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*College of Physicians
and Surgeons*

Dear Colleagues,

It is both gratifying and inspiring to see the breadth and volume of work emerging from our department. We appreciate your support of our efforts to bring awareness and focus to our research enterprise.

As a reminder, the PubMed links below 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.

Let's keep up the excellent work. 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 continue to send this newsletter monthly.

Thank you,
Craig Smith, MD

Congratulations to Danielle Gottlieb on receiving an inaugural AATS Graham Foundation Career Development Award—she will be pursuing her work on signaling mechanisms in heart valve development.

Congratulations to Dr. Henry Spotnitz on reception of the Charles W. Bohmfalk Award for Excellence in Clinical Teaching at Columbia University College of Physicians & Surgeons.

Congratulations to all of the participants in the 23rd Surgery Research Competition. Special commendations go to first and second prizes for clinical and translational research:

Clinical Research

1. Steven Horwitz, M.D., Henry M. Spotnitz, M.D. Benefits of Temporary Multisite Pacing after Single Ventricle Palliation.
2. Shola Olorunnipa, M.D., Jeffrey C Ascherman, M.D. The Ability of Intraoperative

Perfusion Mapping with Laser-Assisted Indocyanine Green Angiography to Predict Flap Necrosis in Breast Reconstruction: A Prospective Trial.

Translational Research

1. Joshua Weiner, M.D., Adam Griesemer, M.D. Purification, Expansion, and Cryopreservation of Regulatory T Cells for the Induction of Transplantation Tolerance.
2. Kyle Glithero, M.D., June Wu, M.D. NOTCH3 Regulates Hemangioma Stem Cell Differentiation and Alters the Vascular Phenotype in an Infantile Hemangioma Murine Model.

BREAST SURGERY

Presentations

Ojo AS, Balci FL, Leung D, Rohde C, Feldman S. Lymphatic-Venous Anastomosis to Prevent Breast Cancer-Related Lymphedema Using LYMPHA Technique: Preliminary Results of a Single-Institution Experience, 15th Annual Meeting, The American Society of Breast Surgeons, Las Vegas, Nevada, May, 2014.

Mitchell SD, Beitsch P, Feldman S, Willey S, Manasseh DM, Unzeitig G. Ptosis and Nipple-Sparing Mastectomy. 15th Annual Meeting, The American Society of Breast Surgeons, Las Vegas, Nevada, May, 2014.

Gallagher K, Feldman S, Barone J, McGinness MK, Ochoa D, Lang JE, Mammen JM, Barone R, Viscusi R, Lee J, Adkins L, Hardee M, Korourian S, Klimberg VS. Prospective Multicenter Trial Results of Excision Followed by Radiofrequency Ablation to Extend Intraoperative Margins. 15th Annual Meeting, The American Society of Breast Surgeons, Las Vegas, Nevada, May, 2014.

Publications

Kalinsky K, Crew KD, Refice S, Xiao T, Wang A, Feldman SM, Taback B, Ahmad A, Cremers S, Hibshoosh H, Maurer M, Hershman DL. Presurgical trial of metformin in overweight and obese patients with newly diagnosed breast cancer. *Cancer Invest.* 2014 May;32(4):150-7.

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Review Article

Balci FL, Feldman SM. Exploring breast with therapeutic ductoscopy. *Gland Surgery* 2014;3(2):136-141.

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COLON AND RECTAL SURGERY

Presentations

Esemuede I, Lee-Kong S, Feingold D, Kiran RP. Influence of Body Mass Index (BMI) on outcomes after colorectal surgery: underweight more a problem than obesity? The Society for Surgery of the Alimentary Tract Annual Meeting, Chicago, May 6, 2014.

Esemuede I, Lee-Kong S, Fowler D, Feingold D, Kiran RP. Obesity, regardless of comorbidity, influences outcomes after colorectal surgery-time to rethink the pay-for-performance metrics? American Society of Colon and Rectal Surgeons Annual Scientific Meeting, Hollywood, FL, May 18, 2014.

Esemuede I, Lee-Kong S, Fowler D, Feingold D, Kiran RP. Outcomes after laparoscopic colectomy in the real-world: real and sustained benefit? American Society of Colon and Rectal Surgeons Annual Scientific Meeting Hollywood, FL May 19, 2014.

Esemuede I, Lee-Kong S, Feingold D, Kiran RP. The minimally invasive approach maximally benefits patients at the highest risk for Surgical Site Infections (SSI). American Society of Colon and Rectal Surgeons Annual Scientific Meeting Hollywood, FL May 20, 2014.

Esemuede I, Lee-Kong S, Middlesworth W, Feingold D, Kiran RP. Laparoscopy and reduced surgical site infection after colorectal surgery: delayed presentation rather than actual reduction? Poster at American Society of Colon and Rectal Surgeons Annual Scientific Meeting Hollywood, FL May 20, 2014.

CARDIAC SURGERY

Presentations

Branchetti E, Poggio P, Grau JB, Shaw RE, Desai ND, Gorman JH, Gorman RC, Bavaria JE, Ferrari G Circulating sRAGE identifies Bicuspid Aortic Valve patients and

Associated Aortopathies in patients referred for surgery. ATVB 2014 Scientific Session, Toronto, May 1-3, 2014.

Kalfa D, Krishnamurthy G, Duchon J, Najjar M, Levasseur S, Quaegebeur J, Bacha E. Outcomes of infants <2.5kg undergoing neonatal cardiac surgery PAS (Pediatric American Societies), Vancouver, May 3-6, 2014.

Poggio P, Branchetti E, Grau JB, Gorman RC, Gorman JH III, Sacks MS, Bavaria JE, Ferrari G. Osteopontin — CD44v6 Interaction Mediates Calcium Deposition via Phospho-Akt in Valve Interstitial Cells from patients with non-calcified Aortic Valve Sclerosis. To be presented at the Joint Scientific Meeting of the Heart Valve Society of America and Society of Heart and Valve Disease, New York City, May 8-10, 2014.

Kalfa D, Bacha E. Surgical Treatment of Pulmonary Vein Obstruction: a ECHSA Multicentric Study. European Congenital Heart Surgeons Association ECHSA, Spring Meeting, Toledo, Spain, May 9-10, 2014.

Spotnitz HM, Yeager KJ, Cabreriza SE, Vunjak-Novakovic G, Wang DY, Pearson GDN. Introducer development for cardiac resynchronization via right parasternal mediastinotomy. International Society for Minimally Invasive Cardiothoracic Surgery 2014 Annual Scientific Meeting, Boston, Massachusetts, May 28-31, 2014.

Publications

Ferrari G, Quackenbush J, Strobeck J, Hu L, Johnson C, Mak A, Shaw R, Sayles K, Brizzio M, Zapolanski A, Grau JB. Comparative Gene Expression Analysis of Human Right and Left Internal Mammary Arteries (IMAs) and Aortic Wall Supporting The Use of Bilateral IMAs in Coronary Artery Bypass Grafting. *Genomics*. 2014 May 20. pii: S0888-7543(14)00079-2. doi: 10.1016/j.ygeno.2014.04.005.

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Kalfa D, Vergnat M, Ly M, Stos B, Lambert V, Baruteau A, Belli E. A standardized repair-oriented strategy for mitral insufficiency in infants and children: Midterm functional outcomes and predictors of adverse events. *J Thorac Cardiovasc Surg*. 2014 Feb 26. pii: S0022-5223(14)00264-5. doi: 10.1016/j.jtcvs.2014.02.057.

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Genereux P, Cohen DJ, Williams MR, Mack M, Kodali SK, Svensson LG, Kirtane AJ, Xu K, McAndrew TC, Makkar R, Smith CR, Leon MB. Bleeding complication after surgical aortic valve replacement compared with transcatheter aortic valve replacement. *J Am Coll Cardiol* 2014;63:1100-9.

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PEDIATRIC SURGERY

Presentations

Pedroso FE, Gander JW, Oh PS, Zitsman JL. Laparoscopic vertical sleeve gastrectomy significantly improves short term weight loss as compared to laparoscopic gastric band placement in morbidly obese pediatric patients. Accepted for oral presentation, 45th Annual Meeting, American Pediatric Surgical Association, Phoenix, AZ, May 29-June 1, 2014.

Henry Spotnitz Research Competition

The 23rd Surgery Research Competition was held this morning, 5/22/14, in the Daniels Auditorium, 6:30-8:30 AM. There were twelve 7-minute presentations. Eighteen judges from our Research Committee and Departmental Leadership plus guest.

Publications

Voiculescu O, Bodenstern L, Lau I-J, Stern CD. Local cell interactions and self-amplifying individual cell ingression drive amniote gastrulation. eLife 2014;3:e01817.

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PLASTIC SURGERY

Publications

Preminger BA, Yaghoobzadeh Y, Ascherman JA. Management of sternal wounds by limited debridement and partial bilateral pectoralis major myocutaneous advancement flaps in 25 patients: A less invasive approach. Ann Plast Surg. 2014;72:446-50. PMID: 23503433.

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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.* 2014;67:449-55. DOI:10.1016/j.bjps.2013.12.040.

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Zeidler KR, Berkowitz RL, Chun YS, Alizadeh K, Castle J, Colwell AS, Desai AR, Evans G, Hollenbeck S, Johnson DJ, Morris D, Ascherman J. AeroForm patient controlled tissue expansion and saline tissue expansion for breast reconstruction: A randomized controlled trial. *Ann Plast Surg.* 2014;72:Suppl 1:S51-5. DOI: 10.1097/SAP.0000000000000175.

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Quality Improvement

Hogle NJ, Cohen B, Hyman S, Larson E, Fowler DL. Incidence and Risk Factors for and the Effect of a Program To Reduce the Incidence of Surgical Site Infection after Cardiac Surgery. *Surg Infect (Larchmt).* 2014 May 6. [Epub ahead of print]

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TRANSPLANTATION

Presentations

Coppelson Y, Samstein B, Kato T, Emond JC, Guarrera JV. Hypothermic Machine Preservation improves efficiency in Liver Transplantation: Cost Analysis of the Phase 1 Trial Oral Presentation and Young Investigator Award Winner. American Society of Transplant Surgeons State of the Art Winter Symposium, Miami FL, January 2014. Published in *Am J Transplant Supplement*.

Guarrera JV: Device Development: Bench to Bedside. Oral Presentation, American Society of Transplant Surgeons State of the Art Winter Symposium, Miami FL, January 2014. Published in *Am J Transplant Supplement*.

Ovanez C, Zitsman J, Guallart PA, Kato Y, Sykes M, Duran-Struuck R. Immunophenotype of the Lymphohematopoietic Organs of the Mauritian Macaca fascicularis. *Biomedical.*

Research Using Mauritian Macaques. Wisconsin National Primate Research Center,

Madison, WI May 13, 2014.

Zitsman J, Guallart PA, Ovanez C, Sykes M, Duran-Struuck R. Phenotypic and Functional Characterization of Mauritian Cynomolgus Macaques (*Macaca fascicularis*) Regulatory T Cells for pre-clinical Studies Biomedical Research Using Mauritian Macaques. Wisconsin National Primate Research Center, Madison, WI May 13, 2014.

Guallart PA, Zitsman J, Hugo Sondermeijer H, Leo Buhler L, Christopher Ovanez C, David Woodland D, Yojiro Kato Y, Alicia McMurchy A, Megan Levings M, Megan Sykes, Duran-Struuck. "Off the shelf" cryopreserved polyclonal regulatory T cells in the Mauritian Cynomolgus Macaque for clinical application Biomedical Research Using Mauritian Macaques. Wisconsin National Primate Research Center, Madison, WI May 13, 2014.

Publications

Parsons RF, Guarrera JV. Preservation solutions for static cold storage of abdominal allografts: which is best? *Curr Opin Organ Transplant*. 2014 Apr;19(2):100-107.

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Graham JA, Guarrera JV. "Resuscitation" of Marginal Liver Allografts for Transplantation with Machine Perfusion Technology. *J Hepatol*. 2014 Apr 23. pii: S0168-8278(14)00275-X. doi: 10.1016/j.jhep.2014.04.019. [Epub ahead of print]

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Graham JA, Guarrera JV. Looking into the crystal ball: "The 60-5 criterion" — a newly proposed predictor of severe complications after liver transplantation. *Liver Transpl*. 2014 Feb;20(2):127-9. (Editorial)

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Nativ NI, Chen AI, Yarmush G, Henry SD, Lefkowitz JH, Klein KM, Maguire TJ, Schloss R, Guarrera JV, Berthiaume F, Yarmush ML. Automated image analysis method for detecting and quantifying macrovesicular steatosis in hematoxylin and eosin-stained histology images of human livers. *Liver Transpl*. 2014 Feb;20(2):228-36. doi: 10.1002/lt.23782. Epub 2013 Dec 12.

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Haspot F, Li HW, Lucas CL, Fehr T, Beyaz S, Sykes M. Allospecific rejection of MHC class I-deficient bone marrow by CD8 T cells. *American Journal of Transplantation*,

2014 Jan 14(1): 49-58. doi: 10.1111/ajt.12525. PMID: 24304495.

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Griesemer A, Yamada K, Sykes M. Xenotransplantation: Immunological hurdles and progress toward tolerance. *Immunological Reviews*; 2014 Mar;258(1):241-58. doi: 10.1111/imr.12152. PMID: 24517437.

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Kalscheuer H, Onoe T, Dahmani A, Holzl M, Yamada K, Sykes M. Xenograft tolerance and immune function of human T cells developing in pig thymus xenografts. *Journal of Immunology*, 2014 Apr 1;192(7):3442-50. doi: 10.4049/jimmunol.1302886. PMID: 24591363.

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Kluger MD, Halazun KJ, Barroso RT, Fox AN, Olsen SK, Madoff DC, Siegel AB, Weintraub JL, Sussman J, Brown RS Jr, Cherqui D, Emond JC. Bland embolization versus chemoembolization of hepatocellular carcinoma before transplantation. *Liver Transpl*. 2014 May;20(5):536-43.

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Belin LJ, Neely RC, Kluger MD. Techniques for safe organ recovery after endovascular aortic and bariatric operations. *Liver Transpl*. 2014 May;20(5):619-23.

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Tsapepas DS, Vasilescu R, Tanriover B, Coppleson Y, Rekhtman Y, Hardy MA, Dube G, Crew RJ, Ratner LE, Cohen DJ, Mohan S. Preformed donor-specific antibodies and risk of antibody-mediated rejection in repeat renal transplantation. *Transplantation*. 2014 Mar 27;97(6):642-7. doi: 10.1097/01.TP.0000440954.14510.6a. PMID:24637863.

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