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*College of Physicians
and Surgeons*

Dear Faculty and Staff,

We are pleased to share with you this first issue of the new Department of Surgery research e-newsletter. As we shared in our recent surgannounce, our hope is that greater awareness of the broad range of research within the Department will stimulate cross-fertilization, provide positive role-modeling, and improve everyone's productivity.

The pubmed links should work for everyone. The journal-specific links will only work if you have a subscription to that journal or you are connected into the Columbia University library e-journal system.

Please be sure to email Paul Kurlansky (pk2245@columbia.edu) or myself (crs2@cumc.columbia.edu) with your confirmed publications, presentations, and grants as we will be sending this newsletter update monthly.

Thank you,
Craig Smith, MD

ADOLESCENT BARIATRIC SURGERY

Jeff Zitsman has been actively addressing surgical approaches to the increasingly prevalent challenge of pediatric and adolescent obesity.

Kaplan S, Sysko R, Devlin, M, Zitsman J, Walsh BT. Psychiatric Disorder Comorbidity and Clinically Significant Symptoms in Adolescent Bariatric Surgery Candidates. 47th Annual Convention, Association for Behavioral and Cognitive Therapies. November 21-24, 2013, Nashville, TN.

Bagloo M, DiGiorgi M, Schrope B, Silva M, Ude A, Abecassis T, Sangal M, Bessler M, Zitsman J. One Year Outcomes of Sleeve Gastrectomy in Pediatric vs Adult Patients. 30th Annual Meeting, American Society for Metabolic and Bariatric Surgery, Nov 11-16, 2013, Atlanta, GA.

Orr, LE, Zitsman JL. Preoperative predictors of excess body weight loss in adolescents following laparoscopic adjustable gastric banding. 30th Annual Meeting, American Society for Metabolic and Bariatric Surgery, Nov 11-16, 2013, Atlanta, GA.

Censani M, Conroy, R, Deng L, Oberfield SE, McMahon DJ, Zitsman JL, Leibel RL, Chung WK, Fennoy I. Weight loss after bariatric surgery in morbidly obese adolescents with MC4R mutations. *Obesity*, 2013; Jun 6 (pub ahead of print).

<http://onlinelibrary.wiley.com/doi/10.1002/oby.20511/pdf> or
<http://www.ncbi.nlm.nih.gov/pubmed/23740648>

Zitsman, JL. Laparoscopic adjustable gastric banding. *Seminars in Pediatric Surgery*; 23 (2014) 17-20

<http://download.journals.elsevierhealth.com/pdfs/journals/1055-8586/PIIS1055858613000711.pdf> or <http://www.ncbi.nlm.nih.gov/pubmed/24491363>

Zitsman JL, Reichard KW MD , Inge TH et al. Pediatric and adolescent obesity: management, options for surgery, and outcomes. In press, *Journal of Pediatric Surgery*

<http://download.journals.elsevierhealth.com/pdfs/journals/0022-3468/PIIS0022346813009755.pdf>

AORTIC SURGERY

Elizabeth Stephens has continued her active study complex surgery for aortic disease with numerous recent presentations and publications:

Issues Affecting Successful Childbearing Among Women in Thoracic Surgery, (given by co-author Dang Pham), Society of Thoracic Surgery, Orlando, Jan, 2014

Incidence and Progression of Mild Aortic Regurgitation after the David I Procedure, (given by co-author Fabian Kari), Jahrestagung der Deutschen Gesellschaft für Thorax (German Society for Thoracic and Cardiovascular Surgery), Berlin, Feb 2014

David I Valve-Sparing Aortic Root Replacement - Impact of Graft Size and Aortic Downsizing on Mitral Valve Function, (given by co-author Fabian Kari), Jahrestagung der Deutschen Gesellschaft für Thorax (German Society for Thoracic and Cardiovascular Surgery), Berlin, Feb, 2014

Kari F, Beyersdorf F, Stephens EH, Peter P, Rylski B, Russe M, Blanke P, Siepe M. Results after Thoracic Aortic Reoperations in Marfan Syndrome, *Annals of Thoracic Surgery*, 2014 Feb 8 [ePub ahead of print].

<http://download.journals.elsevierhealth.com/pdfs/journals/0003-4975/PIIS0003497513028580.pdf>

Coselli JS, Volguina IV, LeMaire SA, Sundt TM, Stephens EH, Vricella LA, Schaff HV, Milewicz DM, Dietz HC, Connolly HD, Miller DC. Early and One-Year Outcomes of Aortic Root Surgery in Marfan Syndrome Patients: A Prospective Multi-Center Comparative Study, *Journal of Thoracic and Cardiovascular Surgery*, 2014, in press.

<http://download.journals.elsevierhealth.com/pdfs/journals/0022-5223/PIIS0022522314001810.pdf>

Stephens EH, Liang DH, Kvitting JPE, Kari FA, Fischbein MP, Mitchell RS, Miller DC. Incidence and Progression of Mild Aortic Regurgitation after Tirone David Reimplantation Valve-Sparing Aortic Root Replacement, *Journal of Thoracic and Cardiovascular Surgery*, 2014; 147:169-78.

<http://download.journals.elsevierhealth.com/pdfs/journals/0022-5223/PIIS0022522313010817.pdf> or <http://www.ncbi.nlm.nih.gov/pubmed/24176278>

BREAST SURGERY

Jeff Ascherman's group has recently reported the use of an innovative intraoperative imaging technology to prospectively assess the viability of flaps used for breast reconstruction. The technique may have applications in vascular and abdominal surgery as well:

Ascherman J, Olorunnipa O, Munabi N, Goltsman D, Rohde C. The ability of intraoperative perfusion mapping with laser-assisted indocyanine green angiography to predict flap necrosis in breast reconstruction: A prospective trial. Thirty-ninth annual meeting of the Israel Society of Plastic and Aesthetic Surgery. Tel Aviv, Israel. November 2013.

Olorunnipa O, Munabi N, Goltsman D, Rohde C, Ascherman J. The ability of intraoperative perfusion mapping with laser-assisted indocyanine green angiography to predict flap necrosis in breast reconstruction: A prospective trial. Eighty-second annual meeting of the American Society of Plastic Surgeons. San Diego, California. October

2013.

Munabi NCO, Olorunnipa OB, Goltsman D, Rohde CH, Ascherman JA. The ability of intraoperative perfusion mapping with laser-assisted indocyanine green angiography to predict mastectomy flap necrosis in breast reconstruction: A prospective trial. *J Plast Reconstr Aesth Surg*. DOI: 10.1016/j.bjps.2013.12.040. In press.

<http://download.journals.elsevierhealth.com/pdfs/journals/1748-6815/PIIS1748681513007043.pdf>

ENDOCRINE SURGERY

James Lee was recently asked to be an author on the AAES Parathyroid Surgery Guidelines (a multidisciplinary, national level consensus statement as well as a study entitled "A Cost Analysis of Routine Laryngoscopy" (a multi-institution cost analysis undertaken on behalf of the AAES), as well as to Co-Edit: Endocrine Disease and the Founding Figures (Springer).

Among numerous articles in press from his group is the currently accessible:

Epelboym I, Digesu CS, Johnston MG, Chabot JA, Inabnet WB, Allendorf JD, Lee JA. Expanding the indications for laparoscopic retroperitoneal adrenalectomy: experience with 81 resections. *J Surg Res* 4804(13).

<http://download.journals.elsevierhealth.com/pdfs/journals/0022-4804/PIIS0022480413010044.pdf>

IMMUNOLOGY

Donna Farber's ground-breaking research regarding the site-specific activity of T-cell immunity was recently recognized with an invited review article in Nature Immunology.

Farber, D.L., Yudanin, N.A. & Restifo, N.P. Human memory T cells: generation, compartmentalization and homeostasis. *Nat Rev Immunol* 14, 24-35 (2014).

<http://www.nature.com/nri/journal/v14/n1/pdf/nri3567.pdf>

Donna was kind enough to forward to us a brief synopsis of her most recent work:

Immunological memory refers to the ability of the immune system to remember its previous encounters with pathogens and respond more effectively to them when re-encountered. Immune memory is mediated by lymphocytes, with memory T cells important in immune protection to many types of viruses and intracellular pathogens. In humans, memory T cells are generated during early exposures to new pathogens, persist in multiple tissue sites including lymphoid tissue, lungs, intestines, skin and even brain, and comprise the most abundant lymphocyte population in the body for the majority of one's lifetime. However, our knowledge of human memory T cells derives almost exclusively from the study of peripheral blood, which contains only 2-3% of the total complement of memory T cells in the body. In addition, most studies on human memory T cells use samples obtained from young- or middle-aged adults, though the majority of memory T cell responses are formed during childhood from primary infections. Recent conceptual and technological breakthroughs, however, are now enabling novel explorations of T cell responses in humans. My laboratory is leading a big initiative to characterize the diversity of T cell differentiation and memory formation in lymphoid and mucosal tissues, with the goal of understanding how human immune responses are compartmentalized and regulated throughout the body over the course of a human lifetime. We have established collaboration with surgeons and research protocol with the New York Organ Donor Network (NYODN) to obtain multiple healthy lymphoid and non-lymphoid tissues from individual organ donors. In our review article, we integrate these new studies with previous findings on T cells from healthy and diseased patients for an analysis of the current knowledge of human memory T cells. We describe recent studies that are beginning to assess how memory is organized in human tissue sites, including their functional capacities and antigen specificities, and discuss their implications for promoting in situ immunity in vaccines and targeted therapies. We also discuss the accumulation of memory T cells over a lifetime and how compartmentalization and specificity of memory T cells is maintained through homeostasis.

PEDIATRIC CARDIAC SURGERY

*Dr. Emile Bacha was honored with delivering the **14th Annual C. Walton Lillehei Memorial Lecture in Cardiovascular Surgery** at the recent Cardiology 2014 meeting in Orlando, Florida. (Cardiology 2014 is the largest international meeting focused solely on pediatric cardiac surgery.)*

<http://www.chop.edu/professionals/educational-resources/continuing-medical-education/cardiology-2014/home.html>

The pediatric cardiac surgical group explored infections in neonates as the basis for future preventive strategies:

Evidence Based Management Strategies to Reduce SSI in Neonates Undergoing Cardiac Surgery Presented Shanghai, China October 23, 2013 Congenital Heart Disease Clinical Care and Translational Research Meeting Sponsored by the CHAMP Children Foundation and Children's Hospital of Fudan University Meghan Murray, MPH, Ganga Krishnamuthy, MD, Rozelle Corda FNP, Rebecca Turcotte, MD, Haomiao Jia, PhD, Emile Bacha, MD, Lisa Saiman, MD Surgical site infections and bloodstream infections in infants after cardiac surgery The Journal of Thoracic and Cardiovascular Surgery Article in Press

<http://download.journals.elsevierhealth.com/pdfs/journals/0022-5223/PIIS0022522313009689.pdf>

E Bacha, D Kalfa. Minimally invasive paediatric cardiac surgery. Nat. Rev. Cardiol., 2014 Jan;11(1):24-34.

<http://www.nature.com.ezproxy.cul.columbia.edu/nrcardio/journal/v11/n1/pdf/nrcardio.2013.168.pdf> or <http://www.ncbi.nlm.nih.gov/pubmed/24189403>

Reoperations for left atrioventricular valve dysfunction after repair of atrioventricular septal defect. M Pontaller, D Kalfa, E Garcia, M Ly, E Le Bret, R Roussin, V Lambert, B Stos, A Capderou, E Belli. Eur J Cardiothorac Surg, 2013 Jul 25. [Epub ahead of print]

<http://ejcts.oxfordjournals.org.ezproxy.cul.columbia.edu/content/early/2013/07/24/ejcts.ezt392.full.pdf+html?sid=acdc605f-d48f-432e-813d-29b08345de73> or <http://www.ncbi.nlm.nih.gov/pubmed/23886992>

TRANSPLANT SURGERY

Michael Kluger heightens our awareness of radiation exposure in the evaluation of liver transplantation patients.

Lee SY, Mooney M, Inra M, Juluru K, Fox AN, Olsen SK, Brown RS, Emond JC, Cherqui D, Kluger MD. Exposure to ionizing radiation during liver transplantation evaluation, waitlisting, and post-operatively: a cause for concern. Hepatology. 2014; 59(2):496-504. PMID: 23904338.

<http://www.ncbi.nlm.nih.gov/pubmed/23904338>

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