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Dear Faculty,

This month's report focuses heavily on our department's outstanding presentations and contributions in Cardiac surgery and the work of our Center for Innovations and Outcomes Research (CIOR).

Please continue to email Paul Kurlansky ([pk2245@columbia.edu](mailto:pk2245@columbia.edu)) or me ([crs2@cumc.columbia.edu](mailto:crs2@cumc.columbia.edu)) with regular updates on your grants, publications, and presentations by the first of every month.

Remember, journal links may require subscriptions or a log-in through the Columbia library while PubMed links are accessible to all.

For easy reference, we now post all issues of this [newsletter](#) on the Center for Innovations and Outcomes Research website.

Craig R. Smith, MD, FACS  
Chair, Department of Surgery

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## CONGRATULATIONS

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Donna Farber, MD received a competitive NIH grant renewal for "Development of lung T cell responses in infant respiratory immunity." (1U01AI100119-06 Farber, PI). 8/1/2017-7/30/2022 (NIH/NIAID)

David Kalfa, MD, received a 2016-17 Phase II Collaborative and Multidisciplinary Pilot Research (CaMPR) Award for his proposal, "Development of a smart ventricular support mesh to treat heart failure in adults and children." This \$75,000 award through

### PERSPECTIVE

#### 'Odious' nature of comparisons

In his invited discussion, Craig R. Smith, MD, of New York, noted that comparisons "are odious" and that comparing clinical trials requires caution (*J Thorac Cardiovasc Surg.* 2017;153:1300-1). He also acknowledged that surgeons would hope for evidence that the findings of the CoreValve US Pivotal High-Risk Trial were somehow wrong.

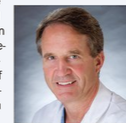
Dr. Smith raised a question about the CoreValve trial, which was designed to enroll high-risk patients, "but actually enrolled at the upper end of the intermediate-risk range with a Society of Thoracic Surgeons (STS) score of 7.4 versus 11.3 in the high-risk PARTNER 1." However, he noted that it would

not be fair to consider the self-expanding TAVR trial intermediate-risk, because the intermediate risk PARTNER 2 trial had an STS score of 5.8. And while outcomes for SAVR in the CoreValve trial were within the expected variable of less than 1 using the STS Predicted Risk for Mortality, the "bulge" of deaths in the recovery phase raises "a whiff of concern."

Dr. Smith said that the early technical mortalities with TAVR in the trial are already disappearing with experience and he noted that Dr. Gaudiani and his coauthors pointed out the frequency of

failure to repair and failure to recover. "Whether competing against TAVR in a randomized trial or operating on TAVR in eligible patients in the future, as the authors have emphasized, it behooves us to correct the problem as completely as possible and take the best possible care of our patients afterward," Dr. Smith said. He also noted the difference in discharge rates home "illustrates a very significant advantage of TAVR."

Dr. Smith disclosed he has received reimbursement for expenses in his leadership role in the Placement of Aortic Transcatheter Valves (PARTNER) trials.



Irving Institute for Clinical & Translational Research came from the National Center for Advancing Translational Sciences, National Institutes of Health. Grant Number UL1TR001873.

Dr. Kalfa also performed the first successful animal implant of a novel THE-Tube heart valved conduit constructed from bioresorbable polymer designed to colonize endogenous cells and grow with the child. More information <http://the-tube.eu>.

The current issue of *Thoracic Surgery News* highlighted Chairman, Craig Smith MD, and his critical analysis of late complications and mortality following the pivotal [CoreValve trial](#).

Also featured in the current edition of *Thoracic Surgery News* is Joshua Sonett's landmark work involving [thymectomy for the treatment of myasthenia gravis](#).

#### ■ GENERAL THORACIC

### New trial shows thymectomy benefits myasthenia gravis

BY RICHARD MARK KIRKNER  
FUSIONIC Medical News  
FROM THE JOURNAL OF THORACIC  
AND CARDIOVASCULAR SURGERY

The effectiveness of thymectomy as a cure for myasthenia gravis has long been debated, but the publication of Myasthenia Gravis Thymectomy Treatment (MGTX) trial results, showing that thymectomy improved outcomes over 3 years in patients with nonthymomatous myasthenia gravis, has gone a long way toward setting the debate, Joshua R.



DR. SONETT

Patients may need up to 3 years to achieve an optimal response, and complete cure in a shorter time frame should be the goal for each patient. Multimodal therapy should be the basis of MG treatment.

Sonett, MD, and his coauthors noted in a feature expert opinion (*J Thorac Cardiovasc Surg*. 2017;154:308-9).  
The MGTX trial randomized patients with nonthymomatous MG into two treatment groups: medical therapy alone or thymectomy with medical therapy (*N Engl J Med*. 2016;375:511-22).

For uniformly, the study mandated one type of thymectomy, an extended transsternal approach. The study was 12 years in the making, with 6 years of patient accrual followed by 3 years of surveillance, Dr. Sonett and his coauthors noted.

"The results of this study unequivocally prove that extended transsternal thymectomy improves clinical outcomes of patients with generalized MG," wrote Dr. Sonett of Columbia University Medical Center, New York-Presbyterian Hospital, and his coauthors. "Patients who were randomized to transsternal thymectomy had significantly improved symptoms of MG."

Those markers include an average quantitative myasthenia score of 6.15 for the thymectomy group vs. 8.99 for the medical therapy group (*P* less than .0001); a lower dose of prednisone to attain improved neurologic status (4.6 mg vs. 60 mg; *P* less than .001); time-weighted average score on the Myasthenia Gravis Activities of Daily Living scale (2.24 vs. 3.41; *P* = .008); azathioprine use (1.7% vs. 48%; *P* less than .001); percentage of patients who had minimal manifestation status at month 36 (67% vs. 47%; *P* = .03); and hospitalization for myasthenia-related symptoms (9% vs. 37%).

"Interestingly," the researchers wrote, "despite these quantitative results, no difference was seen in the quality of life measured surveys."

An ancillary study, BioMGTX, was performed simultaneously to investigate pathologic and serum markers.

"Many questions still need to be answered in regard to the role of thymectomy in MG," Dr. Sonett and his coauthors maintained. They include an analysis of radiologic predictors of success with thymectomy, and the role of thymectomy in seronegative MG, ocular MG and elderly patients.

"Future studies may be directed at achieving a more rapid and consistent time to a complete symptom response," they said.

The MGTX trial does support the use of high-dose prednisone induction combined with thymectomy to achieve higher complete early remission rates, but BioMGTX data may help to refine induction protocols.

"The debate will likely continue in regard to widespread adoption of extended transsternal maximal thymectomy," the researchers wrote. "What was categorically reassured in this trial was the effect of maximal thymectomy, as seen



Surgical removal of the thymus (above) was shown to benefit patients with myasthenia gravis, a neuromuscular disorder often characterized by drooping eyes.

notomy offers no particular independent therapeutic benefit."

The structure of the MGTX trial despite its small cohort (126) "enabled the medical and surgical community to definitively answer an important question," they noted. Nonetheless, further investigation of the role of thymectomy in MG is " sorely needed."

Patients may need up to 3 years to achieve an optimal response, and complete cure in a shorter time frame should be the goal for each patient.

Multimodal therapy should be the basis of MG treatment. "Continued progress in the management of MG will require diligent, multidisciplinary teams designing and completing prospective studies like the MGTX," the researchers wrote.

Dr. Sonett and his coauthors had no financial relationships to disclose. The MGTX trial was funded by the U.S. National Institutes of Neurological Disorders and Stroke. There was no commercial support for the trial. ■

## CARDIAC SURGERY

### Publications

Allen KB, Thourani VH, Naka Y. Sternal healing comes from stable beginnings. *J Thorac Cardiovasc Surg*. 2017 Sep;154(3):943-944.

[Journal link](#)

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Anderson BR, Wallace AS, Hill KD, Gulack BC, Matsouaka R, Jacobs JP, Bacha EA, Glied SA, Jacobs ML. Association of Surgeon Age and Experience With Congenital Heart Surgery Outcomes. *Circ Cardiovasc Qual Outcomes*. 2017 Jul;10(7).

[Journal link](#)

[PubMed link](#)

Bacha E. Intervention on Surgical Systemic-to-Pulmonary Artery Shunts. *JACC Cardiovasc Interv*. 2017 Aug 9. pii: S1936-8798(17)31295-5.

[Journal link](#)

[PubMed link](#)

Gillespie MJ, Benson LN, Bergersen L, Bacha EA, Cheatham SL, Crean AM, Eicken A, Ewert P, Geva T, Hellenbrand WE, Hor KN, Horlick EM, Jones TK, Mayer J, McHenry BT, Osten MD, Powell AJ, Zahn EM, Cheatham JP. Patient Selection Process for the

Harmony Transcatheter Pulmonary Valve Early Feasibility Study. *Am J Cardiol*. 2017 Jul 26. pii: S0002-9149(17)31199-2.

[Journal link](#)

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Fukuhara S, Takeda K, Chiuzan C, Han J, Kurlansky PA, Takayama H, Naka Y. Concomitant mitral repair and continuous-flow left ventricular assist devices: Is it warranted? *J Thorac Cardiovasc Surg*. 2017 Apr 22. pii: S0022-5223(17)30840-1. doi: 10.1016/j.jtcvs.2017.04.021. [Epub ahead of print]

[Journal link](#)

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Han SM, Sorabella RA, Vasan S, Grbic M, Lambert D, Prasad R, Wang C, Kurlansky P, Borger MA, Gordon R, George I. Influence of *Staphylococcus aureus* on Outcomes after Valvular Surgery for Infective Endocarditis. *J Cardiothorac Surg*. 2017 Jul 20;12(1):57.

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Kurlansky P, Arterial grafting for coronary revascularisation and the illusive search for truth. *Heart* 2017;103:1394-1395.

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Kurlansky P. Postoperative atrial fibrillation: The truth is stranger than fiction. *J Thorac Cardiovasc Surg*. 2017 Aug;154(2):499-500. doi: 10.1016/j.jtcvs.2017.03.057.

[Journal link](#)

[PubMed link](#)

Salna M, Takayama H, Garan AR, Kurlansky P, Farr MA, Colombo PC, Imahiyerobo T, Morrissey N, Naka Y, Takeda K. Incidence and risk factors of groin lymphocele formation after venoarterial extracorporeal membrane oxygenation in cardiogenic shock patients. *J Vasc Surg*. 2017 Aug 16. pii: S0741-5214(17)31763-9. doi: 10.1016/j.jvs.2017.05.127.

[Journal link](#)

[PubMed link](#)

Takeda K, Garan AR, Ando M, Han J, Topkara VK, Kurlansky P, Yuzefpolskaya M, Farr MA, Colombo PC, Naka Y, Takayama H. Minimally invasive CentriMag ventricular assist device support integrated with extracorporeal membrane oxygenation in cardiogenic shock patients: a comparison with conventional CentriMag biventricular support configuration. *Eur J Cardiothorac Surg*. 2017 Jun 22. doi: 10.1093/ejcts/ezx189.

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Truby LK, Takeda K, Farr M, Beck J, Yuzefpolskaya M, Colombo PC, Tokpara V, Mancini D, Naka Y, Takayama H. Incidence and Impact of On-Cardiopulmonary Bypass Vasoplegia During Heart Transplantation. *ASAIO J*. 2017 Aug 2. doi: 10.1097/MAT.0000000000000623.

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Weerahandi H, Goldstein N, Gelfman LP, Jorde U, Kirkpatrick JN, Meyerson E, Marble J, Naka Y, Pinney S, Slaughter MS, Bagiella E, Ascheim DD. The Relationship between Psychological Symptoms and Ventricular Assist Device Implantation. *J Pain Symptom Manage*. 2017 Aug 11. pii: S0885-3924(17)30337-8.

[Journal link](#)

[PubMed link](#)

Welch D, Randers-Pehrson G, Spotnitz HM, Brenner DJ. Measurement of UV Emission from a Diffusing Optical Fiber Using Radiochromic Film (PHP-2017-04-RA-0064). *Photochem Photobiol*. 2017 Jun 2. [Epub ahead of print].

[Journal link](#)

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## CENTER FOR INNOVATION AND OUTCOMES RESEARCH (CIOR)

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### Presentations

*International Society on Thrombosis and Hemostasis (ISTH) Congress 2017  
Berlin, Germany, July 8-13, 2017*

Wells P, Peacock WF, Fermann GJ, Coleman CI, Wang L, Baser O, Schein J, Crivera C. The value of sPESI for risk stratification in patients with pulmonary embolism.

*International Society for Pharmacoepidemiology (ISPE) 33rd International Conference on Pharmacoepidemiology  
Montreal, Quebec, Canada, August 26-30, 2017*

Ogbomo A, Keshishian A, Xie L, Lin Y, Baser O. A Descriptive analysis of the health care utilization and costs of patients diagnosed with multiple myeloma in the US Medicare population.

Pandya S, Cao Y, Wang L, Baser O. Assessing the economic burden and 30-day readmission rates among patients with heart failure in the US Veterans Health Administration population.

Vaidya N, Xie L, Wang Y, Du J, Baser O. Evaluating the economic burden and health

care utilization of migraine in the US Department of Defense population. *International Society for Pharmacoepidemiology*

Zhang Q, Xie L, Keshishian A, Lin Y, Baser O. Examining the health care utilization and costs among elderly patients with chronic obstructive pulmonary disease in the United States.

*European Society of Cardiology (ESC) Congress 2017  
Barcelona, Spain, August 26-30, 2017*

Peacock WF, Coleman C, Wells P, Fermann GJ, Wang L, Baser O, Schein J, Crivera C. Clinical and economic outcomes in low-risk pulmonary embolism patients treated with rivaroxaban vs standard of care.

Zhao Q, Wang L, Kurlansky PA, Schein J, Baser O, Berger J. Short and intermediate term all-cause mortality among newly-diagnosed heart failure patients in the US Medicare population.

### **Publications**

Amin A, Keshishian A, Trocio J, Dina O, Le H, Rosenblatt L, Liu X, Mardekian J, Zhang Q, Baser O, Vo L. Risk of stroke/systemic embolism, major bleeding and associated costs in non-valvular atrial fibrillation patients who initiated apixaban, dabigatran, or rivaroxaban compared with warfarin in the United States Medicare population. *Curr Med Res Opin.* 2017 Jun 21:1-32.

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Bent-Enakhil N, Coste F, Xie L, Sanon Aigbogun M, Wang Y, Kariburyo F, Hartry A, Baser O, Neumann P, Fillit H. A real-world analysis of treatment patterns for cholinesterase inhibitors and memantine among newly-diagnosed Alzheimer's disease patients. *Neurol Ther.* 2017;6(1):131-144.

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Brekke L, Buysman E, Grabner M, Ke X, Xie L, Baser O, Wei W. The use of decomposition methods in real-world treatment benefits evaluation for patients with type 2 diabetes initiating different injectable therapies: Findings from the INITIATOR study. *Value Health.* 2017 Jul 11.

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Keshishian A, Boytsov N, Burge R, Krohn K, Lombard L, Zhang X, Xie L, Baser O. Examining impact of medication adherence on risk of subsequent fracture among women with a fragility fracture in the US Medicare population. *J Manag Care Pharm.* Published online August 22, 2017.

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Keshishian A, Boytsov N, Burge R, Krohn K, Lombard L, Zhang X, Xie L, Baser O.

Examining the treatment gap and risk of subsequent fractures among females with a fragility fracture in the US Medicare population. *Osteoporos Int*. 2017 May 23.

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Wang L, Baser O, Wells P, Peacock WF, Coleman CI, Fermann GJ, Schein J, Crivera C. Overall effectiveness of rivaroxaban in patients with pulmonary embolism. *Clin Ther*. 2017 Jun 23.

[Journal link](#)

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## COLORECTAL

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### Publications

Al-Mazrou AM, Chiuzan C, Kiran RP. The robotic approach significantly reduces length of stay after colectomy: a propensity score-matched analysis. *Int J Colorectal Dis*. 2017 Jul 7. doi: 10.1007/s00384-017-2845-1. [Epub ahead of print]

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## GI/ENDOCRINE SURGERY

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### Publications

Hecht EM, Liu MZ, Prince MR, Jambawalikar S, Remotti HE, Weisberg SW, Garmon D, Lopez-Pintado S, Woo Y, Kluger MD, Chabot JA. Can diffusion-weighted imaging serve as a biomarker of fibrosis in pancreatic adenocarcinoma? *J Magn Reson Imaging*. 2017 Aug;46(2):393-402.

[Journal link](#)

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Kayal M, Luk L, Hecht EM, Do C, Schrope BA, Chabot JA, Gonda TA. Long-Term Surveillance and Timeline of Progression of Presumed Low-Risk Intraductal Papillary Mucinous Neoplasms. *AJR Am J Roentgenol*. 2017 Aug;209(2):320-326.

[Journal link](#)

[PubMed link](#)

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## IMMUNOLOGY/TRANSPLANTATION

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### Publications

Carpenter, D.J., Matsuoka, N., Granot, T., Kumar, B.V., Senda, T., Thome, J.J.C., Gordon, C.L., Miron, M., Weiner, J., Lerner, H., Friedman, A., Griesemer, A.D., Farber, D.L. (2017) Human immunology studies using organ donors: impact of clinical variations on immune parameters in tissues and circulation. *Am. J. Trans.* doi: 10.1111/ajt.14434. [Epub ahead of print].

[Journal link](#)

[PubMed link](#)

*NB: A surgery resident is first author/startup grant and award recipient*

Granot, T., Senda, T., Carpenter, D., Matsuoka, N., Weiner, J., Gordon, C.L., Miron, M., Kumar, B.V., Griesemer, A., Ho, S-H, Lerner, H., Thome, J.J.C., Connors, T., Reizis, B., and Farber, D.L. (2017) Dendritic cells display subset and tissue-specific maturation dynamics over human life. *Immunity*, 46:504-515.

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Gordon, C.L., Miron, M., Thome, J.J.C., Matsuoka, N., Weiner, J., Rak, M., Igarashi, S., Granot, T., Lerner, H., Goodrum, F. and Farber, D.L. (2017) Tissue-reservoirs of T cell immunity in persistent human CMV infection. *J. Exp. Med.* 214:651-667.

[Journal link](#)

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Snyder, M.E. and Farber, D.L. (2017) Thymic-peripheral crosstalk in lymphodepletion therapy. *Am. J. Trans.* 17:1970-1971.

[Journal link](#)

[PubMed link](#)

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## PEDIATRIC SURGERY

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### Presentations

*26th annual meeting, International Pediatric Endosurgery Group  
London, United Kingdom, July 19-22, 2017*

Zitsman J. Conversion From Adolescent Laparoscopic Adjustable Gastric Banding to Sleeve Gastrectomy

## Publications

O'Brien C, Monteagudo J, Schad C, Cheung E, Middlesworth W. Centrifugal pumps and hemolysis in pediatric extracorporeal membrane oxygenation (ECMO) patients: An analysis of Extracorporeal Life Support Organization (ELSO) registry data. *J Pediatr Surg*. 2017 Jun;52(6):975-978.

[Journal link](#)

[PubMed link](#)

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## THORACIC SURGERY

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### Presentations

*25th meeting of the European Society of Thoracic Surgeons Innsbruck Austria, May 29, 2017*

Lambert D, Vandenberghe J, Borczuk A, Sonett J. Extra-nodal extension in N1 and N2 lymph node regions may be a predictor of survival in resected nonsmall cell lung cancer.

### Publications

Biscotti M, Gannon WD, Agerstrand C, Abrams D, Sonett J, Brodie D, Bacchetta M. Awake Extracorporeal Membrane Oxygenation as Bridge to Lung Transplantation: A 9-Year Experience. *Ann Thorac Surg*. 2017 Aug;104(2):412-419.

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Zhao J, Wang D, Ballard-Croft C, Wang J, Hsu PL, Bacchetta M, Zwischenberger JB. Hybrid Extracorporeal Membrane Oxygenation Using Avalon Elite Double Lumen Cannula Ensures Adequate Heart/Brain Oxygen Supply. *Ann Thorac Surg*. 2017 Sep;104(3):847-853.

[Journal link](#)

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## VASCULAR SURGERY

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### Presentations

*Advisory Council Annual Endovascular Complications Conference Jackson Hole, Wyoming, August 13-16, 2017*



Morrissey NJ. Acute Complications of Endovascular Management of Mesenteric Ischemia. Failure Analysis.



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