

Surgical Solutions

From the OR to the Principal's Office: Video Assisted Thorascopic Surgery Offers Faster Recovery

Until this year, Principal Eileen Weissman had missed only a handful of days in her six years at Philadelphia's Kensington International Business High School. That changed this past January when she underwent a lobectomy procedure (removal of the upper lobe of her right lung) that also confirmed she had lung cancer. Thanks to the minimally invasive nature of the procedure—a Video Assisted Thorascopic Surgery (VATS), performed by Nathaniel R. Evans III, MD, Director of the Jefferson Minimally Invasive Thoracic Surgery Program—she was back with her students within two weeks of surgery.

A Brooklyn native, Ms. Weissman had developed a cough last July and was diagnosed first with bronchitis and then with pneumonia. Six weeks later an x-ray revealed that her chest was still not clear. In December, she was referred to Jefferson for a PET CT scan and ultimately to the Thoracic Surgery Program.

Dr. Evans explains that, in 2010, Jefferson performed 85 percent of thoracic procedures using VATS, largely to treat early stage lung cancer—rates that are nearly four times higher than the national average. “Given the sophistication and complexity of the procedure, experience is crucial in performing a VATS lobectomy,” explains Dr. Evans, “At Jefferson we have successfully provided the procedure to nearly 200 patients of various ages. Most importantly, the oncologic outcomes of these procedures are at least equivalent to those of patients who had the more traditional thoracotomy.”

Assistant Professor Scott Cowan, MD (a graduate of the Jefferson Medical College and Jefferson residency program), explains, “Much like laparoscopic surgery, VATS requires only three small



Principal Eileen Weissman was back in the hallways of the Kensington International Business High School less than two weeks after lung surgery thanks to the VATS procedure offered by the Thoracic Surgery Program.

incisions in the chest. Benefits to the patient include a decrease in early and late postoperative pain, less of an impact

I stay current with the work I do and I wanted a surgeon who was on the leading edge. My husband and I asked a million questions, and Dr. Evans answered all of them

on breathing and a shorter hospital stay. Our average hospital stay after VATS lobectomy is less than half the national average. Many patients go home the day after surgery.” Within one or two weeks

of surgery, a patient like Ms. Weissman is on her way to the next step in her treatment plan, with radiation, or in her case, chemotherapy.

“I stay current with the work I do,” says Ms. Weissman, “and I wanted a surgeon who was on the leading edge. My husband and I asked a million questions, and Dr. Evans answered all of them. From the beginning I was impressed by how he exudes confidence. Having a surgeon of that caliber in your corner makes the process somewhat easier.”

For more information about the Thoracic Surgery Program visit: www.jeffersonhospital.org/thoracicsurgery

About the Program



Scott Cowan, MD, and Nathaniel R. Evans III, MD, Director of the Minimally Invasive Thoracic Surgery Program

For complex cases of lung and esophageal cancer, the Kimmel Cancer Center coordinates preoperative and postoperative care (including chemotherapy and radiation) through the Thoracic/Aerodigestive Multidisciplinary Cancer Clinic. This team of medical oncologists, radiation oncologists, pulmonologists, as well as physician assistants and nurse practitioners, forms a comprehensive treatment plan, which often includes clinical trials offering leading-edge treatments.

Thoracic surgeons also team up with general surgeons to perform the complex, minimally invasive esophagectomy procedure (removal of the esophagus) for gastric and esophageal cancer, using a combination of VATS and laparoscopy.

The Thoracic Surgery Program is also proud to offer Robotic-Assisted Thoracic Surgery. These procedures use several small incisions like the VATS, but are more complex because they access smaller spaces around the heart and lungs. The surgeon sits at a screen in the OR, watches images from the tiny cameras inserted through the incisions, and operates via the robotic arms. Jefferson is one of the only Delaware Valley hospitals to offer robotic thymectomy (removal of the thymus).

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Charles J. Yeo, MD, FACS

Samuel D. Gross Professor and Chair, Department of Surgery

This issue of Surgical Solutions has a trio of military stories—focusing on Drs. Alec Beekley and Daniel Grabo, and our benefactors Briley and Janice Howell. These stories cohere nicely now, at a time when our country is advancing the principles of freedom in places like Iraq, Afghanistan, and most recently Libya.

Jefferson Surgery has a proud tradition of service to our nation's military. The son of George McClellan (founder of JMC and first Chair of Surgery), George Brinton McClellan was a Major General for the Union forces in the Civil War, organized the Army of the Potomac, and served as the general-in-chief for Abraham Lincoln. Samuel D. Gross served in a consultative role to the Union troops, and authored the Manual of Military Surgery to assist the Union surgeons in the management of battlefield injuries. (The Manual was soon plagiarized by the Confederacy in Richmond, and distributed to their medical corps as well, without crediting Gross!)

W.W. Keen served as a surgeon in the Civil War, rose to the rank of Major, and even as an emeritus Professor continued to serve the military in various roles. Keen penned numerous articles on military surgery, noting progress from the Civil War to the First World War. John Chalmers DaCosta, Keen's successor as Chair and the first Samuel D. Gross Professor, served in the Navy in WWI, and rose to the rank of Commander. Many other Jefferson surgeons have served our country.

We are pleased to welcome Dr. Beekley to our Jefferson Surgery family—he is one of many American military heroes. Dr. Grabo will continue his service to our country after his fellowship training is completed. Mr. Howell (along with his wife Janice) has been a steadfast supporter of Jefferson in the years following his distinguished 27-year Army career. We are proud to share their stories.



Jefferson and Nemours join forces to offer transplant expertise to young patients. Stephen Dunn, MD, FACS, at Nemours and Cataldo Doria, MD, PhD, FACS, and Warren Maley, MD, at Jefferson are leading the collaborative program.

Creating Second Chances for All Ages: The Live Donor Liver Transplant Program

Jefferson surgeons recently performed their 5th adult live donor liver transplant, which allows a person to donate a portion of his or her healthy liver to a patient with advanced liver disease. The Jefferson Live Donor Liver Transplant (LDLT) Program is one of only three adult-to-adult live donor liver transplant centers in the Delaware Valley designated by the United Network for Organ Sharing (UNOS). A new cooperative arrangement with Nemours/Alfred I. DuPont Hospital for Children in Wilmington means that Jefferson patients of all ages can benefit from the region's finest expertise with this procedure.

About half of the liver transplants performed on children at Nemours involve live donors

There have been strong ties between Jefferson and Nemours since the 1990s. Stephen Dunn, MD, FACS, Chief of Pediatric Solid Organ Transplantation at Nemours, explains that Nemours provides pediatric education for Jefferson medical students and serves as a clinical site for residents. Until last year, Dr. Dunn performed every pediatric solid-organ transplant himself. The newly formed

team benefits from the expertise of four additional surgeons at Jefferson, led by Cataldo Doria, MD, PhD, FACS, the Nicoletti Family Professor of Transplant Surgery and Director of Transplantation and Warren Maley, MD, Director of the Live Donor Liver Transplant Program.

Lieutenant Commander Daniel R. Grabo

Upon completing his residency at Jefferson in 2009, Daniel Grabo, MD, began a one-year commitment on the USS Enterprise and the USS *G.H.W. Bush* as Navy Lieutenant Commander and ship surgeon. It was his job to ready both ships for sea, medically speaking. This included six weeks at a time doing "sea trial" workups between Virginia and the Bahamas.

Both ships carried 5,000 sailors and had a standard-size operating room. Dr. Grabo prepared the *GHW Bush* OR for sea and performed basic emergency surgery with the assistance of two surgical technicians. He also learned all he could about radar, propulsion, intelligence, weapon and aviation systems, which earned him a Surface Warfare Pin.

After completing his current fellowship program in trauma and critical care at the

Every Jefferson donor candidate meets with the Independent Donor Advocate (IDA), Chief Medical Officer Geno Merli, MD, to discuss their motivations and the details and risks of the procedure. Nemours donor candidates undergo a similar process. The customary operation for live liver donation to small children in the U.S. removes 20 to 25 percent of the donor's total liver volume. "This is well tolerated by the adult donors," says Dr. Maley, "and it also makes what would be a full-size liver for a one-year-old child."

The donor's liver re-grows about 80 percent of the lost volume in the first week following the transplant and 90 percent after two weeks. About half of the liver transplants performed on children at Nemours involve live donors, which give child recipients the best chance for optimal outcomes.

"The first live donor liver transplant to a child recipient was in 1989," says Dr. Maley, "and it remains the best way to provide a transplant to a child younger than two years old." Nemours performs an average of 12 liver transplants each year. "It's like the space program," says Dr. Dunn. "We don't have many launches, but each one is complex, challenging and specialized."

For more information about Live Donor Liver Transplant Surgery visit: www.jeffersonhospital.org/LDLT

Resident Update



University of Pennsylvania, Dr. Grabo will likely return to a Naval hospital and then be deployed to Afghanistan or Iraq. "That's what I want to do," he says, "to give five years of my training back to the Navy. They've been very good to me."



Dr. Alec Beekley, assisted by Dr. Jim Sebesta, performing a femoral artery repair at the 31st Combat Support Hospital, Ibn Sina Hospital, in the International (formerly Green) Zone of Baghdad, Iraq.

Beekley's Combat Experience Informs Research and Protocols at Home and Abroad

Associate Professor Alec Beekley, MD, joined the Division of Acute Care Surgery in July 2010. As both a trauma surgeon and a bariatric surgeon, he will now apply the experience he gained during multiple tours of duty in Iraq and Afghanistan, where he served as Lieutenant Colonel in the U.S. Army Medical Corps and was awarded a Bronze Star.

The challenge was to collect meaningful clinical data for every case, given how quickly soldiers were being treated

Dr. Beekley completed his residency at Madigan Army Medical Center in Ft. Lewis, Washington. From November 2002 through March 2003, he served as staff surgeon for the 102nd Forward Surgical Team stationed in Afghanistan. In April 2004 he deployed with the 912th Forward Surgical Team to Al Mussayib,

Iraq, and then volunteered to stay another six months at the 31st Combat Support Hospital (CSH) in Baghdad when the insurgency was growing. During Operation Phantom Fury (November and December 2004) he experienced one of the war's highest monthly caseloads: some one thousand casualties, which he and his team treated around the clock.

It was during this first deployment to Iraq that Dr. Beekley witnessed that a significant number of the casualties were arriving to the hospital trauma bay not having been treated with tourniquets. He believed that, in some cases, tourniquets would have saved lives. This experience made Dr. Beekley an expert on tourniquet use in injury to the extremities, and he created one of the war's first datasets on tourniquet use which has since been cited in dozens of publications reexamining the protocol for tourniquet use in combat triage.

Dr. Beekley also helped develop a trauma database and registry for the joint theater. "There were many 'grass-roots' researchers collecting data as casualties

Dr. Goldberg Spends Research Year Targeting Breast Cancer

Four years into her Jefferson residency, Allison Goldberg, MD, is spending a productive year in the lab of Kimmel Cancer Center researcher Michael Lisanti, MD, PhD. Over the past decade, Dr. Lisanti, the Margaret Q. Landenberger Professor in Breast Cancer Research and Chair of Stem Cell Biology and Regenerative Medicine at Jefferson, has been the 13th most-cited biochemist and biologist in the scientific literature.

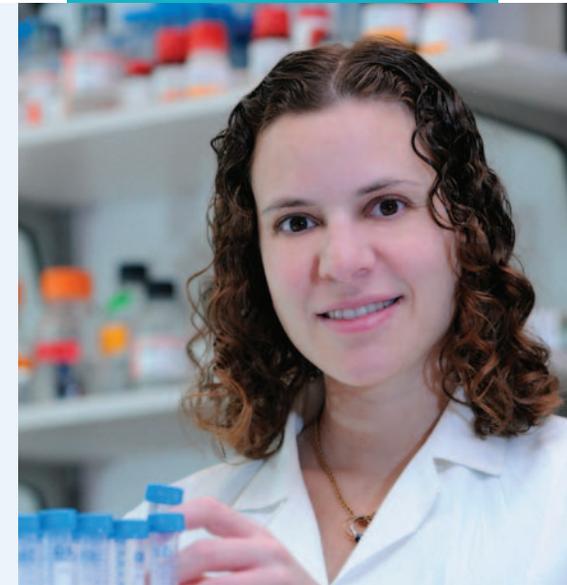
Most of Dr. Lisanti's research redefines the long-held Warburg Effect hypothesis, which postulated that a change in cellular metabolism—that is, an increased level of glycolysis (the conversion of glucose into energy)—causes cancer. Since 2009 Dr. Lisanti has researched what he calls the Reverse Warburg Effect, proposing that glycolysis occurs in stromal fibroblasts (connective tissue cells) near the tumor and not in the tumor cells themselves. This significantly impacts our understanding of how tumors develop.

Dr. Goldberg is working with animal models to alter the glucose-making pathways of the fibroblasts, to evaluate if those alterations affect the size and weight of tumors from triple negative forms of breast cancer. Triple negative breast cancers are so named because they lack the three crucial receptors to which today's

were coming in," Dr. Beekley explains. "In most cases, these researchers were interested in a specific topic, such as vascular injuries. The challenge was to collect meaningful clinical data for every case, given how quickly soldiers were being treated."

Based upon Dr. Beekley's findings, Colonel John Holcomb, who headed the Army's Institute for Surgical Research, recommended to the Surgeon General that the Army provide some 400,000 modular tourniquets that soldiers could carry in an individual first aid kit (IFAK).

During the troop surge in 2007, Dr. Beekley was again deployed to Iraq as Director of the Deployed Combat Casualty Research Team. There he continued to direct research in multiple areas of combat casualty care including the use of fresh whole blood (rather than stored platelets and plasma) in resuscitation. He recalls distinctly the



most successful molecularly targeted drugs attach. She is also genetically manipulating fibroblasts, to turn on and off autophagy (cell self-digestion). "We are hoping this research will lead to new targeted drug therapies," says Dr. Goldberg.

Dr. Lisanti notes that having a surgical resident in his lab is a great asset. "Dr. Goldberg is a gifted surgeon who helps us see our work in new, more clinically relevant ways," he says.

Dr. Goldberg reflects, "In the OR, every step is scripted and rehearsed. There is no margin for error. In the lab, I'm free to pursue an idea and just see what happens. It's been refreshing and rewarding," she says. Dr. Goldberg is expecting twins in June and will return to her clinical responsibilities later this summer.

dramatic effect of fresh whole blood on a soldier in critical condition, who was quickly stabilized when he was transfused with 22 units donated by his fellow soldiers. This and similar observations by others at the 31st CSH prompted a reexamination of the entire blood transfusion protocol, which historically called for fresh whole blood infusions only once supplies of stored platelets and plasma had been exhausted.

Dr. Beekley is honored to have played a role in these areas of surgical research. "I think of medical research as a process," he says. "Everyone can't publish the breakthrough findings, but every little piece contributes to the overall advancement of knowledge."

The Department of Surgery is grateful to benefit from Dr. Beekley's unique and valuable experience gained during his service to our nation.

Making a Difference Now and Down the Road: The Howell Professorship in Pancreatic Cancer Research

Briley W. Howell and his wife Janice have lived all over the world, thanks to his 27-year career as an Infantry Officer in the U.S. Army, rising to the rank of Infantry Colonel. This meant service during the Vietnam War, as well as posts in Belgium, Germany, and throughout the U.S. Since Mr. Howell retired in 1993, the couple has become committed to another fight: the war against pancreatic cancer.

Mr. Howell has generously supported Jefferson ever since his trusted surgeon assumed the helm of the Department of Surgery in 2005. Charles J. Yeo, MD, the Samuel D. Gross Professor and Chair of Surgery, performed Mr. Howell's Whipple procedure at Johns Hopkins Hospital in 2003. Mr. Howell felt extremely fortunate that the pancreatic tumor was not malignant, which meant he would likely lead a long, productive life. Since that time, the Howells have been following the Jefferson research team led by Jonathan Brody, PhD, whom Dr. Yeo recruited from Johns Hopkins, and have been duly impressed by the aggressive and promising nature of his work.

"I believe that Dr. Yeo's team is the best in the country, and if this research continues, it will improve



The Howells with their "kids," in front of their waterfront home in Poquoson, Virginia. Both are Yellow Naped Amazons: Nikki, 21, and Justin, 26 (on Mr. Howell's shoulder).

early detection methods and increase survival rates," says Mr. Howell. To make a gift with a lasting impact, in 2010 the Howells made a provision in their will to establish the Janice P. and Briley W. Howell Professorship in Pancreatic Cancer Research. "Endowed professorships are vital to our ability to recruit and retain distinguished faculty members," says Dr. Yeo, "The sustained support of such a gift allows us to remain focused on our goals in the laboratory and with our patients."

Since most patients with pancreatic cancer are given a prognosis of a mere six months to live, the Howells are eager to support Jefferson's research efforts. "I was fortunate that, thanks to Dr. Yeo's care, I was able to go on with my life as planned," says Mr. Howell, "and this is a truly wonderful gift. Anything we can do to share that gift with others is of great importance to us."

Making a planned gift is an excellent way to support Jefferson while obtaining long-term financial benefits for you and your family. The most common form of a planned gift is a simple bequest through a will. Bequests of cash, securities, real property or other assets to Jefferson entitle one's estate to a charitable deduction that can reduce or eliminate estate tax liability. In addition to bequests, individuals can support Jefferson through the creation of life income gifts, such as charitable trusts and annuities. Life income gifts serve a dual purpose: They provide philanthropic support for Jefferson while also providing both a charitable income tax deduction and an income stream to you and/or your loved ones. These gift vehicles can provide income benefits comparable to—or in some cases exceeding—those that might be earned in non-charitable giving vehicles. Many donors establish life income gifts with assets that are producing a very small amount of income, such as cash or appreciated stocks that do not earn dividends.

For more information about creative giving, please contact Lara Goldstein in the Jefferson Foundation at 215-955-8797 or lara.goldstein@jefferson.edu.



Albert J. Guerraty, MD, FACS, has joined the Division of Cardiothoracic Surgery. His expertise lies in the areas of routine cardiac surgery, ventricular assist devices (VAD) and heart transplantation. He will provide care at both at Jefferson University Hospital and Albert Einstein Medical Center.

Scott W. Cowan, MD, (JMC Class of '97) has joined the Division of Cardiothoracic Surgery. Dr. Cowan joins us from the University of Pennsylvania – Presbyterian Medical Center, where he was a faculty member for four years. He will provide care at both at Jefferson University Hospital and Methodist Hospital.

Harrison Pitcher, MD, has joined the Division of Cardiothoracic Surgery. Dr. Pitcher recently completed a clinical fellowship in Surgical Cardiac Care at Christiana Health Care. At Jefferson he will be focusing his attention on the Surgical Cardiac Care Unit.

Drs. John Kairys and Michael Weinstein have been elected to Alpha Omega Alpha, a national medical honor society. The Jefferson Chapter was founded in 1903 and strives to foster excellence in medicine through sponsoring ongoing educational and service projects at Jefferson and in the community.

Jonathan Brody, PhD, Director of the Division of Surgical Research, was the keynote speaker at the Pancreatic Cancer Symposium in Washington, DC, on March 19th. The event, hosted by the Pancreatic Cancer Action Network (PanCAN), was attended by hundreds of people who heard presentations by top researchers and clinicians in the country.

Fund A Cure for Pancreatic Cancer, a local advocacy and fundraising group, contributed \$15,000 to support research initiatives at Jefferson. The funds were raised at the annual walk/run in Newtown, PA. Save the date to join faculty, staff and friends for the 3rd Annual Run Over Cancer on Saturday, July 2. Visit www.fundacure.com to register.

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