40	0.43-2.85	-	-
Normal	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Overweight	0.72	0.55-0.95	1.47	1.07-2.02	0.79	0.54-1.16	1.03	0.81-1.30	1.30	0.64-2.62	1.23	0.96-1.58
Obese	0.95	0.74-1.22	1.97	1.45-2.66	0.76	0.52-1.10	1.22	0.97-1.53	1.30	0.67-2.54	1.21	0.95-1.53
Morbidly Obese	1.31	0.99-1.74	1.99	1.40-2.82	0.70	0.42-1.14	1.78	1.37-2.31	2.25	1.12-4.55	1.00	0.75-1.34

Conclusion: This study demonstrates that although there is an increased burden of postoperative complications among TKA patients with higher BMI, there are variations in this relationship based on the specific complications being examined. A large proportion of patients undergoing TKA are overweight or obese. With the increasing population of obese patients in the United States, continued efforts are necessary in the development of strategies to promote healthy lifestyles and to minimize postoperative complications among patients undergoing TKA.

#65

**COSTS ASSOCIATED WITH HOSPITAL
ADMISSIONS FOR DIVERTICULAR
DISEASE IN THE UNITED STATES**

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Introduction: Admissions for diverticular disease (DD) are among the most common gastrointestinal-related admissions in the United States. With recent practice trends favoring non-operative management of DD, more patients are likely to have recurrent hospital admissions for complications of DD. However, the cost of hospital admissions related to DD including the cost of recurrent admissions has not been well studied.

Objective: To measure the hospital cost associated with the management of DD in the United States and examine factors associated with hospital cost.

Methods: Hospital admissions for DD were identified in the Nationwide Readmissions Database, 2010-2014, using International Classification of Disease, 9th Edition, Clinical Modification codes. For each year, patients with multiple admissions with a primary diagnosis of DD were determined. Demographic, clinical and hospital characteristics were assessed including age, sex, Charlson co-morbidity Index, elective vs. emergency presentation, mode of management (non-operative, percutaneous drainage, operative), hospital location and teaching status. Length of hospital stay, hospital mortality and 30-day readmissions were assessed. Using database-provided cost-to-charge ratios, the average cost per DD-related hospitalization was determined as well as the total annual hospital cost for DD-related admissions. Similarly, the costs of hospitalizations of patients with recurrent DD-related admissions were also determined. Using multivariate regression models, factors associated with increased hospital cost were examined. Nationally-representative weights were used throughout the analysis.

Results: There were 607,283 DD-related admissions included in our analysis resulting in a weighted nationally-representative population of 1,453,650. The annual number of DD-related admissions ranged from 289,548 to 293,730. Recurrent DD-related admissions accounted for 10.7% of all admissions. Median age was 65 years. Most of the admissions were among patients who were female (56.5%) and were admitted non-electively (83.6%). Metropolitan hospitals received 86.1% of admissions, while 43.2% of admissions were at teaching hospitals. The predominant mode of management overall was non-operative (78.5%). Other patients were managed operatively (19.0%) or solely by percutaneous drainage (2.5%). On recurrent admissions, patients were more likely to get operative interventions (50.0% vs. 15.4%, $p < 0.001$). Hospital mortality was 0.6%, 30-day readmission was 11.5% and mean hospital length of stay was 4.8 days. The mean hospital cost was \$9,759.07 in 2010 and \$10,407.26 in 2014, while the annual total hospital cost was 2.83 billion dollars in 2010 and 3.01 billion dollars in 2014. The annual total hospital cost of recurrent DD-related admissions alone was 0.38 billion dollars in 2010 and 0.44 billion dollars in 2014. Major factors independently associated with increased hospital cost were length of stay > 7 days vs. < 4 days [Predicted mean cost difference (95% confidence interval)]: \$16,522.07 (16,291.29-16,752.85), being managed operatively vs. non-operatively: \$7,889.80 (7,732.96-8,046.64), and Charlson co-morbidity index > 1 : \$1,428.06 (1,376.22-1,479.89).

Conclusion: Diverticular disease is associated with a large amount of healthcare expenditure in the United States, and recurrent admissions account for a significant proportion of expenses. Only one-fifth of DD-related admissions involve operative interventions. Early outpatient treatment, improved modalities for identification of surgical candidates and increased efforts to reduce length of hospital stay may be beneficial strategies to reduce the hospital costs associated with DD.

NOTES

#66

**IDENTIFYING FACTORS ASSOCIATED
WITH EARLY OPIOID DISCONTINUATION
FOLLOWING SURGERY:
A LONGITUDINAL STUDY USING
MILITARY HEALTH SYSTEM DATA**

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Introduction: Trauma and surgical interventions are commonly implicated in sustained opioid use and dependence. However, due to lack of reliable longitudinal healthcare data, little work has been done to identify patient characteristics associated with sustained opioid use in surgical patients. The military TRICARE insurance claims database is a reliable source of longitudinal healthcare data on more than 9 million Americans, including active-duty and retired personnel, and their dependents. In this context, the objective of this study was to determine factors associated with early discontinuation of opioids after common surgical procedures.

Methods: The Military Health System Data Repository (MDR) was queried for TRICARE claims data (2006-2014) for adult (18-64 years) patients who underwent one of 10 common surgical procedures representing a spectrum of specialties (general surgery, cardiovascular surgery, urology, orthopedic). Demographics and clinical characteristics of the study cohort were abstracted, and opioid use by patients was identified up to 6 months prior and 6 months following the index surgical procedure. Prior opioid use was categorized as unexposed, exposed (any use within 6 months prior to surgery) and sustained use (6-month continuous use before surgery). Multivariable Cox Proportional Hazards models that adjusted for socio-demographic (age, sex, race/ethnicity, socio-economic status, region, active-duty status), clinical characteristics (length of stay [LOS], ICU admission, complications, type of surgery, comorbid conditions [Charlson Comorbidity Index, CCI], depression, anxiety, discharge disposition) and environment of care (military vs. civilian hospitals) were utilized to identify factors associated with opioid discontinuation following surgery. Missing demographic information was accounted for using re-weighted estimating equations.

Results: A total of 86,356 patients were included in the study, with a median age of 51 years. Among these, 32,309 (37.4%) were exposed to opioids before the index surgical procedure and 6,665 (7.7%) were sustained opioid users. After discharge, 6,365 (7.4%) continued opioid use beyond 6 months. In multivariable models, any opioid exposure [Hazard Ratio (HR):0.65, Confidence Interval (CI):0.64-0.67] and sustained opioid use (HR:0.36, CI:0.35-0.38) were associated with lower likelihood of opioid discontinuation after discharge. Additionally, older age [(55-64 vs. 18-24) HR:0.86, CI:0.82-0.90], female sex (HR:0.91, CI:0.88-0.94), lower socio-economic status [enlisted junior vs. officer (HR:0.77, CI:0.74-0.80)], LOS (HR: 0.96, CI:0.96-0.96), ICU admission (HR:0.92, CI:0.89-0.95), comorbidity [CCI > 1 vs. 0 (HR:0.84, CI:0.81-0.86)], depression (DR: 0.86, CI:0.83-0.90) and anxiety (HR:0.88, CI:0.83-0.93) were found to be predictors of a lower likelihood of opioid discontinuation.

Conclusion: A significant proportion (7.4%) of the surgical population continued opioid use beyond 6 months of surgical intervention. Prior opioid use was strongly associated with continued opioid dependence after a procedure. Early engagement with patients and development of interventions intended to prevent or cease sustained opioid use in patients with the risk factors identified here may reduce the likelihood of such adverse events among surgical patients.

NOTES

#67

**COMPARATIVE ANALYSIS OF
CONTRIBUTING FACTORS AND
SHORT-TERM SURGICAL OUTCOMES
OF PATIENTS WITH
EARLY-ONSET RECTAL CANCER**

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Introduction: Rectal cancer (RC) is the third most common cancer in the United States and the third most common cause of cancer-related deaths. The overall incidence of RC has decreased in the last several decades. However, the incidence in young patients has increased significantly over the same time period. The aim of this study is to evaluate patient factors that contribute to this increased incidence and analyze the short-term surgical outcomes of patients undergoing surgery.

Methods: We performed a two-year review (2015-2016) of the ACS-NSQIP database and included all patients with rectal cancer who underwent surgical management. Patients were stratified into two groups on the basis of age at presentation: Early-onset RC (<50 years old) and late-onset RC (\geq 50 years old). Outcome measures were hospital length of stay, 30-day complications, mortality, and readmission. Multivariable logistic regression analysis was performed.

Results: We included a total of 7,538 patients in the analysis. Mean age was 56 ± 17 years; 51% were male. Overall 14% of the patients had early-onset RC. Patients with early-onset RC were more likely to be black (6.3% vs. 4.8%, $p=0.04$), and Hispanic (7.5% vs. 3.6%, $p=0.02$). Additionally, they were more likely to present with aggressive tumor and higher TNM staging. These patients were also more likely to undergo emergent surgery (11.3% vs. 7.8%, $p=0.01$) compared to patients with late-onset RC. On analysis of outcomes, patients with early-onset RC had lower 30-day complications (25% vs. 29%, $p=0.02$) and lower 30-day mortality (0.3% vs. 1.3%, $p=0.04$) compared to their counterparts. However, there was no difference between the two groups regarding hospital length of stay ($p=0.34$) or 30-day readmission ($p=0.28$).

On multivariate regression analysis after controlling for demographics, comorbidities, type and approach of surgery, TNM stage and ASA class, there was no difference between the two groups regarding the outcomes (Table 1).

Table 1. Tumor characteristics and Regression analysis

Tumor Characteristics	Early-onset RC (n=1,018)	Late-onset RC (n=6,520)	p-value
Size of tumor, T>2, %	45%	41%	0.04
Lymph node involvement, %	16%	11%	0.02
Distant Metastasis, %	3.9%	2.7%	0.04
Multivariate Regression Analysis* (Early vs Late onset RC)	OR	95% CI	p-value
30-d Complications	1.02	0.91 – 3.27	0.35
30-d Mortality	0.98	0.76 – 2.26	0.64
30-d Readmissions	1.03	0.82 – 3.18	0.44

* Controlled for demographics, comorbidities, TNM Stage, ASA class, type and approach of surgery

Conclusion: Racial disparity does exist in the incidence of RC in the young, with higher incidence in blacks. Young patients also tend to have more aggressive disease and are likely to undergo emergency surgery. However, younger patients with RC tend to have better surgical outcomes on univariate regression analysis. When comorbidities are factored in the analysis, the surgical outcomes between the two groups are comparable.

NOTES

#68

**TRANSLATING MOTION TRACKING
DATA INTO RESIDENT FEEDBACK:
AN OPPORTUNITY FOR
STREAMLINED VIDEO COACHING**

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Introduction: Based on our prior work capturing force data during hands-on medical examinations and procedures, we have established that top tier performers utilize similar haptic patterns. To translate these findings for surgical procedures, we used motion capture technology to record hand movements during a simulated laparoscopic ventral hernia repair (LVH). We hypothesize that differences in motion data outputs can be used to stratify top and bottom tier performers, and help streamline video review for feedback.

Methods: Surgical residents (N=37) from seven Midwest programs performed a partial LVH repair on a benchtop simulator with previously demonstrated validity evidence. Left and right hand movements were captured using electromagnetic motion tracking sensors. Each repair was graded. A higher final product score (FPS) represented better performance. We then identified the top 10 and bottom 10 performers based on FPS. Two blinded raters independently reviewed plots of the hand motion data to identify top and bottom tier performers. The motion plots were then reviewed to identify areas of difference between the top and bottom tier performers.

Results: Top performers had significantly higher FPS than bottom performers (23.3 ± 1.2 vs. 5.7 ± 1.6 , $p < 0.01$). Both raters identified patterns allowing them to successfully stratify top performers from bottom performers as compared to stratification based on FPS, Rater1 $\chi^2 7.2$ $p < 0.01$ and Rater2 $\chi^2 5.5$ $p = 0.019$. The motion plots of the bottom tier performers had noticeable and specific areas of difference from the top tier performers. During video review, we were able to correlate these areas with the relevant portion of the procedure for each participant (*Figure 1*).

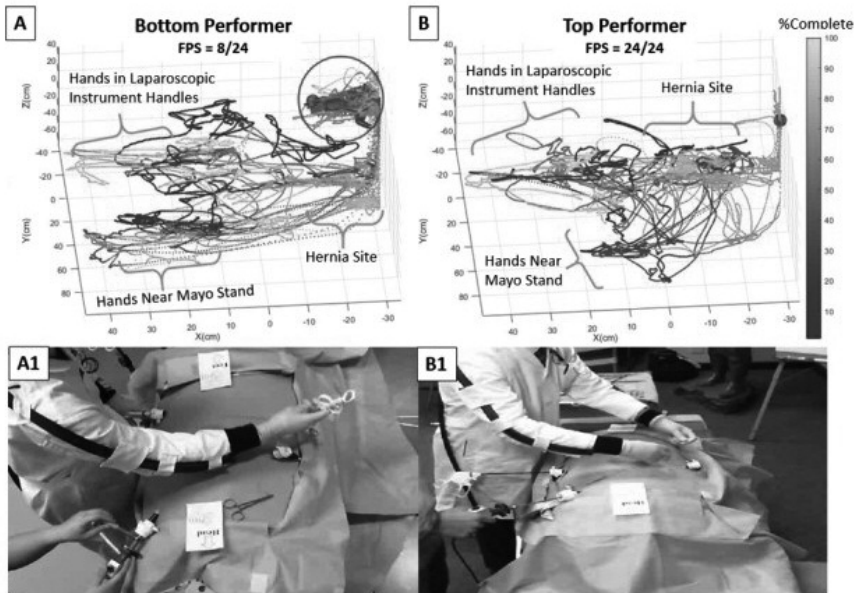


Figure 1: Example motion plots for a bottom performer (A) and a top performer (B). The location of the right hand is marked by the red ball, and corresponding video is shown below each plot (A1 and B1). Motion data color represents percent of procedure completed. The circled area on the bottom performer's plot (A) represents excess motion due to difficulty penetrating the skin with the suture passer to pull up one of the sutures.

Conclusions: By reviewing motion plots from the top and bottom tier performers during simulated LVH repair, we were able to demonstrate that motion data can be used to accurately stratify performance levels. Differences in motion data can enable rapid review of surgical performance to identify training needs and provide feedback. Our findings support the use of motion analysis to efficiently identify operative training needs. This is a significant step towards the use of artificial intelligence in assessment during surgical training.

NOTES

BEST SURGICAL OPTION FOR PATIENTS WITH CHOLEDOCHOLITHIASIS

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Objective: To evaluate the outcome of treatment approaches in patients with choledocholithiasis.

Methods: Inpatient data from the National Inpatient Sample (NIS) database (2008-2014) of the Healthcare Cost and Utilization Project (HCUP) was used to select the adult choledocholithiasis patients in the study. Patients were then assigned into 4 groups based on different surgical approaches: laparoscopic cholecystectomy (LC) and ERCP/ERC (L-ERCP group), LC and common bile duct exploration (CBDE) (L-CBDE group), open cholecystectomy (OC) and CBDE (O-CBDE group), and LC or OC alone (CC group). Demographics, hospital characteristics, insurance, household income, and comorbidities were reviewed and analyzed. Outcome indices, such as postoperative complications, mortality (MR), length of stay (LOS), and total hospital charges (TOTCHG), were also compared among different groups. All statistical analyses were done with IBM SPSS statistical software v25. Type I error level was set at 0.05.

Results: Total number of adult choledocholithiasis patients who underwent cholecystectomy during 2008-2014 in the United States was 33,619. The CC group accounted for 88.5% of patient, other groups represented L-ERCP (6%), L-CBDE (1.7%) and O-CBDE (3.8%); 34.9% were males. The average age (mean±sd) was 52.3±20.1 years. Comparing to the other three groups, patients in the O-CBDE group were significantly older, more likely to have Medicare insurance, and higher in-hospital mortality index score (IH-MIS) (*Table 1*, all $p < .05$). The overall postoperative complication rate was higher in the O-CBDE group than the other three groups. The O-CBDE group was also more likely to suffer from acute post-hemorrhagic anemia, and was more likely to require transfusion than the rest of the patients. Compared to CC group, ERCP seemed to significantly decrease the risk of retained stone ($p=0.048$). There were no differences in mortality among groups. The O-CBDE group had significantly longer LOS, higher charge, and higher referral to home health care.

Table 1. Difference Among Different Treatment Approaches

	Overall (%)	L-ERCP (%)	L-CBDE (%)	CC (%)	O-CBDE (%)	P*
Age (years, mean±SD)	52.3±20.1	52.0±20.2	52.4±22.1	51.9±20.1	61.4±18.2	All p<.001
Medicare	31.6	28.9	32.8	31	49.8	<.001, .012, <.001
IH-MIS (median/IQR)	0 -1-7	0 -1-6	0 -1-8	0 -1-6	1 -1-14	All p<.001
Any complications	8.3	6.5	8.4	7.7	24.7	<.001, .012, <.001
Acute post hemorrhagic anemia	2.4	1	1.7	2.2	9.7	<.001, .031, <.001
RBC transfusion	3.6	2.4	2.5	3.5	10.4	<.001, .05, <.001
Died	0.5	0.5	0.8	0.5	1.2	0.46
Home health care	5.3	5.8	5	4.7	19.7	All p<.001
Adjust OR/95% CI		0.47 0.26 - 0.84	0.33 0.12 - 0.91	0.36 0.24 - 0.53	Ref	.011, .033, <.001
LOS (days, median/IQR)	4 3-7	5 3-7	5 3-8	4 3-6	8 6-14	All p<.001
Coefficient/95% CI		-4.9 -6.2 - -3.6	-4.5 -5.9 - -2.3	-9.5 -6.2 - -4.1	Ref	All p<.001
TOTCHG (1000US\$, Median/IQR)	42.2 28.2-65.4	46.3 32.5-69.1	44.1 27.8-80.4	40.8 27.6-62.8	74.7 44.2-122.9	All p<.001
Coefficient/95% CI		-23.4 -28.3--18.4	-27.2 -31.9 - -22.4	-26.0 -29.9 - -22.1	Ref	All p<.001

* - the 3 p values represent the type I error level in comparison of O-CBDE vs. L-ERCP, L-CBDE, and CC, respectively.

Conclusion: Choledocholithiasis patients who underwent O-CBDE were older and had worse in-hospital mortality. They had higher complication rates, longer hospital stays, higher costs, and were more likely to need additional home health care service post discharge. ERCP seemed to have helped to reduce the risk of retained stone in the study population.

NOTES

#70

**PATIENT MOBILITY BY RACE AND
INSURANCE IN NEW YORK CITY**

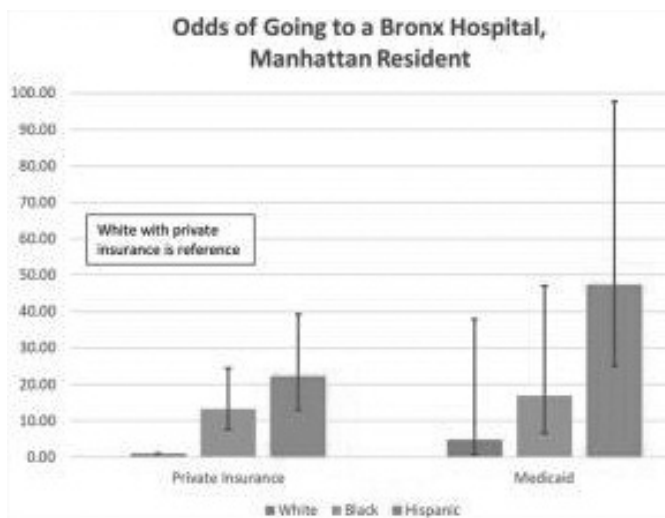
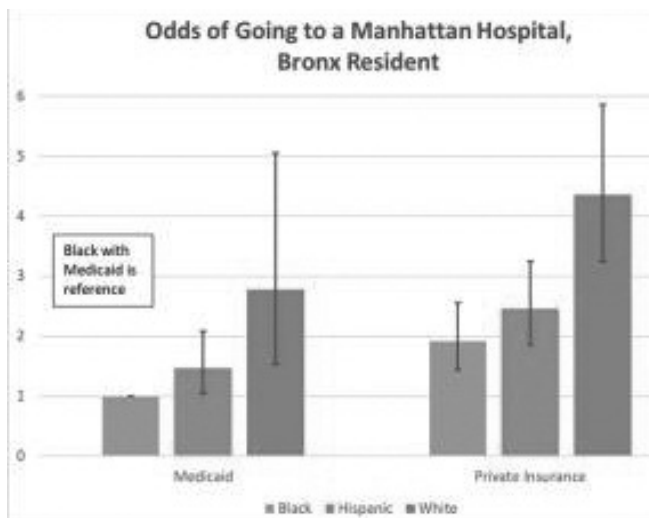
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Introduction: Migration of whites for residential reasons peaked almost half a century ago. However, it is unknown whether this phenomenon persists in the healthcare setting.

Methods: Analysis of the New York Statewide Planning and Research Cooperative System (SPARCS) was performed for 2010-2016. All non-newborn patients residing in one of two New York City boroughs (Bronx and Manhattan) and seeking elective surgical care were included. These boroughs were chosen given their sharp socioeconomic contrast despite being contiguous. Primary outcome was the borough where surgical care was obtained related to home borough, race, and primary insurance.

Results (see Figure): A total of 41,687 discharges were examined, 32,046 (76.9%) from Manhattan hospitals and 9,641 (23.1%) from Bronx hospitals, which correspond to 40,273 patients, 609 surgeons, and 29 hospitals. Out of 17,502 patients living in the Bronx, 9,186 (52.5%) obtained surgical care there. On the other hand, out of 24,185 patients residing in Manhattan, 23,730 (98.1%) obtained care there. Compared to minority patients, white patients from the Bronx were significantly more likely to leave their home borough and obtain care in Manhattan hospitals regardless of primary insurance (Private insurance: OR 2.3, 1.8; Medicaid: 2.8, 1.9; black and Hispanic respectively; $p < 0.03$ for all). On the other hand, compared to white patients with private insurance, both black and Hispanic patients with private insurance from Manhattan were more likely to leave and obtain care in the Bronx (OR 13.5, 22.6 respectively; $p < 0.001$).

Likelihood of Leaving Home Borough for Surgical Care



Conclusion: Mobility among racial minorities within healthcare appears to be in opposite directions to that of whites, raising concern regarding disparities in care. It is unclear whether this is due to patient preference or systematic issues. Nevertheless, this racial divide only exacerbates existing struggles with cultural competence among hospitals. Future studies should investigate contributors to this segregation including obstacles to patient access, referral biases, and system-wide issues.

#71

**INSURANCE TYPE AFFECTS
SHORT-TERM OUTCOMES
AFTER HARTMANN'S PROCEDURE**

**M.J. Adair, M. Baldawi, A. Aldaheri,
F.C. Brunicardi, S. Pannell.**

University of Toledo School of Medicine, Toledo, OH

Introduction: Hartmann's procedure is traditionally performed urgently to treat colonic obstruction or perforation. When controlling for age and comorbidities, not all patients share similar outcomes. Using a national database, this analysis compared postoperative outcomes after Hartmann's procedure among patients with different types of health insurance (different payer sources).

Methods: Secondary data analyses were performed using multi-institutional data from individuals undergoing elective and urgent Hartmann's procedure in the National Inpatient Sample database between 2008 and 2014. Utilization and outcome measures including demographics, primary expected payer, in-hospital mortality, pre-existing comorbidities, complications, length of hospital stay, and total hospital cost were compared between multiple groups. Data was analyzed by Chi-square and multiple logistic regression multivariate analysis.

Results: There were 11,348 patients (18 years old) with complete health records, of which 9,836 were included in the analysis. The average age of these patients (mean \pm SD) was 65.6 \pm 15.4 years. The number of males was 4,574 (46.5%). Of these patients, 78% (n=7,667) were White, 10.7% (n=1,055) were black, and 7% (n=693) were Hispanic. All other races accounted for 4.3% (n=421). Overall in-hospital mortality rate was 11.9% (n=1,169). The overall median LOS was 12 days; median total hospital charge was \$104,635. Medicaid and Medicare insurance patients had longer lengths of stay in comparison to private insurance patients (14 days and 13 days vs. 11 days, respectively; $p<0.001$). Medicare and Medicaid patients had significantly higher mortality rates than patients with private insurance (16.5% and 7.6% vs. 5.9%, respectively; $p<0.001$).

Conclusion: Following Hartmann’s procedure, Medicare and Medicaid patients had a longer length of stay and higher mortality rate versus those who had private insurance. A strong consideration of possible undiagnosed comorbidities, delayed presentation or inadequate prior management must be undertaken by the surgeon in care of this population. In the future, similar research should be performed to fully analyze all of the potential factors that can influence outcomes after Hartmann’s procedure.

NOTES

#72

**LEAN DAILY MANAGEMENT PROGRAM
IMPLEMENTATION IMPROVES FIRST CASE
ON-TIME START EFFICIENCY**

**O.K. Danner, L. Matthews, D. Hamrick,
J. Kim, A. Okonkwo.
Morehouse School of Medicine, Atlanta, GA**

Introduction: Enhancing perioperative efficiency has become essential to improve the throughput of surgical patients due to operating room (OR) space limitations and hospital economic pressures. Timely procedural initiation is important to the efficiency of delivery of surgical interventions. Lean Daily Management (LDM) has been suggested as an efficiency improvement tool in operating theaters experiencing unwanted case start delays. We hypothesize that LDM improves the efficiency for first-case on-time starts in surgical patients in a Level I trauma center.

Methods: We evaluated the records of 17,033 surgical patients from a single public safety-net urban hospital and an ACS-designated Level I trauma center for percentage of first-case on-time starts (FCOTS) between January 2017 and March 2018. LDM, consisting of a dedicated perioperative team, daily huddles and FCOTS dashboard, was instituted in October 2018. A target of 70% for FCOTS was set as an initial goal. Chi square was used to analyze the data using Minitab 18.0, State College, PA.

Results: LDM increased the FCOTS efficiency by 17.3% (58.97% pre-institution vs. 69.17% post-institution of LDM, $p < 0.05$) [Figure 1]. The overall average FCOTS for the study period was 62.96% [Table 1].

Conclusion: Implementation of LDM improved the proficiency of on-time first-case start. This innovative process improvement approach may lead to enhanced efficiency. Furthermore, LDM may prevent unnecessary delays in subsequent OR cases and thus optimize OR start times and capacity.

Figure 1. First Case On-Time Start Efficiency Before and After Implementation of LDM

2017-2018 1st Case On-Time Start Rate

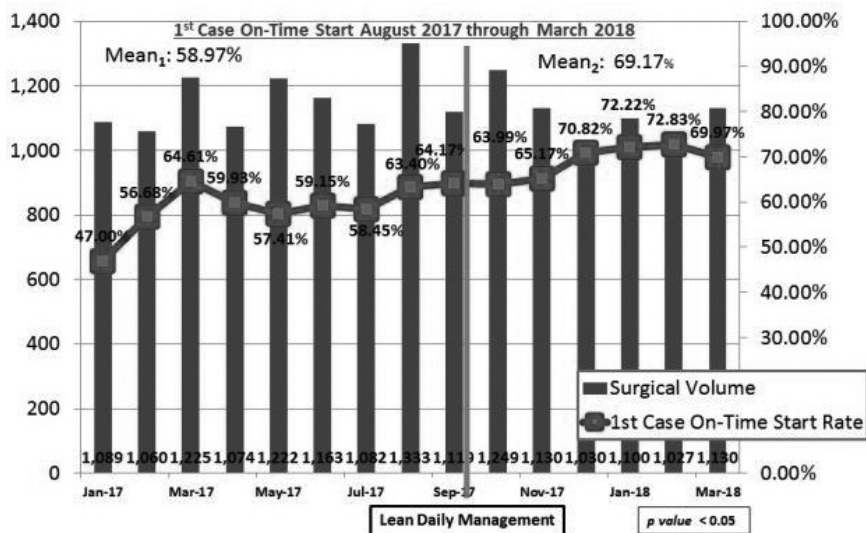


Table 1. First Case On-Time Start Efficiency Before and After LDM

	Pre-Intervention Cases	Post-Intervention Cases	Case Totals
On-time	6,113	4,611	10,724
	57.00%	43.00%	100%
	58.97%	69.17%	62.96%
Delayed	4,254	2,055	6,309
	67.43%	32.56%	100%
	41.03%	30.83%	37.04%
Totals	10,367	6,666	17,033

Table 1. First case on-time start efficiency before and after the institution of Lean Daily Management. The chi-square statistic is 181.2177. The chi-square statistic with Yates correction is 180.7803. The *p*-value is significant at *p* < .05.

NOTES

#73

ECMO AND AFFORDABLE CARE ACT (ACA): ACCESS TO LUNG TRANSPLANTATION IN MEDICAID RECIPIENTS

**J.W. Awori Hayanga, S.D. Holmes,
N. Shigemura, V. Badhwar, G. Abbas.**
West Virginia University, Morgantown, WV

Introduction: This study examined how the optional expansion of Medicaid eligibility, as a component of the Affordable Care Act (ACA), influenced the number of lung transplant (LT) candidates who received extracorporeal membrane oxygenation (ECMO) as a bridge to lung transplantation.

Methods: Data were obtained from the Scientific Registry of Transplant Recipients pertaining to LT candidates ages 18-64. The impact of the ACA Medicaid expansion (ME) program was evaluated by comparing LT candidates listed in 2011 to 2013 (pre-ACA expansion) with those listed in 2014 to 2016 (post-ACA expansion), as well as comparing LT listings in states that adopted Medicaid expansion in 2014 versus those that did not. This sample comprised candidates who received ECMO at listing or at the time of LT.

Results: There were 9,153 candidates listed for LT who met inclusion criteria for this sample. LT candidates with Medicaid increased after ME (8.3% to 9.9%, $p=0.006$). Nationally, LT listings with ECMO increased 67.1% in the post-ME era (3.8% to 6.3%, $p<0.001$). However, LT listings with ECMO increased significantly in states that adopted ME (4.7% to 6.7%, $p=0.003$) as well as non-expansion states (2.6% to 5.8%, $p<0.001$). The increase in LT listings with ECMO after ME was significant for candidates with (4% to 8%, $p=0.016$) and without (4% to 6%, $p<0.001$) Medicaid insurance. In addition, mean age at listing (42.4 vs. 41.7 years, $p=0.032$) and median lung allocation score (37.9 vs. 37.1, $p<0.001$) were significantly higher for the post-expansion era.

Conclusion: The increase in Medicaid patients receiving ECMO post-ME suggests that lack of insurance has not served to preclude bridging the sickest patients to LT.

NOTES

#74

**BORTEZOMIB BASED INDUCTION THERAPY
DECREASES DELAYED GRAFT FUNCTION IN
HIGH-RISK KIDNEY TRANSPLANTATION**

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Introduction: Over 100,000 candidates await a kidney transplant on the national United Network for Organ Sharing (UNOS) waitlist. Among these candidates, one-third have pre-formed antibodies against human leukocyte antigens (HLA). These patients fall under the category of high-risk kidney transplantation compared to non-sensitized patients. Those patients: 1) undergoing ABO incompatible kidney transplantation; 2) with donor specific antibodies; 3) with a low level of non-specific antibodies; or 4) with prior transplant(s), also fall into this category.

Objective: Our objective was to demonstrate that our unique Bortezomib based desensitization protocol could be an effective induction therapy among high-risk kidney transplant candidates to reduce delayed graft function and acute antibody mediated rejections. Our hypothesis is that humoral responses have been an underappreciated culprit in both delayed graft function and as an interface with cell mediated rejection responses. Bortezomib's anti-humoral mechanism we believe to be an important adjunct in the immunosuppressive armamentarium.

Methods: A total of 126 patients underwent deceased donor kidney transplants at our center between 01/01/2015 and 04/23/2018. Of these, 65 patients received Bortezomib based induction therapy as they were high-risk candidates. All patients were given maintenance immunosuppression with Tacrolimus, Mycophenolate Mofetil and Prednisone as per standard of care, regardless of their risk stratification. The outcomes were assessed based on: 1) occurrence of delayed graft function; 2) presence of protocol biopsy proven rejection; and 3) graft survival.

Using UNOS data, we performed a propensity score analysis to extract high-risk transplant recipients from the SRTR national transplant database who are similar to the recipients who received the Bortezomib based induction therapy at our center. Logistic regression and survival analyses were performed to compare the outcomes between the intervention and matched sample.

Results: The Bortezomib based desensitization therapy was effective ($p=0.01$) in the matched sample analysis. Adjusting for the common covariates and the propensity score, those recipients who received the therapy were about 36% less likely to experience a delayed graft function.

Conclusion: We conclude that our Bortezomib based desensitization/induction therapy decreases delayed graft function in high-risk kidney transplant recipients. We believe that this will impact very favorably on long-term graft and patient survival.

NOTES

#75

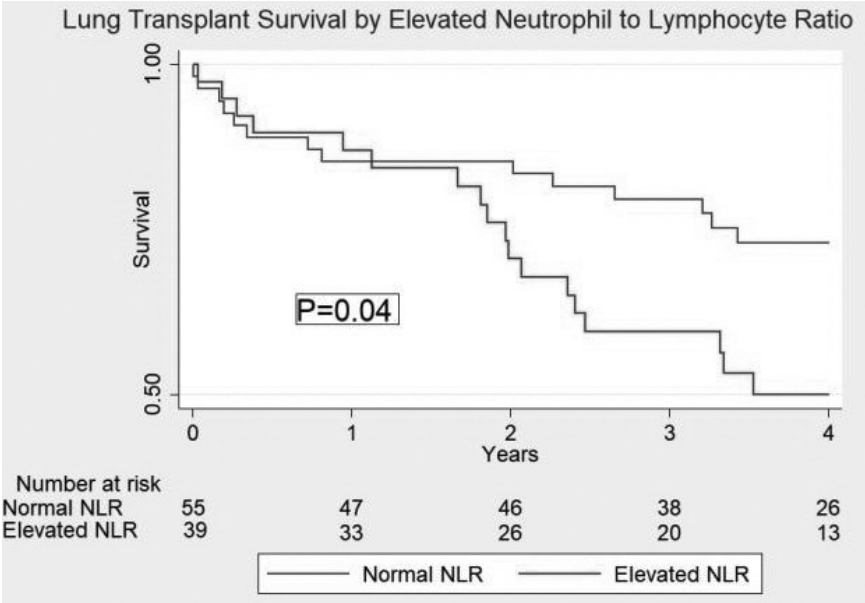
**ELEVATED NEUTROPHIL TO
LYMPHOCYTE RATIO IS ASSOCIATED WITH
POOR LONG-TERM SURVIVAL AND GRAFT
FAILURE AFTER LUNG TRANSPLANTATION**

**A. Krishnan, J. Hsu, S. Broderick, R. Higgins, E. Bush.
Johns Hopkins University School of Medicine, Baltimore, MD**

Introduction: The neutrophil to lymphocyte ratio (NLR) is a marker of inflammation associated with poor outcomes in a range of clinical scenarios. The prognostic value of NLR has never been assessed in lung transplantation. We aimed to assess the prognostic value of NLR on long-term outcomes and graft dysfunction after lung transplantation.

Methods: We retrospectively reviewed all patients receiving a lung transplant at our institution from 2011 to 2014. The most recent neutrophil and lymphocyte counts prior to lung transplantation were retrieved. The primary exposure was elevated NLR, defined by $NLR > 4$. Cutoffs for elevated NLR were adopted from prior investigations of NLR. Patient characteristics, primary diagnosis, lung allocation scores, and outcomes were reviewed. The primary outcomes were 3-year all-cause mortality, and graft failure. Multivariate logistic regression, Cox proportional hazards modeling, and Kaplan-Meier survival analysis were used to analyze outcomes.

Results (see Figure): 95 patients were included; 40 patients (42%) had an elevated NLR. Elevated NLR was associated with increased three-year mortality on univariate (OR: 3.0, [95%CI: 1.2-7.9], $p=0.02$) and multivariate (4.7 [1.1-19.7], $p=0.03$) analysis, after adjusting for patient characteristics including primary diagnosis. Elevated NLR was not associated with one-year mortality on univariate or multivariate analysis. Patients with elevated NLR demonstrated significantly lower survival on Kaplan Meier analysis (50% vs. 74%, $p=0.04$). The c-statistic for our multivariate model was 0.89. Elevated NLR was associated with increased risk for graft failure on univariate (HR: 2.4 [1.0-5.7], $p=0.04$) and multivariate (2.8 [1.0-7.8], $p=0.05$) Cox analysis.



Conclusion: Elevated NLR is associated with poor long-term survival and graft failure after lung transplantation. Possible reasons for worse outcomes include NLR potentially representing a chronic inflammatory state that predisposes patients to sequelae of chronic rejection. NLR may aid long-term risk-prognostication in lung transplantation.

NOTES

#76

**UTILIZATION OF LCP-TACROLIMUS
(ENVARUS XR) IN SIMULTANEOUS
PANCREAS AND KIDNEY (SPK)
TRANSPLANT RECIPIENTS**

**J.S. Torabi, A. Campbell, M. Ajaimy,
J.P. Rocca, J.A. Graham.**

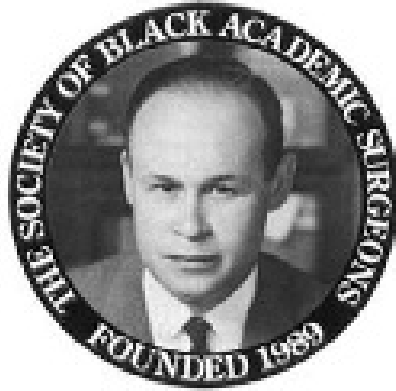
Albert Einstein College of Medicine, Bronx, NY

Introduction: The use of extended release tacrolimus (LCPT) allows for slow release of drug and once-daily dosing in transplant recipients. The improved bioavailability and decreased peak and trough levels may be beneficial in simultaneous pancreas-kidney recipients.

Methods: This is a retrospective study of 39 simultaneous pancreas-kidney recipients who were continued on standard tacrolimus (n=21) or converted to LCPT (n=18) on the third postoperative day. Hemoglobin A1c (HbA1c), tacrolimus and creatinine levels were measured postoperatively. Coefficient of variability (CV = 100*mean/standard deviation) was used as a measure of variability of tacrolimus levels.

Results: There was no difference in tacrolimus CV in the standard tacrolimus and LCPT groups at 1 month (31.6 vs. 32.4; p=0.87) or 3 months postoperatively (32.6 vs. 31.6; p=0.77). Mean tacrolimus levels were not significantly different at 1 month (10.1 vs. 9.6; p=0.42) or 3 months (9.3 vs. 9.5; p=0.57). Notably there were 5 incidences of acute rejection in the standard group compared to zero episodes in the LCPT group. HbA1c at 3 months was significantly higher in the standard group compared to LCPT (5.6% vs. 4.8%; p=0.01). Mean follow-up time was 741 days. There was one patient death in the LCPT group.

Conclusions: LCPT offers an attractive option for tacrolimus administration for transplant recipients. Significantly lower rates of rejection were observed in patients receiving LCPT. The once-a-day dosing may allow for improved medication adherence resulting in improved long-term outcomes. Lastly, 3-month HgbA1c was lower in LCPT group, which may suggest less islet toxicity.



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.



SBAS INSTITUTIONAL MEMBERSHIP

FY 19
JULY 1, 2018 - JUNE 30, 2019

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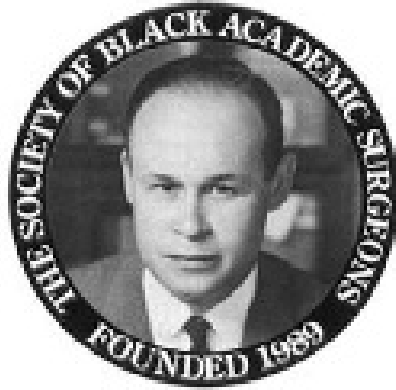
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HONORARY MEMBERS

SBAS gives Honorary Fellowships to outstanding surgeons who have mentored minority surgeons and championed diversity in surgery.

Honorary Fellow Award Recipients (Chronologically Ordered):

Judah M. Folkman, MD
R. Scott Jones, MD
Frank R. Lewis, MD
Olga Jonasson, MD
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Lloyd M. Nyhus, MD
Hiram C. Polk, Jr., MD
Walter J. Pories, MD
Basil A. Pruitt, Jr., MD
George F. Sheldon, MD
William Silen, MD
James C. Thompson, MD
Benard F. Ribeiro, MD
Walter Lawrence, Jr., MD
John Najarian, MD
James A. O'Neill, Jr., MD
Thomas E. Starzl, MD
Dean Warren, MD (posthumous)
Kirby I. Bland, MD
Wallace P. Ritchie, Jr., MD
Courtney M. Townsend, Jr., MD
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HONORARY MEMBERS (CONT.)

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Edward Copeland, MD
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Timothy J. Eberlein, MD
Irving L. Kron, MD
Diana L. Farmer, MD
Mary Hawn, MD
Fabrizio Michelassi, MD

PREVIOUS SBAS MEETINGS

- 1989 Duke University, Chapel Hill, NC
- 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
- 2016 The Ohio State University, Columbus, OH
- 2017 University of Chicago, Chicago, IL
- 2018 University of Alabama at Birmingham, Birmingham, AL

FUTURE SBAS MEETINGS

- 2020 Medical College of Wisconsin, Milwaukee, WI
- 2021 Washington University, St. Louis, MO
- 2022 Jefferson University Hospitals, Philadelphia, PA
- 2023 University of Michigan, Ann Arbor, MI
- 2024 University of California, Davis, Davis, CA

SPECIAL APPRECIATION



Weill Cornell Medicine

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& THE DEPARTMENT OF SURGERY

A Special Thank You To

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