Annual Faculty and Student Awards and Student Research Symposium

April 30, 2015 and May 1, 2015

Graham Center Ballrooms and MARC Pavilion
11200 SW 8 Street
Miami, FL 33199
Herbert Wertheim College of Medicine Administration

John A. Rock, MD, MSPH
Dean and Senior Vice President for Health Affairs

Robert L. Hernandez, Jr., MD
Executive Associate Dean for Student Affairs

Liane Martinez
Executive Associate Dean for Finance and Administration

J. Patrick O’Leary, MD, FACS
Executive Associate Dean for Clinical Affairs Assistant VP for Strategic Planning, Office of Clinical Affairs

Carolyn D. Runowicz, M.D.
Executive Associate Dean for Academic Affairs, Professor of Obstetrics and Gynecology

Sanford M. Markham, MD, FACOG, FACS
Emeritus Executive Associate Dean for Student Affairs Professor of Obstetrics & Gynecology

Jefry Biehler, MD, MPH
Chair, Department of Pediatrics; Assistant Dean for Education; Pediatric Clerkship Director

Cheryl Brewster, EdD
Assistant Dean for Diversity, Deans Office

Sheldon H. Cherry, MD, FACS
Medical Director, Master in Physician Assistant Studies; Associate Dean of Clinical Affairs; Professor, Department of Obstetrics and Gynecology; Ombudsperson for Student Ombuds Office

George E Dambach, PhD
Associate Dean for Curriculum and Medical Education, Office of Academic Affairs; Professor, Department of Cellular Biology and Pharmacology

Robert F. Dollinger, MD
Assistant Dean for Student Affairs (Counseling and Communities), Assistant Professor, Internal Medicine

Karin Esposito, MD, PhD
Associate Dean for Academic Affairs and Professor and Vice Chair, Department of Psychiatry & Behavioral Health

David Graham, MD
Associate Dean for Clinical Medical Education; Chair & Professor, Department of Radiology, Professor, Department of Obstetrics and Gynecology. Strand Leader, Clinical Medicine

Pedro J Greer Jr., MD
Professor and Chair of the Department of Humanities, Health, and Society Associate Dean for Community Engagement

Yolangel Hernandez Suarez, MD, MBA, FACOG
Chief Executive Officer, FIU Health, Associate Dean for Graduate Medical Education, Associate Professor of Obstetrics and Gynecology

Carla Lupi, MD
Assistant Dean for Learning and Teaching, Department of Obstetrics and Gynecology, Office of Medical Education

Susan Jay, EdD
Assistant Vice President of Development, Assistant Dean of Medical Advancement

Vivian T. Obeso, MD, FACP
Assistant Dean, Curriculum and Medical Education, Associate Professor, Medicine Co-Course Director, Clinical Medicine Course, Medical Director, HWCOM Simulation Center

Eneida O. Roldan, MD, MPH, MBA
Associate Dean, International Affairs Associate Professor, Department of Pathology Co-Course Director, Professional Strand

Adrian Jones, JD
Associate Dean for Student Affairs; Assistant Professor, Department of Cellular Biology and Pharmacology

Barry P Rosen, PhD
Associate Dean for Basic Research and Graduate Programs, Office of Academic Affairs; Distinguished Professor, Department of Cellular Biology and Pharmacology

Manuel Viamonte Jr., MD
Sr. Advisor and Associate Dean of International Affairs; Professor, Department of Radiology
Juan M. Acuna, MD
Chair, Department of Medical and Health Sciences Research

Juan M. Lozano, MD
Chief, Division of Student Research and Learning

Marcia Varella, MD
Chief, Division of Faculty Support and Development

Juan C. Zevallos, MD
Chief, Division of Applied Health Sciences Research

Grettel Castro, MPH
Research Analyst

Meliza Cornell Alvarez
Program Assistant and Community Interviewer

Francezca Guzzone
Research Specialist

Lisandra Liz
Research Program Assistant and Community Interviewer

Naomi Jean, MPH
Research Scholarship Course Coordinator

Tatiana Perez
Research Program Assistant

Clavette Phillip, MSM
Associate Director of Administration

Pura Rodriguez de la Vega, MPH
Research Analyst
Welcome Address

Juan M. Acuna, MD, MSc
Associate Professor of Human and Molecular Genetics, Obstetrics and Gynecology and Epidemiology & Chair of the Department of Medical and Health Sciences Research

On Behalf of the Florida International University Herbert Wertheim College of Medicine, I would like to welcome you to the Annual Faculty and Student Awards and the First Annual Student Research Symposium. These events recognize and honor all staff, faculty and students involved in making FIU HWCOM a very special medical school. This two-day event has two distinct parts:

The first is the Awards Ceremony where we recognize very special faculty and students that have gone beyond their duty during the present academic year. This ceremony is designed to give recognition to Faculty for their outstanding contributions to the College, and to students for their academic and personal excellence and scholarly production.

The second part is the Annual Student Research Symposium. Conducting basic, applied, translational, clinical, and interdisciplinary research are fundamental parts of the Herbert Wertheim College of Medicine’s strategic plan and curriculum to positively impact and leverage South Florida’s diverse demographics. And understanding (and performing) research has become a very desirable clinical competency. It has proven to increase the clinical capacity of physicians through better understanding of health problems, the generation of better questions, and a better understanding of published research.

The very modern and innovative medical curriculum developed at FIU HWCOM has dedicated time so all students may improve their capacity and competencies to understand and do research. Our unique research program is socially and scientifically mindful by focusing on supporting student research that improves the health of the South Florida community and aligns with local needs and national and global trends. This year’s Student Research Symposium will highlight innovative research findings in the areas of basic sciences, community-based, epidemiological research, health care quality and improvement research, and medical education research.

With more than 60 research projects presented by our students, this Symposium has certainly reached more than our initial expectations. This response is only possible if there are both, dedicated attention and support present within the College of Medicine to student research and the desire within the students to work on quality research. Furthermore, the research presented by our students in this symposium clearly places FIU HWCOM on the right track to becoming an important place in training the doctors of the future, today.

We would like to thank all those involved in supporting, planning and implementing all actions and activities that have made this event possible. I welcome you to our Student Research Symposium and Student and Faculty Awards Ceremony.
## Program At-A-Glance

### THURSDAY, APRIL 30TH - Graham Center Lobby & Ballrooms

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>8:30 am – 9:30 am</td>
<td>Registration</td>
<td>Graham Center Lobby</td>
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<tr>
<td>9:30 am – 11:00 am</td>
<td>Poster Session I</td>
<td>Graham Center Lobby</td>
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<tr>
<td>11:00 am – 11:15 am</td>
<td>Welcome Address</td>
<td>Graham Center Ballrooms</td>
<td>Dr. John A. Rock</td>
</tr>
<tr>
<td>11:15 am – 1:00 pm</td>
<td>Faculty and Student Awards Ceremony</td>
<td>Graham Center Ballrooms</td>
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### FRIDAY, MAY 1ST - MARC Pavilion Lobby & 2nd Floor

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<th>Presenter</th>
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<tbody>
<tr>
<td>8:00 am – 8:30 am</td>
<td>Registration</td>
<td>MARC Pavilion, 2nd Floor</td>
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<tr>
<td></td>
<td>Welcome Address</td>
<td>MARC Pavilion, 2nd Floor</td>
<td>Dr. Juan M. Acuna</td>
</tr>
<tr>
<td>8:30 am – 10:00 am</td>
<td>Oral Presentations I</td>
<td>MARC Pavilion, 2nd Floor</td>
<td>Dr. Carolyn Runowicz</td>
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<tr>
<td>10:00 am – 10:15 am</td>
<td>Break</td>
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<tr>
<td>10:15 am – 12:00 pm</td>
<td>Poster Session II</td>
<td>MARC Pavilion Lobby</td>
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<tr>
<td>12:00 pm – 1:00 pm</td>
<td>Lunch on your own</td>
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<td>1:00 pm – 2:00 pm</td>
<td>Plenary AOA Lecture</td>
<td>MARC Pavilion, 2nd Floor</td>
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<td></td>
<td>Introduction: Mr. Kevin Shah, President of AOA, FIU Chapter</td>
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<td>Speaker: Dr. John R. Potts III, Senior Vice-President, Surgical Accreditation</td>
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<td></td>
<td>ACGME and Adjunct Professor of Surgery at University of Texas Houston</td>
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<tr>
<td>2:00 pm – 2:15 pm</td>
<td>Break</td>
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<tr>
<td>2:15 pm – 4:15 pm</td>
<td>Oral Presentations II &amp; Capstone Presentations</td>
<td>MARC Pavilion, 2nd Floor</td>
<td>Dr. Carla Lupi</td>
</tr>
<tr>
<td>4:15 pm – 5:00 pm</td>
<td>Closing Remarks</td>
<td>MARC Pavilion, 2nd Floor</td>
<td>Dr. John A. Rock, Dr. Juan M. Acuna</td>
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</tbody>
</table>
Poster Presentations · Thursday, April 30, 2015

Graham Center Lobby
9:30AM-11:00AM

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<thead>
<tr>
<th>Title</th>
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<tr>
<td>Progressively Worsening Hypersensitivity Reaction to Local Anesthesia</td>
<td>Adam Tagliero, Peter D’amore</td>
<td>Anesthesiology</td>
<td>P1</td>
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<tr>
<td>Use of Herbal and Alternative Medicine in Little Haiti</td>
<td>Farah Fourcand</td>
<td>Complementary and Alternative Medicine</td>
<td>P2</td>
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<td>Gender Differences in Mortality Following Reperfusion Therapy after Incident Myocardial infarction in a Puerto Rican population</td>
<td>Alejandro Castaneda, Christian Gutierrez Morales</td>
<td>Cardiology</td>
<td>P3</td>
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<tr>
<td>Ultrasound-Directed Radial Artery Access by a Non-Ultrasound-Trained Interventional Cardiologist</td>
<td>Casey Carr, Robert Guido</td>
<td>Cardiology</td>
<td>P4</td>
</tr>
<tr>
<td>Permanent Tooth Loss as and Its Association with Cardiovascular Disease in a North Miami Population</td>
<td>Joshua Kelley, Adam El Kommos</td>
<td>Cardiology</td>
<td>P5</td>
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<td>Does Obesity Affect Outcomes in Children Admitted from Trauma Centers?</td>
<td>Prashanth Shanmugham, Balagangadhr Totapally</td>
<td>Child Health</td>
<td>P6</td>
</tr>
<tr>
<td>Factors Associated with Infant Sleep Position in North Miami-Dade County</td>
<td>Navid Ajabshir, Katryna Lim, Yumi Mendez</td>
<td>Child Health</td>
<td>P7</td>
</tr>
<tr>
<td>Differences in Infant Mortality Amongst Infants Born To US-Born or Foreign-Born Hispanic Mothers in Florida between 2000 and 2002</td>
<td>Veronica Alvarez, Marlen Rodriguez</td>
<td>Child Health</td>
<td>P8</td>
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<td>Emulative Behavior: Do Kids Jog in their Parent’s Footsteps?</td>
<td>Silvia Coronel, Rebecca Wiesenfeld</td>
<td>Child Health</td>
<td>P9</td>
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<tr>
<td>Cerebral Palsy: A Relationship between Socioeconomic Factors and Age of Diagnosis Among Patients in the United States</td>
<td>Dale Segal, Michael Rosenthal</td>
<td>Child Health</td>
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<td>Evolution in Craniosynostosis Epidemiology at Miami Children’s Hospital from 1976 to 2013</td>
<td>Paul Marji, Joshua Kelley</td>
<td>Child Health</td>
<td>P11</td>
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<tr>
<td>Factors Associated With Sedentary Activities Among School Aged Individuals in a Predominantly Minority Population: a Cross Sectional Analysis of a Survey of the Northwest Miami-Dade Area</td>
<td>Louis Carrillo, Stephen Ferraresi</td>
<td>Child Health</td>
<td>P12</td>
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<td>Comparing Students' Behaviors, Attitudes, and Knowledge on Sun Protection</td>
<td>Giselle Prado, Katherine Vandenberg, Emily Tongdee</td>
<td>Dermatology</td>
<td>P13</td>
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<tr>
<td>Allergic Contact Dermatitis after Using Prineo: Case Report and Review of Literature</td>
<td>Giselle Prado</td>
<td>Dermatology</td>
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<td>Anesthetic Blistter Induction to Identify Biopsy Site Prior to Mohs Surgery</td>
<td>Emily Tongdee</td>
<td>Dermatology</td>
<td>P15</td>
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<tr>
<td>Assessing the Impact of Integrated Behavioral and Social Science Curricula on Undergraduate Medical Students' Understanding of Social Determinants Of Health</td>
<td>Katharine Lawrence, Iveris Martinez, Hauchie Pang</td>
<td>Education</td>
<td>P16</td>
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<tr>
<td>The Epidemiology of Pre-Hospital Needle Decompression in a Large Urban EMS System</td>
<td>Daniel Goldberg</td>
<td>Emergency</td>
<td>P17</td>
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<tr>
<td>Paramedic Assessment and Treatment of Patients with Allergic Reactions and Anaphylaxis in a Large Urban Pre-Hospital System</td>
<td>Katherine RACZEK, Kamen Kutzarov</td>
<td>Emergency</td>
<td>P18</td>
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<td>Allergic Triggers and Profiles of Patients Calling 911 in a Large Urban Setting</td>
<td>Katherine RACZEK, Kamen Kutzarov</td>
<td>Emergency</td>
<td>P19</td>
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<tr>
<td>Paramedic Detection of Signs and Symptoms of Patients Calling 911 for Possible Allergic Reaction and Anaphylaxis</td>
<td>Katherine RACZEK, Kamen Kutzarov</td>
<td>Emergency</td>
<td>P20</td>
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<td>The Exceedingly Rare Gastric Diverticulum</td>
<td>Gabriel Sanchez, Robert Popitti, Brian Bockelman, Irvin Willis</td>
<td>Gastroenterology</td>
<td>P22</td>
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<tr>
<td>The Effect of Language Discordance on the Source of Primary Care in North Miami Dade</td>
<td>Jennifer Chen, Michelle M. Abou-Jaoude</td>
<td>Health Services Research</td>
<td>P23</td>
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<tr>
<td>The Effect of Insurance Status and Ethnicity on Delays in Seeking Medical Care in North Miami-Dade</td>
<td>Erica J. Escarcega</td>
<td>Health Services Research</td>
<td>P24</td>
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<tr>
<td>The Association between Civic Engagement and Health Care Utilization</td>
<td>Jennifer Pernas Boucher, Fabiana Barnabe</td>
<td>Health Services Research</td>
<td>P25</td>
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<tr>
<td>Income as a Possible Modifier of the Relationship Between Education and Health Insurance Ownership in Northwest Miami-Dade County</td>
<td>Carolina Orbay, Hans Michell, Monica Polcz</td>
<td>Health Services Research</td>
<td>P26</td>
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<td>A Comparison of Insurance Status and the Rate of Prenatal HIV Counseling and Testing Among Pregnant Women in the United States</td>
<td>Jacqueline Atlass, Camila Bahamon, Julia Hicks</td>
<td>Health Services Research</td>
<td>P27</td>
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<tr>
<td>The Importance of Physician Cultural Competency in Filling out Prescriptions</td>
<td>Katiuska Ramirez, Andres Rodriguez</td>
<td>Health Services Research</td>
<td>P28</td>
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<tr>
<td>Systematic Review of Risk Compensation Following Human Papillomavirus Vaccination</td>
<td>Dudith Pierre-Victor, Naomie Jean-Baptiste, Raed Bahelah, Rachel Clarke</td>
<td>Infectious Diseases</td>
<td>P29</td>
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<td>Post-Translational Regulation of <em>Leishmania aquaglyceroporin</em> AQP1: Crosstalk between Phosphorylation and Ubiquitination</td>
<td>Mansi Sharma, Goutam Mandal, Hiranmoy Bhattacharjee, Rita Mukhopadhyay</td>
<td>Infectious Diseases</td>
<td>P30</td>
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<td>Pyogenic Liver Abscess: A Mimic of Malignancy</td>
<td>Michael M. Skaret</td>
<td>Infectious Diseases</td>
<td>P31</td>
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<tr>
<td>Gender differences in drug-related lipodystrophy of anti-retroviral medications: A systematic review</td>
<td>Allison Holder, Ana Pena</td>
<td>Infectious Diseases</td>
<td>P32</td>
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</table>
Faculty Award Finalists

Clinical Affiliate Preceptor Award
   Dr. Karen R. Hirschberg
   Presented by Dr. Sheldon Cherry

Excellence in Medical School Teaching
   Period 1
   Dr. Gagani Athauda
   Presented by Dr. Carolyn Runowicz

Excellence in Medical School Teaching
   Period 2
   Dr. Rebecca Toonkel
   Presented by Dr. Carolyn Runowicz

Excellence in Medical School Teaching
   Period 3 & 4
   Dr. David Graham
   Presented by Dr. Carolyn Runowicz

Faculty Advisor/ Mentor of the Year Student Choice Award
   Dr. Gagani Athauda
   Ms. Jenny Fortun, PhD
   Dr. Robert Hernandez
   Dr. Suzanne Minor
   Presented by Ms. Veronica Alvarez

Leonard Tow Humanism in Medicine Award (Faculty)
   Dr. Christine Degnon McFarlin, MPH, FAAFP
   Presented by Dr. Marin Gillis
Student Award Finalists

Leonard Tow Humanism in Medicine Award (Student)
Alyssa Swick
Presented by Dr. Marin Gillis

Dan Castellanos PhD Professionalism Award
Class of 2015
Allison Holder
Alyssa Swick
Lynn Zarembski

Class of 2017
Terrence Daley-lindo
Andrew Quinn
Adam Tagliero
Presented by Dr. George Dambach

Outstanding Academic Performance Award
Jason Ilias Liounakis – Class of 2015
Alexander Abel Daoud – Class of 2016
Peter Elias Ashman – Class of 2017
Presented by Dr. Carolyn Runowicz

Outstanding Community Service Award
Class of 2015
Veronica Alvarez
Robert Guido
LeAnn Shannon

Class of 2017
Erica Bass
Elena DiMiceli
Laura Florez
Presented by Dr. Robert Hernandez

Outstanding Leadership Award
Class of 2015
Veronica Alvarez
Alyssa Swick
Yoko Young Sang

Class of 2017
Elena DiMiceli
Adam Tagliero
Rachel Volke
Presented by Dr. Robert Hernandez

Outstanding Research Award
David Weithorn
Stephen Ferber, Ernesto Fernandez, Jose Rodriguez
Allison Holder, Ana I. Pena
Presented by Dr. Robert Hernandez

Outstanding Clerkship Performance Award
Family Medicine - Casey Carr
Presented by Dr. David Graham
Geriatics Clerkship - Gabriel Suarez
Presented by Dr. David Graham
Internal Medicine - Joshua Kelley
Presented by Dr. David Graham
Neurology - Robert Guido and Jason Liounakis
Presented by Dr. David Graham
Obstetrics and Gynecology - Jacqueline Atlass
Presented by Dr. David Graham
Pediatrics - Joshua Kelley
Presented by Dr. David Graham
Psychiatry - Stephen Ferber
Presented by Dr. David Graham
Radiology - Jason Liounakis
Presented by Dr. David Graham
Surgery - Monica Polcz
Presented by Dr. David Graham
NeighborhoodHelp - Michelle Abou-Jaoude
Presented by Dr. Ebony Whisenant
Recognition Awards

Robert Kemper Award for Professionalism in Medicine
Joshua Kelley

AΩA Honor Society Induction
Class of 2016
Beatriz Collada
Alexander Daoud
Mark Haines, Vice President
Rafael Paez, Secretary
Christine Roy-McMahon
Kevin Shah, President

Class of 2015
Robert Guido, Secretary
Joshua Kelly, Vice President
Jason Liounakos, President
Fernando Aran
Jacqueline Atlass
Casey Carr
Stephen Ferraresi
Luv Hajirawala
Allison Holder
Maria-Carolina Orbay
Ana Peña Calero
Monica Polcz
Dale Segal

Faculty Inducted 2014-15
Dr. David Graham
Dr. Joe Leigh Simpson

Faculty Inducted 2013-14
Sanford Markham, MD
### Oral Presentations · Friday, May 1, 2015

**MARC Pavilion 2nd Floor**  
Chair: Dr. Carolyn Runowicz

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<tbody>
<tr>
<td>8:30 AM</td>
<td>Digoxin Use in Patients Diagnosed with Systolic Versus Diastolic Congestive Heart Failure</td>
<td>Mark Haimes, Rachel Helm, Olamide Oshikoya</td>
<td>Cardiology</td>
<td>O1</td>
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<tr>
<td>8:45 AM</td>
<td>Diabetes and Prehospital Delay Time of Patients with Acute Myocardial Infarction in Puerto Rico</td>
<td>Guillermo Ortega, Stanley Tiu</td>
<td>Cardiology</td>
<td>O2</td>
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<tr>
<td>9:00 AM</td>
<td>Association of tPA and Day of Admission with Mortality in Stroke Patients in Florida</td>
<td>Jessica Batlle, Claudia Leon, Carlos Prays</td>
<td>Cardiology</td>
<td>O3</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>The Association between Breastfeeding and ADHD in Low Birth Weight Infants</td>
<td>Jade Hernandez, Chris Plescia</td>
<td>Child Health</td>
<td>O4</td>
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<tr>
<td>9:30 AM</td>
<td>The Impact of Ethnicity and the Use of Managed Care Interventions on Diabetic Health Outcomes</td>
<td>Papoosha, M., Reyes, J., Gabriel Suarez</td>
<td>Diabetes</td>
<td>O5</td>
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<tr>
<td>9:45 AM</td>
<td>Does Admission to Teaching vs. Non-Teaching Hospitals Influence the Association between Day of Hospital Admission and In-Hospital Mortality Among Stroke Patients in Florida?</td>
<td>Jason I. Liounakos, Luv Hajirawala</td>
<td>Neurology</td>
<td>O6</td>
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<tr>
<td>Factors Associated With Pressure Ulcers in Stroke Patients: A Retrospective Review of the Florida Stroke Registry</td>
<td>Mohamad Al-mousily, Franklin Danger</td>
<td>Neurology</td>
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<tr>
<td>Difference in Mortality Rates in Stroke Patients According to Day of Admission in Rural vs. Urban Hospitals</td>
<td>Melissa Cardenas-Morales, Grant Swartz, Lynn Zaremski</td>
<td>Neurology</td>
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<tr>
<td>The Association between the Kotelchuck Index and Breastfeeding Initiation and Duration</td>
<td>Lori Marcu</td>
<td>O&amp;G</td>
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<tr>
<td>The Efficacy of Post-Surgical Antibiotic Prophylaxis in Robotic Hysterectomy: A Retrospective Study</td>
<td>LeAnn Shannon, Yoko Young Sang, Michaela Gaffley</td>
<td>O&amp;G</td>
<td>P36</td>
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<tr>
<td>The Effect of Barbed Sutures on Incidence of Acute Complications after Hysterectomy</td>
<td>Rebecca Cole, Natalia Echeverri, Michael Skaret</td>
<td>O&amp;G</td>
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<tr>
<td>Role of SFMBT1 in Epithelial-Mesenchymal Transition</td>
<td>Emily Tongdee, Ming Tang</td>
<td>Oncology</td>
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<td>Angiosarcoma Arising in an Abdominal Aortic Aneurysm in Association with Endovascular Graft: An Autopsy Case Report</td>
<td>Diana Morlote</td>
<td>Oncology</td>
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<tr>
<td>A Case of Colon Cancer Metastasis to the Penis</td>
<td>Diana Morlote, Joan C. Delto, Akshay Bhandary, Monica A. Recine</td>
<td>Oncology</td>
<td>P40</td>
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<td>Methotrexate-Associated T-Cell Lymphoma in a Patient with Sarcoidosis</td>
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Speaker

The Alpha Omega Alpha Honor Medical Society presents:

Speaker: Dr. John R. Potts III, M.D.
Senior Vice-President, Surgical Accreditation ACGME and Adjunct Professor of Surgery at University of Texas Houston Medical School

Biography:

Dr. Potts was raised in the town of Yale, Oklahoma then attended C.E. Donart High School in Stillwater, Oklahoma. He graduated from Oklahoma State University with a B.A. with Honors in History. He attended the University of Oklahoma College of Medicine from which he graduated in 1977. He did his residency in surgery at the University of Oklahoma Health Sciences Center in Oklahoma City. During that residency, he did a one-year laboratory fellowship in surgical gastroenterology at the University of Utah under the direction of Dr. Frank Moody. Following residency, he did a two-year fellowship in surgery for portal hypertension under the direction of Dr. W. Dean Warren at Emory University. His first faculty appointment was at Vanderbilt University during the chairmanship of Dr. John Sawyers. He joined the faculty of the University of Texas Medical School – Houston in 1991. There, he served as Program Director in Surgery for 21 years, as Chair of the Graduate Medical Education Committee for 16 years, as Assistant Dean for GME for ten years and as Designated Institutional Official for two years. He is a Past-President of the Association of Program Directors in Surgery, a Past-Chair of the Organization of Program Director Organizations and served as a Director of the American Board of Surgery from 2007-12. He is a Fellow of the American College of Surgeons, the Southern Surgical Association, the American Surgical Association, the Southwestern Surgical Congress and the Southeastern Surgical Congress. In 2012, he became the Senior Vice-President for Surgical Accreditation at the Accreditation Council for Graduate Medical Education.
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Ms. Adriana Vincent
Coordinator, Graduate Medical Education

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Assistant Professor, Department of Humanities, Health, and Society
O1

Digoxin Use in Patients Diagnosed with Systolic Versus Diastolic Congestive Heart Failure

Mark Haimes, Rachel Helm, Olamide Oshikoya, Juan Lozano, Juan Zevallos, Marcia Varella

Florida International University, Herbert Wertheim College of Medicine, Miami, FL.

Background: Heart failure (HF) affects more than 5 million people within the United States annually with approximately 50% being of diastolic origin. Digoxin has long been used in the management of HF, both systolic and diastolic. The 2013 ACCF/AHA Heart Failure Guidelines\(^1\) supports the use of digoxin in systolic HF but has not conclusively reduced hospitalizations or mortality in diastolic HF. Significant toxicity is related to digoxin, causing neurological and cardiac abnormalities. Due to the lack of evidence for improved outcomes in patients with diastolic HF and the propensity for digoxin toxicity\(^2\), it is expected that physicians should prescribe digoxin only to individuals with systolic dysfunction. Objective: To describe and compare the prevalence of digoxin administration in patients with systolic and diastolic dysfunction.

Method: A cross-sectional study of participants of the Puerto Rico Cardiovascular Disease Surveillance System (PRCVSS)\(^3\) who were consecutively hospitalized for possible HF at all medical centers with acute care facilities in 2007 and 2009, as abstracted from medical records. All participants had a discharge diagnosis of HF based on ICD-9 codes. Digoxin prescriptions were recorded and compared according to subtype of HF based on ejection fraction. Prevalence of digoxin prescription for diastolic and systolic HF patients was compared. Variables independently associated with prescription of digoxin were evaluated using multivariate logistic regression. Significance was considered for p-values less than 0.05 for a two tailed test.

Results: The prevalence of digoxin prescription was higher in systolic than in diastolic HF (49% versus 20%, respectively). When accounting for baselines differences among the HF subtypes (age, gender, having recurrent HF, presence of a paced heart, and prescription of calcium channel, beta blocker, and/or amiodarone) the adjusted odds of prescribing digoxin to diastolic HF patients compared to systolic HF patients was 0.29 (95% CI =0.21-0.4, p<0.001). Other independent variables positively associated with prescription of digoxin included the presence of a paced heart (OR=0.52, 95% CI=0.31-0.88, p=0.015), and prescription of beta blocker (OR=1.44, 95% CI = 1.01-2.05, p=0.044), and amiodarone (OR=1.89, 95% CI =1.14-3.14, p=0.013).

Conclusion: Digoxin is been more frequently prescribed for patients with systolic HF. However, there are still a large number of prescriptions being written outside of the standard scope of care for diastolic HF. Given the potential negative side effects of digoxin use, this finding can be used to increase awareness within the medical community and serve as the basis to implement educational programs for the medical community.

O2

Diabetes and prehospital delay time of patients with acute myocardial infarction in Puerto Rico

Guillermo Ortega; Stanley Tiu; Juan Zevallos, MD; Marcia Varella, MD, MPH, PhD

Florida International University, Herbert Wertheim College of Medicine, Miami, FL.

Background: Prehospital delay time -PHDT- (time from symptoms onset to hospital presentation) is potentially modifiable major determinant of acute myocardial infarction (AMI) prognosis. A factor shown in other populations to be associated with increased prehospital delay time of AMI is diabetes Mellitus (DM). Diabetes is highly prevalent among Puerto Ricans. Whether DM in Puerto Rico is also associated with increased PHDT is not known. To determine whether diabetes is associated with increased PHDT among patients with acute myocardial infarction in Puerto Rico.

Methods: Design: We performed secondary analysis of data from the cross-sectional Puerto Rico Cardiovascular Disease Surveillance (PRCDS). The PRCDS was based on abstraction of data from medical records of patients who were hospitalized in 23 acute care facilities in Puerto Rico with an incident myocardial infarction in 2007, 2009 and 2011. Variables: The main independent variable was presence of DM as recorded at admission to hospital. The outcome was PHDT categorized as short (<4 hours) and long (> 4 hours). Potential confounders measured were gender, age, smoking, hypertension, angina, and mode of transportation. Analysis: Independent associations were assessed using multivariate logistic regression using SPSS version 20. Significance was considered for alpha ≤ 0.05.

Results: After adjustment for age, gender, smoking history, hypertension, angina, and mode of transportation, DM was not significantly associated with an increased frequency of long PHDT: OR=1.16, 95% CI=0.97-1.40. Only age was independently associated with PHDT. As compared with subjects younger than 55 years-old, the OR for having a long PHDT was 1.78 (95% CI=1.32-2.42) for those between 75 and 84 years old and 2.36 (95% CI=1.66-3.37) for those others over 84 years.

Conclusions: Diabetes was not significantly associated with increased PHDT in the Puerto Rican population. Further research is needed to determine whether lack of significance of DM in the Puerto Rican population could be due to socioeconomic differences.
**O3**

**Association of tPA and Day of Admission with Mortality in Stroke Patients in Florida**

Jessica Batlle, Claudia Leon, Carlos Prays, Juan M. Lozano, Juan C. Zevallos
Florida International University, Herbert Wertheim College of Medicine, Miami, FL.

**Background:** Stroke is the leading cause of disability in the US, and takes the life of approximately one American every 4 minutes (Go 2014). Within the state of Florida, 5% of deaths are attributed to stroke (American Stroke Association). A phenomenon concerning the pattern of mortality with regards to stroke is the “weekend effect.” Current data investigating whether the weekend effect is observed in the pattern of stroke mortality are inconsistent, with some studies showing higher mortality on weekends (William 2012, McKinney 2011, Fang 2010, Reeves 2009) and others showing no difference in mortality based on day of admission (Albright 2012, Kazley 2010, Hoh 2010). In our investigation, we used the Florida Stroke Registry which demonstrates the weekend effect. Our objective was to examine the the association of tPA with the observed increase in mortality on weekends among stroke patients.

**Methods:** Study Design: Secondary analysis of data collected from 2008-2012. Database used was the Florida Stroke Registry, a non-concurrent cohort. Population: 319,492 adult patients with ischemic stroke from hospitals within the state of Florida. Data Analysis: Distribution frequencies were analyzed and stratified by day of admission. Logistic regression was used to test the association between tPA and the mortality by day of admission. An interaction test was performed to evaluate the association between tPA and mortality depending on day of week.

**Results:** Weekend admission was associated with an increased risk of mortality even when adjusting for all confounders (Odds ratio [OR]: 1.15, 99% confidence interval [CI]: 1.05-1.25). Weekend was also associated with an increased risk of mortality when not receiving tPA (OR: 1.16, 99% CI: 1.06-1.27).

**Conclusions:** Mortality outcomes for patients admitted with acute ischemic stroke in the state of Florida are consistent with the “weekend effect.” On the weekends, patients who do not receive tPA are 16% more likely to expire than patients not receiving tPA on weekdays. We recommend measures to improve guideline adherence in the management of ischemic stroke so that Florida stroke patients who would qualify for tPA therapy receive it, regardless of the day they present to the Emergency Department. Future research investigating whether there is a difference in the proportion of patients who would have qualified for tPA but didn’t receive the treatment would further strengthen the implications of our findings.

**O4**

**The Association between Breastfeeding and ADHD in Low Birth Weight Infants**

Jade Hernandez; Chris Plescia; Grettel Castro; Juan Lozano; Marcia Varella
Florida International University, Herbert Wertheim College of Medicine, Miami, FL.

**Background:** Breastfeeding has been associated with a decreased risk of childhood behavioral problems. Infants who were not breastfed were almost twice as likely to have a diagnosis of Attention deficit/ hyperactivity disorder (ADHD) compared to those not breastfed. Children born with low birth weight (LBW) were shown to have higher risk of ADHD. Whether breastfeeding would minimize the risk of ADHD in the children born LBW it is unknown. To determine whether breastfeeding was associated with ADHD in children aged 2-5 years who were born low birth weight.

**Methods:** We used data from a cross-sectional study, the National Survey of Children’s Health (NSCH), years 2011/2012. We included children aged from 2 to 5 years old who were born LBW (birth weight <2,500 g) with available information on breastfeeding and ADHD diagnosis. The main independent variable was whether the child was ever breastfed. The outcome was ADHD diagnosis defined as positive if the survey respondent had been ever told by a physician that the child has ADHD.

**Results:** LBW children who were breastfed were 84% less likely to have ADHD in the unadjusted analysis. [Odds ratio (OR) = 0.16, 95% Confidence Interval (CI) = 0.05-0.49]. When adjusted for gender, socio-economic status, smoking status of household members, maternal education and medical comorbidities LBW children who were breastfed were 67% less likely to have ADHD (OR= 0.33, 95% CI =0.11-0.98).

**Conclusions:** We found evidence that breastfeeding is independently associated with lower odds of ADHD in LBW babies. This further supports the World Health Organization and the American Academy of Pediatric recommendation of breastfeeding with further evidence of the potential benefits of breastfeeding.

**O5**

**The impact of ethnicity and the use of managed care interventions on diabetic health outcomes.**

Papoosha, M., Reyes, J., Suarez, G., Varella, M., Page, T.
Florida International University, Herbert Wertheim College of Medicine, Miami, Fl.

**Background:** Improvement of compliance with routine testing and diabetes control has been shown in patients who received a pre-visit planning phone call. However it is not known whether ethnic disparities exist regarding the effectiveness of that intervention. Our study aimed to investigate whether or not the ethnicity of the patient modified the association between the pre-visit phone call and compliance with diabetes control testing for hemoglobin A1C (HbA1C).

**Methods:** Using a non-concurrent cohort design we studied 14,505 patients with diabetes and under treatment in community health care centers the Miami-Dade area. A convenience sample of patients received a pre-visit planning phone call (our
intervention group) while other were not contacted (control group). The outcome was HbA1c testing compliance (yes versus no), measured at baseline and at one-year follow-up. Stratified analysis according to ethnicity (Hispanic and Non-Hispanic) using Logistic regression with GEE was performed to evaluate the independent association between pre-visit phone call and compliance with HbA1c testing. SPSS was used for analysis.

**Results:** In the unadjusted analysis, those patients who received a phone call were more likely to comply with HbA1c testing compared to those not contacted (OR= 1.13, 95% CI=[1.10-1.16]). After adjustment for language, insurance status, and employment status the association changed only slightly (OR= 1.17, m95% CI=[1.14-1.21]). The effect was similar regardless of ethnicity, for both Hispanics and Non-Hispanics the findings were OR= 1.17 (95% CI [1.13-1.22]).

**Conclusions:** We found no evidence for differences between ethnicities in the effectiveness of the pre-visit phone call in terms of compliance with HbA1c testing in diabetic patients. The pre-visit phone call was found to have a strong positive effect on compliance for all ethnicities, suggesting that the pre-visit phone call intervention could benefit all patients if used regularly. Further research should focus on whether this intervention is also effective at maintaining diabetes control and preventing diabetic complications.

### O6

**Does Admission to Teaching vs. Non-Teaching Hospitals Influence the Association Between Day of Hospital Admission and In-hospital Mortality Among Stroke Patients in Florida?**

Jason I. Liounakos, Luv Hajirawala, Grettel Castro, Juan M. Acuña, Juan-Carlos Zevallos
Florida International University, Herbert Wertheim College of Medicine, Miami, FL.

**Background:** The “weekend effect” is a phenomenon where patients admitted to hospitals on weekends have poorer prognosis as compared to those admitted on weekdays. The weekend effect has been described for multiple illnesses, including stroke. However, evidence for such an effect in stroke patients is conflicting, and the underlying causes are unknown. This study aims to explore whether differences in in-hospital mortality exist between weekend and weekday hospital admissions for stroke in Florida and to evaluate whether the association is modified by teaching vs. non-teaching hospital status.

**Methods:** We performed a retrospective cohort study using data from the Florida Stroke Registry database from 2008 to 2012. This registry is maintained by the Florida Agency for Health Care Administration. Exclusion criteria included the diagnosis of transient ischemic attack and patients less than 18 years of age. Independent association was tested using multivariate logistic regression. The primary independent variable was the day of admission (weekend or weekday) and the outcome was defined as in-hospital mortality. This analysis was also stratified by teaching hospital status. Our final sample size totaled 253,851 patients.

**Results:** The unadjusted odds of in-hospital mortality were 38% higher for weekend admissions compared to weekday admissions [Odds ratio (OR) = 1.38; 99% confidence interval (CI) 1.30 -1.46]. Compared to patients admitted on weekdays, those admitted on weekends to teaching hospitals had 33% higher odds of in-hospital mortality [OR = 1.33; 99% CI 1.22 - 1.45] after adjusting for age, gender, ethnicity, race, diabetes mellitus, hypertension, atrial fibrillation, and length of stay. In non-teaching hospitals, weekend admissions were associated with 32% higher odds of in-hospital mortality [OR = 1.32; 99% CI 1.22 - 1.43] after the same adjustments.

**Conclusions:** We found evidence that the risk of in-hospital mortality is higher for weekend admissions for stroke in Florida. We found no clinically appreciable evidence that the association is modified by hospital teaching status.

### O7

**The Association between number of adults in the household and breastfeeding duration in working and nonworking mothers**

Sairah Thommi, Rhea Chattopadhyay, Juan Acuna, Marcia Varella, Grettel Castro
Florida International University, Herbert Wertheim College of Medicine, Miami, FL.

**Background:** Exclusive breastfeeding offers health advantages (protection from gastrointestinal and respiratory infection). No studies have examined if number adults in the household is a predictor for breastfeeding duration in the United States as modified by maternal working status.

**Methods:** Study Design: A retrospective cross-sectional study was performed, using the 2008 Pregnancy Risk Assessment Monitoring System (PRAMS) database. Population: Nebraska responders. Exclusion criteria included: if mother had ≥5 drinks during 1 sitting while pregnant, infant not living with mother, or infant not alive at survey time. Data Analysis: Multivariate Cox and multivariable linear regression analyses were performed. Analysis used STATA. All analyses used breastfeeding duration with 2 adults in the household as the comparison group.

**Results:** After correcting for confounders, all single mothers were more likely to quit breastfeeding in a given week compared to all households with 2 adults [HR=1.83 (1.23- 2.71)]. In working mothers, this difference remained significant but smaller [HR=1.62 (1.00- 2.62)][lower boundary of 95% CI was rounded down to 1.00 from 1.003], while in non-working mothers, the difference was heightened [HR= 2.39 (1.15- 4.95)]. Without adjustment, all households of 2 or more adults were more likely to discontinue breastfeeding [HR= 1.66 (1.18- 2.32)]. However, after correcting for confounders there was no significant difference [HR= 1.43 (0.98- 2.07)]. When stratified by working status, working mothers with more than 2 adults in the household were more likely to quit breastfeeding [HR= 1.52 (1.05- 2.22)]. Nonworking mothers in households of 2 or more showed no significant difference in rates of quitting breastfeeding [HR= 1.21 (0.57, 2.57)].
Conclusions: Number of adults in the household was shown as a useful predictor for a multitude of variables. We believe this variable to indicate social support at moderate numbers (2 AHH) and strain (>2 AHH) and lack of resources (1 AHH, >2 AHH) at extremes of household sizes. Non-working single mothers were more likely to discontinue breastfeeding earlier compared to both non-working households of 2 and/or more and compared to single working mothers. We believe this to be due stress (not being able to find work, mental illness, disability, role as a caretaker) and social deterrents (WIC food package program may indirectly dissuade mothers from breastfeeding by providing formula). Working women in > 2 AHH were 50% more likely to discontinue breastfeeding (compared to 2 AHH). This may be due to increased stress, depletion of resources, or varied perspectives on child-rearing.

O8
Evaluating the association between insurance status and cost as a barrier to medication adherence in North Miami-Dade
Mary F. Kears, Kathryn E. Myers, Grettel Castro, MPH, Pura Rodriguez, MPH, Christine D. McFarlin, MD, MPH, FAAFP, Juan M. Lozano, MD, MSc

Background: Medication non-adherence is a major problem in the current healthcare atmosphere. Insurance status has been shown to play a role in cost related medication non-adherence. Currently this association has not been determined in South Florida. To determine if insurance status is associated with cost related medication non-adherence.

Methods: Cross-sectional study, using data from North Miami-Dade Community Benchmark Survey, conducted October 2009-April 2010. This survey was developed through community participation and input to examine health and wellness indicators for vulnerable populations of North Miami-Dade (Miami Gardens, Opa Locka, Unincorporated Miami-Dade, and Northeast Miami-Dade). Participants: 1845 of the original 2334 households were included in this study based on answering question 47 (“During the last 12 months, was there any time when anyone in the household did not fill a prescription for medicine?”). Exposure: Insurance status, defined as with or without coverage. Coverage includes health insurance through an employer or bought independently, and coverage through any government or state medical program. Without coverage includes those without medical insurance or have had a lapse in coverage during the last 12 months. Main outcomes and Measures: Non-adherence to medication due to cost.

Results: 56.4% of households identified as African-American, 29.7% as Hispanic, and 2.3% Non-Hispanic white, which were combined with the “other” category, for a total of 13.9%. In the unadjusted analysis, uninsured households were more likely to fail to fill a prescription due to cost than insured households (OR 3.8, 95% CI 2.7-5.2, p<0.001). Those who had attended vocational school or some college were more likely to be non-adherent to medications due to cost compared to those with a bachelor’s degree or higher (OR 1.8, 95% CI 1.1-2.9). Unemployed households were more likely to fail to fill a prescription due to cost than those employed full time (OR 1.8, 95% CI 1.2-2.6). After adjusting for confounders, lack of insurance was the only predictor that remained independently associated with cost related medication non-adherence (OR 3.1, 95% CI 2.0-4.7, p<0.001).

Conclusions: Uninsured households were three times more likely to fail to fill a prescription due to cost than insured households. This implies that insurance status could be an important factor in medication adherence, lending credence to policies which aim to increase health insurance rates, such as the Affordable Care Act.

O9
Association between parental country of birth and patterns of ED utilization in children in the United States
Christian Nagel, Kenneth Maskell, Brian Salzverg, Juan Acuna, Grettel Castro, Marcia Varella.
Florida International University, Herbert Wertheim College of Medicine, Miami, FL

Background: Emergency department (ED) utilization for conditions manageable in primary care settings or as a primary source for health care is not only inefficient but hampers continuity of care. Inappropriate ED utilization relates to diverse socio-economic factors. In the USA, little is known about the association between immigration and ED utilization. The present study evaluates whether there is an association between parental immigration and the ED utilization for health-related care, and to test whether the race/ethnicity modifies that association.

Methods: We used data from participants of the 2011/2012 National Survey of Children’s Health, which included randomly selected households with at least one resident child aged 0-17 years. Outcome was the self-reported choice of usual place of health care (ED versus any other place). Exposure was immigrant status defined as a child for which both parents were born outside the US. Independent association was tested using logistic regression. Lastly, regressions stratified by ethnicity were performed. Stata 12 was used for analysis.

Results: Children from immigrant families were more likely to be of Hispanic origin, having non-English as primary family language, dwelling in household with larger numbers of children, having less educated mothers, lower income, and were less likely to be insured. After adjusting for these characteristics, the immigration status was not associated with ED utilization [adjusted Odds Ratio (aOR)= 0.57, 95% Confidence Interval (CI)= 0.29 – 1.09]. However, when stratified by ethnicity, white immigrants (compared to white non-immigrants) were more likely to use the ED as their usual place of care (aOR= 3.4, 95% CI 1.41 – 8.2) and in the groups with ethnicity reported as other, immigrants were 4 times less likely to use the ED (aOR= 0.25,
95% CI 0.09 – 0.74). The groups with ethnicity self-reported as Hispanics or Blacks did not show significant associations between immigration status and ED utilization (OR=0.51, 95% CI 0.19-1.40 and OR=0.49, 95% CI=0.17-1.35, respectively).

Conclusion: We found evidence for disparities in health care utilization according to immigration status in selected ethnic groups. These results support the need of tailored interventions that could help immigrants from selected ethnicities to improve their patterns of healthcare utilization.

O10
Emergency Room Cost in Insured versus Uninsured Patients Hospitalized with Acute Stroke
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Background: In the United States, stroke was the fourth most common cause of death in 2010, being attributed for nearly 130,000 deaths. Early diagnosis and management of stroke has been associated with reduced morbidity and mortality. Studies have found that uninsured stroke patients are significantly more likely to present with more severe strokes, had longer lengths of stay, and increased in-hospital mortality than insured patients. The objective of this study was to see if there were differences in acute stroke care in the ED in uninsured patients by looking at ED charges.

Methods: This was a secondary analysis of data collected by the Florida Agency for Health Care Administration (AHCA). It was an observational, non-concurrent cohort study of patients aged 18-64 years old with a discharge diagnosis of hemorrhagic or ischemic stroke in Florida acute care hospitals between 2008 and 2012. We compared uninsured and privately insured patients with respect to ED costs after adjusting for confounding variables using a multivariate linear regression. We performed a two-sided test and significance was considered at the alpha 0.05.

Results: Our sample started with 5,022 patients however 365 were excluded due having invalid ED charges. Compared to their privately insured counterparts, uninsured patients were younger, more likely to be male, non-white, and Hispanic. Privately insured patients were more likely to be obese and to have dyslipidemia. We found no difference between ED charges in insured compared to uninsured patients, nor according to age, gender, ethnicity, or comorbidities in both adjusted and unadjusted models. Patients who died in-hospital had increased charges compared to those who were discharged alive. We also found that non-white, non-black race was associated with higher ED charges. Lastly, we found that the longer the length of stay the higher the ED charges were, independently of the other variables examined.

Conclusion: We found no evidence of difference in ED charges between insured and uninsured patients. Future studies that could better assess stroke severity and treatment quality might be more sensitive to disparities in stroke outcomes in the uninsured.

O11
Gender Disparities in Screening for Dysphagia among Acute Stroke Patients in Puerto Rico
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Background: Impaired swallowing or dysphagia is a common complication after acute ischemic stroke. Despite evidence based guidelines from the AHA/ASA, Get With The Guidelines - Stroke, which recommends dysphagia screening, up to one third of patients are not being screened. Gender disparities are known to exist in stroke management with women being less likely to receive other evidenced based recommendations. To date, there have been no studies investigating gender disparities in screening for dysphagia among Puerto Rican stroke patients. Objective: To assess whether the AHA/ASA recommendation for dysphagia screening is being followed in hospitals in Puerto Rico and whether gender disparities exist in its implementation.

Methods: This is a nonconcurrent, prospective study seeking to determine the association between gender and screening for dysphagia in incident cases of acute stroke in a Puerto Rican population. These data are from the stroke registry subset of the 2007, 2009 and 2011 Puerto Rico Cardiovascular Disease Surveillance electronic database of patients from 20 medical centers located in Puerto Rico. Univariate and multivariate regression analyses were performed to assess the independent association of gender and screening for dysphagia.

Results: During the course of hospitalization 925 of 1950 patients had documentation completed regarding dysphagia screening (47%). Of those patients with completed information, 569 (61%) received dysphagia screening while 356 (39%) went unscreened. After adjustments, we observed a statistically significant gender disparity in dysphagia screening; compared to male patients, females were 36% more likely to receive dysphagia screening [Odds ratio (OR), 1.36 95% Confidence Interval (CI) 1.0-1.8]. Other independent factors associated with screening were history of alcoholism and diabetes. Patients with a history of alcoholism were 90% more likely to receive dysphagia screening (OR, 1.90 95% CI 1.1-3.6) and those with a history of diabetes were 32% less likely to receive dysphagia screening (OR, 0.68 95% CI 0.5-0.9).

Conclusions: In our study, 39% of patients were not screened. Women were 36% more likely to receive dysphagia screening. This is an important finding as patients with swallowing difficulties are at increased risk of aspiration pneumonia.

Keywords: Stroke; Puerto Rico; Dysphagia; Screening; Gender
Capstone 1

Late diagnosis of breast cancer in underserved women in Miami-Dade County and an Intervention Strategy

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Background: An important part of breast cancer awareness and health are yearly mammograms as an extremely useful tool for the early diagnosis of breast cancer. Unfortunately, many women in Miami do not have regular access to or cannot afford yearly mammograms. In Miami-Dade County 38% of breast cancers are diagnosed at a late stage, but in certain poorer areas of Miami, North Miami, Hialeah, and Opa-Locka, the rates are as high as 55%. The women who live in these areas are the women who will benefit from the funds raised from the Mammography Art Initiative (MAI), which will go directly to the Green Family Foundation NeighborhoodHELP project run through FIU’s college of medicine. (Florida Cancer Data System 2004-2009).

Methods: The overall goal of the MAI is to facilitate breast cancer screening among underserved women in the Miami-Dade area. This will be accomplished by providing free mammograms for women in the community. This objective will be met by holding art shows to raise money for the mammograms. Education will be provided for underserved women regarding the importance of breast screenings, which will help support these women in adhering to mammogram guidelines.

Results: To date, three MAI’s have been held, raising approximately $49,310 and 100 vouchers for mammograms from local women’s health clinics. Approximately 80 women have received mammograms from the funds or vouchers raised by this project – 60 through the Jackson Health System and 20 at local clinics using the vouchers. Three educational workshops have been held in the Miami-Dade area, which have been attended by approximately 57 women. Only a few of the mammograms received by women needed follow up with ultrasound but none of the findings turned out to be cancer. These follow-up services were not paid for with MAI funds. The fourth annual MAI is planned for October 2015.

Conclusion: Since its inception, the MAI project has not only raised thousands of dollars to support underserved women in the community, but it has afforded students the opportunity to work first-hand with these women to create events that promote breast health among all women in the community. The long-term vision of this project as it continues into the future is to strengthen ties among FIU HWCOM and underserved women in the Miami-Dade community, and to empower a self-sustaining grassroots movement that helps local women adhere to breast screening guidelines through financial and educational support.

Capstone 2

Increasing Awareness on Health Care Access in Florida: A Community-based Medical-Legal Practicum Project

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Background: While the Affordable Care Act encouraged Medicaid expansion with federal funding, Florida is one of the 21 states that rejected the funds. During the Florida Legislature’s Medicaid expansion debates, our project aimed to engage medical and law students in a community-based participatory project that focused on building capacity for community members and students to promote health care access for Floridians in need.

Methods: As part of the Florida International University (FIU) College of Medicine Community Medicine Practicum, law and medical students partnered with community members and Florida Legal Services to collect patient narratives, and disseminate information on Medicaid expansion to community members. The partners also presented to state lawmakers.

Results: The results included legislative testimony to key stakeholders, community education on Medicaid expansion, as well as the empowerment of community members to work towards further health care reform.

Conclusion: Due to the scope of the undertaking and the divisiveness of the issue, we recognize that despite our best efforts, Medicaid expansion did not occur in Florida in the past few years. Instead, it is more realistic to expect our efforts to increase awareness of Medicaid expansion among community members, elected officials, and the public and how it could benefit our community. Through the collaboration with the law school, medical students gained experience in tackling medico-legal issues, and were able to provide a medical profession perspective to an important policy issue.

Capstone 3

Project Pipeline: Reaching youth in Miami Garden’s through an interactive STEM (Science, Technology, Engineering, Math) program

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Background: Minority and low SES students are disproportionately unlikely to pursue college educations and careers in STEM fields. To change this a program was developed at Herbert Wertheim College of Medicine at FIU by a member of the first class. The program was intended to continue despite students graduating so as we took over the program we looked at what changes could be made. Our first decision was to make it slightly less medically oriented and more comprehensive representing a variety of fields that could appeal to many students.

Methods: We developed lesson plans focusing on different arenas including civil engineering, finance, medicine, physics/flight, and electricity. These modules included lectures and either multiple short activities or a single long activity. Most of these activities were also done in pairs or larger groups to encourage teamwork and articulating scientific ideas with peers.
Results: Surveys of the children showed that civil engineering was particularly popular. Overall the children said that they were interested in scientific careers and enjoyed the activities.

Conclusions or Implications: a program promoting a college education and STEM career can encourage children from underserved communities to pursue these fields.

P1
Progressively Worsening Hypersensitivity Reaction to Local Anesthesia
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Background: Local Anesthetics (LAs) are the most commonly used drugs in everyday practice of medicine, especially dentistry, minor surgery, urology, dermatology, obstetric procedures and orthopedics. Among these LAs, amide LAs are often preferentially used in comparison to the ester class of LAs for desired anesthetic effect due to a decreased chance of allergic reaction as comparison to esters and other drugs. Safe and effective administration of local anesthetics is essential for diagnostic and curative dermatologic procedures. Allergic reactions caused by bupivacaine, a common amide local anesthetic, is rare and has not been described in dermatologic literature.

Summary: We report a progressively worsening hypersensitivity reaction to bupivacaine in a patient with multiple cancer surgeries as a novel finding. To evaluate this case our differential diagnosis included infection, contact dermatitis, and hypersensitivity to topical anesthetic. Evaluation of our differential diagnosis was achieved via three testing modalities: 1. By obtaining wound cultures for bacteria, fungi, and viruses. 2. By performing patch testing for adhesives and disinfectants used during the therapeutic procedures. 3. By intradermal testing of lidocaine with epinephrine (LE), lidocaine without epinephrine (L), and bupivacaine (M). Wound cultures and patch testing were negative, eliminating infection and allergic reactions to wound dressing and adhesives from the differential diagnosis. Intradermal test sites, located on the patient’s right and left forearm, demonstrated immediate redness and visible edema within 2 hours with subsequent vesicle formation in 6-7 hours at the (M) test sites bilaterally. Test sites for (LE) and (L) were negative bilaterally, confirming the diagnosis of progressively worsening hypersensitivity to bupivacaine.

Conclusions: Despite amide class local anesthetic allergic reactions being rare compared to other types of local anesthetics, this case study indicates the need for patch testing and intradermal testing for potential offending agents. This is crucial to minimize significant post-operative discomfort and recurrence of such episodes in future. Bupivacaine and other local anesthetics are the most commonly used drugs in everyday practice of medicine, especially dentistry, minor surgery, urology, dermatology, obstetric procedures and orthopedics. In light of the colloquial nature of amide local anesthetics in conjunction with the aforementioned case, more standardized preventive protocols should be explored to prevent patient-discomfort and adverse outcomes due to hypersensitivity.

P2
Use of herbal and alternative medicine in Little Haiti
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Background: The use of herbal and alternative medicine plays a role in Haitian culture and may be a lifestyle choice of Haitians living in South Florida. Such use may have beneficial or detrimental effects on health, be contraindicated in certain situations, conflict with medical management plans, or present other unforeseen challenges in obtaining anticipated health outcomes. To determine whether this population uses herbal and alternative medicine, to identify those herbal and alternative medicines, and to determine whether these patients communicate the usage their physicians.

Methods: Cross-sectional, descriptive study using secondary analysis of data subset. Setting: 2011 Little Haiti Benchmark Survey conducted in home environment of households. Participants: Haitians living in the community of Little Haiti in Miami, Florida, inclusive of those who participated in the mental health supplemental assessment tool of the survey. Outcome measures: Variables of interest included the types of alternative medicine used in the past 2 years, up to four of the most recently used herbal medicines with purpose, and whether users of herbal medicines informed their physicians. Survey results were tabulated along with frequencies, percentages, p-values, and 95% confidence intervals.

Results: 23.1% (N=411, CI=19.2-27.4) of households used herbal or alternative medicine usage. 63.2% (N=95, CI=53.1-72.4) reported a reason for usage. 36% (N=25, CI=19.2-55.9) reported telling a physician about their alternative medicine use. An association between frequency of alternative medicine usage and level of education was found (p=0.009).

Discussion: Our findings were similar with respect to adaptation and diversification of alternative medicine used with previous studies in Cuba and Brazil. The use of cultural medicinal practices in our study (N=69, 4.3%) was found to be less than the use of a traditional picuriste (N=205, 17.5%) in previous studies. Reasons for usage of alternative medicines were similar to those found in other studies as well. Rates of physician disclosure was 36% in our study, which falls into the range of disclosure of 12-72% found in the literature.
**P3**

**Gender Differences in Mortality Following Reperfusion Therapy after Incident Myocardial Infarction in a Puerto Rican Population**

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**Background:** There is gender disparity in treatment and outcome of acute MI throughout different regions and ethnic groups. In the United States, Puerto Ricans have the highest prevalence of coronary artery disease among Hispanics, placing them at high risk for myocardial infarction, yet there is not much data on this association in Puerto Ricans. The objective of our study was to determine whether gender is associated with in-hospital mortality after acute myocardial infarction (AMI) in patients who received reperfusion therapy.

**Methods:** Non-concurrent prospective analysis of 434 patients from the Puerto Rico Cardiovascular Disease Surveillance System registry, who were admitted to after an incident myocardial infarction and receive reperfusion therapy in 21 Puerto Rican acute medical care facilities. Our exposure was gender and our primary outcome was in-hospital mortality.

**Results:** Our results indicated that gender was not independently associated with mortality when adjusting for the differences in age, smoking status, history of coronary heart failure [Odds ratio (OR) =2.2, 95% confidence Interval (CI) =0.9-5.1]. When analysis was stratified by age (≤75 or > 75 years old), women younger than 75 were more likely to die in-hospital after an AMI (Or 2.8, CI=1.1-7.3; p=0.036). But differences in in-hospital mortality according to gender were not found for older age groups.

**Conclusion:** Even in patients who had access to reperfusion therapies in Puerto Rico, we found evidence for gender disparity in in-hospital mortality after AMI in younger age groups.

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**P4**

**Ultrasound-directed radial artery access by a non-ultrasound-trained interventional cardiologist**

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**Background:** There is growing use of the radial artery for cardiac catheterization. Palpation directed needle cannulation is the most common method of gaining access to the radial artery. However, if the artery is not cannulated on the first or second attempt, repeated attempts may be unsuccessful. Ultrasound-guided radial artery access (UDRAA) may be a method to increase successful first attempt access rates. The purpose of this study is to gather data on UDRAA by an operator with minimal ultrasound directed needle experience.

**Methods:** Fifty consecutive patients underwent radial artery catheterization performed by an interventional cardiologist with little prior UDRAA (20 run-in cases). The diameter of the radial artery was measured before and 5 minutes after each patient received a sublingual dose of nitroglycerin. An ultrasound probe was placed on the patient’s wrist to guide needle insertion into the radial artery. The time from the moment the needle was first inserted into the skin until the sheath was inserted into the artery and the number of attempts for cannulation were recorded. A single attempt was defined as both the forward movement of the needle and the withdrawal of the needle. A subsequent forward motion of the needle after previous withdrawal of the needle was counted as an additional attempt.

**Results:** All patients had successful UDRAA, 80% on the first attempt and 92% on the first two attempts. The median time from start to sheath insertion was 35 seconds (25-75% interquartile range: 31-55 seconds) and the mean time was 61 seconds. There is little published data comparing palpation versus ultrasound guided radial artery cannulation, but two small studies showed a 49% first-attempt success rate for palpation, with a mean time of approximately 120 seconds.

**Conclusion:** Comparing historical data to the study results, ultrasound-guided techniques improve first-attempt success and shorten the time needed for radial artery cannulation. A large randomized trial of palpation versus UDRAA is needed to confirm that UDRAA in fact increases the first attempt cannulation rate, and shortens the overall time of radial artery cannulation.

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**P5**

**Permanent Tooth Loss as and Its Association with Cardiovascular Disease in a North Miami Population**

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**Background:** Cardiovascular disease is the number one killer in the United States. The link between periodontal disease and cardiovascular disease has been examined in previous studies although a majority of these studies have been in Caucasians. Tooth loss has been noted as a surrogate marker of periodontal disease.

**Methods:** A cross-sectional study was conducted. A secondary analysis of the FIU Benchmark Survey database was performed. The sample size was 1845 households from North Miami. A descriptive analysis of selected variables (age, race, diabetes, obesity, ever smoked, recent dental visits, fruit consumption, salad consumption, income, and education) was performed, followed by binomial logistic regression, and construction of a stratified, adjusted model for the relationship between selected variables and cardiovascular disease within last 5 years as diagnosed by physician.
Results: Of the households, 63.7% of households an average tooth loss per individual between 0 and 4. 14.9% had four or more teeth lost per individual. 13% of households had any heart disease. After unadjusted analysis, households with any tooth loss less than four per household member and 4 or more teeth lost per household member were 2.125 (95% CI 1.519-2.973) and 3.291 (95% CI 2.321-4.667) times, respectively, more likely to have household CVD. After adjusting for the covariates (age, ever smoked, DM, obesity, recent dental visits, education, race, salad consumption, and income), those households with any average tooth loss less than four teeth and those with more than four permanent tooth lost were OR=2.1 (95% CI 1.4-3.2) and OR=1.5 (0.92-2.5) times more likely, respectively, to have heart disease diagnosed in the last five years compared to households with no tooth loss. However, only the 0.01-3.99 teeth lost was significant. (Table 2).

Conclusion: Household average tooth loss is associated to household heart disease. A community survey can help identity households at risk for heart disease, where tooth loss can be used as marker for possible preventative interventions. Future studies can target the use of household surveys as a novel approach to provide oral health care providers in areas of limited resources. Researchers can also explore how these oral interventions can impact the incidence of cardiovascular disease in the North Miami-Dade population.

P6

DOES OBESITY AFFECT OUTCOMES IN CHILDREN ADMITTED FROM TRAUMA CENTERS?
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Background: Pediatric obesity has reached epidemic proportions in the United States. In the critical care setting, obesity has yet to be fully studied. We sought to evaluate the effects of obesity in children who are admitted to a hospital from trauma centers using Kid’s Inpatient Database (KID) during 2009.

Methods: The study examined inpatient admissions from pediatric trauma patients in 2009 using the Kids’ Inpatient Database (KID). Patients (n=27599) were selected from the KID based on Age (AGE>1) and Admission Type (ATYPE=5) and assessed on Race, Sex, Length of Stay (LOS), Number of Diagnoses and Procedures, Severity of Illness (SOI), Risk of Mortality (ROM), Co-morbidities, and Intubation by comparing obese and non-obese cohorts. Chi-square test and student t-test were used to analyze the data. All variables were weighted to get national estimates.

Results: The overall prevalence of obesity (those coded as having obesity as co-morbidity) was 1.6% with significantly higher prevalence among Blacks (1.8%), Hispanics (2.3%), and Native Americans (4.1%; p<0.001). Obesity was more prevalent among females (2.4% vs 1.2%; p<.001). Overall mortality in the cohort was 4.8%. Obesity was significantly lower among children who died during hospitalization (0.5% vs 1.6%; p<0.002). However, obese children had significantly longer LOS, greater number of diagnoses, more procedures and greater than expected loss of function due to SOI when compared with non-obese cohort (p<.001). Deficiency anemia, diabetes, hypertension, liver disease, and fluid and electrolyte disorders are all strongly associated with the presence of obesity (p<.005). The rate of intubation is similar between obese and non-obese cohorts.

Conclusion: Our study using KID national database found that obese children who are admitted from trauma centers have higher morbidity and LOS but lower mortality. Racial and gender inequalities of obesity prevalence is consistent with previous reports.

P7

Factors Associated with Infant Sleep Position in North Miami-Dade County
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Background: Sudden Infant Death Syndrome (SIDS) is the number one cause of death in infants under 12 months of age. After promotion of preventive measures as the recommendation for supine infant sleep position, the rate of SIDS has decreased by more than 50%. However, adherence to the sleep position in families from Miami-Dade counties remains lower than the national U.S. rates. Objective: To identify independent predictors associated with infant sleep position, namely income, race/ethnicity, satisfaction with healthcare services and completion of routine well-baby checkups, in the North Miami-Dade population participating in the FIU-COM benchmark survey.

Methods: We conducted secondary analysis of data collected cross-sectionally from participants of the North Miami-Dade Benchmark Survey in 2010. Our dependent variable was infant sleep position (supine or non-supine) and independent variables were race/ethnicity (defined as African American, Hispanics, and other), income (less or greater than $30,000), satisfaction with healthcare services (yes vs. no), and having routine well-baby check-ups (yes vs. no). We performed preliminary bivariate analysis to determine potential confounders. Associations were analyzed by a multivariate logistic regression using SPSS.

Results: We identified 90 households with a child less than 12 months old in North Miami. Of these 90 households, only 61 had information on sleep position. Thirty-one percent of the mothers adhered to the supine sleep position. In the multivariate analysis, none of our findings were statistically significant in the unadjusted or adjusted analysis. After adjustment, Hispanics were less likely [OR 0.48, 95% Confidence Interval (CI): 0.09 – 2.60] and participants defined as other races were more likely to use the supine infant sleep position (OR 4.79, 95% CI: 0.30 – 76.0) as compared to African Americans. Income of less than $30,000 were less likely to use supine position (OR 0.38, 95% CI: 0.08 – 1.76) compared to participants with higher incomes. Households who were dissatisfied with health care and those who did not receive well baby check-up were less likely to use supine sleep position (OR 0.86, 95% CI: 0.08 – 9.65) and (OR 0.45, 95% CI: 0.02 – 9.36), respectively.
Conclusion: We were unable to find an association between income, race/ethnicity, well-baby checkups and satisfaction with healthcare with infant sleep position in the North Miami-Dade population. While our data regarding income, healthcare satisfaction, and well-baby checkups seems to parallel those in other populations, the association of race and sleep position was inconsistent. For all factors, inclusion of a greater number of participants is needed.

P8
Differences in infant mortality amongst infants born to US-born or foreign-born Hispanic mothers in Florida between 2000-2002
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Background: Infant mortality is an important measure of the health of a nation. Despite great improvements in infant mortality in the last half-century, disparities in race, ethnicity, and nativity persist. The immigrant advantage, also known as the “epidemiological paradox”, is an example of a persistent difference in infant mortality between immigrants and natives that has not yet been fully explained in the literature. The literature also does not have updated information on differences between US-born and foreign-born Hispanics, specifically. The main objective for this study was to determine if the epidemiological paradox in infant mortality is present for infants born to Hispanic mothers in Florida and secondarily, to explore differences between Hispanic groups. Our hypothesis was that infants of foreign-born Hispanic mothers would have a lower infant mortality rate compared to those born of US-born Hispanic mothers.

Methods: Our study was a retrospective cohort study of singleton infants born to US-born and foreign-born Hispanic mothers. We used the Florida National Vital Statistics linked birth and infant death cohort data set from 2000-2002 to first describe the distribution and confidence intervals of our outcome, exposure, demographic and covariate variables and then compare the distribution of variables according to infant mortality. Finally, multivariate analysis was used to find the odds ratios and confidence intervals to estimate the relationship between maternal nativity, maternal and infant factors, and risk of infant mortality.

Results: There were 143,595 births of Hispanic mothers in Florida between the years of 2000 and 2002, the majority of foreign-born mothers (72%). Out of these births, 666 infants died before one year of age. After adjusting for gestational age, mother’s weight gain during pregnancy and prenatal care timing, we found that foreign-born status resulted in a 28% reduced odds in infant mortality (OR 0.72, p < 0.001). In addition, those of Puerto Rican or Central/South American origin had higher odds of infant mortality compared to those of Mexican, Cuban, or other Hispanic (OR 2.3, p < 0.001).

Conclusions: Our study verified that the Hispanic epidemiological paradox for infant mortality was present amongst Hispanic Floridians in the years 2000-2002. Further analysis should study the biopsychosocial and cultural difference amongst foreign-born and US-born Hispanics. In addition, the CDC should continue to measure mother’s nativity on birth records.

P9
Emulative Behavior: Do Kids Jog in their Parent’s Footsteps?
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Background: Due to the significant increase in child obesity over the past 15 years, there is an imminent need to implement interventions that prevent child obesity and increase children’s physical activity. This study intends to provide additional research that may contribute to public health intervention programs and direct monetary and motivational resources at the most efficacious population. Objective: To determine if there is an association between child physical activity and parent physical activity. Design: This is an observational, analytic, cross-sectional study using the 2007 National Survey of Children’s Health.

Methods: Households in the U.S. were randomly selected by telephone number and interviewed via a computer-assisted telephone interview if they had at least one child between the ages of 0 and 17 years living there. Study Participants: 63,434 children aged 6-17, 84,996 mothers, and 71,980 fathers over the age of 18. The physical activity question was only asked for children aged 6-17. Interventions: Parents physical activity level (PAL). Parental activity was considered low if they exercise 2 or fewer days a week and high if they exercise 3 or more days a week. Main Outcome measure(s): Children’s physical activity level. Low activity for children was determined as a child that exercises from 0-3 days during the week and high activity if they exercise 4-7 days a week.

Results: Children are 3 times as likely to have a high PAL if both parents have a high PAL. The child is 40% less likely to have a high PAL if female as opposed to male. After adjustment, race became statistically insignificant except for the other children category which was still 30% less likely than the white children category to have a high PAL. Hispanic children were around 40% less likely than non-Hispanic children to have a high PAL. Being categorized as 200–399% of the FPL increased high PAL likelihood by 40% and being 400% or more of the FPL increased that likelihood by 70% when compared to people under the FPL.

Conclusions: Our results demonstrated a significant association between parental physical activity and children physical activity. Targeting public health intervention programs towards this population will likely produce positive results. Further research in intervention exercise programs for parents is needed to explore this association in an active setting.
Cerebral palsy: a relationship between socioeconomic factors and age of diagnosis among patients in the United States.

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**Background:** Cerebral Palsy (CP) is a condition that represents a spectrum of disease from mild motor impairment to significant disability of motor skills, posture, and cognition. Most cases of CP are diagnosed between the ages of 18-24. Research is lacking concerning other reasons why CP might be missed at an early age. To determine whether there exists an association between socioeconomic risk factors and the age of diagnosis of cerebral palsy in a population of children and adolescents in the United States.

**Methods:** We used data from participants of the National Survey of Children’s Health (NSCH), which surveyed households with at least one resident child aged 0 to 17 years at the time of the interview, stratified by state and sample type (landline or cell phone), and with clustering of children within households. We performed bivariate analysis to identify potential confounders and then performed and multivariate analysis to determine if there exists an independent relationship between socioeconomic status and age of diagnosis of cerebral palsy.

**Results:** We found no significant association between parental education and age of diagnosis of CP at a later age [Odds Ratio (OR) = 0.69, 95% Confidence Interval (CI) = [0.35-1.33]; p=0.26. We found no significant association between race and age of diagnosis of CP. Blacks were around 60% less likely than whites to be diagnosed at a later age [OR=0.41, 95% CI=0.12, 1.46, p=0.17] and patients of other races were about 10% more likely to be diagnosed later [OR=1.08 CI=[0.32,3.62] (p=0.90). We found no significant association between insurance status and age of diagnosis. Based on our limited data, patients with insurance seemed to be almost 5 times as likely to be diagnosed later [OR=4.61 CI= [0.61, 34.64] (p=0.14). Finally, income as defined by poverty level had no association with age of diagnosis of CP. Patients between 100% and 200% of the federal poverty level were slightly more likely to be diagnosed later than patients below 100% of the poverty level [OR=1.16 CI=[0.34,3.96] (p=0.82), and patients above 200% of the poverty level were 24% less likely to be diagnosed later [OR=.76 CI=[0.25,2.32] (p=0.63).

**Conclusion:** We found no evidence for an association between socioeconomic risk factors and age of diagnosis of cerebral palsy.

Evolution in Craniosynostosis Epidemiology at Miami Children’s Hospital from 1976 to 2013

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**Background:** Craniosynostosis is the premature partial or complete fusion of one or more of the cranial sutures. It is a relatively common congenital defect, which causes alterations in cranial morphology as well as functional abnormalities. Synostoses can be of an isolated suture, multiple sutures, or associated with syndromes. The frequency of the subtypes of sutures affected varies greatly, and a gradual change in their relative proportions has been recently described. To retrospectively evaluate the frequencies of subtypes of craniosynostosis treated at Miami Children’s Hospital, as well as changes in their relative proportions from 1976 to 2013. Additionally, to investigate gender disparities, techniques of surgical corrections performed, as well as post-operative outcomes.

**Methods:** An observational descriptive study was conducted based on a retrospective chart review. Pediatric patients surgically treated by the Department of Neurosurgery and Plastic Surgery from December 1976 to December 2013 for craniosynostosis were included in the study, and selected by searching surgical logs and electronic medical records for craniosynostosis diagnostic codes. Nonsurgical candidates for craniosynostosis were excluded. The total number of each subtype of craniosynostosis treated over the designated time period was tabulated, and relative frequencies (along with 95% confidence intervals) compared to see how they have changed over the 37 years of study. Additional data on patient gender, age at primary surgical procedure, and surgical techniques and outcomes were collected.

**Results:** 150 patients were surgically treated and a male predominance of disease was found at 61%. Most cases were of the syndromic subtype (35.3%), followed by metopic (18.7%), sagittal (17.3%), unicoronal (16.7%), multisutural (5.3%), bicoronal (4%), and lastly lamboid (2.7%). A decrease in the average age of patients was seen along the study period. The majority of patients treated underwent frontal-orbital advancements and cranial vault remodeling, with mean estimated blood loss of 395.3 mL. The most common complication experienced was seroma formation, and most common adverse outcome was retraction. A statistically significant increase in the relative proportion of sagittal craniosynostosis (from 9% to 17%) and a significant drop in relative proportion of syndromic craniosynostosis (from 50% to 35%) was seen along the study period.

**Conclusion:** A decrease in the proportion of syndromic cases has not previously been described, and the exact causal relationship is likely multifactorial. An increase in the portion of sagittal cases seen may be due to higher detection rates or even changing incidences. Future work on elucidating causes of these changes is warranted.
Factors associated with sedentary activities among school aged individuals in a predominantly minority population: A cross sectional analysis of a survey of the Northwest Miami-Dade area

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Background: Recent research has shown that sedentary activity is a childhood obesity risk factor independent from physical activity levels. If stakeholders are to make progress in reducing levels of sedentary activity (SA) and obesity in children it is critical to determine what factors are associated with increased screen time in children. Objective: To examine the individual relationships various factors may have on childhood sedentary behavior in predominantly minority communities.

Methods: A secondary analysis of the FIU NeighborhoodHELP benchmark survey data taken between October 2009 and April 2010 in the North Miami-Dade population. Setting: Households of the Northwest Miami-Dade regions of Opa Locka, Miami Gardens and Unincorporated Miami-Dade. Participants: Households that indicated they have a school-aged child between the ages of 5-18 were included in the study. Of the 1,845 households in the benchmark survey, a total of 685 households met our criteria. Main Outcome Measure: Screen time was our sole outcome variable which consisted of combining time spent watching television and playing video games. We took this total screen time and made two or more hours representing high usage and less than two hours representing lower or normal usage.

Results: A total of 685 households were included in our analysis. English speaking households were more likely to report children of having more than two hours of screen time than non-English speaking households with rates of 68.9% and 58.7% respectively (p < 0.01). Additionally, households with divorced or separated parents were more likely to report more than 2 hours of screen time than married or co-habiting, single, and widowed with an 81.1% vs 61.7%, 68.6%, and 68.8% (p<0.01). We found a collinearity between ethnicity and language, particularly between non-English speakers and Hispanics. An adjusted model accounted for the collinearity and showed a stronger protective association between non-English speaking households and children’s screen time (OR=0.53, 95%CI: 0.33-0.84) separated from ethnicity. The association between households with a divorced or separated parent and screen time in children is 3.5x stronger than in married households. (OR=3.55, 95%CI: 1.52-8.28)

Conclusion: Our analysis showed no statistical influence of the various community factors or the household factors which often found to be associated with sedentary activity in other studies (SES and ethnicity). However, the new factors of marital status and language had a larger statistical association with screen time in our survey’s population. We believe that further studies on sedentary behavior in minority populations are of significant importance to understand the pandemic of childhood obesity.

Comparing students’ behaviors, attitudes, and knowledge on sun protection

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Background: Skin cancer is the most common type of cancer in the U.S. but also the most preventable. Sun avoidance and protection behaviors can effectively reduce the risk of developing skin cancer later in life. It is estimated that 2.8 million cases of basal cell carcinoma and 700,000 cases of squamous cell carcinomas will be diagnosed in the U.S. this year. A non-dermatologist physician will initially evaluate most skin lesions. Primary care physicians especially need to be able to determine the characteristics of pre-malignant and malignant lesions in order to provide an appropriate referral. Physicians who practice the skin self-exam and implement sun protection behaviors are more likely to teach their patients to do the same. To compare the sun protection behaviors, attitudes, and knowledge of medical and non-medical students at Florida International University.

Methods: We evaluated behaviors, attitudes, and knowledge using an online survey instrument designed by the research team. The survey link was emailed to all medical students. Non-medical respondents were obtained in the University Center during lunch hours and given a link to complete the survey. We sought to measure their percent correct scores in the knowledge portions and evaluate differences in their attitudes and behaviors on sun protection.

Results: 129 medical students and 166 non-medical students completed surveys. The average knowledge score was 71.6% (95% CI: 60.3-82.9) for medical students and 60.0% (95% CI: 48.7-71.3) for non-medical students (p<0.001). The groups were significantly different in 4 out of 11 possible attitudes. Medical students expressed a high belief in their risk for skin cancer (OR 9.8, 95% CI: 4.6-20.8). The groups were significantly different in 3 out of 8 possible behaviors. Medical students were much more likely to report indoor tanning bed use in their lifetime (OR 5.4, 95% CI: 2.1-13.8). They were also more likely to have heard of the ABCD guidelines for monitoring suspicious skin lesions (OR 11.1, 95% CI: 6.4-19.2).

Conclusion: This survey highlights the need for more dermatology education in U.S. medical schools. Although medical students scored higher on the knowledge portion of the survey, evidently there are gaps in that knowledge as evidenced by the low averages. Future primary care physicians especially must be able to advise their patients on safe sun exposure and be aware of the early signs of skin cancer.
Anesthetic Blister Induction to Identify Biopsy Site Prior to Mohs Surgery

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2Nova Southeastern University, College of Osteopathic Medicine, Fort Lauderdale, FL
3EZDERM, LLC, Naples, FL

Background: Wrong-site surgeries in dermatology are not uncommon due to difficulty finding the initial biopsy site. In fact, a survey of Mohs surgeons indicated that 14% of malpractice cases resulted from wrong-site surgery.1 The Mohs surgeon may be unable to determine the surgical site if the referring physician does not include detailed documentation, such as a photograph, diagram, or written description of the biopsy site including anatomical landmarks as reference.2 However, patients often return for Mohs surgery many weeks following the initial biopsy. By this time, the biopsy site has healed and become less visible to both patient and physician, making it difficult even with proper documentation. Patients themselves may have incorrect site recall, particularly if the biopsy was in a location not visible to the patient.2 A study by Perri et al revealed that 31.4% of patients could not accurately identify their biopsy site.4 Despite these attempts to decrease wrong-site surgery, further techniques are exigent in confirming the surgical site. Objective: To investigate the utility of anesthetic blister induction at a suspected biopsy site to identify the location prior to Mohs surgery.

Methods: A patient presented with a clearly identifiable neoplasm, which was biopsied and histologically diagnosed as a squamous cell carcinoma. Subsequently, the patient was scheduled for Mohs surgery. On presentation for the surgical procedure, the initial biopsy site was not clearly identifiable and delayed initiation of treatment. Upon injection of local anesthetic, blister formation was developed in the initial biopsy site, clearly depicting our surgical location. Our presented surgical case was confirmed with frozen sections upon Mohs surgery.

Results: The biopsy site was easier to locate with the assistance of a blister that formed as a result of local anesthetic administration.

Conclusions: This is a clear example of how a new technique of blister formation secondary to anesthetic injection can highlight what may be an obscure operative site. The bulla formation induced amongst the weakly adherent malignant keratinocytes allows operation site identification with higher degree of certainty. Through the use of many available means to confirm biopsy site location, dermatologists can prevent unneeded delay and damage to the patient. As various methods develop and provide assistance in Mohs surgery, we describe preoperative bulla formation as an additional or adjunctive tool to surgical site identification.
P16
Assessing the impact of integrated behavioral and social science curricula on undergraduate medical students’ understanding of social determinants of health

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Florida International University, Herbert Wertheim College of Medicine, Miami FL.

Background: The Medicine & Society Curriculum at the Herbert Wertheim College of Medicine (HWCOM) seeks to integrate humanities, behavioral science, and social science in the undergraduate medical education curriculum. This integrated program reflects a shift in current medical education practice, which increasingly emphasizes the importance of behavioral and social sciences, and which includes coursework in ethics, professionalism, social determinants, and cultural competency trainings. This research will assess the impact of social determinants of health teaching by conducting a qualitative content analysis of the reflective narratives that medical students write at different points of their medical education. The goal of the research is to analyze the impact of behavioral and social science training on students’ understanding of social determinants of health, and in particular to assess the impact of early clinical exposures to patients and mentors on students’ ability to identify, explain, and address particular social determinants of health for their patients.

Methods: Secondary qualitative data analysis of previously collected, de-identified medical narratives submitted by M1 students at HWCOM from 2012 and 2013 was conducted using NVivo qualitative analysis research software. Narratives were coded using a modified grounded theory approach, with major themes and trends identified and analyzed. Each narrative was individually coded by a lead investigator, with a subset of narratives compared for inter-rater reliability.

Results: 240 narrative responses from the 2012 and 2013 M1 year were analyzed. The majority of respondents cited meaningful interactions with their medical faculty, mentor, or preceptor as important components of their clinical experience. Particularly memorable interactions often involved lessons in the importance of fostering patient communication and the opportunity to first apply clinical skills. Students described the impact of these interactions on their own behavior and the way in which they would practice as future physicians.

Conclusions: Respondents reported both positive and negative experiences from their early clinical rotations, and reflected on themes including clinical preparedness, the importance of strong communication, and the patient doctor relationship. Early clinical interactions with medical mentors may impact medical students’ value systems, and serve as models for future medical practice. Through interactions with patients, medical students are also able to identify important social determinants of health, and to provide targeted, goal-directed options to empower patients in their medical decision-making. These types of early clinical interactions with mentors and patients may play an important role in solidifying value systems and developing ethical frameworks for future medical practice.

P17
The Epidemiology of Pre-Hospital Needle Decompression in a Large Urban EMS System

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Background: To describe the utilization of needle decompression (ND) for suspected tension pneumothorax in a large urban EMS system.

Methods: Retrospective chart review and case series of all ND performed by a municipal ambulance service (Fire Department of New York) from January 1, 2007 to December 31, 2011. Call type, category of clinical presentation, trauma versus non-trauma, cardiac arrest status, evidence of clinical improvement, on-scene and transport times, were collected.

Results: Over the 5-year study period, 140 pre-hospital needle decompressions were performed. A total of 99 (71%) ND were during trauma calls, (78 (55.7%) penetrating trauma, 21 (15%) blunt trauma) and 41 (29%) during medical calls (22(15.7%) in medical arrests, 3 (2.1%) had spontaneous pneumothorax, 5 (3.6%) had an iatrogenic cause and 11 (7.9%) had an unknown cause). 30 (21%) of overall patients were female. The overall median age was 42 years. The median age of patients in the trauma group was 26 years and in the medical group was 72.5 years (p<.01)., A total of 69 (49.3%) experienced cardiopulmonary arrest prior to or during the EMS Call (36/69 in trauma, 33/69 in medical group), five achieving return of spontaneous circulation (ROSC) after ND with four maintaining ROSC until ED admission. All ROSC occurred in medical arrest patients. Of the 71 patients who did not arrest, 51 (71.8%) were found to have clinical improvement by: 1. Return of trachea to midline 2. Return of lung sounds to affected side 3.Patient report of relief and/or 4.Improvement in systolic BP and/or pulse rate. In the trauma group, 63 (63.6%) of patients did not have cardiac arrest; of those patients 45/63 (71.4%) experienced clinical improvement. In the medical group, of the 8 patients who did not arrest 6 (75%) of patients experienced clinical improvement.

Conclusions: In this large urban EMS system of New York City, needle decompression appeared to primarily benefit trauma patients who were not in cardiac arrest. Early identification and use of needle decompression in patients with trauma-related pneumothorax should be encouraged. This retrospective data also suggests that needle decompression has a role in appropriate medical, atraumatic scenarios, including cardiac arrest. With regards to initial and continued medical education of FDNY EMTs and Paramedics, we strongly support a greater emphasis of stressing the importance of early recognition of
P18

Paramedic assessment and treatment of patients with allergic reactions and anaphylaxis in a large urban pre-hospital system

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Background: There are few reports detailing the ability of paramedics to assess and treat patients who present with signs and symptoms of acute allergic reaction and anaphylaxis. Pre-hospital paramedic standing treatment protocols include oxygen, IV fluids, diphenhydramine, solumedrol, bronchodilators (albuterol +/- atrovent), and epinephrine as standard therapy for patients presenting with allergic reactions or anaphylaxis.

Methods: A retrospective run sheet review for a large pre-hospital system (780 paramedics) was conducted from 10/2010 to 6/2012. Out of a total of ~40,000 runs during this period, 177 runs qualified for this study based on the “Primary Impression” or the “Found To Be” as recorded by paramedics. 85 runs were excluded from the study for various reasons including: not a true allergic reaction, refusal of treatment by the patient, resolution of symptoms prior to EMS personnel arrival (PTA), or improper or inadequate documentation. Broward Health IRB 00000871 approved. Data elements collected: patient gender, age, and vs allergic reaction, refusal of treatment by the patient, resolution of symptoms prior to EMS personnel arrival (PTA), or improper or inadequate documentation. Broward Health IRB 00000871 approved. Data elements collected: patient gender, age, and vs

Results: A total of 92 patient records were reviewed in detail. Out of these 92 patients, 18 self-medicated PTA of EMS personnel. 40 were determined to be allergic reactions and 52 were determined to be anaphylaxis, which is a severe allergic reaction characterized by systemic effects such as cardiovascular changes (hypotension, most often with tachycardia) and/or two or more organ system symptoms. The results of the treatments provided by EMS are summarized in the Table below.

Prehospital Paramedic Treatment of Patients with Allergic reaction/anaphylaxis

<table>
<thead>
<tr>
<th></th>
<th>Oxygen</th>
<th>Epinephrine</th>
<th>I.V. Fluids</th>
<th>Albuterol</th>
<th>Diphenhydramine</th>
<th>Solumedrol</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Patients (n=92)</td>
<td>(39/92)</td>
<td>(8/92)</td>
<td>(6/92)</td>
<td>(12/92)</td>
<td>(68/92)</td>
<td>(15/92)</td>
</tr>
<tr>
<td>Patients with Anaphylaxis (n=52)</td>
<td>(25/52)</td>
<td>(8/52)</td>
<td>(6/52)</td>
<td>(10/52)</td>
<td>(42/52)</td>
<td>(13/52)</td>
</tr>
</tbody>
</table>

Conclusions: Epinephrine is underutilized by paramedics for all patients with allergic reactions, especially for patients who present with anaphylaxis. Diphenhydramine is the most commonly used agent in a pre-hospital setting in this Emergency Medical Services system, followed by steroids and bronchodilators. It is apparent that protocol revisions and paramedic education need to be implemented, then prospective monitoring of treatment in this paramedic cohort. Limitations to our data gathering include small sample size and incomplete runsheet documentation.

P19

Allergic Triggers and Profiles of Patients Calling 911 in a Large Urban Setting

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Background: There are no reports of patient profiles vis-à-vis triggers of allergic reaction or anaphylaxis in the pre-hospital setting. Pre-hospital providers should be able to recognize the importance of knowing the possible triggers of allergic reactions in pre-hospital settings.

Methods: A retrospective run sheet review for a large pre-hospital system (780 paramedics) was conducted from 10/2010 to 6/2012. Out of a total of ~40,000 runs during this period, 177 runs qualified for this study based on the “Primary Impression” or the “Found To Be” as recorded by paramedics. 85 runs were excluded from the study for various reasons including: not a true allergic reaction, refusal of treatment by the patient, resolution of symptoms prior to EMS personnel arrival (PTA), or improper or inadequate documentation. Broward Health IRB (00000871) approved. Data elements collected: patient gender, age, and vs

Results: 92 run sheets were reviewed. 18/92 patients self-medicated prior to arrival of EMS personnel. 27 were pediatric cases (0-18 years old) and 65 were adult cases (>18 years old). The allergic triggers for patients calling 911 are summarized in the table below.
### Allergens/Triggers for Patients calling 911

<table>
<thead>
<tr>
<th></th>
<th>Pediatric (0-18 years old)</th>
<th>Adult (&gt;18 years old)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foods</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Nuts</td>
<td>(4/27) 14.8%</td>
<td>(2/65) 3.1%</td>
</tr>
<tr>
<td>- Shellfish</td>
<td>(2/27) 7.4%</td>
<td>(9/65) 13.8%</td>
</tr>
<tr>
<td>- Other</td>
<td>(8/27) 29.6%</td>
<td>(5/65) 7.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>(14/27) 51.8%</td>
<td>(16/65) 24.6%</td>
</tr>
<tr>
<td><strong>Medications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Anesthetics</td>
<td>(0/27) 0.0%</td>
<td>(1/65) 1.5%</td>
</tr>
<tr>
<td>- Antibiotics</td>
<td>(2/27) 7.4%</td>
<td>(5/65) 7.7%</td>
</tr>
<tr>
<td>- Other</td>
<td>(1/27) 3.7%</td>
<td>(7/65) 10.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>(3/27) 11.1%</td>
<td>(13/65) 20.0%</td>
</tr>
<tr>
<td><strong>Envenomations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Bee Sting</td>
<td>(0/27) 0.0%</td>
<td>(2/65) 3.1%</td>
</tr>
<tr>
<td>- Ant Bite</td>
<td>(0/27) 0.0%</td>
<td>(3/65) 4.6%</td>
</tr>
<tr>
<td>- Other</td>
<td>(2/27) 7.4%</td>
<td>(5/65) 7.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>(2/27) 7.4%</td>
<td>(10/65) 15.4%</td>
</tr>
<tr>
<td><strong>Unknown Allergen/Trigger Total</strong></td>
<td>(8/27) 29.6%</td>
<td>(26/65) 40.0%</td>
</tr>
<tr>
<td><strong>Total Patients</strong></td>
<td>27</td>
<td>65</td>
</tr>
</tbody>
</table>

**Conclusions:** Allergens that lead to 911 calls for pediatric patients are: food allergens (especially nuts), which seem to be the predominant cause for allergic reactions and anaphylaxis in this age group, followed by medications and envenomations. For adults, food allergies (mainly shellfish) are equally as likely as medications to cause allergic reactions and anaphylaxis, followed by envenomations. Paramedics should be more diligent in identifying and documenting allergic triggers in the pre-hospital setting. Limitations to our data gathering include small sample size and incomplete runsheet documentation.

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**P20**

**Paramedic detection of signs and symptoms of patients calling 911 for possible allergic reaction and anaphylaxis**

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**Background:** There are no reports of patient profiles including signs and symptoms in the pre-hospital literature. Accurately detecting the signs and symptoms of allergic reactions and anaphylaxis by paramedics is essential for them to initiate appropriate treatment and supportive measures.

**Methods:** A retrospective run sheet review for a large pre-hospital system (780 paramedics) was conducted from 10/2010 to 6/2012. Out of a total of ~40,000 runs during this period, 177 runs qualified for this study based on the “Primary Impression” or the “Found To Be” as recorded by paramedics. 85 runs were excluded from the study for various reasons including: not a true allergic reaction, refusal of treatment by the patient, resolution of symptoms prior to EMS personnel arrival (PTA), or improper or inadequate documentation. Broward Health IRB (00000871) approved.

**Data elements collected:**
- patient gender, age, and vs including HR, RR, BP
- patient symptoms
  - dermatologic: rash/hives, itching, redness, edema
  - pulmonary: SOB, wheezing/stridor, “tightness in throat”
  - gastrointestinal: N&V
  - cardiovascular: hypotension, tachycardia

**Results:** 92 run sheets were reviewed. 18/92 patients self-medicated prior to arrival of EMS personnel. 40 were allergic reactions and 52 were anaphylaxis, which was defined as a severe allergic reaction with systemic manifestations including: hypotension, +/- tachycardia, and/or two or more organ systems involved. The signs and symptoms as encountered and documented by paramedics are summarized in the table below.
presenting Symptoms for Patients Calling 911 for allergic reactions/anaphylaxis

<table>
<thead>
<tr>
<th></th>
<th>Pediatric (0-18 years old)</th>
<th>Adult (&gt;18 years old)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatologic</td>
<td>(22/27) 81.5%</td>
<td>(12/65) 18.5%</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>(11/27) 40.7%</td>
<td>(28/65) 43.1%</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>(1/27) 3.7%</td>
<td>(6/65) 9.2%</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>(11/27) 40.7%</td>
<td>(24/65) 36.9%</td>
</tr>
<tr>
<td>Total patients</td>
<td>27</td>
<td>65</td>
</tr>
</tbody>
</table>

**Conclusions:** For pediatric patients, dermatologic manifestations were twice as prevalent as pulmonary and/or cardiovascular symptoms. Gastrointestinal symptoms occurred only in one pediatric patient. For adults, pulmonary and cardiovascular manifestations were the most frequent presenting signs and symptoms, as recorded by paramedics. One patient presented with the Bezold-Jarisch reflex (hypotension and bradycardia). Paramedic assessment skills for patients presenting with allergic reactions and anaphylaxis should be emphasized so that these patients can be cared for more appropriately. Limitations to our data gathering include small sample size and incomplete runsheet documentation.

**P21**

How emergency medicine physicians’ admittance rates correlate with risk preference and the framing effect

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¹Florida International University, Herbert Wertheim College of Medicine, ²Broward Health

**Background:** Risk and regret – how do these factors affect emergency medicine physicians’ likelihood to admit a patient? Previous research has come to disparate conclusions regarding the driving force in causing one physician to be more likely to admit a patient than would a colleague. The present study seeks to focus on risk-preference and anticipated regret. In particular, we ask the following question: Does internal risk preference and/or anticipated regret account for a significant amount of the variance between two physicians’ decision to admit or discharge a patient?

**Methods:** Eleven EM physicians at a large South Florida community hospital comprised our study population. Each physician was given a questionnaire to assess the framing effect and a risk taking scale. Participants could be classified as risk-prone or risk-averse on the risk-taking scale (RTS) and preferring the gamble or safe bet on the framing effect questionnaire (FEQ). Participant responses on these scales were correlated with their average admittance rates over a four-month period.

**Results:** We found that a patient seen by a risk-prone physician according to the RTS is 28% less likely to be admitted than a patient seen by a risk-averse physician (OR=0.72, 95% CI 0.67 - 0.78, p<0.001). Additionally, a patient seen by a physician who prefers the gamble in the positive frame is 13% more likely to be admitted than a patient seen by a physician who prefers the safe bet (OR=1.13, 95% CI 1.04 - 1.21, p=0.002). Finally, a patient seen by a physician who prefers the gamble in the negative frame is no more or less likely to be admitted than a patient seen by a physician who prefers the safe bet (OR=0.99, 95% CI 0.90 - 1.09, p=0.68).

**Conclusions:** Our results support previous research that patients seen by risky physicians are less likely to be admitted, but also contradicts other studies demonstrating that physicians who prefer the gamble in the negative frame are more likely to admit patients. Future research should attempt to determine the clinical significance of this finding – i.e. if a similar patient is discharged by a risky doctor and admitted by a risk-averse doctor, is there any difference in morbidity, mortality, or healthcare resource utilization.

**P22**

The Exceedingly Rare Gastric Diverticulum

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**Background:** Diverticula of the stomach are usually asymptomatic, and can be congenital or acquired, being true or false diverticula, respectively. Congenital diverticula, although rare, are the more common type. Acquired diverticula may be related to underlying peptic ulcer disease, malignancy, pancreatitis, gastric outlet obstruction, or following surgical procedures on the stomach.

**Summary of the Case:** This is a case of a 39 year old man who presented with early satiety and abdominal pain. He was found to have a gastric mass on endoscopic exam, and underwent a partial gastroduodenectomy without prior biopsy. Upon histopathologic exam the mass was a true diverticulum of the stomach, with severe submucosal acute and chronic inflammation, foreign body giant cell reaction associated with food particles, florid granulation tissue, and fibrosis. This case represents an exceedingly rare symptomatic presentation of a gastric diverticulum.

**Conclusions:** Although commonly asymptomatic, symptoms usually include upper abdominal pain, nausea, and emesis. Vomiting is less frequent. Occasionally massive bleeding related to perforation can be seen. These symptoms overlap with those of other gastrointestinal etiologies and may be aggravated by acquired diverticula, thus complicating diagnosis. Symptomatic diverticula most commonly occur in patients between 20 and 60 years of age and surgery is the definitive treatment.
The Effect of Language Discordance on the Source of Primary Care in North Miami Dade
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Background: Emergency department (ED) overutilization is inefficient and hampers continuity of care. Language discordance between a patient and health care provider, defined as when the two do not speak the same language, has detrimental effects on selected health outcomes. Little is known about the effect of discordance on the usual source of primary care. We aim to test the association between language discordance and ED utilization patterns.

Methods: We performed secondary analysis of cross-sectional data from households who were randomly selected to participate in the NeighborhoodHelp Benchmark Survey, in 2009-2010. Households were excluded if their primary language was English or if data was missing on language spoken. Language discordance was defined based on the question “Thinking about your most recent care, how often have you had a hard time speaking with or understanding a doctor, nurse or other health care provider because you and the doctor spoke different languages?” and was considered present if households responded any answer other than “never.” Usual source of care was defined as either ED or outpatient primary care. The independent association between discordance was tested using multivariate logistic regression and significance was considered for p-values ≤0.05. SPSS was used for analyses.

Results: A total of 535 households were included. About 14% of households reported language discordance. Before adjustment, discordance was significantly associated with ED usage [Odds Ratio (OR) =2.2, 95% Confidence Interval (CI) = 1.1-4.6, p=0.032]. After adjusting for language spoken, household income, employment status, household health, and level of education, the association between discordance and use of ED was stronger (adjusted OR=3.4, 95% CI=1.2-9.5, p=0.023).

Conclusion: Language discordance is strongly associated with ED utilization in the North Miami Dade population. Further study on interventions to improve communication such as translation services in outpatient facilities is warranted to reduce ED overutilization in favor of outpatient primary care.

The Effect of Insurance Status and Ethnicity on Delays in Seeking Medical Care in North Miami-Dade
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Background: Health care for the uninsured has historically been a topic of great debate. The uninsured have greater difficulty accessing medical care and tend to have worse health outcomes than their insured counterparts. These disparities are even more penetrating among minority populations which comprise a large portion of the population of North Miami-Dade. For this purpose, we analyzed the association between insurance status and delays in seeking medical treatment among minority populations in North Miami-Dade.

Methods: This cross-sectional study utilized information gained from the North Miami-Dade Community Benchmark Survey administered from October 2009 and April 2010. The 1531 households included in this study were drawn from the original 2334 households within the communities of Opa Locka, Miami Gardens, and unincorporated Miami-Dade surveyed through a process of random sampling. Those households which did not seek any form of medical care within 12 months of the survey were excluded from the analysis due to the lack of the variable of interest. Furthermore, non-Hispanic white households (30) were excluded to allow for analysis of only the minority population. Odds ratios were determined through bivariate and multivariate analysis in order to determine the likelihood that the lack of insurance among different ethnic groups in North Miami-Dade was associated with the delay in seeking medical care among household members.

Results: The minority population of North Miami-Dade represented in our study was comprised of mostly African Americans (62%). Of the participants, roughly a quarter primarily spoke a language other than English and nearly half had achieved an education level of high school or less. A large percentage of respondents were unemployed at the time of the survey (17%) and 48% were well below the federal poverty limit with a reported income of less than $10,000 per year. Hispanics made up a greater proportion (33%) of the uninsured than other minority populations. Although a direct association between ethnicity and delay of care was not found in this study, lack of insurance was strongly associated with delaying medical care with the uninsured found to be 3.2 (95% CI 2.5, 4.1) times more likely to delay care than insured individuals.

Conclusions: Disparities in access to health care resulting in delays which may result in poor health outcomes are evident in our study of the households of North Miami-Dade. Our study shows a direct and independent relationship between insurance status and delays in seeking medical care.
P25

The association between civic engagement and health care utilization
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Background: Studies have shown that maintaining continuity with a primary care physician leads to better health and decreased cost when compared to using the emergency department. Social capital is associated with beneficial community health effects, such as increased access to care and lower rates of all-cause mortality. Civic engagement is a vital component of social capital. Whether it might have an impact on patterns of health care utilization it is unknown. The objective of this study is to determine if there is an association between civic engagement and health care utilization.

Methods: The study was a cross-sectional study using de-identified data collected by the North Miami-Dade Benchmark Study. The participants were households participating in the Neighborhood Help Program Survey in North-west Miami Dade. The independent variable is civic engagement. It was measured as a score (continuous variable with scores ranging from 0-13) and categorically (No civic engagement” for 0 behaviors, “Lower level of civic engagement” for 1-3 behaviors, and “Higher level of civic engagement” for 4-13 behaviors. The dependent variable was health care utilization categorized as use of solely primary care physician versus emergency department.

Results: No association was found between civic engagement scores and health care utilization (OR=1.03, CI 0.98-1.09) with civic engagement defined continuously and categorically.

Conclusions: We found no association between civic engagement and healthcare utilization using two different systems to measure civic engagement: continuous and categorical. However, when civic engagement measured on a continuous scale, an OR of 1.03 implies that with each additional civic engagement behavior, there is a 3% increased chance of the household using the emergency department.

P26

Income as a Possible Modifier of the Relationship Between Education and Health Insurance Ownership in Northwest Miami-Dade County
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Background: The association between higher education and good health decisions has previously been documented. Individuals with higher levels of education make choices that improve their health status and outcomes (e.g. regular exercise and accessing preventative care) more frequently than those without. In this study we sought to establish whether a relationship exists between higher education levels and the acquisition of health insurance in households who participated in the Community Benchmark Survey of North-Miami Dade (CBSNMD) conducted in 2010. We then determined whether or not income was a confounder in this relationship.

Methods: A cross sectional study was carried out on data previously collected from the CBSNMD. Households were excluded if they did not respond to a survey question required for the analysis, with the exception of no response to income, which was analyzed as a separate category. The relationships between the outcome (health insurance) and the primary exposure (education), and other potential predictors such as household income, primary language, employment status, race, and marital status were analyzed using bivariate analysis, and then through logistic regression.

Results: A total of 1737 households were included in this secondary analysis. In our unadjusted analysis, lower education was significantly associated with increased odds of reporting a lack of health insurance for all household members in the previous year (less than high school vs bachelor or above: OR 1.6, 95% CI 1.1-2.3; graduated high school vs bachelor or above: OR 1.4, 95% CI 1.0-1.8). Other significant predictors of a lack of health insurance in the unadjusted analysis included lower income bracket (< $30,000/year), speaking a language other than English, being single or living with someone, or being unemployed or having part-time work status. However, after the multivariate analysis, the relationship between lower education lost its significant association with lack of health insurance ownership (less than high school: OR 1.3, 95% CI 0.9-2.0; graduated high school: OR 1.2, 95% CI 0.9-1.6).

Conclusion: Income seems to be a confounding variable in the relationship between education and health insurance ownership. Also, the decreased power of the study resulting from the multivariate analysis of households who did not fully complete the survey may have contributed to the observed change in the association.
A comparison of insurance status and the rate of prenatal HIV counseling and testing among pregnant women in the United States

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Background: Knowledge of a pregnant woman’s HIV status has a large impact on maternal and neonatal morbidity and mortality. Our aim is to identify potential barriers to women receiving prenatal HIV testing and counseling. To determine whether or not a relationship exists between insurance status of a pregnant woman and her chance of receiving prenatal HIV testing or counseling. Additionally, we aim to determine whether this potential relationship is consistent across different regions of the United States. We used 2009 data from the CDC Pregnancy Risk Assessment Monitoring System (PRAMS) database. Participants were surveyed using the standardized Phase 6 PRAMS questionnaire.

Methods: The women sampled in the PRAMS survey were selected randomly via a state’s birth certificate records as those who gave birth within the previous 2-4 months. Forty states participate in the PRAMS questionnaire and a total of 112,358 women were sampled. Women in smaller but higher risk populations were sampled at a higher rate for adequate representation. Insurance status of the mother one month prior to becoming pregnant. Our outcome of interest is to determine whether a relationship exists between the insurance status of a pregnant woman in the US and her chance of receiving prenatal HIV testing and counseling. Our secondary aim is to evaluate whether this association differs among states and regions of the United States. We hypothesize that insured women are more likely to receive HIV counseling/testing than uninsured women.

Results: Women without insurance were 35% more likely to receive prenatal HIV counseling (OR 1.35, 99% CI [1.24-1.46], p<0.001) and 57% more likely to receive prenatal HIV testing than those with insurance (OR 1.57, 99% CI [1.43-1.71], p<0.001). When adjusting for potential confounders, insurance status became insignificant in its effect on receiving prenatal HIV counseling (AOR=0.94, 99% CI [0.84-1.030], p=0.067). Women without insurance were 13% more likely to be tested for HIV than those with insurance (AOR=1.13, 99% CI [1.02-1.26], p=0.003). In the South, women without insurance were 32% more likely than insured women to receive HIV testing.

Conclusion: Our findings suggest that insurance status has no effect on prenatal HIV counseling but uninsured women were more likely to receive prenatal HIV testing than insured women when controlling for all other variables. The only region that maintained a significantly increased likelihood of receiving HIV testing if uninsured was the South. All other regions showed a non-significant association.

The importance of physician cultural competency in filling out prescriptions

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Background: Many studies have investigated the association between the physician-patient relationship and medication adherence, but few have singled out the role of perceived physician cultural competency in prescription filling with low income, culturally diverse populations. Therefore, our objective is to investigate the impact of physician cultural competency on clinical outcomes. In particular, this study will assess the impact of perceived physician cultural competency on a household’s tendency to fill a prescription in a low-income, culturally diverse North Miami-Dade population. The alternative hypothesis states that if a household member perceives physician cultural competency, then the household will have an increased tendency to fill a prescription in the last 12 months.

Methods: This cross-sectional study utilizes data secondarily from the North Miami-Dade Community Benchmark Survey performed by the Herbert Wertheim College of Medicine at Florida International University, which was distributed between October 2009 and April 2010 to households in North Miami-Dade. The survey was conducted in a culturally diverse, low income region of North Miami-Dade. The survey was distributed to 2,334 households, from which 1,845 households gave informed consent and completed the survey. Participants answered 156 standardized questions about various social and health issues pertaining to their household. Eligible participants (n = 1656) for this current study need to have reported a health care encounter within the last 12 months. The main exposure variable of interest is participant responses to survey questions regarding participants’ perception of physician cultural competency and other possible confounding variables. The main outcome measure(s) were participants’ response to a survey question, which assessed filling a prescription within the last 12 months.

Results: After adjusting for potential confounders, perceived physician cultural competency was significantly associated with prescription filling (AOR= 1.70; 95%CI = 1.19 - 2.43). Filling a prescription in the last 12 months was also significantly associated with household health insurance coverage (AOR= 1.83; 95%CI = 1.25 - 2.67) and race/ethnicity (p = 0.045) after adjusted analysis. Hispanics were more likely to fill a prescription than African Americans in the last 12 months (AOR= 1.34; 95%CI = 0.97 - 1.85).

Conclusions: Perceived physician cultural competency was associated with a greater degree of medication adherence, specifically prescription filling. These findings support the significance of physician cultural competency on clinical outcomes.
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Systematic Review of Risk Compensation Following Human Papillomavirus Vaccination

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Background: The Food and Drug Administration has licensed two human papillomavirus (HPV) preventative vaccines. There is a concern that individuals who receive the vaccine may consider themselves less vulnerable to HPV infection and will tend to engage in risky sexual behaviors, thereby increasing their risk for cervical cancer and other sexually transmitted infections. However, there is no consensus about the role of HPV vaccine leading to risky sexual behavior. Objective: This systematic review examines and summarizes the current evidence on risk compensation following HPV vaccination in adolescents and adults.

Methods: Two reviewers independently searched and screened for articles published between 2004 and 2013 from MEDLINE, PsycInfo, CINAHL, the Cochrane Central Register of Controlled Trials, Web of Science, and Scopus without language limits. The search resulted in 199 abstracts of which 11 articles were retrieved for full assessment based on inclusion criteria. From the 11 full-texts, four are included in the review. Methodological quality of the four included articles was conducted using the quantitative research evaluation tool developed by the Effective Public Health Practice Project Group. All disagreements in screening and quality rating were resolved through adjudication of a third reviewer.

Results: The final four studies included in the review were conducted in Australia, Peru, United Kingdom, and United States. The methodological quality of all but one study was weak. The Peru study was conducted among female sex workers and observed a decline in the average number of sex acts with new clients from baseline (Mean=103.09) to seven months (Mean=71.19, p< 0.001), but there was no change in the number of sex partners or consistent condom use. The Australian study conducted among college women did not find any difference in consistent condom use by vaccination status. The UK and U.S studies were conducted among adolescent girls. A significant change in sexual risk behaviors was not found in the study conducted among American female adolescents at one-year post HPV vaccine. In the study conducted in the United Kingdom, there was no difference in the percentage of adolescents who initiated sexual activity between the group who received the vaccine and the one who did not receive HPV vaccine. Also, the rate of consistent condom use did not differ between the two groups.

Conclusion: The notion of risk compensation surrounds HPV vaccination, but this systematic review did not find any evidence of compensatory sexual risk behaviors following HPV vaccination among adolescent or adult females.

P30

Post- translational regulation of Leishmania aquaglyceroporin AQP1: crosstalk between phosphorylation and ubiquitination

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Background: Ubiquitinated proteins are destined to be degraded by proteasomes. Leishmania has an E3 ubiquitin ligase called Anaphase Promoting complex/Cyclosome (APC/C) homologue in its genome. APC/C recognizes its substrates by RXXL motifs. We found two RXXL motifs at the free cytosolic N-terminus of AQP1 and a putative ubiquitination site specific lysine (K12). Levels of aquaglyceroporin AQP1 expression determine the osmoregulation capacity and antimony sensitivity profile of Leishmania. We reported that mitogen activated protein kinase 2 (MPK2) regulates AQP1 stability post-translationally through phosphorylation at threonine 197. We found that lysine 42 (K42) is critical for MPK2 and, cells co-overexpressing single and double mutants for RXXL motifs at the free cytosolic N-terminus of AQP1 showed slower osmoregulation compared to cells co-overexpressing wild type proteins. Objective: Our aim was to identify whether K12 is the actual site of ubiquitination and its effect on the stability of AQP1 in the presence or absence of MPK2.

Method and results: During osmoregulation, we observed that cells overexpressing single and double mutants for RXXL and R2XXL motifs were less efficient osmoregulatory compared to cells overexpressing wild-type AQP1, suggesting lower expression of altered proteins compared to wild type. Whereas, cells co-overexpressing K12AAPQ1 and K12RAQP1 with MPK2 and K42AMPK2 showed increased osmoregulation capacity compared to AQP1K42AMPK2 suggesting higher expression of AQP1 which corroborated with antimony sensitivity profiles of the transfectants.

Conclusion: Taken together, our data suggested that (i) in the absence of phosphorylation ubiquitination at K12 is required for the degradation of Leishmania AQP1 and, (ii) RXXL motifs are not involved for ubiquitination at K12.
P31

Pyogenic Liver Abscess: A Herald of Malignancy
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Background: Pyogenic liver abscess (PLA) is a collection of pus within the liver due to bacterial infection. The pathophysiology involves spread of organisms by direct invasion from a biliary source, hematogenous spread, or portal venous invasion. While mortality has decreased, PLA represents a global concern with rising incidence. Diagnosis requires a high degree of suspicion as patients have varied, nonspecific presentations. PLA may also herald occult malignancy, requiring further evaluation. We present a unique case of PLA with systemic symptoms and a liver mass in an otherwise healthy male.

Case Summary: A 68-year-old Cuban American male with prediabetes residing in Belgium presented with intermittent right upper quadrant abdominal pain for months associated with a twenty-six pound weight loss and subjective fevers. He was up to date on age-appropriate cancer screening including normal colonoscopy in the past year. The patient was afebrile and normotensive on initial evaluation with hepatomegaly and mild epigastric tenderness without peritoneal signs. Laboratory results included hemoglobin 11.0, MCV 78.9, leukocytosis 21.9, albumin 2.8, CRP 15.25, alkaline phosphatase 228, and AST 52.6. Computerized tomography demonstrated a large multiloculated cyst in the liver. Percutaneous liver biopsy demonstrated copious purulent fluid from which cultures grew Streptococcus anginosus. The patient was started on broad-spectrum antibiotics, which were narrowed accordingly. No source of infection was identified. He was discharged with plans to continue age-appropriate screening.

Conclusion: The most common cause of PLA in the U.S. is Streptococcus anginosus, a viridans subgroup with the capacity for abscess formation. In the past century, mortality has decreased from around 80% to 5.6% today, but incidence has recently increased. Diabetes may increase risk while advanced age, bacteremia, and hypoalbuminemia are associated with higher mortality. Management of PLA involves appropriate antibiotic therapy and source eradication with drainage. While translocation of bacteria from an infectious source is common, PLA may be associated with colorectal carcinoma, which may disrupt the mucosal barrier and allow translocation of bacteria into the portal venous system. PLA may also occur in the setting of neoplastic obstruction of the biliary tree, as in primary pancreatic or hepatic cancers. In the absence of a clear infectious source, a diagnosis of PLA should prompt thorough investigation for malignancy, especially those of hepatic, biliary, pancreatic, and colorectal etiologies. This case highlights the nonspecific presentation of PLA and the necessity of a broad differential diagnosis to avoid overlooking an occult malignancy.

P32

Gender differences in drug-related lipodystrophy of anti-retroviral medications: A systematic review
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Background: Over the past few decades HIV/AIDS prevalence has shifted from a small subset of the population to a more varied group, including women. However, only recently have clinical studies started to investigate gender differences in antiretroviral efficacy and side effects. Objective: To examine gender differences of drug-related lipodystrophy among adolescents and adult patients on antiretroviral therapy. The research hypothesis was that women are more susceptible to lipodystrophy with antiretroviral use than males.

Methods: Systematic review with a comprehensive search of the literature in PubMed, CINAHL, and Cochrane Library from January 1997 to June 2012 using specific key terms and Boolean connectors. Studies included were randomized controlled trials, cohort studies, cross-sectional studies or case controls that evaluated men and women over the age of 13, written or translated to English, and that reported the frequency of lipodystrophy by gender. There were no limitations to race, ethnicity, sexual orientation or antiretroviral therapy. Two independent investigators reviewed titles and abstracts and decided which full studies would be reviewed based off the previously mentioned criteria. Chosen articles were evaluated for quality and validity. Odds ratios were obtained to assess the association between gender and lipodystrophy. Forest plots were created, heterogeneity was assessed and results were pooled in subgroups by study design. Main Outcome Measures: Frequency of lipodystrophy or related terms with antiretroviral therapy.

Results: A total of 39 studies were included in the final analysis (18 cohorts, 20 cross sectional and 1 case-control). Total number men and women were 11,989 and 5,027 respectively. The overall odds ratio for lipodystrophy in women as compared with men was 1.41 (95% CI 1.10-1.81). Similar results were observed when cohort and cross-sectional studies were considered separately. Assessment of selection, recall and information bias indicated that most studies were of good quality. There was substantial overall heterogeneity (I² = 85%), as well as heterogeneity within the different designs.

Conclusion: Data analysis indicated an increased risk for developing lipodystrophy among women, however, due to high heterogeneity further research needs to be done. Heterogeneity could be due to variability in quality of included studies, lack of uniform definition for lipodystrophy or objective way to measure it, type, duration and combination of antiretroviral therapy, lifestyle and co-morbid conditions differences among participants, and drug interactions with other medications, among others. Future work will include sub-analysis of data already collected and continued review of new publications.
Factors associated with pressure ulcers in stroke patients: a retrospective review of the Florida Stroke Registry

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Background: Pressure ulcers are a highly prevalent problem in medicine today with an estimated 1 million occurring in the United States a year. Moreover, the complications that ultimately arise from untreated pressure ulcers cause a great deal of suffering and are expensive to treat. Stroke has been found to be a risk factor for the development of pressure ulcers. Although the risk factors for pressure ulcers is well documented and described in past studies, little has been done to evaluate the same exposures in patients with stroke. This retrospective cohort study looks at the factors associated with increased development of pressure ulcers in patients hospitalized for stroke in teaching and nonteaching hospitals.

Methods: We used data collected by AHCA in the Florida Stroke Registry and compared the following factors for those with and without the diagnosis of pressure ulcer: age, sex, ethnicity, race, length of stay, priority of admission, and teaching hospital. A total of 333,366 patients in the Florida Stroke Registry were studied. Chi squared analysis, logistic regression, and correlation studies were conducted to look for any possible associations between the exposures and the development of pressure ulcers, as well as potential confounders.

Results: The two largest predictors in development of PU were age and length of stay. Compared to patients 0-17 years of age, those that were 18-64 had a fourfold increase in odds of development of PU. This trend continued with increasing age. Length of stay also showed a similar trend with a sharply increasing risk of development of PU with increased length of stay. Compared to patients that stay for less than one week, those that stayed 1-2 weeks had nearly three times the odds of development of PU. This was even more pronounced with increase LOS.

Conclusion: Previous studies have shown an association between demographic risk factors and length of stay with the development of hospital acquired pressure ulcers. Our results are consistent with previous studies; however, the LOS results have not been previously described to this magnitude. Previous studies have not been consistent in regards to race with one study finding an increased risk in whites while another finding an increased risk in blacks. Our study was able to better delineate this difference. Using our results we can strongly recommend the use of preventative measure for those of increased age with increasing LOS, especially in the stroke population.

Difference in Mortality Rates in Stroke Patients According to Day of Admission in Rural vs. Urban Hospitals

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Background: In the United States, stroke has become the leading cause of serious long-term disability. Stroke kills almost 130,000 Americans per year and cost nearly $74 billion in 2010 alone. Recent evidence collected in Florida suggested a significantly higher mortality rate for stroke patients admitted on weekends than those patients admitted on weekdays. This difference has not yet been studied in terms of hospital setting (urban vs. rural). The purpose of this study is to investigate this further.

Methods: This non-concurrent population-based study utilized the 2008-2012 Florida Stroke Registry to obtain de-identified and anonymous data of adults with stroke as the primary diagnosis. Children and patients with transient ischemic attack (TIA) as the primary diagnosis were excluded. Study variables included age, gender, race, ethnicity, day of the week of admission, length of stay (LOS), presence of diabetes, hypertension, or atrial fibrillation, and hospital county. The 2010 US Census definition of rural as less than 100 individuals per square mile was used to identify rural counties. SPSS V. 21.0 statistical software was used to conduct all analyses. Mortality rates for each study variable were compared and then variables were stratified by urban and rural counties. Logistic regression was utilized to adjust for potential confounders.

Results: The initial dataset included 333,366 patients and when exclusion criteria were applied, 253,851 patients remained as the final study population. Baseline parameters of patients hospitalized in urban counties compared to those hospitalized in rural counties showed statistically significant differences in the mean age, racial and ethnic makeup, and LOS in the hospital. The proportion of patients admitted during the week compared to the weekend was similar. The proportion of patients with diabetes, hypertension, or atrial fibrillation was also similar. Notably, mortality during the weekend was found to be 38% (OR=1.38, .99CI 1.3-1.5) more likely than mortality during the week and the difference between mortality rates in urban and rural hospitals was also found to be statistically significant (OR=0.69, .99CI 0.6-0.8). A multivariate analysis of data was conducted to obtain odds ratios for mortality rates. The data was stratified into urban and rural hospital settings. Patients admitted on a weekend were more likely to suffer in-hospital mortality in hospitals located in urban counties (OR=1.33, 99CI 1.3-1.4). This difference was not found in rural counties (OR=1.19, .99CI 0.8-1.8). In urban counties, mortality was higher for blacks (OR=1.23, .99CI 1.1-1.3) and Hispanics (OR=1.19, .99CI 1.1-1.3), for patients with LOS >30 days (OR=1.86, .99CI 1.5-2.3), and for patients with atrial fibrillation (OR=1.80, .99CI 1.7-2.0).

Conclusion: Stroke patients admitted to Florida hospitals on weekends in urban county settings showed increased mortality rates when compared to weekday admissions, but not statistically significant differences were seen in rural hospital settings.
The association between the Kotelchuck Index and breastfeeding initiation and duration

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**Background:** Only 47% of infants in the United States in 2012 received the recommended exclusive breastfeeding at six months. Optimal prenatal care utilization could provide more opportunities for education about breastfeeding and ultimately improve breastfeeding practices. However, it is unknown whether measures of adequacy of prenatal care utilization index, such as the Kotelchuck Index (KI), are associated with breastfeeding practices. This study aims to explore whether there is an association between the KI and breastfeeding initiation and duration in a population of new mothers 4 to 6 months post-delivery, participating in PRAMS?

**Methods:** Cross-sectional study of nationwide data from mothers who had a recent delivery and were randomly selected to participate at the Pregnancy Risk Assessment Monitoring System (PRAMS) in 2009. Only mothers of healthy singletons were included. The KI was the categorized as low (Inadequate or Intermediate) or high (Adequate or Plus Adequate). Breastfeeding initiation and duration (< or ≥ 3 months) were the study outcomes. Multivariable logistic regressions were used to calculate the independent odds of initiating breastfeeding and the odds of breastfeeding longer than 3 months. STATA 12 was used accounting for the complex survey design. Significance was considered for p-value ≤ 0.01.

**Results:** After adjustments for confounders, the KI was not independently associated with breastfeeding initiation [Odds Ratio (OR): 1.00, 99% Confidence Interval (CI): 0.89 - 1.12] or duration (OR: 0.92, 99% CI: 0.83 - 1.02). Other variables independently associated with higher odds to initiate and breastfeeding longer than 3 months were being of “other” race, being Hispanic, married, and having more years of education. Being a teen mother, obese pre-pregnancy, and participating in WIC were associated with lower odds for initiation or for breastfeeding for more than 3 months. Higher income and lower parity were associated with higher breastfeeding initiation. Lastly, higher parity was associated higher breastfeeding duration.

**Conclusion:** The Kotelchuck Index was not associated with breastfeeding initiation. However, we found weak evidence that High Kotelchuck Index (Adequate or Plus Adequate) decreased the odds of breastfeeding for more than 3 months. Further research is needed to assess whether the association between high KI and lower breastfeeding duration is due to differences in maternal health status during pregnancy.

The Efficacy of Post-Surgical Antibiotic Prophylaxis in Robotic Hysterectomy: A Retrospective Study

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**Background:** Research has shown that shorter courses and lower doses of antibiotic prophylaxis in laparoscopic surgeries can be as effective at preventing complications as more complex regimens. These results suggest that the even less-invasive robotic hysterectomy may benefit from still less antibiotic usage. This is important, because the overuse of antibiotics is an increasing problem over the past few decades. It contributes to antibiotic resistance and nosocomial illnesses such as C. difficile pseudomembranous colitis, the onset of which can significantly increase healthcare costs. Despite these warnings, antibiotic prophylaxis is often overused in the surgical setting, even when evidence on efficacy for such use is lacking. Objective: To determine the association between the use of postoperative prophylactic antibiotics and postoperative complications in women ages 18-75 undergoing robotic hysterectomy.

**Methods:** 929 patients aged 18 to 75 years who received robotic hysterectomy were included in our study. The following data was procured from the Gynecological Research Group database: Patient’s age, diagnosis, comorbidities, antibiotic administration after surgery, antibiotic type, reason for post-surgery antibiotic, whether any postoperative complications occurred. These complications included fevers on postoperative days, vaginal cuff dehiscence and evidence of infections at surgical sites (erythema, purulent discharge, vaginal cuff cellulitis, and pelvic abscesses). These complications were measured within a 30-day follow-up time.

**Results:** Of the 194 women who had a complication, the most common complications were pelvic collection/abscess (17%) and fever (15.5%). After adjusting our analysis for a past medical history of diabetes mellitus, cholesterol, suture type, and a past medical history of cancer, we fail to reject our null hypothesis: using postoperative prophylactic antibiotics does not affect the rate of postoperative complications (OR 1.3, 95% CI 0.9-2.0, p-value 0.162). An additional finding showed that the suture type used during the procedure had a statistically significant impact on postoperative complications, with Quill suture leading to a 73% increase in complications (p-value 0.008, OR 1.7, 95% CI 1.2-2.6) and Vlock suture leading to a 62% decrease in complications (p-value 0.002, OR 0.4, 95% CI 0.2-0.7).

**Conclusion:** There was no statistically significant difference between the administration of postoperative prophylactic antibiotics and postoperative complications in women who underwent robotic hysterectomy. There was a secondary finding of a statistically significant association between type of suture used and postoperative complications. Some of the limitations of our study included the inability to analyze only infective postoperative complications as well as a sample size too small to possess significant power.
**P37**
The Effect of Barbed Sutures on Incidence of Acute Complications after Hysterectomy

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**Background:** Vaginal cuff dehiscence, vaginal cuff cellulitis and pelvic collection or abscess are serious complications of total hysterectomy. It has been proposed that the use of barbed sutures for vaginal cuff closure reduces the risk of these complications, but this information is sparse in the literature, so there are currently no recommendations regarding the use of barbed sutures. Objective: To determine if the risk of acute complications (i.e. cuff dehiscence, cellulitis, or pelvic collection) in patients who underwent vaginal cuff closure with barbed sutures after hysterectomy is lower than that in patients who underwent closure with non-barbed sutures. We hypothesized that the rate of these complications would be lower in patients who underwent cuff closure with barbed sutures.

**Methods:** A retrospective cohort study based on information obtained from hospital operative notes and from private practice electronic medical records. Patients who underwent gynecologic surgery requiring closure of the vaginal cuff (e.g. hysterectomy) in South Florida between 2004 and 2013 by one of three gynecologic surgeons. Patient data was held in a secure database and de-identified prior to our use. Closure of the vaginal cuff with bidirectional or unidirectional barbed sutures. The control was closure with conventional non-barbed sutures and manual knot tying. A grouped outcome comprising the presence of any one of the following: 1) vaginal cuff dehiscence, 2) vaginal cuff cellulitis, or 3) pelvic collection or abscess. Outcomes were measured at six weeks after surgery.

**Results:** Initially, 1,502 patients were considered, with 835 removed from the study due to loss to follow-up (732), procedures not requiring closure of the vaginal cuff (72), or insufficient recording of data (31). The final sample size had 325 and 342 patients operated with barbed and non-barbed sutures, respectively. Patients closed with barbed sutures were 48% less likely to experience an acute complication (OR 0.52), but this difference was not statistically significant (95% CI 0.20 – 1.36; p=0.141).

**Conclusions:** There was no statistically significant reduction in acute complications in the group of patients undergoing vaginal cuff closure with barbed sutures. However, a clinically relevant difference cannot be ruled-out. A larger sample may have yielded statistical significance. The major limitation of this study was loss to follow-up, resulting in a significantly smaller sample than was originally anticipated. Further research might benefit from altering the exclusion criteria and should also analyze the relationship between suture type and specific complications.

**P38**
Role of SFMBT1 in Epithelial-Mesenchymal Transition

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**Background:** Carcinomas are the most common type of cancer found in humans. This form of cancer derives from mutated epithelial cells. Normal epithelial cells adhere to one another as well as to the basal tissue. Cancerous epithelial cells, however, may further mutate such that the cell no longer produces E-cadherin—a protein that connects epithelial cells to the basal tissue. Without this protein, the cell detaches from the epithelial lining and becomes capable of motility (epithelial-mesenchymal transition, or EMT). The tumor cell may then metastasize and invade distal tissues through intravasation.

Scm-related gene containing four mbt domains (SFMBT) is a gene that encodes a transcriptional repressor protein that binds to lysine-specific demethylase (LSD1), which associates with Snail1. Snail1 is a repressor protein that binds to the promoter of Cadherin-1 (CDH1), a gene that encodes E-cadherin. SFMBT1 is thought to stabilize the LSD1-Snail1 complex, preventing the complex from dissociating from the chromatin and enhancing repressive function. EMT may occur through upregulation of Snail in epithelial cells, causing the repression of E-cadherin and consequential detachment of the cell. Since SFMBT1 stabilizes the Snail-LSD1 complex, it may therefore be associated with the metastasis of carcinomas. SFMBT was studied in order to determine if its downregulation in breast epithelial cells would impair Snail’s repression of E-cadherin.

**Methods:** Four different sets of MCF7 breast epithelial cells were cultured. Fusion proteins (Snail-ER-pLKO and Snail-ER-shSFMBT) were used to bring Snail1 and the knockdown or empty vector into the nucleus. PLKO was used as the empty vector, and shSFMBT was used to knockdown SFMBT. Tamoxifen was used on two of the four sets of cells to increase the amount of fusion protein that entered the nucleus. The cells’ RNA was then extracted. Reverse transcription was used to create complementary DNA (cDNA) from the RNA. RT-qPCR was then performed using the resulting cDNA to measure E-cadherin expression levels in the varying sets of cells. β-actin was used to normalize the results.

**Results:** The knockdown had about 57% more E-cadherin expression than the control.

**Conclusion:** These results support the hypothesis that SFMBT enhances the repressive functions of Snail1 and when depleted, Snail’s repression activity is impaired. Thus, SFMBT plays a role in E-cadherin repression and subsequently EMT. Methods could be devised in order to repress SFMBT in breast cancer or other carcinomas to prevent metastasis.
P39
Angiosarcoma arising in an abdominal aortic aneurysm in association with endovascular graft: an autopsy case report
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Background: Plastic polymers, including Dacron, have been found to induce sarcoma in 7% to 50% of exposures in animal studies. Although the same carcinogenic effect has not been proven in humans, a small but significant number of cases of sarcoma, a rare entity in the aorta, have been reported around previously placed vascular prostheses, raising the possibility of a carcinogenic effect.

Case Summary: A 71-year-old man presented with a two-week history of hematuria, flank pain, and weight loss. He had a medical history of abdominal aortic aneurysm status-post endovascular repair four years prior and more recent type IA and type II endoleak repair.
An angiogram revealed numerous perianeurysmal abnormal vessels, with possible connection to the right ureter, which were embolized. The patient deteriorated during admission and expired one month later.
At autopsy, the aneurysm had multiple external dark grey to purple nodules and transmural and endovascular hemorrhagic tissue. Dark grey nodules were found involving the pleural surfaces of both lungs, the surface of the liver, and the peritoneal and retroperitoneal adipose tissue.
Histologic sections showed poorly differentiated angiosarcoma involving the aneurysmal wall with metastases to the lungs, liver, peritoneum and retroperitoneum. Stains for CK34BE12 and CD 31 were positive.

Conclusion: The possibility of a graft-associated malignancy should be considered in the evaluation of patients showing symptomatic aneurysmal or perianeurysmal abnormalities years after aneurysm repair.

P40
A Case of Colon Cancer Metastasis to the Penis
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Background: Penile metastasis is a rare phenomenon. Most metastases originate from primary tumors in the genitourinary tract (bladder, prostate), and less often from the gastrointestinal system the majority being from the lower intestinal tract.

Case Summary: We present a case of an 80-year-old man with a history of prostate cancer status post brachytherapy, and colon cancer in remission after resection and adjuvant chemotherapy two years ago. He presented with indurated penile nodules which on biopsy showed clusters of malignant glands. The adenocarcinoma cells were immunoreactive for CK20 and CDX-2 while negative for CK7, a staining pattern, which along with the patient’s known history of colonic adenocarcinoma, supports a diagnosis of metastatic adenocarcinoma from a colonic primary.

Conclusion: Metastases to the penis are rare, usually originating from primary tumors in the genitourinary tract (bladder, prostate). Metastases from the gastrointestinal primaries are even less common but should be included in the differential diagnosis of a patient with a history of colon adenocarcinoma who presents with indurated penile lesions.

P41
Methotrexate-Associated T-Cell Lymphoma in a Patient with Sarcoidosis
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Background: Methotrexate was the first reported medication to be associated with the development of lymphoproliferative disorders in patients receiving this agent for the treatment of autoimmune conditions. The majority of the reported cases are B cell lymphomas (most commonly DLBCL) and Hodgkin lymphomas. EBV status in this setting has been reported to be variable. As of the last publication of the WHO classification of tumors of hematopoietic and lymphoid tissues, only 9 detailed cases of T-cell lymphomas associated with methotrexate treatment had been collected in the literature.

Summary of the case: We present the case of a 70-year-old woman with a 5-year history of sarcoidosis initially treated with prednisone. The treatment regimen was changed to oral methotrexate and the patient received this agent for a period of two years, at which point she presented with bulky left axillary lymphadenopathy. Histological analysis and immunohistochemistry demonstrated a CD30-positive T-cell lymphoma. The tumor cells were negative for ALK protein. In situ hybridization for EBV was also negative.

Conclusions: We present the case of a CD30-positive T-cell lymphoma in the setting of sarcoidosis treated with methotrexate. Reports of methotrexate-related LPD in the setting of underlying sarcoidosis exists in the literature but occurrence of a T-cell lymphoma in this setting is exceedingly rare.
Background: The incidence of co-existing unilateral neoplasms of the parotid gland is less than 1%. The most common occurrence is that of multiple Warthin tumors. Synchronous unilateral parotid neoplasms of different histologic types are very rare. In a 1999 review, Stavrianos et al counted only 33 cases in the English literature, the most frequent combination being that of a Warthin tumor with pleomorphic adenoma. In 2006, Tanaka et al reported a case of a parotidectomy specimen with presence of a pleomorphic adenoma, Warthin tumor and salivary duct carcinoma.

Summary of Case: We report a case of basal cell adenocarcinoma arising from a pleomorphic adenoma in the right superficial parotid gland of an 82 year-old woman in coexistence with a Warthin tumor. To the best of our knowledge, this is the second report in the English literature of three synchronous unilateral parotid gland neoplasms of different histologic types. Basal cell adenocarcinoma of the salivary glands is a rare, low grade malignant neoplasm with a predilection for the parotid glands (89% of all tumors). These tumors most commonly arise de novo (77%) and some arise from pre-existing basal cell adenomas (23%). Histologic examination of the present case shows infiltration of the salivary gland and surrounding tissue with evidence of transition between the pleomorphic adenoma and basal cell adenocarcinoma components. Malignant transformation of pleomorphic adenomas occurs most commonly in the form of poorly differentiated adenocarcinoma NOS and salivary duct carcinoma while transformation into basal cell adenocarcinoma is most unusual.

Conclusion: We present the case of three co-existing unilateral parotid neoplasms of three different histologic types, including a Warthin tumor, pleomorphic adenoma and basal cell adenocarcinoma. To the best of our knowledge, this is the first report of this kind in the English literature.

P43

Amyloidoma: an Unusual Cause of Death

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Background: Amyloidosis is a group of various disorders in which there is extracellular deposition of abnormally folded insoluble protein that interfere with tissue function. Amyloidosis can be clinically classified as either localized or systemic and has been identified in almost every organ system. An amyloidoma is an uncommon occurrence in which localized depositions of amyloid leads to a pseudo-tumor. While gastrointestinal amyloidosis is quite common, amyloidomas of the gastrointestinal tract are quite infrequent with only a few cases reported in the literature.

Case Summary: We present a case of an 85 year old man who presented to the emergency room with complaints of coffee ground emesis, generalized fatigue and shortness of breath. The patient expired within a day and a half from admission. Gross examination revealed a hemorrhagic waxy mass located in the distal small intestine causing obstruction and diffuse hemorrhage with blood filling the lumen distal to the lesion. The obstruction led to severe bilateral aspiration pneumonia which progressed to sepsis. Microscopic examination of the mass revealed pale pink homogenous material with extensive hemorrhage and dense aggregates of lymphocytes. Congo red and crystal violet stains confirmed the diagnosis of amyloidoma. The amyloidoma in this case was associated with a localized low grade B-cell lymphoma, extranodal marginal zone type. Amyloid deposits were not noted in any other sites at autopsy.

Conclusion: To our knowledge, this is the first reported case of an intraluminal amyloidoma as a cause of death. The amyloidoma caused an obstruction which lead to an aspiration pneumonia and sepsis as well as a large volume of blood loss which lead to the eventual death. This case once again emphasizes the importance of performing autopsies, not only to understand cause of death, but also to uncover unsuspected disease processes and their effects that may not be identified by the most modern medical technologies.

P44

An Unusual Case of an EBV-positive CNS Lymphoma in an Immunocompetent Adult

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Background: CNS diffuse large B-cell lymphomas comprise approximately 2-3 percent of all brain tumors and less than 1 percent of all non-Hodgkin lymphomas. These rare neoplasms are usually not associated with Epstein-Barr virus in immunocompetent patients.

Case Summary: We present a case of a 59 year old woman with a two week history of progressive left upper and lower extremity weakness while vacationing with her husband in the United States. An MRI revealed scattered ring-enhancing lesions in the right inferior frontal gyrus, right thalamus and lentiform nucleus extending through the corona radiata to the centrum semiovale, and left hypothalamus. There was effacement of the right lateral ventricle, third ventricle and ambient cistern with a 5 mm leftward midline shift. Additionally observed was extensive vasogenic edema around the lesions. The patient was taken to surgery and a biopsy was performed. Microscopic examination revealed brain tissue with reactive gliosis and areas with a
dense angiocentric infiltrate with associated necrosis. The infiltrate was composed of a pleomorphic population of cells including small lymphocytes, histiocytes, medium to larger atypical cells with irregular nuclear contours, as well as scattered large cells with vesicular nuclei. The large atypical cells were positive for CD45, CD20 (weak), CD79a, PAX5, MUM1, and CD30. Additionally, EBER in situ hybridization was positive. The diagnosis of EBV-positive CNS diffuse large B-cell lymphoma was made.

**Conclusion:** Although the current case had an increased number of small reactive T-cells and relatively scattered large B-cells it was thought there were too many atypical B-cells. Although there was angiocentricity in some areas there was no angiodestruction. Other areas showed a more diffuse pattern of parenchymal infiltration. Furthermore there was no evidence of involvement outside of the CNS or any constitutional symptoms. This case was diagnostically challenging due to the fact that the patient is not immunocompromised along with histological findings of relatively scattered neoplastic cells in an abundant background of T lymphocytes, focal angioinvasion and EBV positivity, which are not the characteristic features of a primary CNS lymphoma.

**P45**

**Bicuspid aortic valve disease and aortic dissection**

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**Summary of the case:** The patient is a 47 year old woman, non-smoker, with a history of bicuspid aortic valve (status post replacement) and mitral valve prolapse. The patient was admitted to the emergency department for sudden onset of chest pain radiating to the back. The diagnosis of ascending aortic aneurysm and type B dissection was made, and she was scheduled for aortic root replacement and aortic aneurysm repair. Post-surgery she was found to be in severe cardiogenic shock. Despite medical intervention she remained critically ill and died 3 days after surgical intervention.

Autopsy findings revealed an aortic arch dissection with an intimal tear at the ostia of the left carotid, with dissection of the aortic media extending into the descending aorta and right common iliac artery, along with acute myocardial infarction of a papillary muscle of the mitral valve. A primary pulmonary adenocarcinoma of the right middle lobe was found, incidentally, with lymphangitic spread to both lungs and to a peri-aortic lymph node.

**Conclusions:** Bicuspid aortic valve disease is increasingly being understood as degeneration of the media layer of the aorta, resulting in an aortic wall that gradually loses its strength. This condition causes the aorta to over stretch, eventually leading to formation of aneurysm and potentially dissection. At one time, it was thought that the abnormal blood flow from a bicuspid aortic valve was the main cause of enlargement of the ascending aorta. However, development of an ascending aorta aneurysm and dissection has been observed in the presence of a normally functioning bicuspid aortic valve. Also, the aneurysmal progression and dissection of the ascending aorta following replacement of the bicuspid aortic valve, as in our case, indicates the intrinsic aortic wall abnormality present in this syndrome.

Approximately 2% of the US population has bicuspid aortic valve disease (Which corresponds to about 6,278,281 individuals according to the U.S. Census Bureau of 2012). Currently it is estimated that as many as 5% of those with bicuspid aortic valve disease will experience an aortic dissection.

In addition, the diagnosis of bicuspid aortic valve is important for all family members, including those with normal aortic valves. Accurate diagnostic testing, blood pressure management and comprehensive individualized care of these families can reduce tremendously their risk of developing future aortic complications.

**P46**

**Contralateral axillary metastasis**

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**Summary of the case:** A 76 year old woman with history of right breast cancer in 2007 treated with unilateral mastectomy and ipsilateral lymph node dissection, developed contralateral left axillary adenopathy in 2014. Ultrasound and mammogram of the left breast failed to detect any lesions. Core needle biopsy of the largest palpable axillary lymph node revealed metastatic carcinoma that was morphologically and immunophenotypically compatible with a breast primary. The patient elected to undergo a radical left mastectomy where the primary was “presumed to be located”, instead of radiation therapy. Pathologic evaluation of the surgical specimens revealed one large axillary lymph node, 2.5 cm, completely replaced by metastatic carcinoma, and one small axillary lymph node with metastatic carcinoma measuring approximately 6.5 mm in greatest dimension. Exhaustive gross and microscopic examination of the left breast specimen failed to reveal a primary tumor.

**Conclusion:** Contralateral axillary lymph node metastasis (CAM) of breast cancer may be synchronous with the primary tumor or metachronous (i.e., following treatment). The overall reported incidence of CAM is 3.6% to 6%. CAM must be distinguished from occult primary ipsilateral breast carcinoma.
Summary of the cases: A 60 year old woman was found to have a 2.8 cm isoechoic mass in the right kidney and several hyperechoic liver lesions on ultrasound during a work-up for other indications. Follow-up MRI revealed a 2.4 cm anterior hilar heterogeneous enhancing lesion in the right kidney with a peripheral thickening, “suspicious for renal cancer”, along with subcentimeter lesions in the liver, “consistent with metastases”. The patient underwent a partial nephrectomy, which was converted to a radical nephrectomy due to significant bleeding during tumor resection. Gross examination demonstrated a circumscribed mass composed of firm white tissue, measuring 3 x 1.8 x 1.7 cm. Microscopic examination revealed a vascular neoplasm composed of anastomosing vessels lined by endothelial cells with hobnail features. Focal collagen deposition between vessels was noted. Cytologically, the tumor cells lacked significant nuclear atypia or mitotic activity. These morphologic features supported the diagnosis of an anastomosing hemangioma.

A 78 year old woman who was undergoing a follow-up abdominal CT scan for a recently resected low risk duodenal GIST, was found to have a 3.2 cm mass in the left kidney without interval change since a study performed 13 months before. Ultrasound revealed a vascular solid mass in the superior pole of the kidney “concerning for malignancy”. The patient underwent a radical nephrectomy. Gross examination revealed a circumscribed, solid, red mass, measuring 3 x 3 x 2.5 cm. Microscopic examination showed a well-circumscribed, encapsulated neoplasm composed of numerous capillary-sized blood vessels intermingled with stromal cells with variable amounts of cytoplasm, some showing fine vacuolation. The neoplasm showed alternating areas of hyper and hypocellularity, as well as hemosiderin deposits and foci of extramedullary hematopoiesis. Mitotic figures were rare. The neoplastic cells showed immunoreactivity for inhibin and for S-100, and were negative for AE1/AE3, EMA, HMB-45 and Melan A. CD34 and Factor VIII highlighted the rich vascular network. This immunoprofile, together with the morphology, supported the diagnosis of hemangioblastoma.

Conclusion: As described above, these two rare renal neoplasms can be mistaken for malignancies at least radiologically. Additionally, they may mimic malignant neoplasms on microscopic examination, such as angiosarcoma in the case of anastomosing hemangioma and renal cell carcinoma, or epithelioid hemangiopericytoma in the case of sporadic hemangioblastoma. Wider recognition of their occurrence as primary renal tumors is warranted.

P48
Primary Colonic Leiomyosarcoma arising in a Pre-existing Leiomyoma

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Background: Primary leiomyosarcomas of the gastrointestinal tract are rare and aggressive neoplasms. Malignant transformation of a leiomyoma is an exceedingly rare event that has not been reported in the gastrointestinal tract.

Summary of the case: We present a case of a 74-year-old woman with a 6-year history of an intramural mass in the sigmoid colon, which underwent sudden growth. The patient was treated surgically with a sigmoid colectomy. Gross examination revealed a 6.5 x 3.5 cm, well-circumscribed, white, rubbery, intramural mass with focal central hemorrhage. Microscopic examination showed a neoplasm composed of bland, spindle cells with smooth muscle differentiation. Sections from the hemorrhagic focus displayed malignant features including hypercellularity, severe atypia, necrosis and a high mitotic rate. An immunohistochemical panel was performed to rule out the possibility of a gastrointestinal stromal tumor (GIST). The neoplastic cells were positive for smooth muscle actin (SMA), muscle specific actin (MSA), desmin and caldesmon and negative for CD117 and DOG-1. Ki-67 showed a high proliferation rate in the hypercellular focus. Molecular analysis failed to detect mutations in the KIT or PDGFRA genes. The diagnosis of a leiomyosarcoma arising in a pre-existing leiomyoma was made. One year after the colon resection, imaging studies showed a 2.5 cm liver mass. A biopsy revealed identical histologic and immunohistochemical features diagnostic of a metastatic leiomyosarcoma.

Conclusions: We present the first case of primary colonic leiomyosarcoma arising in a pre-existing leiomyoma demonstrating an extremely aggressive behavior. Sudden growth of a long-standing leiomyoma should raise concern for malignant transformation and must be followed by proper tissue sampling of the tumor. Furthermore, a complete immuno-histochemical panel and molecular studies are essential to accurately differentiate a smooth muscle neoplasm from a GIST due to significant prognostic and therapeutic differences.
Collision lymph node metastasis of bladder urothelial carcinoma and colonic adenocarcinoma

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Background: Collision tumors are two malignant neoplasms from separate primary sites that meet and eventually intermingle. Collision tumor cases are rare, but even rarer are collision metastases in a lymph node.

Case Summary: We report the case of a 75 year old woman who presented with a two day history of worsening abdominal pain. Her history is significant for a recent right lower extremity deep vein thrombosis which led to pulmonary embolism. Imaging showed a pelvic mass encasing the distal small bowel, right external iliac vessels, and distal right ureter, multiple enlarged mesenteric lymph nodes, thickening of the right colon, and bilateral pulmonary nodules. Cystoscopy revealed a large mass; biopsies showed invasive high-grade urothelial carcinoma. Two days later, palliative surgery was done to relieve the intestinal obstruction which was thought to be caused by direct invasion of the bladder tumor. Multiple segments of bowel were resected revealing a 10.5 centimeter primary colonic adenocarcinoma extending through the wall of the colon into the fat, two tumor deposits in the peri-intestinal fat, one with adenocarcinoma (CK 20 positive and CK 7 and P63 negative) and one with urothelial carcinoma (CK 7 and P63 positive and CK 20 negative), and 3 out of 19 lymph nodes with metastatic carcinoma, one with adenocarcinoma, one with urothelial carcinoma, and one with both adenocarcinoma and urothelial carcinoma.

Conclusion: This case is unique in that it is the first reported case of a collision metastasis in a lymph node consisting of both urothelial carcinoma and colonic adenocarcinoma.

Glioblastoma with Pseudoepithelial Differentiation: Case Report and Review of a Potential Diagnostic Pitfall

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Background: Glioblastoma (GBM) is the most common primary central nervous system neoplasm in adults and the most aggressive, corresponding to a WHO grade IV. The term glioblastoma “multiforme”, now in disuse, refers to its remarkable morphologic diversity which has led to the recognition of variants including fibrillary (classic), giant-cell, small-cell and gliosarcoma, among others. Although infrequent, GBM can show pseudoepithelial or true epithelial differentiation. This may pose a true diagnostic challenge since metastatic disease to the brain, sometimes in the absence of a known primary, greatly outnumbers primary CNS neoplasms in adults. Additionally, imaging features may overlap and the tissue sample may be small, particularly at frozen section.

Case report: A 60 year-old man with a right temporal mass with nodular peripheral enhancement and central necrosis. The patient underwent craniotomy with resection of the mass. Microscopic examination of H&E-stained sections revealed a high grade glioma with heterogeneous and unusual morphology. The predominant component showed astrocytic differentiation and extensive infiltration into the cerebral cortex and underlying white matter. Microvascular proliferation and necrosis were present fulfilling criteria for glioblastoma, WHO grade IV (Fig. 1). The second predominant pattern consisted of epithelioid, cohesive cells with high N:C ratio, arranged in nests, cords and in a perivascular pattern giving the impression of papillary structures (Fig. 2 and 3). The epithelioid component extensively involved the subarachnoid space and focally invaded the dura. The morphologic features, together with the immunohistochemistry results (Table 1.), supported the diagnosis of glioblastoma, WHO grade IV, with pseudoepithelial (“adenoid”) differentiation.

Conclusions: We present a case of a 60 year-old man with a right temporal mass with nodular enhancement and central necrosis on MRI. The differential diagnosis on imaging included GBM, metastasis and lymphoma. FS slides revealed, to our advantage, a malignant neoplasm with diagnostic features of GBM. However, on permanent sections, an important component of the tumor showed epithelioid features which, if considered individually, would have made the diagnosis on FS difficult. GBM may exhibit pseudoepithelial or true epithelial differentiation. Although this occurs rarely, it does represent a potential diagnostic pitfall. Awareness of this phenomenon, as well as obtaining clinical history and reviewing imaging studies, may prevent a misdiagnosis. This is particularly important at FS intraoperative diagnosis, when the specimen may be small and not completely representative of the tumor.
ROLE OF NRF1 IN BREAST CANCER PROGRESSION AND METASTASIS
Lazaro Mesa, Dr. Jayanta Das, Dr. Deodutta Roy

**Background:** Aggressive breast cancer intrinsically possesses many epithelial-mesenchymal transition (EMT) characteristics and cancer stem cell (CSC)-like features, suggesting that activation of EMT mechanisms generate a higher degree of invasiveness in cells with CSC-like properties. The **long-term goal** is to determine whether nuclear respiratory factor 1 (NRF1) regulates EMT, and to identify NRF1 dependent molecules that may serve as pharmacological targets for treating this deadly disease.

**Methods:** Employ both 2-D and 3-D culture models to establish whether NRF-1 is involved in the aggressive and metastatic growth of breast cancer cells. By modulating the expression of NRF-1, we will test if NRF1 is necessary for the generation of high-grade invasive cells with cancer stem cell (CSC)-like properties. **AIM 2:** determine the molecular mechanism by identifying NRF1 dependent target genes that regulate the generation of high-grade invasive CSCs. We will use gain-of-function and loss-of-function approaches to test if NRF1 dependent target gene activation is necessary to inducing the CSCs state and invasiveness of these breast cancer CSCs.

**Results:** We have shown a significant increase in 3D spheroid size as a result of the over expression of NRF1. We have also shown that the over expression of this gene also accelerates the migratory rate of cancer cells and reduces epithelial markers while causing the expression of mesenchymal markers. This suggests that NRF1 may be implicated in an EMT pathway and in the progression of breast cancer.

**Conclusion:** Our proposal is innovative and significant, because we hope it will establish a new paradigm: that NRF1 plays a critical role in the invasion and metastasis of breast cancer and lay the foundation for the discovery of novel NRF1 signaling-based drugs for the prevention and treatment of breast cancer.

**Trend in Ta stage Urothelial Carcinoma of the bladder: shift to higher grading?**

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**INTRODUCTION:** Bladder cancers are treated differently based on histological grade. Studies have shown pathologist grading to vary significantly. This study examines a possible trend towards higher grading of Ta staged Transitional Cell Carcinoma (TCC) of the bladder, given the new WHO grading criteria in 2004 and other changes.

**METHODS:** We studied a subset of the SEER (Surveillance, Epidemiology, and End Results) database for an association between year and likelihood of a high-grade classification on pathologic analysis of Ta stage bladder cancer. 36,422 cases of clinically ambiguous Ta-staged TCC were identified between 1997 and 2011. Join-point and Multivariate Logistic regressions tested the hypothesized trend towards higher grading.

**RESULTS:** Join-point regression identified an increasing trend in proportion of high-grade Ta TCC bladder cancer from 1997-2011. However, we found no significant points of inflection in the slope of such an association. Specifically, there was no significant change in the trend coinciding with the 2004 change in WHO grading systems. Logistic regression found a 16% (unadjusted OR=1.16, 99% CI: 1.15-1.18) increase in the odds of high-grade designation for each passing year. This result did not change when adjusted for possible confounders (adjusted OR=1.17, 99% CI: 1.15-1.20). Other significant determinants of grade included age, gender, and tumor size (AOR=1.02, 1.5, 1.35 respectively).

**CONCLUSIONS:** The likelihood of high-grade assignment on pathologic assessment of Ta-staged TCC is increasing with time at a gradual rate, which is unlikely caused by a singular event such as the 2004 WHO change in grading recommendations. Multiple factors — demographics, technology, pathologist variability – likely contribute to this trend. Future studies will be needed to further understand and contextualize such a trend.

**The association between social risk factors and compliance to colorectal screening in North-West Miami-Dade County**

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**Background:** Colon cancer is the third most common in cancer in American men and women. Colorectal cancer screening is effective in decreasing mortality. Risk factors for no-screening include socio-economic factors. North-Wesr Miami-Dade area has similar social risk factors, but rates of colorectal cancer screening in this setting are unknown.

**Methods:** Cross-sectional study using Community Benchmark Survey data of Northwest Miami-Dade populations. An inclusion criterion for analysis was at least one man or woman 50 years old or older in each household. Statistical Package for the Social Sciences (SPSS) v.20 was used for statistical analysis with frequency tables, cross-tabulations (chi-square tests), logistic regression (both adjusted and unadjusted). Significance considered with a p-value of ≤0.05 for a two sided test. Independent variable was colorectal cancer screening, while independent variables included education status, income, race, language and insurance status.

**Results:** Lacking insurance (OR= 0.5, 95% CI of, p<0.0001), speaking Spanish (OR=0.7, 95% CI =0.5-0.9, p<0.022) or other languages (OR=0.4, 95% CI =0.2-0.8, p<0.009), and high school education or less (OR=0.7, 95% CI =0.5-0.9, p<0.014) were
independently associated with lower rates of CRC screening. Variation in household income and gender differences were not associated lower rates of CRC screening. 

**Conclusion:** Rates of CRC screening are dramatically lower among uninsured, uneducated, and Spanish speaking or Hispanic populations even after adjustment. There is a need for educational interventions to increase CRC screening among Spanish speaking or Hispanic origin households.

### P54

**Malignant Perivascular Epithelioid Cell Tumor of the Lung with Sarcomatoid Features and Intrapulmonary Metastasis**

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**Background:** Perivascular epithelioid cell tumors (“PEComas”) are a rare type of stromal neoplasm characterized by a proliferation of spindle to epithelioid cells closely associated to vessel walls that exhibit immunohistochemical co-expression for myogenic and melanocytic markers and have distinctive ultrastructural and genetic features. Currently, a normal counterpart of the perivascular epithelioid cell is not known. PEComas have been described in several different organs and the majority seem to be benign. Malignant PEComas are exceedingly rare and have shown an unfavorable clinical course with local recurrences and distant metastases.

**Case Summary:** We report the case of a 67-year-old lifetime non-smoking woman presenting with severe persistent cough. Chest CT scan showed multiple multi-lobulated masses in the right upper lobe. The patient underwent a robotic lobectomy. On pathologic examination, the lobe of lung weighed 120 grams and showed a nodular and focally pucked pleural surface. There were three ill-defined, grey-white, rubbery nodules ranging in size from 1.5 to 4 cm. Microscopically, the nodules were composed of spindle to epithelioid cells with nuclear pleomorphism, high mitotic activity and focal necrosis. The epithelioid component of the tumor was positive for SMA, TFE-3, HMB-45, AE1/AE3, vimentin and MITF-1 and negative for S-100, Melan-A and keratin 5/6. In the sarcomatoid component the tumor cells were positive for SMA and vimentin, focally positive for TFE-3 and AE1/AE3 and negative for HMB-45, desmin, S-100 and MITF-1. A diagnosis of malignant PEComa with sarcomatoid features was established. Additionally, there was extensive lymphovascular invasion suggesting that the different lung nodules represented intrapulmonary metastasis.

**Conclusions:** To the best of our knowledge, there are only five reported cases of malignant PEComa of the lung. We describe an additional case with sarcomatoid features and intrapulmonary metastasis. Criteria to predict the behavior of lung PEComas are currently unavailable; however, based on the criteria proposed by Folpe et al. for PEComas of soft tissue and gynecologic origin, an aggressive behavior could be expected in our case, as demonstrated by the presence of intrapulmonary metastases at the time of diagnosis. Although our patient was lost to follow up, the role of therapy in malignant PEComa beyond surgery is limited. Currently, oral therapy with mTOR inhibitors has shown promise in some patients; however the response is typically short-lived.

### P55

**Primary Cardiac EBV Positive Diffuse Large B-Cell Lymphoma Arising within a Left Atrial Myxoma in an Immunocompetent Adult**

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**Background:** Primary cardiac tumors are rare, with more than 90% being benign. Cardiac myxoma accounts for 84% of all cardiac neoplasms while primary cardiac lymphoma (PCL) accounts for roughly 2% of all primary cardiac neoplasms and <1% of extranodal lymphomas. Among PCLs, approximately 80% are diffuse large B cell lymphomas (DLBCL). We describe the concomitant occurrence of an atrial myxoma with a primary cardiac Epstein-Barr virus positive diffuse large B-cell lymphoma as a rare presentation of DLBCL associated with chronic inflammation and discuss the proposed pathogenesis and importance of recognition of this entity due to therapeutic and prognostic implications.

**Summary of the case:** An immunocompetent 50-year-old man presented with sudden onset of precordial chest pain and S-T segment elevation. A transesophageal echocardiogram revealed a left atrial large, mobile mass which was subsequently resected. The surgical specimen was a pedunculated, 7 cm, brown-red, gelatinous mass. Microscopically, the gelatinous component of the mass showed a proliferation of spindle to stellate cells set in a hypocellular myxoid stroma, typical of a cardiac myxoma. The myxoma was positive for calretinin, CD34 and S-100. However, the edge of the mass was noticeably hypercellular and consisted of large, highly atypical and mitotically active lymphoid cells which were positive for CD20, CD30, BCL-2 and MUM-1, negative for CD10, BCL6, ALK and demonstrated a high proliferation rate with Ki-67. Additionally the lymphoid cells where positive for EBV-encoded RNA (EBER) in-situ hybridization. The diagnosis of an EBV + DLBCL with an activated B-like phenotype, arising within an atrial myxoma was made. Staging studies revealed no evidence of lymphoma at other sites indicating this to be a true PCL. Five months after the surgery the patient did not show evidence of local or systemic disease and although he was recommended to receive chemotherapy, he was lost to follow-up.
Conclusions: Our case highlights the importance of clinical suspicion that should be followed by the appropriate imaging studies and emphasizes the role of histologic and immunohistochemical analysis in surgical specimens. As evident in this case as well as in previous case reports, the disease appears to follow an indolent clinical course with no lymphoma-related fatalities. Therefore its recognition may be significant for therapeutic decisions and prognosis.

P56
An Adult Case of Paratesticular Spindle Cell Rhabdomyosarcoma
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Background: Tumors in the paratesticular region are rare and approximately 70% are benign. Sarcomas are the most common malignant neoplasms in the paratesticular area and rhabdomyosarcomas (RMS) represent 24% of adult sarcoma cases. Spindle cell RMS is a rare variant of embryonal RMS characterized by a fascicular proliferation of spindle cells with or without rhabdomyoblastic differentiation. It was first documented in the pediatric population by Cavazzana in 1992. This type of rhabdomyosarcoma has shown a better prognosis when compared with the other forms of RMS in the pediatric population. Notably, only a few cases have been reported in the adult population, consequently randomized prospective data is lacking.

Summary of the case: A 24-year-old healthy man presented with a 3-week history of a mobile, non-tender right epididymal mass. After several studies, given a low suspicion for malignancy, he was placed on surveillance. On follow-up, after 3 months, a repeat ultrasonography demonstrated that the mass had increased in size. Tumor markers were within normal limits, and a CT scan did not suggest any lymphadenopathy or metastatic lesions. The patient underwent right epididymal exploration with possible radical orchiectomy. On gross examination, the specimen consisted of a segment of spermatic cord and epididymis with a well circumscribed, tan, glistening, rubbery multinodular mass. Microscopically the lesion was hypercellular and composed predominantly of spindle cells showing focal rhabdomyoblastic differentiation. The neoplastic cells were positive for desmin and myogenin and negative for S100, HMB-45 and smooth muscle actin. The diagnosis of a spindle cell rhabdomyosarcoma was made.

Conclusions: It was first documented in the pediatric population by Cavazzana in 1992. This type of rhabdomyosarcoma has shown a better prognosis when compared with the other forms of RMS in the pediatric population. Notably, only a few cases have been reported in the adult population, consequently randomized prospective data is lacking. Clinical setting and morphology should trigger appropriate immunohistochemical workup, which can be of great aid in distinguishing this entity from other spindle cell neoplasms to ensure that patients with this neoplasm receive appropriate, usually multimodal therapy.

P57
Using PSOCQ as a Predictor of Improved Pain Scores for Patients with Chronic Low Back Pain
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Background: Chronic low back is a difficult condition to treat for many reasons, including adherence to treatment. The Pain Stages of Change Questionnaire (PSOCQ) can help identify patients who are in the pre-contemplation stage and may be less likely to follow through with any self-management prescriptions, like exercise. The objective of this study was to determine whether baseline category within the Pain Stage of Change Questionnaire (PSOCQ) could predict improvements in pain scores in patients treated for chronic low back pain.

Methods: The study employed a subset of data from a larger investigation “Using PSOCQ as a predictor of improved pain scores and disability status for patients with chronic low back pain”, consisting of English-speaking patients with chronic low back pain (>3 months), ages 18-65, at the Baptist Health South Florida Center for Spine Care whose care consisted of a self-management walking program. One independent variable, PSOCQ, and one dependent variable, net change in Numeric Rating Scale 0-10 pain score, were assessed. The PSOCQ places patients into four categories based on readiness to change: Pre-contemplation, Contemplation, Action, and Maintenance, the final three of which were grouped into one cohort for the purpose of this study.

Results: We enrolled 43 subjects via convenience sample, 31 of whom completed follow-up and met selection criteria. Both median pre-pain and post-pain scores for pre-contemplation subjects (6.0, 2.0; 5.5, 4.0) versus contemplation, action, and maintenance subjects (5.0, 3.0; 5.0, 3.0) were higher, and pre-contemplation subjects had a decrease in percent change in pain score as compared to contemplation, action, and maintenance subjects (-15.5, 45.0; 0.0, 50.0). However, a Mann-Whitney U test comparing the percent change in pain score in each cohort found no statistically significant difference (p=0.14). A contingency table X² test found that a higher percentage of those in pre-contemplation had improved pain at follow up (60.0%) than those in contemplation, action, or maintenance (19.0%), although this difference was not statistically significant (p=0.052).

Conclusion: While no statistical significance was found in these data, additional studies with larger sample sizes, longer follow-up timeframes, and improved pain measurements are necessary.
Role of exercise in reported cases of osteoporotic fractures: Is more exercise always better
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Background: Pathologic fractures of the hip and spine are associated with a high degree of morbidity and mortality. This cross sectional analysis looks to study the degree of association between different levels of exercise and the propensity to develop these fractures.

Methods/Results: The data used for the retrospective analysis was collected in the community based participatory research project, the Miami PRISA-SDOH 2009-2010 and the Little Haiti 2010 Earthquake Impact assessment. In total, 1787 households that completed the questionnaire fit the inclusion criteria for the study. In the analysis we studied hip and spine fractures because of their pathologic nature and restricted the households to those that included a member over the age of 50. Exercise was the major independent variable.

Conclusion: Although not statistically significant, low levels of exercise had a protective effect against fracture development and high levels of exercise showed an increased risk when compared to no exercise.

ALVAL: An Underrecognized Cause of Prosthetic Failure
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Background: Today, approximately one third of hip replacement surgeries involve the use of hip prostheses with synthetic bearings designed to improve wear properties over the older metal-on-metal prostheses. Along with the use of these new prostheses have come novel complications. One of these is aseptic lymphocyte dominated vasculitis-associated lesion, or ALVAL. Affected patients may develop a type IV hypersensitivity reaction to the components of the prostheses manifesting radiologically as a “pseudotumor.” The pathophysiology behind aseptic lymphocyte-dominated vasculitis-associated lesion, or ALVAL, is poorly understood.

Case report: This is the case of a 72 year old woman with a medical history of hypertension, hypercholesterolemia, mitral and tricuspid valve regurgitation, asthma, anxiety, hypothyroidism, nephrolithiasis and spondylolisthesis who underwent left hip replacement surgery in 2003 at an outside hospital and right total hip replacement in 2012 at Mount Sinai Medical Center for severe osteoarthritis. The patient presented 18 months later with pain in her left hip. An X-ray revealed persistent dislocation of the left total hip arthroplasty with the femoral component located superior to the acetabular cup.

Conclusions: The original joint replacement prosthetic devices used metal-on-metal articulations with high failure rates because of frictional torque complications which cause the pieces to lock and the bearing surfaces to corrode. Newer synthetic bearing surfaces were introduced which improved the longevity and performance of the prostheses. A new, rare complication has arisen with these modern components which are primarily metal alloys composed of cobalt, chromium molybdenum or nickel. While the pathophysiology is still not fully understood, there appears to be a type IV delayed hypersensitivity reaction to the alloy components which leads to prosthetic failure in a subset of patients. The affected joint may become displaced, as in this case, causing pain and difficulty with mobility in the joint. On imaging studies, a mass may be seen which could be concerning for malignancy. Histologic examination, reveals, as in this case, abundant fibrous tissue with predominantly perivascular chronic inflammation composed of lymphocytes and histiocytes.

Although delayed type hypersensitivity reactions are well-documented in the clinical literature, not much exists in the pathology literature.

It is important for pathologists to be familiar with ALVAL for a couple of reasons. First, patients with hypersensitivity reactions to newer prosthetic components need replacement of their prosthetic components. Second, the number of cases of total hip replacement surgeries using newer prosthetic devices is expected to increase.