

summer 2014

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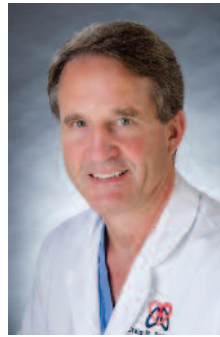
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## Message from the Chairman

In addition to the individual achievements highlighted on page 3 and 6 of this issue, I would like to congratulate two of our surgical divisions for their advances in breast and lung surgery.

One of many innovative protocols at the breast surgery division, intra-operative radiation therapy (IORT) is now being used bilaterally (in both breasts). To learn more about this innovative therapy that provides significant benefits to women after lumpectomy, please see the summer 2014 issue of the newsletter *PINK*.

In another noteworthy milestone, the Scientific Registry of Transplant Recipients (SRTR) has released its latest data on lung transplantation (for the years 2011-2013). In our lung transplant program, 1-year patient survival and 1-year graft survival were both higher than expected at 94%. Our median time to lung transplant was 5.2 months, and 25% of our patients were able to receive a lung transplant within six weeks of being placed on the organ donation wait list.

I thank all of our faculty and staff for their dedication and hard work, which makes such progress possible. I wish all a happy and healthy summer. ■

**Craig R. Smith, MD, FACS**  
Chairman, Department of Surgery



**Frank D'Ovidio, MD, PhD**  
Surgical Director of the Lung Transplant Program

## Esophageal Disorders Program Tackles GERD-Related Aspiration

Team develops novel technique to assess and prevent common problem that can be serious in some patients.

The Esophageal Disorders Program at NewYork-Presbyterian/Columbia University Medical Center has wide experience in treating adults and children with esophageal diseases (see sidebar, page 2). According to **Frank D'Ovidio, MD, PhD, Surgical Director of the Lung Transplant Program**, the esophageal team's expertise, now world-renowned, has developed over decades of multidisciplinary collaboration.

Now, Dr. D'Ovidio is drawing on that expertise to address a significant complication associated with severe gastroesophageal reflux disorder (GERD). Approximately 20% of Americans have some degree of GERD, leading to approximately 65 million prescriptions and 4.7 million hospitalizations per year in the United

*Continued on page 2*

More from the Department of Surgery experts at:



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[www.columbiasurgery.net](http://www.columbiasurgery.net)

## Esophageal Disorders Program: Areas of Expertise

Surgeons in the Esophageal Disorders Program perform most surgeries using minimally invasive techniques including laparoscopy and the surgical robot.

Areas of special expertise include:

- Esophageal motility disorders, including primary motor disorders of the esophagus, esophageal achalasia, diffuse esophageal spasm, and esophageal scleroderma
- Endoscopic and surgical management of gastroesophageal reflux and hiatal hernia, including giant intrathoracic hiatal hernia and esophageal shortening
- Complications such as esophageal perforation

*Continued from page 1*

States.\* But despite these staggering numbers, even severe GERD can go undetected for long periods of time. Whether GERD occurs on its own or in association with other esophageal and lung conditions, it can lead patients to aspirate stomach content into their lungs.

Aspiration of stomach juices into the lungs is a particularly dangerous problem because it can damage the lining of the lungs, leading to presentations of lung disease ranging from asthma to lung fibrosis. “This problem is seldom recognized and often not appropriately treated,” says Dr. D’Ovidio. Moreover it is of great concern and a significant challenge in lung transplant patients, who are often affected by severe GERD. Aspiration can cause early lung dysfunction to newly transplanted lungs in such patients.

As a result of increased awareness of the dangers of prolonged non-classic GERD symptoms, the program is now working on an approach to help detect and prevent GERD-related aspiration so that patients can avoid developing associated lung disease. Their approach entails a new methodology to assess aspiration secondary to GERD. Specifically, Dr. D’Ovidio is developing a way to measure the presence of bile acids in the airways. Bile acids are components of the gastrointestinal juices and should not be present in the lungs. If they are found in the airway, this indicates the presence of severe GERD and recurrent aspiration.

The procedure works like this: doctors obtain fluid samples during bronchoscopy procedures (and in the future, they could potentially use sputum, expectorated secretions, or exhaled breath condensate as well). They then use the mass spectrometer to test the samples for the presence of duodenal gastric juices such as bile acids. This assessment can objectively monitor whether micro-aspiration is occurring, which would

then help to guide treatment decisions. The mass spectrometry approach to test for bile acids in lung fluids has been developed and will be performed in partnership with **Serge Cremers, PharmD, PhD**, *Director of the Biomarkers Core Laboratory of the Irving Institute for Clinical and Translational Research*.

As Dr. D’Ovidio explains, “Lung transplant and other patients cannot tell when they are aspirating fluid into their lungs. They know if they are aspirating large volumes of fluid, called macro-aspiration, but they often can not tell if they are inhaling smaller quantities, called micro-aspiration. The ability to detect micro-aspiration could significantly improve the health of thousands of patients with otherwise asymptomatic GERD.” The new approach was made possible by combining the knowledge available in Dr. Cremers’ special chemistry laboratory with the esophageal team’s expertise in pathophysiology and clinical presentation of esophageal and lung disorders.

“We are initially looking to help a relatively small population affected by GERD, those who have undergone lung transplant or patients with gastroesophageal motor disorders. However, this test could potentially be used to help the broader population of people who suffer from GERD but do not have typical GERD-like symptoms (cough, asthma and others), and therefore go undiagnosed for many years. Of note, pulmonary fibrosis and COPD have been associated with GERD and possible aspiration,” says Dr. D’Ovidio. This new methodology is now being cross-tested in a multicenter study. ■

\*<http://digestive.niddk.nih.gov/statistics/statistics.aspx#specific>

**For information on treatment of GERD at NewYork-Presbyterian/Columbia, please visit [www.columbiasurgery.org/esophageal](http://www.columbiasurgery.org/esophageal), or email [info@columbiasurgery.org](mailto:info@columbiasurgery.org)**



# HONORS AND AWARDS



Congratulations to these faculty members for receiving outstanding awards this quarter.

## Spencer E. Amory, MD, FACS

*Chief, Division of General Surgery, NewYork-Presbyterian/Columbia University Medical Center*

Dr. Amory has been awarded the **2014 Jerry Gliklich Award for Exemplary Clinical Care**, formerly "Practitioner of the Year" award, by the NewYork-Presbyterian/Columbia University Medical Center Society of Practitioners. To qualify, a physician must demonstrate exceptional care to patients, engender respect and collegiality with peers, and have outstanding outcomes.

## Sheldon M. Feldman, MD

*Chief, Division of Breast Surgery NewYork-Presbyterian/Columbia University Medical Center*

Dr. Feldman was named the **Secretary Treasurer of the Board of Directors of the American Society of Breast Surgeons (ASBS)** in early May, 2014. ASBS is the leading national association of surgeons who treat patients with breast disease. Dr. Feldman's position on the ASBS Board reflects his leadership and dedication to advancing the treatment of breast disease through clinical care, research, and education.

## Mark A. Hardy, MD

*Director Emeritus and Founder, Renal and Islet Transplantation, NewYork-Presbyterian/Columbia University Medical Center*

Dr. Hardy has received the **2014 Pioneer Award** from the American Society of Transplant Surgeons (ASTS). The Pioneer Award is the highest award bestowed upon an individual by the ASTS for a significant contribution to the field of transplantation.

## Henry M. Spotnitz, MD

*George H. Humphreys II Professor of Surgery, Vice-Chairman, Research & Information Systems, Columbia University College of Physicians and Surgeons*

*Director, Cardiovascular Surgery Research Laboratory, Columbia University College of Physicians and Surgeons*

Henry M. Spotnitz, MD and colleagues received **first prize in the arrhythmia section of the Scientific Presentations to the International Society for Minimally Invasive Cardiothoracic Surgery (ISMICS)** for their poster: *Introducer development for cardiac resynchronization via right parasternal mediastinotomy*. The presentation stimulated considerable interest regarding multiple potential novel applications.

Dr. Spotnitz also received the **Charles W. Bohmfalk Award** during the College of Physicians and Surgeons Commencement Ceremony May 21, 2014. This significant honor recognizes Dr. Spotnitz for his distinguished teaching in the pre-clinical and clinical years.

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## Annual Pancreatic Cancer Awareness Day

**Saturday, November 8, 2014 • 1:00 to 3:00pm  
New York City**



Join us for an afternoon of learning and sharing. In addition to clinical lectures, survivors will share their personal experiences. Following the lectures we will host a health fair in the Riverview Terrace where refreshments will be served, and various vendors will be on hand providing useful literature, materials & giveaways. You will also have the opportunity to interact with our staff and faculty.

For information and reservations please contact: Christine Rein  
Tel: 212.304.7814 • Fax: 212.304.7811 • E-mail: [cmr2146@cumc.columbia.edu](mailto:cmr2146@cumc.columbia.edu)  
Register online: [www.columbiasurgery.org/events](http://www.columbiasurgery.org/events)

**SAVE THE DATE**

# Cytoreduction Surgery and Heated Intraperitoneal Chemotherapy

Offering long-term survival for patients with cancers of the abdominal lining

Diagnosis of cancer that has spread to the abdominal wall lining (peritoneum) is typically considered a lethal diagnosis. But at NewYork-Presbyterian/Columbia University Medical Center, many patients with these advanced cancers can expect long-term survival, thanks to refined surgical approaches and intra-abdominal chemotherapy.

According to **Michael Kluger, MD, MPH**, *Assistant Professor of Surgery*, abdominal mesothelioma, colorectal cancer, appendiceal cancer, and ovarian cancer commonly spread from their primary sites to the wall of the abdomen. When they spread, they line the wall of the abdomen with tumor deposits, which cause scarring, inflammation, obstruction of the intestines, and eventually death. Because these cancers typically do not spread outside the abdomen, it is possible to remove the visible tumor deposits (called cytoreduction surgery) and apply chemotherapy to treat any remaining microscopic disease. Research shows that intraperitoneal chemotherapy is highly effective under these circumstances, whereas chemotherapy given through the veins is less effective.

Columbia is one of a few programs in the nation highly experienced in performing complex, extensive cytoreduction surgeries. After removing the visible tumors, the surgeons insert ports for administering chemotherapy, close the abdomen, and infuse a single dose of heated intraperitoneal chemotherapy (HIPEC). After this, the operation is completed.

Without treatment, most patients face a life expectancy of about six months. After cytoreduction surgery and HIPEC, research shows a significant improvement in survival: 40% survival at five years for patients whose cancer spread from the colon; ten years average survival for patients with mucinous appendiceal cancer; and median survival of over 60 months for mesothelioma and ovarian cancer. Systemic chemotherapy is often administered after the operation. "If we decrease the overall burden of disease by removing all visible cancer and the primary lesions, systematic chemotherapy is potentially more effective," says Dr. Kluger.

Success with this approach largely depends on the experience of the surgeon and program, cautions Dr. Kluger. "With the advent of inexpensive heated intraperitoneal chemotherapy pumps, more centers are beginning to treat patients with peritoneal cancers despite having little, if any, experience. A lot of judgments have to be made during these operations. Removing too much tissue can cause too high a risk of complications.



*Michael Kluger, MD, MPH  
Assistant Professor of Surgery*

In some cases an operation must be terminated. In other cases, we may have to remove one or more internal organs, and patients have to trust us to make the appropriate decisions during the operation. This is where experience comes into play."

NYP/Columbia's mesothelioma program, open since the 1990s, performs more surgeries for peritoneal mesothelioma than any other center in the United States. The outstanding reputation of this program draws patients from all over North America, including many who have been told they could not be treated.

When performing gastrointestinal surgeries, Dr. Kluger collaborates with **John Chabot, MD, FACS**,

*Chief of the Division of GI/Endocrine Surgery and Executive Director of the Pancreas Center* (and the surgeon who introduced these operative techniques to NYP/Columbia), as well as **Robert Taub, MD, PhD**, *Director of the Mesothelioma Center*. For patients with ovarian cancer, Dr. Kluger assists **Jason Wright, MD**, *Levine Family Assistant Professor of Women's Health (in Obstetrics and Gynecology)* and a specialist in gynecologic oncology. *Colorectal Division Chief* **P. Ravi Kiran, MBBS** and **Steven Lee-Kong, MD**, *Assistant Professor of Clinical Surgery*, provide expertise in cases of colorectal cancer. "Surgeons have to have a lot of comfort working in the abdomen to perform these operations, and our training and collaboration allows that," says Dr. Kluger.

Not only does the center offer a multidisciplinary team with 20 years of surgical experience, but it also leads in research. Drs. Chabot and Kluger have been following the long-term outcomes of patients with peritoneal mesothelioma. Dr. Taub is conducting research on the penetration of various chemotherapy agents into the abdominal wall. Dr. Lewin is researching novel therapies for ovarian cancer including HIPEC, and Dr. Wright is Principal Investigator of numerous clinical trials in gynecologic cancers.

Dr. Kluger and his colleagues are available to discuss potential referrals by phone or to evaluate any patient who may be a surgical candidate. Full evaluations are performed to rule out distant metastases (spread of cancer to distant organs) and to ensure that patients are strong enough to withstand the effects of major surgery. ■

**To learn more about these and other surgical advances at NYP/Columbia's Department of Surgery, visit [columbiasurgery.org](http://columbiasurgery.org)**



## Innovations in GI/Endocrine Surgery

Surgeons expand the use of the surgical robot to benefit patients undergoing complex pancreatic and gastric operations.

Readers may have heard about surgical robots, which surgeons are using in increasing numbers across the country. At NewYork-Presbyterian/Columbia, surgeons now use the surgical robot to perform gynecologic, urologic, colorectal, and a number of abdominal procedures. According to **Yanghee Woo, MD**, *Assistant Professor of Clinical Surgery* and *Director, Global Center of Excellence in Gastric Cancer Care*, it provides “phenomenal advantages” during operations to remove abdominal cancers, allowing surgeons to perform highly precise dissections, to retrieve lymph nodes without blood loss, and promoting faster recovery. She now performs almost all gastric (stomach) cancer operations with the surgical robot.



*Yanghee Woo, MD*  
*Assistant Professor of Surgery*

Based on Dr. Woo’s extensive training and clinical experience with the surgical robot, as well as careful observation of published data, the Division of Gastrointestinal (GI)/Endocrine surgery is now expanding its use of the robot to a broader range of pancreatic and abdominal operations. Together with **John A. Chabot, MD, FACS**, *Chief, Division of GI/Endocrine Surgery and Executive Director, Pancreas Center*, Dr. Woo performed the first robotic Whipple procedures at NYP/Columbia this year.

### Methodical approach to adopting new technology

Dr. Chabot explains how the Division of GI/Endocrine Surgery has approached the prospect of incorporating the surgical robot into its toolbox.

“We have taken a very methodical approach in evaluating the surgical robot’s benefits in gastrointestinal and endocrine operations,” says Dr. Chabot. “Dr. Woo gained extensive experience during training with the world’s foremost experts in Korea. Following this, other surgeons in our division went through extensive, rigorous training. Once we had a well-trained team assembled, we then began choosing our cases very carefully in order to use the new technology in the safest way possible.” During this process of training and evaluation, some surgeons determined that using the robot did not offer sufficient benefits. **James A. Lee, MD**, *Chief, Endocrine Surgery*, found that it did not improve upon other methods of performing thyroid surgery. Dr. Woo found that using the robot to remove the gallbladder through a single incision was possible, but not worth the larger incision it required, especially to perform a surgery that is already so highly successful and low in risk. “There is no proven benefit in this instance, and the cost is significantly higher,” she says.

### Benefits for complex abdominal surgery

However, the team has found the robot to be of great benefit for other types of procedures, including many colorectal, liver, and

gastric operations. During complex operations, the robot is equipped with four arms that are inserted through small ports into the patient’s abdomen. The arm with surgical instrumentation is wristed, meaning that it can articulate in all directions. Another arm is equipped with three-dimensional, magnified camera technology that provides far better visualization than the two-dimensional visualization that is available during laparoscopic surgery. “These advances give us far more freedom of movement as well as precision” explains Dr. Chabot. Dr. Woo says that because of these capabilities, she is confident that she is able to do complex gastric operations better with the robot than without, even though

studies have not yet confirmed her experience.

Initially, the GI/Endocrine division has used the surgical robot in patients with less advanced cancers or premalignant conditions. Patients could not have had any previous upper abdominal surgery, and their tumors could not be attached to major blood vessels that would require blood vessel reconstruction.

Although studies have not yet directly compared robotic and traditional abdominal operations, Dr. Chabot and Dr. Woo believe that the robot offers important advantages to patients by reducing surgical trauma overall. “We are seeing patients have shorter hospital stays and shorter recovery time overall. For patients with pancreatic cancer, one of the most important aspects is that this quicker recovery may allow them to start chemotherapy sooner than they otherwise would.”

### On the horizon: improved visualization and surgical outcomes

“We have developed confidence in ourselves to do more advanced cases,” says Dr. Chabot. “Our primary goal has been to maintain safety by being prudent with this new technology.” With that foundation, the team anticipates that the surgical robot will facilitate important innovations in pancreatic surgery, particularly as it allows new forms of surgical visualization. New technologies under development include the use of various wavelengths of light and injected substances that allow surgeons to better detect the boundaries of tumors or to find disease that is not visible using natural light. These innovations may allow surgeons to perform cancer operations more effectively in the future, but they will require laparoscopic or robotic access. “The new tools coming down the line won’t be available through traditional incisions,” explains Dr. Chabot. ■

**To learn more about pancreatic and GI/endocrine surgery, visit [pancreasmd.org](http://pancreasmd.org)**

## Surgery Research Competition

The **23rd Surgery Research Competition** was held May 22, 2014 at the NewYork-Presbyterian/Columbia campus. According to **Henry M. Spotnitz, MD**, *George H. Humphreys II Professor of Surgery*, "The annual Surgical Research Competition demonstrates the enthusiasm and scientific acumen of young investigators determined to push back the frontiers of research. Their work indicates that reduced federal research funding cannot prevent future generations of scientists from pursuing their dream of a better world, powered by advances in science, technology, and medicine."

First and second prizes were awarded for Clinical and Translational Research.

**First Prize in Clinical Research:** **Steven Horwitz, MD, Henry M. Spotnitz, MD** *Benefits of Temporary Multisite Pacing after Single Ventricle Palliation.*

This is preliminary clinical research intended to lead to an externally funded clinical trial. The purpose is to improve the treatment of "blue babies" with single ventricle heart defects undergoing palliative heart surgery. Though successful surgical strategies have been developed for this condition, most children are critically ill in the postoperative period. This study extends Cardiac Resynchronization Therapy (CRT), developed for adult

heart failure, into the world of congenital heart surgery. The study demonstrated beneficial trends in improving blood pressure, decreasing intravenous drug requirements to support heart function, improving fluid balance, and chemical indices related to blood flow. The study concludes that the technique is promising and larger studies are needed to determine whether critical illness after surgery can be prevented, with related savings in cost, morbidity, and mortality.

**First Prize in Translational Research:** **Joshua Weiner, MD, Adam Griesemer, MD** *Purification, Expansion, and Cryopreservation of Regulatory T Cells for the Induction of Transplantation Tolerance.*

This is translational research directed at the goal of tolerance of transplanted organs. This could eliminate transplant rejection as a clinical problem, resulting in life-long acceptance of transplanted organs. Considerable laboratory and conceptual evidence support the idea that donor specific regulatory T cells, or TREGS, are the key to eventual success in achieving immunologic tolerance, in which transplanted tissue or organs are accepted by the body as tissue originating from the recipient. This particular study demonstrates successful techniques for isolating and storing TREGS from baboons. ■

## 2014 top docs

### New York Top Doctors Announced

Congratulations to the following faculty from the Department of Surgery, who were among 215 physicians from NewYork-Presbyterian/Columbia University Medical Center to be recognized as among the best doctors in the New York metropolitan region, according to the latest *New York Magazine* "Best Doctors" issue, published June 10, 2014.

**Michael Argenziano, MD**  
*Cardiac and Thoracic Surgery*

**John A. Chabot, MD, FACS**  
*Endocrine Surgery*

**Tomoaki Kato, MD**  
*Abdominal Transplant Surgery*

**Mehmet C. Oz, MD**  
*Cardiac and Thoracic Surgery*

**Jeffrey A. Ascherman, MD**  
*Plastic Surgery*

**Jean C. Emond, MD**  
*Transplant Surgery*

**James A. Lee, MD**  
*Endocrine Surgery*

**Craig R. Smith, MD, FACS**  
*Cardiac and Thoracic Surgery*

**Emile Bacha, MD**  
*Cardiac and Thoracic Surgery*

**Daniel L. Feingold**  
*Colorectal Surgery*

**Nicholas J. Morrissey, MD, FACS**  
*Vascular Surgery*

**Joshua R. Sonett, MD**  
*Thoracic Surgery*

**Marc Bessler, MD**  
*Bariatric Surgery*

**Lyall A. Gorenstein, MD,  
FRCS (C), FACS**  
*Cardiac and Thoracic Surgery*

**Yoshifumi Naka, MD, PhD**  
*Cardiac and Thoracic Surgery*

**ABC's NY Med Season 2 to Feature NYP/Columbia Surgeons:** Stay tuned to see some of our Department of Surgery physicians, nurses and staff featured in the upcoming second season of "NY Med," the hit television series from ABC News. The show will premiere on Thursday, June 26, at 10:00 p.m. Eastern Time on ABC and will run for eight weeks.

### BlogTalkRadio

You can listen to expert surgeons discuss topics within their specialties on the **Columbia University Medical Center, Department of Surgery's BlogTalkRadio** channel. Tune in any time for new broadcasts each week: [www.blogtalkradio.com/columbiasurgery](http://www.blogtalkradio.com/columbiasurgery)

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